BEFORE THE

PUBLIC UTILITIES COMMISSION

OF THE STATE OF SOUTH DAKOTA

IN RE:	**)**	
	)	**Docket No. EL14-___**
NORTHWESTERN CORPORATION	**)**	
d/b/a NorthWestern Energy	**)**	

DIRECT TESTIMONY OF

ADRIEN M. MCKENZIE

On Behalf of NorthWestern Energy

December 19, 2014

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EXHIBITS TO DIRECT TESTIMONY

I. INTRODUCTION

Q1. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A1. Adrien M. McKenzie, 3907 Red River, Austin, Texas, 78751.

Q2. IN WHAT CAPACITY ARE YOU EMPLOYED?

A2. I am a Vice President of FINCAP, Inc., a firm providing financial, economic, and policy consulting services to business and government.

Q3. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.

A3. A description of my background and qualifications, including a resume containing the details of my experience, is attached as Exhibit AMM-1.

Q4. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A4. The purpose of my testimony is to present to the South Dakota Public Utilities ("SDPUC" or the "Commission") my assessment of the fair rate of return on common equity ("ROE") for the jurisdictional electric utility operations of NorthWestern Energy ("NorthWestern" or "the Company"). In addition, I also evaluate the reasonableness of the 10.0% ROE requested by NorthWestern and examine the reasonableness of the Company's requested capital structure, considering both the specific risks faced by the Company and other industry guidelines.

Q5. PLEASE SUMMARIZE THE INFORMATION AND MATERIALS YOU RELIED ON TO SUPPORT THE OPINIONS AND CONCLUSIONS CONTAINED IN YOUR TESTIMONY.

A5. I am familiar with the organization, finances, and operations of NorthWestern from my firm's participation in prior proceedings before the SDPUC and the

Montana Public Service Commission. In connection with the present filing, I considered and relied upon corporate disclosures, publicly available financial reports and filings, and other published information relating to NorthWestern. I also reviewed information relating generally to capital market conditions and specifically to investor perceptions, requirements, and expectations for electric utilities. These sources, coupled with my experience in the fields of finance and utility regulation, have given me a working knowledge of the issues relevant to investors' required return for NorthWestern, and they form the basis of my analyses and conclusions.

Q6. HOW IS YOUR TESTIMONY ORGANIZED?

A6. After first summarizing my conclusions and recommendations, I briefly reviewed NorthWestern's operations and finances. I then examined current conditions in the capital markets and their implications in evaluating a fair ROE for NorthWestern. With this as a background, I conducted well-accepted quantitative analyses to estimate the current cost of equity for a reference group of comparable-risk electric utilities. I based my ROE recommendations on the results of the discounted cash flow ("DCF") model, the empirical form of Capital Asset Pricing Model ("ECAPM"), and an equity risk premium approach based on allowed ROEs for electric utilities, which are all methods that are commonly relied on in regulatory proceedings. Considering the cost of equity estimates indicated by these primary analyses, a fair ROE for NorthWestern's electric utility operations was evaluated taking into account the specific risks for NorthWestern's jurisdictional electric utility operations in South Dakota, its requirements for financial strength that provides benefits to customers, as well as flotation costs, which are properly considered in setting a fair ROE.

In addition, I tested my conclusions against alternative checks of reasonableness, which included applications of the traditional Capital Asset Pricing Model ("CAPM"), reference to expected rates of return for utilities, and application of the DCF model to a select group of low risk non-utility firms. Finally, my testimony also presents an evaluation of the reasonableness of the 10.0% ROE requested by NorthWestern, as presented in the testimony of Mr. Brian Bird.

II. RETURN ON EQUITY FOR NORTHWESTERN ENERGY

Q7. WHAT IS THE PURPOSE OF THIS SECTION?

A7. This section presents my conclusions regarding the fair ROE for NorthWestern. This section also discusses the relationship between ROE and preservation of a utility's financial integrity and the ability to attract capital.

