

Direct Testimony and Schedules
James M. Coyne

Before the South Dakota Public Utilities Commission
State of South Dakota

In the Matter of the Application of Northern States Power Company
for Authority to Increase Rates for Electric Service in South Dakota

Docket No. EL12-____
Exhibit____ (JMC-1)

**Rate of Return and
Return on Equity**

June 29, 2012

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1 **I. INTRODUCTION AND QUALIFICATIONS**

2 Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

3 A. My name is James M. Coyne, and I am employed by Concentric Energy
4 Advisors, Inc. (“Concentric”) as a Senior Vice President. Concentric is a
5 management consulting and economic advisory firm, focused on the North
6 American energy and water industries. Based in Marlborough, Massachusetts
7 and Washington D.C., Concentric specializes in regulatory and litigation
8 support, financial advisory services, energy market strategies, market
9 assessments, energy commodity contracting and procurement, economic
10 feasibility studies, and capital market analyses. My business address is 293
11 Boston Post Road West, Suite 500, Marlborough, MA 01752.

12
13 Q. ON WHOSE BEHALF ARE YOU SUBMITTING THIS TESTIMONY?

14 A. I am submitting this testimony on behalf of Northern States Power Company,
15 a Minnesota corporation operating in South Dakota (“NSP” or the
16 “Company”). NSP is a wholly owned subsidiary of Xcel Energy Inc.
17 (“XEI”).

18
19 Q. PLEASE DESCRIBE YOUR EXPERIENCE IN THE ENERGY AND UTILITY
20 INDUSTRIES AND YOUR EDUCATIONAL AND PROFESSIONAL QUALIFICATIONS.

21 A. I am among Concentric’s professionals who provide expert testimony before
22 federal, state and Canadian provincial agencies on matters pertaining to
23 economics, finance, and public policy in the energy industry. I regularly
24 advise utilities, generating companies, public bodies and private equity
25 investors on business issues pertaining to the utilities industry. This work
26 includes calculating the cost of capital for the purpose of ratemaking, and
27 providing expert testimony and studies on matters pertaining to rate policy,

1 valuation, capital costs, demand side management, low-income programs,
2 fuels and power markets. In addition, I work for utilities, independent
3 developers and public bodies on issues pertaining to the management and
4 development of power generation, distribution and transmission facilities. I
5 have authored numerous articles on the energy industry and provided
6 testimony before the FERC and jurisdictions in Alberta, British Columbia,
7 California, Connecticut, Massachusetts, New Jersey, Ontario, Maine, Texas
8 and Vermont. I have also testified before the South Dakota Public Utilities
9 Commission (the “Commission”).

10
11 Prior to joining Concentric, I was Senior Managing Director in the Corporate
12 Economics Practice for FTI/Lexecon, and Managing Director for Arthur
13 Andersen’s Energy & Utilities Corporate Finance Practice. In those
14 positions, I provided expert testimony and advisory services on mergers,
15 acquisitions, divestitures and capital markets for clients in the energy industry.
16 In addition to the foregoing prior positions, I was also Managing Director for
17 Navigant Consulting, with responsibility for the firm’s Financial Services
18 practice, and Senior Economist for the Massachusetts Energy Facilities Siting
19 Council, where I analyzed the supply plans and facilities proposals from the
20 state’s electric and gas utilities. I also served as State Energy Economist for
21 the Maine Office of Energy Resources.

22
23 I hold a B.S. in Business Administration from Georgetown University and a
24 M.S. in Resource Economics from the University of New Hampshire. My
25 educational and professional background is summarized more fully in
26 Exhibit____(JMC-1), Schedule 1.

1 **II. PURPOSE AND OVERVIEW OF TESTIMONY**

2 Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

3 A. The purpose of my Direct Testimony is to present evidence and provide an
4 opinion regarding the proposed return on equity (“ROE”) for NSP’s South
5 Dakota jurisdictional service, as well as the Company’s proposed capital
6 structure and cost of debt for ratemaking purposes. My analysis and
7 conclusions are supported by the data presented in Exhibit___(JMC-1),
8 Schedules 2 through 11, which have been prepared by me or under my
9 direction in connection with my Direct Testimony.

10
11 Q. PLEASE PROVIDE A BRIEF OVERVIEW OF NSP’S SOUTH DAKOTA OPERATIONS.

12 A. NSP’s South Dakota operations serve electric residential and business
13 customers in eastern South Dakota. The Company’s customer base is largely
14 comprised of commercial and industrial customers. NSP’s credit ratings are
15 A-, A3, and A- from Standard & Poor’s (“S&P”), Moody’s Investor Services
16 (“Moody’s”), and Fitch Ratings (“Fitch”), respectively. Table 1 (below)
17 provides operating and financial results for NSP’s South Dakota operations
18 from 2009 through 2011.

19 **Table 1: NSP - 2009 to 2011 Electric Operating and Financial Results, South**
20 **Dakota Operations¹**

	2009	2010	2011
Operating Revenues (\$000s)	\$175,581	\$196,286	\$197,839
Regulated Operating Income (\$000s)	\$13,632	\$13,697	\$18,043
Earned ROE (weather normalized)	4.23%	2.64%	3.90%
Average Electric Customers	82,037	83,182	84,161
Total Electric (kWh) (000s)	1,918,434	2,000,289	2,009,443

¹ South Dakota Jurisdictional reports; Company data.

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Q. PLEASE PROVIDE A BRIEF OVERVIEW OF THE ANALYSIS THAT SUPPORTS YOUR RECOMMENDATION.

A. My ROE recommendation is primarily based on the results of the Constant Growth Discounted Cash Flow (“DCF”) model, but I also consider the Capital Asset Pricing Model (“CAPM”), and the Bond Yield Plus Risk Premium approach. Primary reliance on the DCF method is consistent with broad industry practice regarding the estimation of ROE for regulated utilities.

In addition to the analyses discussed above, I considered the Company’s capital expenditure program and other business and economic risks in relation to a set of proxy companies (described later in my testimony) to assist with determining my recommended ROE. I have also addressed issues raised in Docket No. EL11-019 as they apply in the context of this proceeding.

Q. WHAT IS YOUR CONCLUSION REGARDING THE APPROPRIATE COST OF CAPITAL FOR THE COMPANY?

A. The ROE results presented in my testimony indicate a range of 10.40 percent to 10.90 percent from a combination of models and alternative input assumptions designed to determine a reasonable range for the Company’s ROE. In light of the regulatory and business risks of NSP compared to the proxy group, it is my view that an ROE of 10.65 percent is reasonable. That 10.65 percent ROE is based on the results of the Constant Growth DCF analysis and is corroborated by the results of the CAPM and Risk Premium analyses. I therefore conclude that a 10.65 percent ROE is reasonable and appropriate for NSP.

1
2 I also have concluded that the Company's proposed cost of debt, and NSP's
3 proposed capital structure of 52.89 percent common equity and 47.11 percent
4 long-term debt, are reasonable. The proposed overall rate of return is
5 summarized in Table 2:

6 **Table 2: Capital Structure and Cost of Capital**

	Percent	Cost Rate	Weighted Cost
Common Equity	52.89%	10.65%	5.63%
Long-term Debt	47.11%	6.12%	2.88%
Total Capitalization	100.00%		8.51%

7
8 Q. HOW IS THE BALANCE OF YOUR DIRECT TESTIMONY ORGANIZED?

9 A. My remaining Direct Testimony is organized as follows: Section III contains
10 a discussion of the regulatory principles and financial considerations pertinent
11 to cost of capital determinations. Section IV provides a comparison to ROE
12 awards in other jurisdictions. Section V provides a review of current
13 economic conditions and the impacts on utility cost of capital. Section VI
14 describes the criteria and approach for the selection of a proxy group of
15 comparable companies. Section VII provides a description of the data and
16 methodologies used, and the results of the Constant Growth DCF, CAPM,
17 and Risk Premium analyses, as well as certain other analyses I have performed
18 in consideration of issues raised in Docket No. EL11-019. Section VIII
19 provides an assessment of the business risk factors I have considered in
20 arriving at an appropriate ROE for NSP. Section IX provides a discussion of
21 the analysis that supports the Company's proposed capital structure and cost
22 of long-term debt, and Section X summarizes my results, conclusions and
23 recommendation.

1 Q. PLEASE BRIEFLY DISCUSS HOW THOSE PRINCIPLES APPLY IN THE CONTEXT OF
2 A REGULATED RATE OF RETURN.

3 A. Regulated utilities rely primarily on common stock and long-term debt to
4 finance their permanent property, plant and equipment. The allowed rate of
5 return for a regulated utility is based on its weighted average cost of capital,
6 where the costs of the individual sources of capital are weighted by their
7 respective book values. As the cost of raising and retaining equity capital,
8 ROE is estimated by using one or more analytical techniques that use market
9 data to quantify investor expectations regarding equity returns.

10

11 It is important to note that in *Hope*, the Court found that under the statutory
12 standard of “just and reasonable” it is the result reached, as opposed to the
13 method employed, which is controlling. Consequently, it is appropriate to
14 consider a variety of approaches and data sources when arriving at a
15 recommended ROE.

16

17 Based on those widely recognized standards, the result of the Commission’s
18 order in this case should be to provide NSP with the opportunity to earn a
19 return on equity that is:

20

- Commensurate with returns on investments in enterprises having
21 comparable risks;

22

- Adequate to attract capital on reasonable terms, thereby enabling NSP to
23 provide safe, reliable service; and

24

- Sufficient to ensure the financial soundness of NSP’s operations.

25

26 Importantly, all three standards must be met to consider the result a fair
return. The allowed ROE should enable NSP to finance capital expenditures

1 on reasonable terms and provide financial flexibility over the period during
2 which rates are expected to remain in effect.

3
4 Q. SHOULD A GOAL OF REGULATION BE TO LOWER UTILITY MARKET-TO-BOOK
5 RATIOS FROM CURRENT LEVELS TO AROUND 1.0?

6 A. No. I am not aware of any Commission in the U.S. that sets such a standard.
7 While utility market-to-book ratios currently exceed one (and have for quite
8 some time), that fact alone does not suggest that utilities are systematically
9 earning greater than the market required equity return. As a practical matter,
10 there are numerous other factors that affect market valuations of utility
11 companies beyond earned ROEs. Further, no rational investor would invest
12 in utility stocks if they believed that utility commissions would set rates in an
13 effort to move the market-to-book ratio to 1.0 or just over 1.0. In fact,
14 ratemaking policy designed to cause a decrease in the market-to-book ratio
15 certainly would lead to significant decreases in utility stock prices, impede a
16 utility's ability to attract the capital required to support its operations, and
17 conflict with ratemaking capital attraction standards.

18
19 Q. WHAT ARE YOUR CONCLUSIONS REGARDING REGULATORY GUIDELINES AND
20 CAPITAL MARKET EXPECTATIONS?

21 A. The ratemaking process is premised on the principle that, in order for
22 investors and companies to commit the capital needed to provide safe and
23 reliable utility services, the utility must have the opportunity to recover the
24 return of invested capital, and the market-required return on that capital.

25
26 Because utility operations are capital intensive, regulatory decisions should
27 enable the subject company to attract capital on favorable terms. Such

1 decisions balance the long-term interests of customers and ratepayers. The
2 financial community carefully monitors the current and expected financial
3 condition of utility companies, as well as the regulatory process to which they
4 are subject. In that respect, the regulatory environment is one of the most
5 important factors considered in both debt and equity investors' assessments
6 of risk. It is therefore important for the ROE authorized in this proceeding to
7 take into consideration the capital market conditions with which NSP must
8 contend, as well as investors' expectations and requirements.