A. Summary of Conclusions and Recommendations

Q8. PLEASE SUMMARIZE THE RESULTS OF THE QUANTITATIVE ANALYSES ON WHICH YOUR CONCLUSIONS WERE BASED.

A8. My ROE recommendations are based on the results of three primary methods – the DCF model, the ECAPM, and the risk premium approach. The cost of common equity estimates produced by these three primary analyses are presented on page 1 of Exhibit AMM-2, and summarized in Table 1, below:

TABLE 1
SUMMARY OF PRIMARY METHODS

DCF	**Average**	**Midpoint**
Value Line	9.5%	10.2%
IBES	9.9%	10.8%
Zacks	9.7%	10.7%
Reuters	10.0%	10.8%
Internal br + sv	9.2%	10.6%
Empirical CAPM - Historical Bond Yield		
Unadjusted	11.2%	11.4%
Size Adjusted	12.2%	12.2%
Empirical CAPM - Projected Bond Yield		
Unadjusted	11.5%	11.7%
Size Adjusted	12.4%	12.4%
Utility Risk Premium		
Historical Bond Yields	10.1%	
Projected Bond Yields	11.3%	
Cost of Equity Recommendation		
Cost of Equity Range	9.7% -- 11.3%	
Recommended Point Estimate	10.50%	
Flotation Cost Adjustment		
Dividend Yield	3.6%	
Flotation Cost Percentage	3.8%	
Adjustment	0.14%	
ROE Recommendation	**10.64%**	

Q9. WHAT ARE YOUR FINDINGS REGARDING THE FAIR RATE OF RETURN ON EQUITY FOR THE COMPANY?

A9. As shown on Table 1, based on the results of my primary analyses and considering the economic requirements necessary to support continuous access to capital, I recommend an ROE for NorthWestern of 10.64%. The bases for my conclusion are summarized below and illustrated on page 1 of Exhibit AMM-2:

- In order to reflect the risks and prospects associated with NorthWestern's jurisdictional utility operations, my analyses focused on a proxy group of 26 other utilities with comparable investment risks;
- Based on my evaluation of the strengths and weaknesses of the DCF, ECAPM, and risk premium methods, I concluded that 10.64% represents a fair ROE for the proxy group of utilities:
  - After considering the relative merits of the alternative growth rates and giving little weight to the internal, "br+sv" growth measures, my evaluation of the DCF results implied a cost of equity in the 9.5% to 10.0% range.
  - The forward-looking ECAPM estimates suggested an ROE in the range of 11.2% to 12.4%;
  - The utility risk premium approach implies an ROE estimate on the order of 10.1% to 11.3%;
  - Widespread expectations for higher interest rates emphasize the implication of considering the impact of projected bond yields in evaluating the results of the DCF, ECAPM, and risk premium methods;
  - Taken together, these results indicated that the "bare bones cost of equity," that is, the cost of equity before flotation costs, falls within a range of 9.7% to 11.3%, with a midpoint of 10.5%;
  - Adding a flotation cost adjustment of 14 basis points to this bare bones cost of equity resulted in an ROE of 10.64% for the proxy group.

Apart from the expected upward trend in capital costs, a cost of equity of 10.64% is consistent with the additional uncertainties associated with NorthWestern's relatively small size and the need to support financial integrity and fund capital investment even during times of adverse capital market conditions.

Q10. DID YOU EVALUATE OTHER CHECKS OF REASONABLENESS?

A10. Yes. I also performed alternative tests to confirm the results of my primary methods and my conclusions as to a fair and reasonable ROE for NorthWestern.

The results of these well-respected and commonly referenced ROE benchmarks are presented on page 2 of Exhibit AMM-2, and summarized in Table 2, below:

TABLE 2
SUMMARY OF ROE CHECKS OF REASONABLENESS

	Average	Midpoint
CAPM - Historical Bond Yield		
Unadjusted	10.6%	10.9%
Size Adjusted	11.6%	11.7%
CAPM - Projected Bond Yield		
Unadjusted	11.0%	11.2%
Size Adjusted	11.9%	11.9%
Expected Earnings		
Industry	10.6%	
Proxy Group	10.5%	11.1%
Non-Utility DCF		
Value Line	10.9%	10.9%
IBES	10.5%	10.4%
Zacks	10.4%	10.7%
Reuters	10.6%	11.1%

These ROE benchmarks are consistent with the results of my primary methods and confirm my conclusion that an ROE of 10.64% for NorthWestern is reasonable. As shown above:

- Applying the traditional CAPM approach implied a current cost of equity of 10.6% to 11.9%;
- Expected returns for electric utilities suggested an ROE on the order of at least 10.5%, excluding any adjustment for flotation costs; and
- Application of the DCF model to a select group of low-risk firms in the non-utility sector resulted in average ROE estimates ranging from 10.4% to 10.9%.
- Therefore, these benchmark tests of reasonableness confirm that a 10.64% ROE falls in the reasonable range to maintain NorthWestern's financial

integrity, provide a return commensurate with investments of comparable risk, and support the Company's ability to attract capital.

Q11. WHAT IS YOUR CONCLUSION AS TO THE REASONABLENESS OF THE COMPANY'S REQUESTED CAPITAL STRUCTURE?

A11. Based on my evaluation, I concluded that a common equity ratio of 53.6% represents a reasonable capitalization for NorthWestern. This conclusion was based on the following findings:

- The common equity ratio implied by NorthWestern's capital structure falls within the range of capitalizations maintained by the proxy group of utilities based on data at year-end and near-term expectations;
- NorthWestern's proposed capital structure is consistent with industry benchmarks and reflects the Company's ongoing efforts to maintain its credit standing and support access to capital on reasonable terms.
- The additional uncertainties associated with NorthWestern's relatively small size warrant a more conservative financial posture.

B. NorthWestern's Requested ROE is Conservative

Q12. WHAT ROE IS NORTHWESTERN REQUESTING IN THIS CASE?

A12. As discussed in the testimony of Mr. Bird, NorthWestern is requesting an ROE of 10.0%.

Q13. BASED ON THE RESULTS OF YOUR EVALUATION, WHAT IS YOUR CONCLUSION REGARDING THE COMPANY'S REQUESTED ROE?

A13. Because the Company's requested ROE falls considerably below the 10.64% midpoint of my recommended range, it represents a conservative basis on which to establish rates in this proceeding. NorthWestern's requested ROE represents a reasonable compromise between balancing the impact on customers and the need to provide the Company with a return that is adequate to compensate investors. The Company's requested 10.0% ROE falls in the lower end of the reasonable

range to maintain NorthWestern's financial integrity and ability to attract capital on reasonable terms.

Q14. HOW DO THE COMMISSION'S ACTIONS IMPACT INVESTOR CONFIDENCE AND THEIR REQUIRED RATES OF RETURN?

A14. Regulatory signals are a major driver of investors' risk assessment for utilities. Security analysts study commission orders and regulatory policy statements to advise investors about where to put their money. If the Commission's actions instill confidence that the regulatory environment is supportive, investors make capital available to South Dakota utilities on more reasonable terms. When investors are confident that a utility has reasonable and balanced regulation, they will make funds available even in times of turmoil in the financial markets.

Q15. IS IT WIDELY ACCEPTED THAT A UTILITY'S ABILITY TO ATTRACT CAPITAL MUST BE CONSIDERED IN ESTABLISHING A FAIR RATE OF RETURN?

A15. Yes. This is a fundamental standard underlying the regulation of public utilities. The Supreme Court's *Bluefield* and *Hope* decisions established that a regulated utility's authorized returns on capital must be sufficient to assure investors' confidence and that, if the utility is efficient and prudent on a prospective basis, it will be able to maintain and support its credit and have the opportunity to raise necessary capital.[1]

[1] *Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm'n*, 262 U.S. 679 (1923) ("*Bluefield*"); *FPC v. Hope Natural Gas Co.*, 320 U.S. 591 (1944) ("*Hope*").