9
10 **IV. COMPARISON TO PREVAILING LEVELS OF AUTHORIZED**
11 **ROES**

12 Q. DO THE ROES AUTHORIZED IN OTHER JURISDICTIONS PROVIDE A PRACTICAL
13 BENCHMARK FOR ASSESSING ROE RECOMMENDATIONS?

14 A. Yes. While the ROEs authorized in other jurisdictions do not determine the
15 appropriate ROE in this proceeding, those ROEs provide a useful benchmark
16 to assist in assessing overall reasonableness.

17
18 Q. ARE AWARDED ROES SIGNIFICANT TO INVESTORS?

19 A. Yes. The ROE awards by various jurisdictions are a significant part of the
20 market information that investors consider when evaluating investment
21 alternatives.

22
23 The authorized ROE also sends an important signal to investors regarding
24 whether there is regulatory support for financial integrity, dividends, and
25 financial growth. The cost of capital represents an opportunity cost to
26 investors. If higher returns are available for other investments of comparable
27 risk, investors have the incentive to divert their capital to those investments.

1 Thus, an ROE that is significantly below authorized ROEs in other
2 jurisdictions can be an impediment to the Company's ability to attract capital
3 for investment in South Dakota and certainly provides a disincentive for
4 investment in South Dakota when it provides the lowest ROE of any
5 jurisdiction served by the Company.

6
7 Q. HOW DO INVESTORS TAKE INTO CONSIDERATION THE POSSIBILITY THAT
8 DIFFERENT FACTS BETWEEN CASES MAY LEAD TO DIFFERENT RESULTS?

9 A. Investors recognize that one or two cases do not provide a reasonable basis
10 for comparison because of the possibility that different facts may lead to
11 different results. However, when one decision is very different from many
12 other decisions, it becomes clear that not all other cases can be explained by
13 the possibility of different facts. When one decision is far outside of the
14 mainstream, investors recognize that the difference is more likely the result of
15 a different stance by the single regulatory entity.

16
17 Q. IS IT POSSIBLE TO QUANTIFY THE EFFECT ON THE COST OF DEBT OR EQUITY
18 OF CHANGING AN AUTHORIZED ROE BY 50 BASIS POINTS UP OR DOWN?

19 A. No. The cost of debt and the cost of equity are market driven and are the
20 result of multiple variables making it difficult to quantify the effect on equity
21 valuations of a change in the authorized ROEs.

22
23 Q. DOES THE ABSENCE OF A QUANTIFIABLE EFFECT MAKE THE IMPACT
24 INSIGNIFICANT?

25 A. No. There may be a number of reasons that there is no directly measureable
26 market response and no way to quantify the effects of differences in ROEs.
27 The response of the market reflects a number of variables, including the

1 relative portion of a utility's assets that are represented by the jurisdiction. If
2 a jurisdiction represents a larger share of a utility's operations, it will have a
3 corresponding larger overall impact.

4
5 In addition, the decision of every jurisdiction should be sufficient to support a
6 fair and reasonable return from operations in that jurisdiction, both as a
7 matter of economics and as a matter of principle. Economists often analyze
8 and discuss the impact of individual factors by reference to the direction of
9 the impact "holding all other facts equal." From that commonly used
10 perspective, it is clear that an unusually low ROE award creates a barrier that
11 will increase the cost of capital and create a disincentive to investment (as
12 investors recognize the disadvantage of the low ROE). Having a fair and
13 reasonable return is important as a matter of principle and sound regulatory
14 policy because costs of providing service by a company with multiple
15 jurisdictions are being subsidized by other jurisdictions if the ROE does not
16 meet the standards of a fair return.

17
18 Q. DOES THAT MEAN THAT THE DECISIONS OF A JURISDICTION THAT DOES NOT
19 AFFECT A LARGE PART OF A UTILITY'S OPERATIONS ARE NOT SIGNIFICANT?

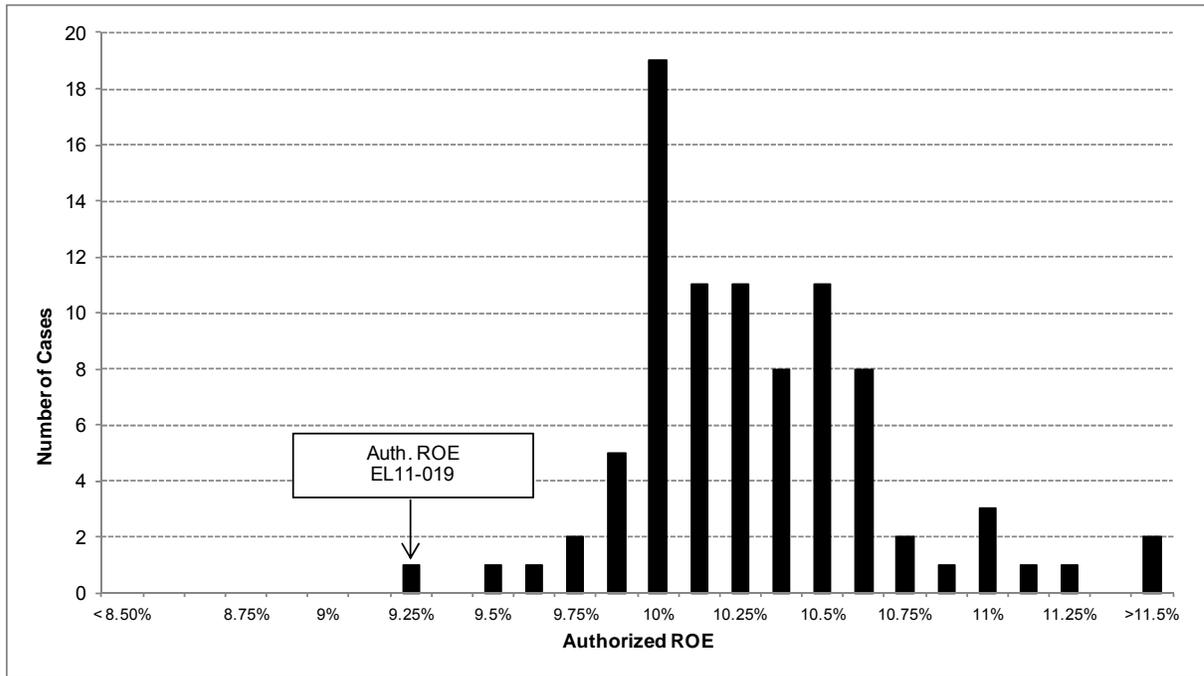
20 A. No. The decisions of a jurisdiction that does not represent a large part of a
21 utility's operations are also considered by investors who are concerned with
22 the regulatory climate of all jurisdictions served by a utility, and are also
23 considered by a corporate parent in determining where investments will be
24 appropriately compensated.

25
26 Q. HOW DOES THE COMPANY'S AUTHORIZED ROE FROM DOCKET NO. EL11-
27 019 COMPARE TO OTHER AUTHORIZED ROES?

1 A. Data from Regulatory Research Associates (“RRA”) shown on Chart 1
 2 (below) demonstrates that the Company’s ROE from Docket No. EL11-019
 3 is well below the lowest authorized ROE for any electric utility that owns and
 4 operates its own facilities for generation, transmission, and distribution of
 5 electric service to retail customers.

6 **Chart 1: Authorized ROEs for Integrated Electric Utilities**

7 **January 1, 2010 – June 21, 2012³**



8
9

10 Q. ARE THERE ANY ROE DECISIONS IN THE RANGE OF THE COMPANY’S
 11 CURRENTLY AUTHORIZED 9.25 PERCENT ROE IN SOUTH DAKOTA FOR OTHER
 12 ELECTRIC UTILITIES WITH COMPARABLE RISK?

³ Source: Regulatory Research Associates.

1 A. No. There are a handful of utility rate cases that resulted in ROE awards in
2 the range of 9.20 percent to 9.50 percent (which were included in the record
3 in Docket No. EL11-019),⁴ but none of those are for electric utilities of
4 similar risk because none of those other electric utilities own their own
5 generation facilities. In fact, those ROEs represent the low end for lower risk
6 transmission and distribution companies. Generation facilities are among the
7 highest risk assets of an electric utility. Because those other companies do not
8 own their own generation resources and the Company does, those other
9 companies and their ROE awards are not reasonably comparable.

10
11 Q. PLEASE FURTHER EXPLAIN THE RISKS RELATED TO OWNERSHIP OF
12 GENERATION FACILITIES.

13 A. Generation facilities present unique risks to the owner including fuel volatility,
14 intense capital needs, and the threat of environmental and safety mandates
15 such as those currently faced by fossil fuel and nuclear facilities. For instance,
16 Federal and state regulations related to emissions from coal-burning and other
17 fossil fuel generating facilities can have significant impacts on the capital and
18 cash flows needs of generation owners. Rules regarding SO₂, NO_x, and
19 mercury emissions compliance have been changing and evolving in recent
20 years and may require significant capital investments required on the part of
21 power generators. There are also longer-term risks related to carbon dioxide
22 emissions.

23

⁴ The one case included in the record in Docket No. EL11-019 in which an ROE below 9.50 percent was authorized for a vertically integrated utility (*i.e.*, Central Vermont Public Service, Docket No. 7627) was not a typical rate case, but rather was an update to an ROE that was set pursuant to a formula under an alternative rate plan.

1 Similarly, the earthquake and resulting tsunami that occurred on March 11,
2 2011 in Japan caused severe accidents at Tokyo Electric Power Co.'s
3 Fukushima Daiichi nuclear power plant that reverberated throughout the
4 world's nuclear industry. That event has led to action plans by both the
5 NRC and the U.S. nuclear industry that have already begun to affect nuclear
6 plant owners such as NSP. The same can be said of the August 23, 2011
7 earthquake that caused the North Anna nuclear station in Virginia to lose
8 electricity and automatically shut down for a period of time. Final nuclear
9 plant safety improvement requirements resulting from those relatively recent
10 events are as yet unknown.

11
12 Q. WHAT LEVEL OF RISK DOES NSP FACE RELATED TO THOSE POTENTIAL RULES
13 AND REQUIREMENTS?

14 A. NSP faces an elevated level of risk related to those rules and requirements.
15 Specifically, in 2011, NSP sourced 44.00 percent of its generation from coal-
16 fired facilities, and approximately 29.00 percent of its generation from nuclear
17 facilities.⁵

18
19 Q. DOES THE MARKET RECOGNIZE THE HIGHER RISKS OF OWNERSHIP OF
20 ELECTRIC GENERATION FACILITIES?

21 A. Yes. Power generators are generally considered to be exposed to risks that
22 are not faced by "wires only" utilities. For instance in a 2011 presentation,
23 S&P presented a risk spectrum for the power and utility industry.⁶ At the low
24 end are electric and natural gas transmission and distribution companies, as
25 well as water utilities. At the high end are unregulated (*i.e.*, merchant) power

⁵ Northern States Power Company, SEC Form 10-K for the period ended December 31, 2011, filed February 27, 2012, at 15.

1 generation companies. In between those two ends of the spectrum are
2 integrated utilities such as NSP.