Q16. HOW DOES NORTHWESTERN'S REQUESTED ROE COMPARE TO AUTHORIZED RETURNS FOR THE UTILITIES IN THE PROXY GROUP USED TO ESTIMATE THE COST OF EQUITY?

A16. The current authorized rates of return for the electric utilities in the proxy group reported by AUS Utility Reports ("AUS") are shown on Exhibit AMM-11. As documented there, the firms in the proxy group of comparable risk utilities are currently authorized an average ROE of 10.35%.

Q17. WHAT OTHER BENCHMARK INDICATES THAT NORTHWESTERN'S 10.0% ROE REQUEST IS CONSERVATIVE?

A17. Expected earned rates of return for other utilities provide another useful benchmark to gauge the reasonableness of NorthWestern's requested 10.0% ROE. As explained subsequently in my testimony, the expected earnings approach is predicated on the comparable earnings test, which developed as a direct result of the Supreme Court decisions in *Bluefield* and *Hope*. This test recognizes that investors compare the allowed ROE with returns available from other alternatives of comparable risk. As noted in *New Regulatory Finance*, "because the investment base for ratemaking purposes is expressed in book value terms, a rate of return on book value, as is the case with Comparable Earnings, is highly meaningful."[2] Similarly, FERC recently concluded that:

> [T]he . . . expected earnings analysis, given its close relationship to the comparable earnings standard that originated in *Hope*, and the fact that it is used by investors to estimate the ROE that a utility will earn in the future can be useful in validating our ROE recommendation.[3]

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[2] Roger A. Morin, NEW REGULATORY FINANCE, at 395 (Public Utilities Reports, Inc. 2006).

[3] *Martha Coakley et al., v. Bangor Hydro-Electric Company, et al.,* Opinion No. 531, 147 FERC ¶ 61,234 at P 147 (2014).

Q18. WHAT ROE IS IMPLIED BY THE EXPECTED EARNINGS APPROACH FOR THE PROXY GROUP OF ELECTRIC UTILITIES?

A18. The year-end returns on common equity projected by Value Line over its forecast horizon for the firms in the electric utility proxy group are presented on Exhibit AMM-9. As shown there, once adjusted to mid-year, reference to expected earnings implied an annual average cost of equity for the Electric Group of 10.5%.

Q19. WOULD AN ROE BELOW THE 10.0% REQUESTED BY NORTHWESTERN BE SUFFICIENT TO SATISFY REGULATORY STANDARDS?

A19. No. The competition for capital is intense. While the details underlying a determination of the cost of equity are significant to a rate of return analyst, there is one fundamental requirement that any ROE must satisfy before it can be considered reasonable. The ROE must grant NorthWestern the opportunity to earn an ROE comparable to contemporaneous returns available from alternative investments of comparable risk if it is to maintain its financial flexibility and ability to attract capital.

Q20. WHAT ARE THE IMPLICATIONS OF SETTING AN ALLOWED ROE BELOW THE RETURNS AVAILABLE FROM OTHER INVESTMENTS OF COMPARABLE RISK?

A20. If the utility is unable to offer a return similar to the returns available from other opportunities of comparable risk, investors will become unwilling to supply capital to the utility on reasonable terms. For existing investors, denying the utility an opportunity to earn what is available from other similar risk alternatives

prevents them from earning their cost of capital. Both of these outcomes violate regulatory standards.

Q21. WHAT OTHER PITFALLS ARE ASSOCIATED WITH AN ROE BELOW THE RETURNS INVESTORS EXPECT FOR OTHER COMPARABLE COMPANIES?