3
4 Q. DOES A REASONABLE AUTHORIZED RETURN AND THE ABILITY OF REGULATED
5 UTILITIES TO RECOVER COMPLIANCE COSTS THROUGH RATES ADDRESS ALL
6 CONCERNS WITH A UTILITY'S REGULATORY ENVIRONMENT?

7 A. No. Investors recognize that regulated generators may face a lower level of
8 risk due to compliance with environmental and safety regulations than
9 merchant power generation companies, due to regulated utility's ability to
10 recover the costs of compliance through rates. However, the fact remains
11 that those risks are simply not faced by transmission and distribution
12 companies at any meaningful level. In addition, there is further risk
13 differentiation between those utilities that can recover costs on a timely basis,
14 and those that cannot due to the effects of regulatory lag. As stated by S&P:

15 Notably, the analysis does not revolve around "authorized"
16 returns, but rather on actual earned returns. We note the
17 many examples of utilities with healthy authorized returns
18 that, we believe, have no meaningful expectation of actually
19 earning that return because of rate case lag, expense
20 disallowances, etc.⁷

21 I discuss the business risks related to NSP's ability to earn its authorized ROE
22 further in Section VIII.

⁶ Standard & Poor's, "Utility Credit Analysis and Ratings," August 11, 2011.

⁷ Standard & Poor's, "Assessing U.S. Utility Regulatory Environments," March 11, 2010, at 4.

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V. EFFECT OF CURRENT ECONOMIC CONDITIONS

Q. HOW DO ECONOMIC CONDITIONS INFLUENCE THE REQUIRED COST OF CAPITAL AND REQUIRED RETURN ON COMMON EQUITY?

A. The required cost of capital, including the ROE, is a function of prevailing and expected financial market conditions. Consistent with the *Hope* and *Bluefield* decisions, the authorized ROE for a public utility should allow the subject company to attract investor capital at a reasonable cost under a variety of economic and financial market conditions. The ability to attract capital on reasonable terms is especially important for utilities such as NSP that plan to invest considerable amounts of capital and need access to capital markets. A public utility is especially dependent on the reaction of investors during time periods when its need for public market financing are high, and the reaction of the market will have a significant ongoing effect on the cost of capital and the cost of providing service. As such, the Commission’s order regarding both the ROE and the capital structure will have a direct bearing on NSP’s financial profile and, therefore, its ability to attract and invest capital on reasonable terms.

Q. PLEASE EXPLAIN THE EFFECT THAT CAPITAL MARKET INSTABILITY HAS ON INVESTOR BEHAVIOR.

A. During times of capital market instability, risk aversion increases, which causes investors to seek the relative safety of U.S. Treasury debt, resulting in lower Treasury yields. That phenomenon is sometimes called the “flight to quality” and it remains a significant factor in the current market. At the same time, current and expected market volatility has increased relative to long-term levels. A direct result of elevated volatility is a corresponding increase in

1 the risk premium required by investors as compensation for taking on the
2 risks associated with equity ownership. While there is little question that the
3 capital market crisis that began in late 2008 has moderated, market instability
4 and investor risk aversion remain at comparatively high levels, particularly in
5 light of ongoing economic turmoil in Europe and political uncertainty in the
6 U.S. That is especially true when viewed relative to the conditions that
7 existed prior to the recent financial market disruption.

8
9 Q. WHAT ANALYSIS HAVE YOU CONDUCTED TO ASSESS CURRENT CAPITAL
10 MARKET CONDITIONS?

11 A. As discussed below, I considered several widely recognized measures of
12 investor risk sentiment, including: (1) credit spreads; (2) equity market
13 volatility; and (3) the relationship between the dividend yields of the proxy
14 companies and Treasury yields. Except where noted, I compared current
15 market conditions to the two year period prior to the recent recession.

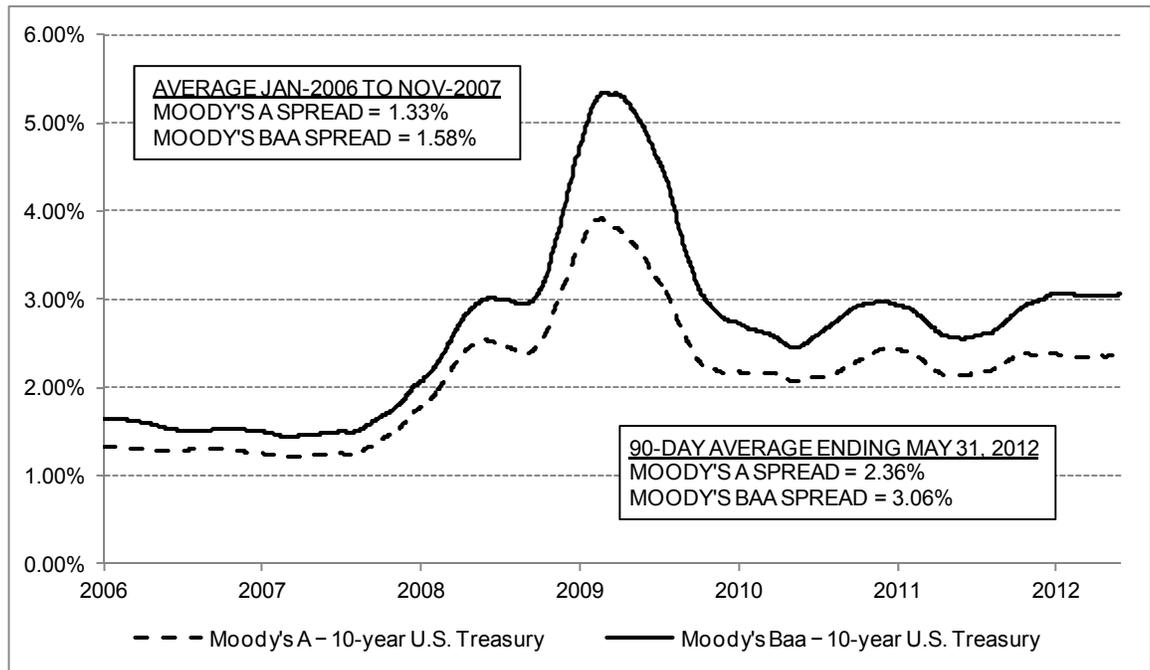
16
17 **A. Credit Spreads**

18 Q. HOW HAVE CREDIT SPREADS BEEN AFFECTED BY CURRENT MARKET
19 CONDITIONS?

20 A. The “credit spread” is the incremental return required by debt investors to
21 take on the default risk associated with securities of differing credit quality.
22 Since U.S. Treasury securities are considered to have essentially no default
23 risk, credit spreads typically are measured by reference to benchmark Treasury
24 securities. Through the pre-recessionary period of January 2006 through
25 November 2007, the credit spread associated with the Moody’s A-rated utility
26 bond index relative to the ten-year Treasury rate averaged approximately 1.33
27 percent (*i.e.*, 133 basis points), and the Moody’s Baa-rated utility bond index

1 credit spread averaged approximately 1.58 percent (158 basis points). As of
2 May 31, 2012, however, the 90-day average credit spreads on A and Baa rated
3 utility bonds were 2.36 percent and 3.06 percent, respectively, which is an
4 increase in the spread of 1.03 percent (for A-rated bonds) and 1.48 percent
5 (for Baa rated bonds). As Chart 2 (below) illustrates, those levels have
6 remained well above the credit spreads observed during the pre-recession
7 period.

8
9 **Chart 2: Moody's A and Baa Utility Bond Index Credit Spreads, 90-**
10 **Day Moving Average**



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12
13 Q. WHAT ARE THE IMPLICATIONS OF HIGHER CURRENT CREDIT SPREADS AS
14 COMPARED TO THE LONG-TERM AVERAGE?

15 A. The increase in current credit spreads is an observable measure of the capital
16 markets' increased risk aversion; increased risk aversion is associated with an
17 increased cost of equity.

1

2 Q. IS THERE A RELATIONSHIP BETWEEN THE LEVEL OF INTEREST RATES AND THE
3 EQUITY RISK PREMIUM?

4 A. Yes. There is a clear and well-documented inverse relationship between the
5 level of interest rates and the equity risk premium.⁸ That is to say, as the level
6 of interest rates falls, the equity risk premium tends to increase.
7 Consequently, lower utility bond yields, which are a function of lower
8 Treasury yields but higher credit spreads, do not necessarily imply a
9 correspondingly lower cost of equity.

10

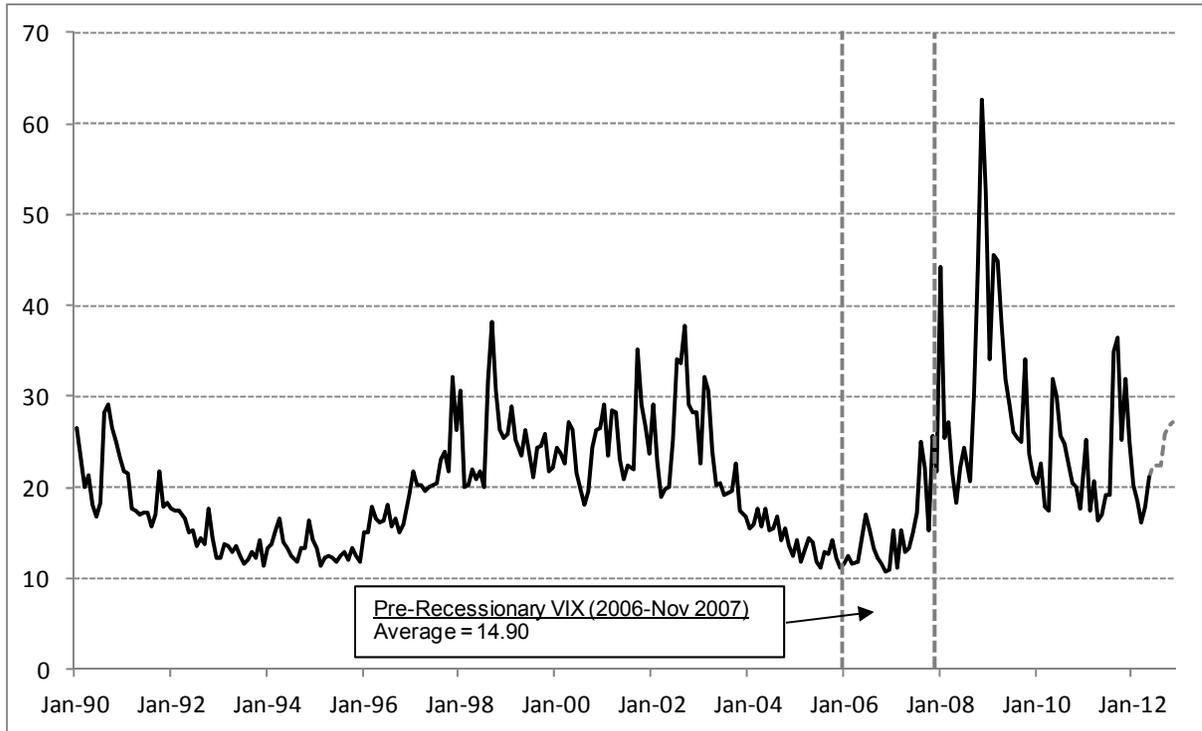
11 **B. Equity Market Volatility**

12 Q. PLEASE DISCUSS CHANGES IN EQUITY MARKET VOLATILITY AND THE
13 IMPLICATIONS OF THOSE CHANGES.

14 A. A directly observable and commonly referenced measure of equity market
15 volatility is the Chicago Board Options Exchange (“CBOE”) Market
16 Volatility Index (often referred to as the “VIX”). The VIX represents the
17 implied (one month) volatility on the S&P 500 Index and as such, is an
18 observable measure of investors’ expectations of volatility and, therefore, risk.
19 Since its inception in 1990, the VIX averaged approximately 20.53. During
20 the pre-recessionary period (*i.e.*, January 2006 to November 2007), the VIX
21 averaged 14.90. In contrast, current forward-looking estimates of volatility (as
22 measured by futures prices on the VIX) are approximately 25.55, a level that
23 is well above both the average since 1990 and the pre-recession period. Since
24 (as noted earlier) there is a direct relationship between market volatility and
25 the equity risk premium, the comparatively high forward VIX average

1 indicates higher, not lower, required equity risk premiums continue at the
2 current time. Chart 3 below shows the VIX since 1990.

3
4 **Chart 3: Chicago Board Options Exchange Market Volatility Index**



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6
7 **C. Yield Spreads**

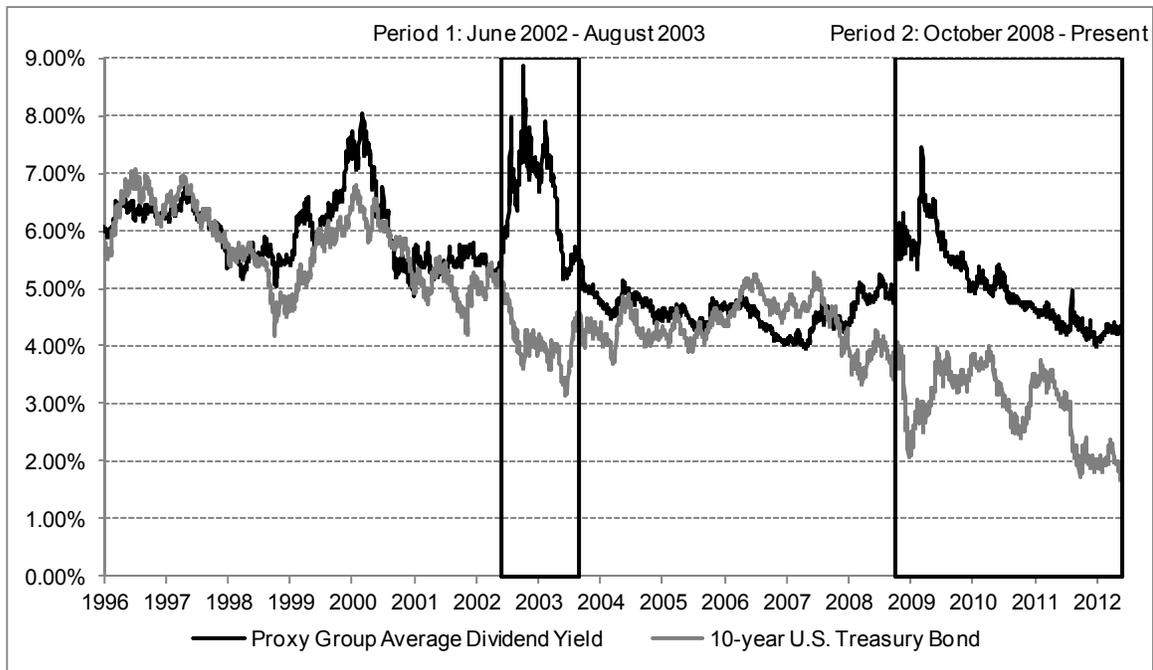
8 Q. PLEASE EXPLAIN THE RELATIONSHIP BETWEEN UTILITY DIVIDEND YIELDS
9 AND TREASURY YIELDS AND THE IMPLICATIONS OF THAT RELATIONSHIP.

10 A. The “yield spread” is the difference between dividend yields and long-term
11 Treasury yields. Investors often consider yield spreads in their assessment of
12 security valuation and capital market conditions. As shown in Chart 4, the

⁸ *The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts*, Journal of Applied Finance, Robert S. Harris and Felicia C. Marston, 2001.

1 2008 – 2009 financial crisis created the first sustained widening of the yield
2 spread (based on the proxy group average dividend yield) in five years. Prior
3 to that time, the most recent period during which the yield spread significantly
4 widened was from mid-2002 through mid-2003, which itself was a period of
5 credit and equity valuation contraction. Utility bond yields remain higher, and
6 decoupled from government yields.

7
8 **Chart 4: Treasury Yield/Dividend Yield Inversion**



9
10 Q. IS AN UNUSUALLY WIDE YIELD SPREAD RELEVANT TO THE COST OF EQUITY?

11 A. Yes. There are several reasons why the unusually wide yield spread is relevant
12 in determining the Company's cost of equity. Investors often look to
13 relationships among financial metrics to assess current and expected levels of
14 market stability. To the extent that such relationships materially and
15 persistently deviate from long-term norms, it may be an indication of
16 continuing or expected instability. In the case of the yield spread, the fact

1 that continued Federal intervention in the capital markets has been required
2 to maintain relatively low Treasury yields introduces yet another significant
3 element of capital market uncertainty. Again, investors require increased
4 returns to be compensated for taking on the risks associated with market
5 instability.

6
7 The widened yield spread, which began in late 2008, has continued. From
8 January 2000 through September 15, 2008 (the time of the Lehman Brothers
9 bankruptcy filing), the average yield spread of the proxy group average
10 dividend yield relative to ten-year Treasury securities was 59 basis points while
11 the same metric from January 2000 through May 31, 2012 averaged 102 basis
12 points.⁹ As Chart 4 illustrates, the 90-day average yield spread as of May 31,
13 2012 was 228 basis points. As noted earlier, the only other period in which
14 the proxy group yield spread widened to this extent was from mid-2002 to
15 mid-2003. That is direct evidence of higher costs of utility capital in relation
16 to the risk-free government benchmark.

17
18 Q. WHAT CONCLUSIONS DO YOU DRAW FROM YOUR ANALYSES OF CREDIT
19 SPREADS, THE VIX, AND YIELD SPREADS?

20 A. Those analyses demonstrate that market instability and investor risk aversion
21 remain at elevated levels, placing upward pressure on the cost of equity, even
22 for utilities, in relation to lower-risk government securities. Greater market
23 uncertainty translates to more risk for investors and the current capital market
24 continues to experience higher levels of risk aversion, volatility and instability.

⁹ See also, Credit Suisse, *A Thought...Regulated Utilities = Investment Opportunity?*, March 10, 2009, at 30.

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VI. PROXY GROUP SELECTION

Q. PLEASE SUMMARIZE YOUR PROXY GROUP SELECTION PROCESS.

A. I have based my analyses on a set of proxy companies with comparable risk to NSP, comprised of U.S. regulated electric utilities. I have exercised care to screen this group using criteria that I believe investors would utilize in determining comparability. In selecting a group of proxy companies, it is important to find the balance between appropriate screening criteria and sufficient data to conduct a robust ROE analysis.

Q. PLEASE DESCRIBE THE SPECIFIC SCREENING CRITERIA YOU HAVE UTILIZED.

A. I began with a national listing of all investor-owned electric utilities covered by the Value Line Investment Survey. I then selected the proxy group according to the following criteria, which reflect financial and business risks:

1. Company pays dividends.
2. Credit rating between BBB- and AAA (*i.e.*, investment grade).
3. Company is covered by more than one analyst.
4. Company has positive earnings growth rates published by at least two of the following sources: Value Line, Yahoo! First Call, and Zacks Investment Research (“Zacks”).
5. Company owns generation assets that are included in rate base.
6. Regulated revenue and regulated net income make up greater than 60 percent for the consolidated company.
7. Regulated electric revenue and net income make up greater than 90 percent for the consolidated company’s regulated operations.

1 8. No merger announcement concerning the company during the
2 approximate six-month period used to calculate the dividend yields for the
3 purposes of the DCF analysis.

4 In my opinion, those criteria result in a group of publicly traded companies
5 that most closely resemble NSP's overall operating and business risk profile.

6
7 Q. HOW MANY COMPANIES MET YOUR SCREENING CRITERIA?

8 A. The criteria discussed above resulted in a group of the following 12
9 companies:

10 **Table 3: Screening Results**

Company	Ticker
American Electric Power Company, Inc.	AEP
Cleco Corp.	CNL
Edison International	EIX
Empire District Electric	EDE
Great Plains Energy Inc.	GXP
Hawaiian Electric	HE
IDACORP, Inc.	IDA
Pinnacle West Capital Corp.	PNW
PNM Resources	PNM
Portland General Electric Company	POR
Southern Company	SO
Westar Energy, Inc.	WR

11
12 Q. DO THOSE 12 COMPANIES CONSTITUTE YOUR FINAL PROXY GROUP?

13 A. No. I examined the operating profile of each of those 12 companies to
14 determine whether each company is fundamentally comparable to NSP. On
15 that basis, I eliminated Edison International ("EIX") and PNM Resources
16 ("PNM") from the proxy group.

1 EIX had substantial losses in its unregulated power generation business
2 segment in 2011 that were over \$1.0 billion, equal to more than 98.00 percent
3 of its regulated net income. Given the extent of those unregulated losses, it
4 seems very likely that EIX's overall market price and the growth forecasts are
5 affected by this very large recent unregulated loss. As a result, it is difficult to
6 assess the relative degree to which regulated electric utility operations would
7 be expected to contribute to the company's consolidated financial
8 performance in the near and long-term.¹⁰ As a result, I have excluded EIX
9 from the proxy group.

10
11 PNM has an investment grade credit rating from S&P, and thus meets the
12 credit rating screen, but has a sub-investment grade rating from Moody's
13 Investor Services ("Moody's") (*i.e.*, the company is "split rated"). S&P
14 determined that PNM's sale of two unregulated businesses and its "focus on
15 core electric operations"¹¹ warranted a recent ratings upgrade. However, due
16 to the split rating, I have excluded PNM from the proxy group at this time.

17
18 Q. WHAT IS YOUR FINAL PROXY GROUP?

19 A. Excluding EIX and PNM from the group results in a proxy group of the
20 following ten companies:

¹⁰ Edison Internal, SEC Form 10-K for the period ended December 31, 2011, filed February 29, 2012.

¹¹ Standard & Poor's, "Rating On PNM Resources Inc. and Subsidiaries Raised to 'BBB-' On Improved Business Risk," April 13, 2012.

1

Table 4: Screening Results

Company	Ticker
American Electric Power Company, Inc.	AEP
Cleco Corp.	CNL
Empire District Electric	EDE
Great Plains Energy Inc.	GXP
Hawaiian Electric	HE
IDACORP, Inc.	IDA
Pinnacle West Capital Corp.	PNW
Portland General Electric Company	POR
Southern Company	SO
Westar Energy, Inc.	WR

2 Please refer to Exhibit____(JMC-1), Schedule 2 for my proxy group screening
3 data and results. These are the same proxy group companies that were used
4 in Docket No. EL11-019.

5

6 Q. DO YOUR SCREENING CRITERIA RESULT IN A GROUP OF COMPANIES THAT
7 INVESTORS WOULD VIEW AS COMPARABLE?

8 A. Yes. I have selected the above group to best align with the financial and
9 operational characteristics of NSP. The proxy group screening criterion
10 requiring an investment grade credit rating ensures that the proxy group
11 companies, like NSP, are generally in sound financial condition. Because
12 ratings analysts take into account operational and financial risks in developing
13 the credit rating, the ratings provide a broad measure of investment risk that
14 are widely referenced by investors. Ratings of “investment grade” (S&P
15 credit rating of BBB- or above and Moody’s credit rating of Baa3 and above)
16 generally indicate sound financial condition, and any rating below investment
17 grade is considered to be speculative and high risk. Additionally, I have
18 screened on the percent of revenues and net income provided by regulated

1 electric operations to differentiate utilities that are protected by regulation
2 from those with substantial merchant or market related risks. I believe my
3 regulatory screen is best able to distinguish investments protected largely by
4 regulation versus those that are not. Further, the generation screens allow for
5 the identification of utilities, like NSP, that bear the risk of generation in their
6 asset mix. Those screens collectively reflect the risk factors that investors
7 consider in making their investment decisions in utility companies.

8
9 **VII. DETERMINATION OF THE APPROPRIATE COST OF EQUITY**

10 Q. WHAT MODELS DID YOU USE IN YOUR ROE ANALYSES?

11 A. I have relied primarily on the Constant Growth DCF model and considered
12 the results of the CAPM, and the Bond Yield Plus Risk Premium model.

13
14 **A. Constant Growth DCF Model**

15 Q. PLEASE DESCRIBE THE DCF APPROACH.

16 A. The DCF approach is widely used in regulatory proceedings and has a sound
17 theoretical basis. The DCF approach is based on the theory that a stock's
18 price represents the present value of all future expected cash flows. In its
19 simplest form, the DCF model expresses the ROE as the sum of the expected
20 dividend yield and long-term growth rate:

21
$$k = \frac{D(1+g)}{P} + g \quad [1]$$

22 where "k" equals the required return, "D" is the current dividend, "g" is the
23 expected growth rate, and "P" represents the subject company's stock price.

24
25 Q. PLEASE SUMMARIZE YOUR APPLICATION OF THE CONSTANT GROWTH DCF
26 MODEL.

1 A. I calculated DCF results for each of the proxy group companies using the
2 following inputs:
3 1. Average stock prices for the historical period, over 30, 90 and 180 days
4 through May 31, 2012;
5 2. Annualized dividend per share as of May 31, 2012; and
6 3. The Company-specific earnings growth forecasts for the term g .
7 My application of the Constant Growth DCF model is provided in
8 Exhibit____(JMC-1), Schedule 3.

9
10 Q. WHY DID YOU USE AVERAGING PERIODS OF 30, 90 AND 180 DAYS?

11 A. I believe it is important to use an average of recent trading days to calculate
12 the term P in the DCF model to ensure that the calculated ROE is not
13 skewed by anomalous events that may affect stock prices on any given trading
14 day. In that regard, the averaging period should be reasonably representative
15 of expected capital market conditions over the long term. At the same time,
16 it is important to reflect the conditions that have defined the financial markets
17 over the recent past. In my view, considering 30, 90 and 180 day averaging
18 periods reasonably balances those concerns. I would further note that the
19 DCF model results are fairly close for all those periods.

20
21 Q. DID YOU ADJUST THE DIVIDEND YIELD TO ACCOUNT FOR PERIODIC GROWTH
22 IN DIVIDENDS?

23 A. Yes. Since utility companies tend to increase their quarterly dividends at
24 different times throughout the year, it is reasonable to assume that such
25 increases will be evenly distributed over calendar quarters. Given that
26 assumption, it is reasonable to apply one-half of the expected annual dividend
27 growth for the purposes of calculating the DCF model. That adjustment

1 ensures that the expected dividend yield is representative of the coming 12-
2 month period. Accordingly, the DCF estimates reflect one-half of the
3 expected growth in the dividend yield component of the model.¹²
4

5 Q. WHAT SOURCES OF GROWTH HAVE YOU USED IN YOUR DCF ANALYSIS?

6 A. I have used the consensus analyst five-year growth estimates in earnings per
7 share (“EPS”) published by Thomson First Call, accessible through Yahoo!
8 Finance, and Zacks. In addition, I have utilized estimates published by Value
9 Line.
10

11 Q. WHY DID YOU FOCUS ON EARNINGS PER SHARE GROWTH?

12 A. The constant growth DCF model assumes that dividends grow at a single
13 growth rate estimate in perpetuity. Accordingly, in order to reduce the long-
14 term growth rate to a single measure, one must assume a constant payout
15 ratio, and that EPS, dividends per share and book value per share will all grow
16 at the same constant rate. Over the long run, however, dividend growth can
17 only be sustained by earnings growth. As noted by Brigham and Houston in
18 their text, *Fundamentals of Financial Management*: “Growth in dividends
19 occurs primarily as a result of growth in *earnings per share* (EPS).”¹³ Therefore,
20 it is important to focus on measures of long-term earnings growth from
21 credible sources as an appropriate measure of long-term growth.
22

23 Q. ARE OTHER SOURCES OF GROWTH AVAILABLE TO INVESTORS?

24 A. Yes, although that does not mean that investors incorporate such estimates
25 into their investment evaluations. To that point, there have been academic

¹² The expected dividend yield is calculated as $d_1 = d_0 (1 + \frac{1}{2} g)$.

1 studies whose findings suggest that investors form their investment decisions
2 based on analysts' expectations of growth in earnings.¹⁴ I am not aware of any
3 similar findings regarding non-earnings based estimates of growth. In
4 addition, the only forward-looking growth rates that are available on a
5 consensus basis are analysts' EPS growth rates. The fact the earnings growth
6 projections are the only widely reported estimates of growth provides further
7 support that earnings growth is the most meaningful measure of growth in
8 the investment community.

9

10 **B. Flotation Cost Recovery**

11 Q. DID YOU CONSIDER RECOVERY OF FLOTATION COSTS IN YOUR ANALYSIS?

12 A. Yes. As part of my analysis, I considered results of the DCF model with
13 flotation costs.

14

15 Q. WHAT ARE FLOTATION COSTS?

16 A. Flotation costs are the costs associated with the sale of new issues of
17 common stock. Those costs include out-of-pocket expenditures for
18 preparation, filing, underwriting, and other costs of issuance of common
19 stock.

20

¹³ Eugene F. Brigham and Joel F. Houston, *Fundamentals of Financial Management* (Concise Fourth Edition, Thomson South-Western), at 317 [emphasis added].

¹⁴ See, e.g., Harris and Marston, *Estimating Shareholder Risk Premia Using Analysts Growth Forecasts*, Financial Management, 21 (Summer 1992), and Vander Weide and Carleton, *Investor Growth Expectations: Analysts vs. History*, The Journal of Portfolio Management, Spring 1988, at 81. Please note that while the original study was published in 1988, it was updated in 2004 under the direction of Dr. Vander Weide. The results of that updated study are consistent with Vander Weide and Carleton's original conclusions.

1 Q. WHY IS IT IMPORTANT TO RECOGNIZE FLOTATION COSTS IN THE ALLOWED
2 ROE?

3 A. In order to attract and retain new investors, a regulated utility must have the
4 opportunity to earn a return that is both competitive and compensatory. To
5 the extent that a company is denied the opportunity to recover prudently
6 incurred flotation costs, actual returns will fall short of expected (or required)
7 returns, thereby diminishing its ability to attract adequate capital on
8 reasonable terms.

9

10 Q. ARE FLOTATION COSTS PART OF THE UTILITY'S INVESTED COSTS OR PART OF
11 THE UTILITY'S EXPENSES?

12 A. Flotation costs are part of the invested costs of the utility, which are properly
13 reflected on the balance sheet of the utility under "paid in capital." They are
14 not current expenses, and therefore are not reflected on the income
15 statement.

16

17 Q. WHAT IS THE SIGNIFICANCE OF FLOTATION COSTS BEING REFLECTED ON THE
18 BALANCE SHEET?

19 A. Like investments in rate base or the issuance costs of long-term debt,
20 flotation costs are incurred over time. As a result, the great majority of a
21 utility's flotation cost is incurred prior to the test year, but remains part of the
22 cost structure that exists during the test year and beyond. As such, flotation
23 costs should be recognized for ratemaking purposes even if no new issuances
24 are planned in the near future because failure to allow such an adjustment
25 may deny NSP the opportunity to earn its required rate of return in the
26 future.

27

1 Q. HAS XEI RECENTLY ISSUED COMMON EQUITY?
2 A. Yes, it has. As shown in Exhibit___(JMC-1), Schedule 4, XEI issued
3 21,850,000 equity shares in 2010.
4
5 Q. WILL THE COMPANY NEED ACCESS TO THE EQUITY MARKET IN THE NEXT
6 SEVERAL YEARS?
7 A. Yes. Due to its sizable capital investment plan, discussed in Section VIII, the
8 Company will need to access the equity market in the next several years.
9
10 Q. IS THE NEED TO CONSIDER FLOTATION COSTS ELIMINATED BECAUSE THE
11 COMPANY IS A SUBSIDIARY OF XEI?
12 A. No. Although the Company is a subsidiary of XEI, it is appropriate to
13 consider flotation costs because subsidiaries receive equity capital from their
14 parents and provide returns on the capital that roll up to the parent, which is
15 designated to attract and raise capital based upon the returns of those
16 subsidiaries. To deny recovery of issuance costs associated with the capital
17 that is invested in the subsidiaries ultimately will penalize the investors that
18 fund the utility operations and will inhibit the utility's ability to obtain new
19 equity capital at a reasonable cost.
20
21 Q. DO THE DCF AND CAPM MODELS ALREADY INCORPORATE INVESTOR
22 EXPECTATIONS OF A RETURN THAT COMPENSATES FOR FLOTATION COSTS?
23 A. No. The DCF and CAPM models assume no transaction costs, as those
24 costs are not reflected in the market price (in the case of the DCF model) or
25 risk premium (in the case of the CAPM). Therefore, it is appropriate to
26 consider flotation costs when estimating the Company's ROE.
27

1 Q. IS THE NEED FOR A FLOTATION COST ADJUSTMENT RECOGNIZED BY THE
2 ACADEMIC AND FINANCIAL COMMUNITIES?

3 A. Yes. The need to reimburse investors for equity issuance costs is justified by
4 the academic and financial communities in the same spirit that investors are
5 reimbursed for the costs of issuing debt.

6

7 Q. IS THE NEED FOR A FLOTATION COST ADJUSTMENT RECOGNIZED BY OTHER
8 REGULATORY JURISDICTIONS?

9 A. Yes. The need to recover the cost of issuing equity capital is recognized by a
10 number of state regulatory commissions in the U.S. and Canada. For
11 instance, the South Carolina Public Service Commission, in approving a 20
12 basis points flotation cost adjustment for South Carolina Electric & Gas
13 Company (“SCE&G”) noted that:

14 [F]lotation costs are not an expense to be recovered during a
15 particular period. Instead, they represent a difference in the
16 amount of funds that investors have invested in the
17 Company compared to the amount the Company actually
18 receives.

19

20 Accordingly, the Commission finds that the reliable,
21 probative and substantial evidence on the record establishes
22 that flotation adjustments are indeed appropriate in this case
23 to reflect SCE&G’s recent issuance of new equity and the
24 fact that these costs are not otherwise recovered in setting
25 rates.¹⁵

26 Similarly, the Connecticut Department of Public Utilities, in approving a 12
27 basis points adjustment for Yankee Gas, stated:

28 The Department recognizes that flotation costs are real.
29 Therefore, it must be recognized for a utility that issues

¹⁵ Public Service Commission of South Carolina, Docket No. 2002-223-E-Order No. 2003-38, January 31, 2003, at 72-73.

1 common stock or from a parent that issues common stock
2 and then infuses those dollars as a capital contribution to a
3 utility subsidiary. The Department allows issuance costs for
4 debt offerings of utilities and expenses these costs over the
5 life of the bond. The Department reasons that the costs of a
6 common stock issuance should be included for as long as
7 the stock is outstanding, which is permanently.¹⁶
8

9 Q. HAVE YOU CALCULATED THE EFFECT OF FLOTATION COSTS ON THE ROE?

10 A. Yes, I have. I modified the DCF calculation to provide a dividend yield that
11 would reimburse investors for issuance costs. Based on the issuance costs
12 provided in Exhibit___(JMC-1), Schedule 4, an adjustment of 0.25 percent
13 (*i.e.*, 25 basis points) is an appropriate reflection of flotation costs for the
14 Company.
15

16 Q. DO THE RESULTS IN EXHIBIT___(JMC-1), SCHEDULE 3 INCLUDE AN
17 ADJUSTMENT FOR FLOTATION COST RECOVERY?

18 A. Yes. The results presented in Exhibit___(JMC-1), Schedule 3 include results
19 before and after an adjustment for flotation cost recovery.
20

21 Q. DID YOU MAKE ANY ADJUSTMENTS TO THE FLOTATION COST CALCULATION?

22 A. No. I recognize that an adjustment was discussed in Docket No. EL11-019
23 to reflect the lower issuance costs of the Company's dividend reinvestment
24 plan ("DRIP") and Employee Stock Ownership Plan ("ESOP"). Based on
25 the scope of the Company's investment program, I do not believe that those
26 lower issuance costs reflect the Company's forward looking cost of equity. If

¹⁶ Connecticut Department of Public Utility Control, *Application of Yankee Gas Services Company for Amended Rate Schedules*, Docket No. 10-12-02, June 29, 2011.

1 an adjustment was made to reflect the lower issuance costs of the DRIP and
2 ESOP, the flotation cost adjustment would be reduced to 14 basis points.

3
4 **C. Results for Constant Growth Model**

5 Q. WHAT ARE THE RESULTS OF YOUR DCF ANALYSIS?

6 A. As provided in Exhibit____(JMC-1), Schedule 3, the mean DCF results for my
7 proxy group range from 10.41 percent to 10.47 percent, with flotation costs.
8 Exhibit____(JMC-1), Schedule 3 also provides high and low DCF results that
9 are calculated using the maximum and minimum growth rate, respectively (*i.e.*,
10 the maximum of the Value Line First Call, and Zacks EPS growth rates), in
11 combination with the expected dividend yield for each of the proxy group
12 companies. In light of NSP’s relatively high level of business risk as
13 compared to the proxy group (discussed in Section VIII), which suggest the
14 Company’s ROE is somewhat above the mean for the proxy group, I have
15 also considered the high end of the results, which range from 11.67 percent to
16 11.74 percent, with flotation costs. My recommended ROE for NSP of 10.65
17 percent is slightly above the mean, and well within the upper bound of my
18 analytical results. That recommendation is also corroborated by the
19 additional analyses I performed, which are discussed below.

20 **Table 5: Mean DCF Results – Including Flotation Costs**

	Mean DCF Results
	Constant Growth DCF
30-Day Average	10.41%
90-Day Average	10.43%
180-Day Average	10.47%

21
22 Q. WHAT ADDITIONAL ANALYSES DID YOU UNDERTAKE TO SUPPORT YOUR
23 CONSTANT GROWTH DCF MODEL RESULTS?

1 A. As noted earlier, I used the Bond Yield plus Risk Premium and CAPM
2 approaches as a means of assessing the reasonableness of my Constant
3 Growth DCF results.

4

5 **D. CAPM Analysis**

6 Q. PLEASE BRIEFLY DESCRIBE THE GENERAL FORM OF THE CAPM.

7 A. The CAPM is a risk premium approach that estimates the cost of equity for a
8 given security as a function of a risk-free return plus a risk premium (to
9 compensate investors for the non-diversifiable or “systematic” risk of that
10 security). As shown in Equation [2], the CAPM is defined by four
11 components, each of which must theoretically be a forward-looking estimate:

$$12 \quad K_e = r_f + \beta(r_m - r_f) \quad [2]$$

13 where:

14 K_e = the required ROE for a given security;

15 β = Beta of an individual security;

16 r_f = the risk-free rate of return; and

17 r_m = the required return for the market as a whole.

18 In this specification, the term $(r_m - r_f)$ represents the Market Risk Premium
19 (“MRP”). According to the theory underlying the CAPM, since unsystematic
20 risk can be diversified away, investors should be concerned only with
21 systematic or non-diversifiable risk. Non-diversifiable risk is measured by
22 Beta, which is defined as:

$$23 \quad \beta = \frac{\text{Covariance}(r_e, r_m)}{\text{Variance}(r_m)} \quad [3]$$

24 where:

25 r_e = the rate of return for the individual security or portfolio.

1 The variance of the market return, noted in Equation [3], is a measure of the
2 uncertainty of the general market, and the covariance between the return on a
3 specific security and the market reflects the extent to which the return on that
4 security will respond to a given change in the market return. Thus, Beta
5 represents the risk of the security relative to the market.

6
7 Q. HAS THE CAPM BEEN AFFECTED BY RECENT ECONOMIC CONDITIONS?

8 A. Yes. The recent market has affected the CAPM in a number of important
9 ways. First, as noted above, the risk free rate, " r_f ", in the CAPM formula is
10 represented by the interest rate on long-term U.S. Treasury securities. During
11 the recent severe economic downturn, investors reacted to the extraordinary
12 levels of market volatility discussed earlier by investing in low-risk securities
13 such as Treasury bonds (*i.e.*, a "flight to quality"). Consequently, based on
14 current figures, the first term in the model (*i.e.*, the risk-free rate) is lower than
15 it would have been absent the elevated degree of risk aversion that has, at
16 least in part, resulted in historically low Treasury yields.

17
18 Also, Beta coefficient estimates reported by Value Line and Bloomberg
19 calculate the Beta for each company over historical periods of 60 and 24
20 months, respectively. During the recent financial market crisis, the
21 relationship between the returns of the proxy group companies and the S&P
22 500 was considerably different than has been experienced in the current
23 market environment. The Value Line Beta coefficient estimates are calculated
24 over a longer historical time period that includes the effects of the financial
25 market dislocation. Bloomberg's calculation is based on two years of data,
26 which more closely reflects current market conditions than the five-year
27 historical period relied on by Value Line.

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Q. WITH THOSE QUALIFICATIONS IN MIND, WHAT ASSUMPTIONS DID YOU USE IN YOUR CAPM MODEL?

A. Since both the DCF and CAPM models assume long-term investment horizons, I used a forecasted yield on 30-year Treasury bonds (*i.e.*, 5.10 percent) for the 2013 through 2017 time period as my estimate of the risk-free rate. That time period provides a forward looking view, which is the objective of the ROE analysis. The 5.10 percent forecasted yield on 30-year Treasury bonds provides the risk free rate.

Q. WHAT MARKET RISK PREMIA DID YOU USE IN YOUR CAPM MODEL?

A. I used two estimates of the MRP, comprised of a historical (*ex-post*) estimate and a forward-looking (*ex-ante*) estimate.

Q. PLEASE DESCRIBE YOUR *EX-POST* ESTIMATE OF THE MARKET RISK PREMIUM.

A. My *ex-post* MRP estimate is based on the arithmetic mean of risk premia calculated by Morningstar, Inc. The Morningstar risk premia data is available from 1926-2011 and results in a 6.60 percent risk premium, calculated as the arithmetic mean of the premium of the S&P 500 total returns for large company common stocks over long-term government bond income returns.¹⁷

Q. PLEASE DESCRIBE YOUR *EX-ANTE* ESTIMATE.

A. The *ex-ante* approach is based on the required return on the S&P 500 Index, less the forecasted yield on 30-year Treasury Bonds. The required return on the S&P 500 is calculated using the constant growth DCF model discussed earlier in my testimony for the companies in the S&P 500 Index for which

1 long-term earnings projections are available. The *ex-ante* estimate of the MRP
2 is 8.09 percent.

3
4 Q. WHAT MEASURES OF THE BETA COEFFICIENT DID YOU USE IN YOUR CAPM
5 MODEL?

6 A. I considered two separate Beta coefficients for the proxy group companies:
7 (1) the reported adjusted Beta coefficients from Bloomberg (which are
8 calculated using 24 months of data); and (2) the reported adjusted Beta
9 coefficients from Value Line (which are calculated using 60 months of data).

10
11 Q. HOW DID YOU APPLY YOUR CAPM?

12 A. I relied on the MRP estimates and the Bloomberg and Value Line Beta
13 coefficients for the proxy group to calculate the CAPM model using the 5.10
14 percent forecasted yield on the 30-year U.S. Treasury bond as the risk-free
15 rate.

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

18 A. As shown in Table 6 (below), (*see* also Exhibit____(JMC-1), Schedule 5), the
19 CAPM analysis results in a range of returns from 9.97 percent to 11.02
20 percent.

21

¹⁷ *See*, Morningstar, Inc., Ibbotson SBBI 2012 Valuation Yearbook, at 129.

1

2

Table 6: CAPM Results – with Flotation Costs

	Historical Market Risk Premium	Mean	Market DCF Derived Market Risk Premium
Average Result (Bloomberg and Value Line Beta Coefficients)	9.97%	10.50%	11.02%

3

E. Bond Yield Plus Risk Premium Analysis

5 Q. PLEASE DESCRIBE THE BOND YIELD PLUS RISK PREMIUM APPROACH.

6 A. In general terms, this approach recognizes that equity is riskier than debt
7 because equity investors bear the residual risk associated with ownership.
8 Equity investors, therefore, require a greater return (*i.e.*, a premium) than they
9 would have as bondholders. That is, since returns to equity holders are more
10 risky than returns to bondholders, equity investors must be compensated for
11 bearing that risk. Risk premium approaches, therefore, estimate the cost of
12 equity as the sum of the Equity Risk Premium and the yield on a particular
13 class of bonds. Actual authorized returns for electric utilities are used as the
14 measure of the cost of equity to determine the Equity Risk Premium.

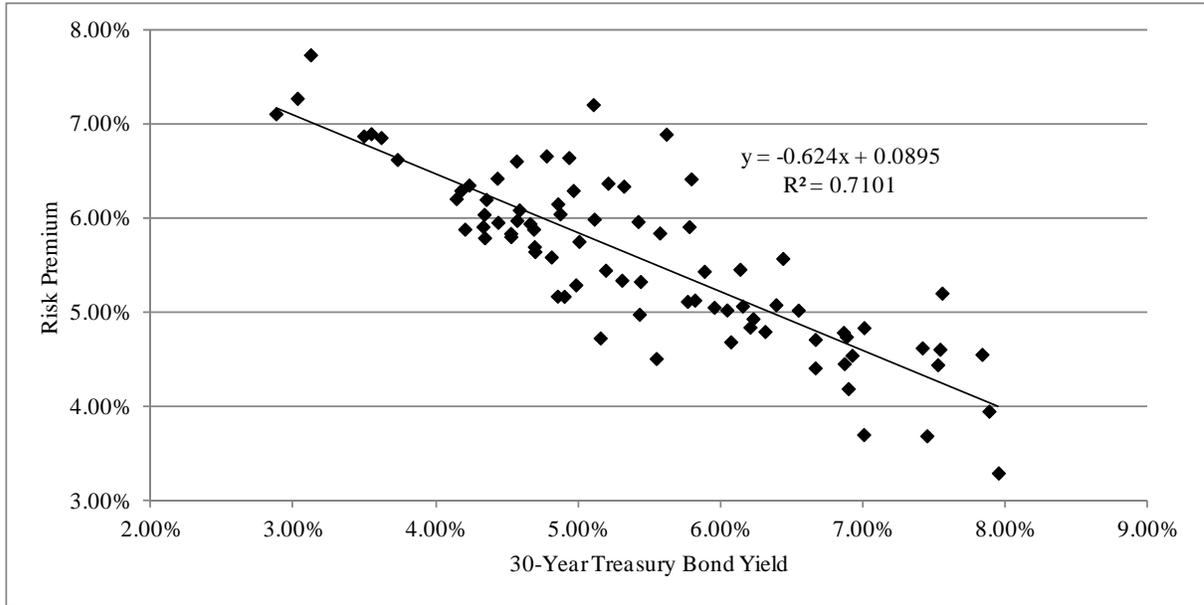
15

16 Q. WHAT DID YOUR BOND YIELD PLUS RISK PREMIUM ANALYSIS REVEAL?

17 A. As shown on Chart 5 (below), based on a regression analysis of the Equity
18 Risk Premium and Treasury yields, there was a strong negative relationship
19 between risk premia and interest rates from 1992 through May 31, 2012.

1

Chart 5: Risk Premium Results



2

3 As shown on Exhibit___(JMC-1), Schedule 6, from 1992 through May 31,
4 2012, the average risk premium was approximately 5.55 percent. Based on
5 the regression coefficients provided in Exhibit___(JMC-1), Schedule 6 and
6 the forecasted 30-year Treasury bond yield of 5.10 percent, the risk premium
7 would be 5.77 percent, resulting in an ROE of 10.87 percent.

8

9 **F. Other Analyses Considered**

10 Q. DID YOU ALSO CONSIDER ANY ADDITIONAL ANALYSES IN YOUR EVALUATION
11 OF THE COMPANY'S ROE?

12 A. Yes. Non-constant growth applications of the DCF analysis were introduced
13 in Docket No. EL11-019, and I also performed a multi-period (three-stage)
14 DCF Model (the "Multi-Stage DCF" model), although I did not rely on this
15 approach in making my recommendation in this case.

16

17 Q. PLEASE DESCRIBE THE STAGES OF YOUR MULTI-STAGE DCF MODEL.

1 A. The model transitions from near-term growth, (*i.e.* the average of Value Line,
2 First Call, and Zacks forecasts used in the Constant Growth model) for the
3 first stage (years 1-5) of the analysis, to the long-term forecast of GDP
4 growth for the third stage of the analysis (years 11 and beyond). The second
5 stage, or the transitional stage, connects the near-term growth with the long-
6 term growth by changing the growth rate each year on a pro rata basis. The
7 third stage is based on nominal GDP growth, reflecting the view that utility
8 earnings growth should not exceed GDP growth over the long-run.

9

10 Q. HOW DID YOU CALCULATE THE LONG-TERM GDP GROWTH RATE?

11 A. Those forecasts are based on real (constant dollar) growth rates, and estimates
12 for inflation. The real GDP growth rate is taken from the consensus Blue
13 Chip Financial Forecast. I have applied the inflation estimate to the estimate
14 of real GDP growth to develop the nominal (*i.e.*, post-inflation) GDP growth
15 rate. I have used two alternative estimates for inflation: (1) the GDP Chained
16 Price Index; and (2) the 30-day average spread between the 30-year Treasury
17 bond and the 30-year Treasury Inflation-Protected Securities (“TIPS”) bond,
18 which is an inflation-indexed bond that presents the broader market’s view of
19 forward-looking inflation. The result is a 4.75 percent estimate of nominal
20 GDP growth, which reflects an average inflation rate of 2.19 percent plus a
21 2.50 percent real GDP growth rate.

22

23 Q. WHAT ARE THE RESULTS OF YOUR MULTI-STAGE DCF ANALYSIS?

24 A. The mean multi-stage DCF result is 10.09 percent, including flotation costs
25 (*see*, Exhibit____(JMC-1), Schedule 7). That result is well below the lower end
26 of the mean Constant Growth DCF results I have estimated, and I therefore

1 do not consider it a reasonable estimate of the cost of equity for NSP's South
2 Dakota operations given the risk factors discussed in Section VIII.

3
4 **VIII. BUSINESS RISKS**

5 Q. DO THE MEAN DCF RESULTS FOR THE PROXY GROUP PROVIDE AN
6 APPROPRIATE ESTIMATE OF THE COST OF EQUITY FOR THE COMPANY?

7 A. No, the mean DCF results do not necessarily provide an appropriate estimate
8 of the Company's cost of equity. There are several factors that have a direct
9 bearing on the Company's ability to earn a fair return and on the Company's
10 relative riskiness when compared to the proxy group. Those factors include
11 NSP's planned capital investment program and regulatory lag. Those factors
12 indicate that the Company faces a somewhat higher level of risk than the
13 proxy group.

14
15 **A. Capital Expenditures**

16 Q. PLEASE SUMMARIZE THE COMPANY'S CAPITAL EXPENDITURE PLAN.

17 A. The Company estimates that during the five-year period 2012-2016 it will
18 invest approximately \$5.9 billion, averaging approximately \$1.18 billion per
19 year over that five-year period.¹⁸ Those expenditures represent approximately
20 67.82 percent of the Company's total net utility plant in service as of
21 December 31, 2011.¹⁹

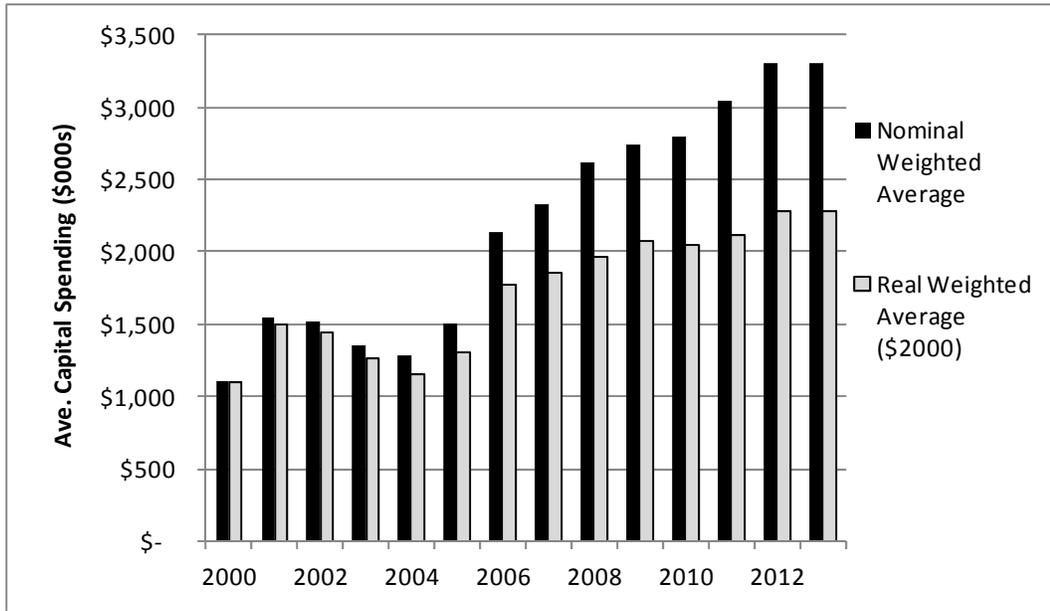
22
23 Q. IS THE COMPANY ALONE IN MAKING SUBSTANTIAL INVESTMENTS?

¹⁸ SEC Form 10-K, Xcel Energy, Inc, for the year ending December 31, 2011, at 73. Includes South Dakota, Minnesota and North Dakota jurisdictions.

¹⁹ NSP's net utility plant at December 31, 2011 was \$8.7 billion, as reported in its FERC Form 1 at 110 for the period ended December 31, 2011. \$5.9 billion/\$8.7 billion = 67.82 percent.

1 A. No, although the Company's investment plan is in the upper end of the range
 2 of the proxy group companies in terms of the percentage of net plant in
 3 service that is represented by the investment plan. The electric utility industry
 4 is currently in a cycle of increased capital expenditures that has risen to over
 5 \$70 billion in 2011. Many of those investments are not being made in
 6 facilities that generate growth in revenue, but rather in reliability, safety, and
 7 environmental upgrades. The chart below shows the weighted average of
 8 capital expenditures over the last decade, as well as the near-term forecast.

9
 10 **Chart 6: Electric Utility Trend in Capital Expenditures²⁰**



11
 12
 13 Q. DOES THE INVESTMENT COMMUNITY RECOGNIZE THE RISKS ASSOCIATED
 14 WITH INCREASED CAPITAL EXPENDITURES?

15 A. Yes, it does. From a credit perspective, the additional pressure on cash flows
 16 associated with high levels of capital expenditures exerts corresponding

²⁰ Source: Value Line.

1 pressure on credit metrics and, therefore, credit ratings. S&P recently noted:
2 “[f]or all regulated utilities, credit quality could suffer if their ability to recover
3 investments and incremental operating costs is inadequate.”²¹ S&P
4 specifically identified the risks associated with NSP’s capital expenditure plan
5 in its June 2011 rating of the Company. In that report, S&P noted that its
6 credit rating reflects in part the full cost recovery of larger construction
7 projects. In addition, S&P notes that the current stable outlook could be
8 revised to negative if construction projects are not completed on time and
9 budget or if rate recovery is less than expected.²²

10
11 Q. HOW DOES THE LEVEL OF THE COMPANY’S EXPECTED CAPITAL
12 EXPENDITURES COMPARE TO THE PROXY GROUP?

13 A. As shown in Exhibit___(JMC-1), Schedule 8, I calculated the ratio of
14 expected capital expenditures to net assets for each of the companies in the
15 proxy group. For the projected period from 2012 to 2016, I performed that
16 calculation using the Company’s projected capital expenditures and its total
17 net assets as of December 31, 2011. As shown in Exhibit___(JMC-1),
18 Schedule 8, the Company’s relative level of capital expenditures is 1.4 times
19 the median projected investments of the proxy group companies. Chart 7
20 below compares the projected capital expenditures of the Company and my
21 electric utility proxy group.

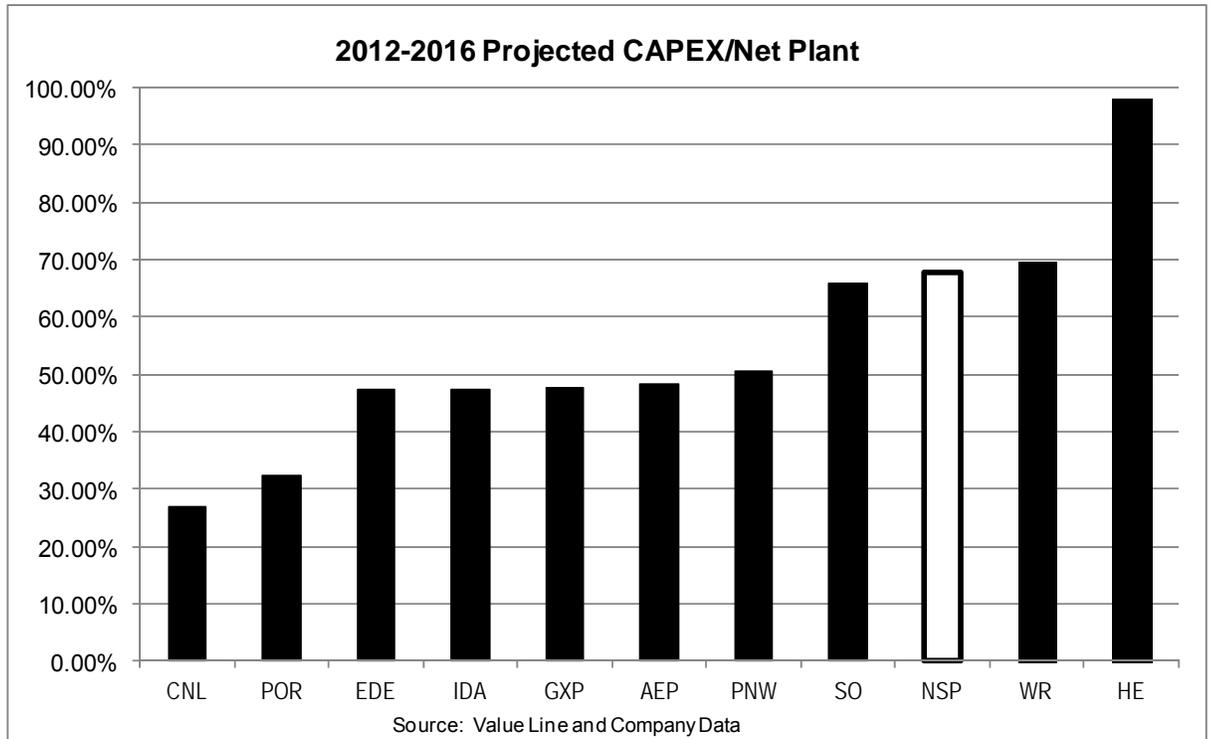
²¹ Standard and Poor’s, “U.S. Utilities Capital Spending Is Rising, and Cost Recovery is Vital.” May 14, 2012, at 2.

²² Standard & Poor’s Global Credit Portal RatingsDirect, Northern States Power Co., June 24, 2011, at 4.

1

2

Chart 7: Comparison of Capital Expenditures



3

4

5 Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE EFFECT OF THE COMPANY'S
6 CAPITAL INVESTMENT PLAN ON ITS COST OF CAPITAL?

7 A. It is clear that the Company is projecting a substantial capital expenditure
8 program over the next five years that will require continued access to the
9 capital markets. It also is clear that the investment community recognizes the
10 additional risks associated with substantial capital expenditures. Therefore,
11 the relative size of the Company's capital expenditure plan suggests an above
12 average risk profile for the Company as compared to the proxy group.

1

2 **B. Regulatory Lag**

3 Q. WHAT IS REGULATORY LAG?

4 A. Regulatory lag refers to the delay between the time when a utility incurs costs
5 to serve its customers (*e.g.*, when it places new plant in service) and when it
6 later begins to recover the associated costs through rates.

7

8 Q. IS REGULATORY LAG CONFINED TO A SIMPLE DELAY IN COST RECOVERY?

9 A. No. In spite of its name, regulatory lag does not refer merely to a delay in the
10 recovery of costs. Costs that are not recovered through rates as a result of
11 regulatory lag are lost forever to the utility. Those costs are incurred when
12 new plant is placed in service and include both the return of invested capital
13 (depreciation expense) and the return on invested capital.

14

15 Q. WHAT ARE THE MOST COMMON CAUSES OF REGULATORY LAG?

16 A. Regulatory lag depends on the combination of several factors including: (1)
17 the definition of the test year; (2) the length of the rate case review period;
18 and (3) whether the utility is allowed to increase rates on an interim basis in
19 advance of a rate decision. In general, a more dated test year, and longer rate
20 case review period increase regulatory lag. The use of an average rate base,
21 which is used in South Dakota, versus a year-end rate base, also increases
22 regulatory lag. Interim rates help moderate the potential for regulatory lag.

23

24 Q. WHY IS REGULATORY LAG IMPORTANT FROM A RATEMAKING PERSPECTIVE?

25 A. In ratemaking, the test period is a starting point for establishing the cost of
26 service and certain “pro forma” adjustments are generally made to remove the
27 effects of unusual events or to reflect likely future experience. Ideally, after

1 these adjustments are made, the relationships among the three fundamental
2 elements of ratemaking (*i.e.*, rate base, expenses, and revenues) will be
3 representative of the relationships that will continue at least during the rate
4 year and hopefully beyond. In fact, ratemaking implicitly assumes that the
5 relationship between these three elements will hold into the future and
6 certainly apply during the first year or two that new rates are in effect. This is
7 sometimes referred to as “the matching principle.”

8
9 In general, the longer the regulatory lag, the greater the chance that the test
10 year relationships among rate base, expenses, and revenues will have changed
11 by the time the new rates take effect, thus threatening adherence to the
12 matching principle. A longer lag also increases the length of time between
13 when capital expenditures occur and the recovery of those investments, which
14 is a matter of considerable concern to ratings agencies, lenders and equity
15 holders.

16
17 Q. HAS NSP BEEN ABLE TO EARN ITS AUTHORIZED ROE FOR ITS SOUTH
18 DAKOTA ELECTRIC OPERATIONS?

19 A. No. The Direct Testimony of Company witness Laura McCarten discussed
20 how the Company has experienced an actual ROE of 2.95 percent in 2010
21 (2.64 percent weather normalized), and 4.16 percent (3.90 percent weather
22 normalized) from its South Dakota operations. Those returns are far below
23 the Company’s actual cost of equity and are also well below the Company’s
24 embedded cost of long-term debt.

25
26 Q. DOES THAT REPRESENT A SOURCE OF RISK FOR THE COMPANY FROM AN
27 INVESTOR PERSPECTIVE?

1 A. Yes. A company's ability to generate earnings and cash flows is important to
2 both creditors and equity investors. To the extent otherwise comparable
3 utility investments provide more certainty regarding timely cost recovery,
4 NSP's South Dakota operations will present a greater level of business risk.

5

6 Q. BASED ON THE BUSINESS RISKS IDENTIFIED ABOVE, HOW WOULD YOU
7 CLASSIFY THE COMPANY'S RISK LEVEL RELATIVE TO THE OTHERS IN THE
8 PROXY GROUP?

9 A. As discussed above, the Company faces a higher than average level of
10 business risk relative to the companies in the proxy group associated with
11 substantially higher capital investment levels, and it also is at a disadvantage as
12 it relates to regulatory lag. Consequently, I believe that the Company has
13 somewhat greater business risks relative to the proxy group.

14

15 **IX. CAPITAL STRUCTURE AND COST OF DEBT**

16 **A. Capital Structure**

17 Q. WHAT IS THE COMPANY'S PROPOSED CAPITAL STRUCTURE?

18 A. The Company's proposed capital structure consists of 52.89 percent common
19 equity and 47.11 percent long-term debt, which is based on the thirteen
20 month average historical test period ended December 31, 2011. The
21 calculation of the proposed capital structure is provided on Exhibit____(JMC-
22 1), Schedule 9.

23

24 Q. HAVE YOU ASSESSED THE REASONABLENESS OF THE COMPANY'S CAPITAL
25 STRUCTURE?

1 A. Yes. In order to assess the reasonableness of the Company's proposed capital
2 structure, I reviewed the average capitalization ratios for the past eight
3 quarters of the individual utility operating companies owned and operated by
4 the respective proxy group companies. As shown in Exhibit___(JMC-1),
5 Schedule 10 the Company's proposed 52.89 percent equity ratio is well within
6 the range of equity ratios for that group, and is only slightly above the mean
7 equity ratio of 51.97 percent.

8

9 **B. Cost of Long-Term Debt**

10 Q. WHAT IS THE COMPANY'S PROPOSED LONG-TERM COST OF DEBT?

11 A. The Company is proposing to use its actual long-term cost of debt of 6.12
12 percent. The calculation of the long-term cost of debt is provided on
13 Exhibit___(JMC-1), Schedule 11.

14

15 Q. IS THE COMPANY'S LONG-TERM COST OF DEBT REASONABLE?

16 A. Yes. The proposed cost of long-term debt reflects the Company's actual debt
17 costs. In addition, Exhibit___(JMC-1), Schedule 11, compares the cost of
18 each issuance to the Moody's A Utility Index (the "Moody's Index") at the
19 times of the Company's debt issuances. The weighted Moody's Index based
20 on those issuance dates was 6.51 percent, further indicating that the
21 Company's debt cost of 6.12 percent is reasonable.

22

23 **X. SUMMARY AND CONCLUSIONS**

24 Q. PLEASE SUMMARIZE YOUR CALCULATED COST OF EQUITY, TAKING INTO
25 CONSIDERATION THE ISSUES DISCUSSED ABOVE.

26 A. Table 7 summarizes the results of both DCF analyses, as well as the CAPM
27 and Bond Yield plus Risk Premium analyses. Based on these analyses, I

1 conclude that the range of a reasonable ROE for the Company is 10.40
 2 percent to 10.90 percent. I recommend an ROE of 10.65 percent for the
 3 Company based on my conclusion that the Company is riskier than the mean
 4 of the proxy group. That recommendation is slightly higher than the mean
 5 Constant Growth DCF results presented in Table 10, but is well within the
 6 bounds of my analytical results, and is corroborated by the CAPM and the
 7 Bond Yield plus Risk Premium analysis. That recommendation takes into
 8 consideration the current market environment as well as risks attendant to
 9 NSP's South Dakota operations.

10 **Table 7: ROE Estimate Summary**

Mean Constant Growth DCF – including Flotation Costs			
Mean of 30-, 90-, and 180-Day Average	10.43%		
CAPM – including Flotation Costs			
	Historical MRP	Mean	Market DCF Derived
Average Result (Bloomberg and Value Line Beta Coefficients) – including Flotation Costs	9.97%	10.50%	11.02%
Bond Yield plus Risk Premium			
Blue Chip Consensus Forecast (2014 - 2018) Treasury Yield Plus Equity Risk Premium	10.87%		

11
 12 Q. WHAT IS YOUR CONCLUSION REGARDING THE APPROPRIATE CAPITAL
 13 STRUCTURE FOR THE COMPANY?

14 A. I conclude that the Company's capital structure for the 13 month average test
 15 period ending December 31, 2011 which includes a 52.89 percent equity ratio,
 16 a 47.11 percent long-term debt, and an embedded debt cost of 6.12 percent
 17 are reasonable.

- 1 Q. PLEASE SUMMARIZE THE COMPANY’S PROPOSED OVERALL COST OF CAPITAL?
2 A. Given the recommended ROE of 10.65 percent, a cost of debt of 6.12
3 percent, and the capital structure noted above, the requested rate of return for
4 the Company is 8.51 percent, as shown in Table 8 below.

5 **Table 8: Overall Rate of Return**

	Percent	Cost Rate	Weighted Cost
Common Equity	52.89%	10.65%	5.63%
Long-term Debt	47.11%	6.12%	2.88%
Total Capitalization	100.00%		8.51%

- 6
7 Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?
8 A. Yes, it does.