A21. Adopting an ROE below the 10.0% requested by NorthWestern could lead investors to view the Commission's regulatory framework as unsupportive, an outcome that would undermine investors' willingness to support future capital availability for investment in South Dakota. Security analysts study regulatory orders in order to advise investors where to invest their money. Moody's Investors Service ("Moody's") noted that, "Fundamentally, the regulatory environment is the most important driver of our outlook."[4] Similarly, Standard & Poor's Corporation ("S&P") concluded:

> The regulatory framework/regime's influence is of critical importance when assessing regulated utilities' credit risk because it defines the environment in which a utility operates and has a significant bearing on a utility's financial performance.[5]

Customers and the service area economy enjoy the benefits that come from ensuring that the utility has the financial wherewithal to take whatever actions are required to ensure reliable service. If the Commission's actions instill confidence that the regulatory environment is supportive, investors will provide the necessary capital even in times of turmoil in the financial markets. In

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[4] Moody's Investors Service, "Regulation Will Keep Cash Flow Stable As Major Tax Break Ends," *Industry Outlook* (Feb. 19, 2014).

[5] Standard & Poor's Corporation, "Key Credit Factors For The Regulated Utilities Industry," *RatingsDirect* (Nov. 19, 2013).

evaluating NorthWestern's ROE in this case, the Commission has an opportunity to show that it recognizes the importance of a balanced regulatory regime.

III. FUNDAMENTAL ANALYSES

Q22. WHAT IS THE PURPOSE OF THIS SECTION?

A22. As a predicate to subsequent quantitative analyses, this section briefly reviews the operations and finances of NorthWestern. In addition, it examines conditions in the capital markets and the general economy. An understanding of the fundamental factors driving the risks and prospects of electric utilities is essential in developing an informed opinion of investors' expectations and requirements that are the basis of a fair ROE.

A. NorthWestern Energy

Q23. BRIEFLY DESCRIBE NORTHWESTERN AND ITS UTILITY OPERATIONS.

A23. NorthWestern's corporate support office is located in Sioux Falls, South Dakota, with additional corporate offices in Butte, Montana. NorthWestern is engaged in providing regulated electric and natural gas utility service to approximately 678,000 customers in Montana, South Dakota, and Nebraska. The Company engages in the generation, transmission, and distribution of electricity, as well as the purchase, transmission, distribution, and storage of natural gas. NorthWestern serves 110 electric and 60 natural gas communities with approximately 62,100 electric customers and 44,900 natural gas customers in its South Dakota service territory. NorthWestern provides electric services to 344,500 customers in 187 communities in Montana while its natural gas business serves 184,300 customers

in 105 communities. It also provides natural gas service to approximately 41,900 customers in four communities in Nebraska.

NorthWestern's generating capacity requirements are met through a combination of 150 megawatts ("MW") of company-owned facilities and jointly owned power plants, with the Company's share of total capacity amounting to approximately 210 MW. On September 26, 2013, NorthWestern entered into an agreement with PPL Montana, LLC ("PPL Montana"), a wholly owned subsidiary of PPL Corporation, to purchase eleven hydro-electric generating facilities and associated assets located in Montana with a capacity of approximately 633 MW. NorthWestern received the final required regulatory approvals and has closed on the purchase of these facilities. During 2013, 93% of the electricity required to serve electric customers in South Dakota came from coal, with 6% from purchased power contracts and 1% attributable to natural gas and fuel oil. The Company's transmission and distribution network in South Dakota includes approximately 3,350 miles of overhead and underground transmission and distribution lines.

At year-end 2013, NorthWestern had total, Company-wide assets of $3.7 billion, with total revenues of approximately $1.2 billion. NorthWestern's retail electric and natural gas operations are subject to the jurisdiction of the SDPUC, the Montana Public Service Commission, and the Nebraska Public Service Commission.

Q24. DOES NORTHWESTERN ANTICIPATE THE NEED FOR ADDITIONAL CAPITAL IN THE FUTURE?

A24. Yes. NorthWestern will require capital in order to fund new investment in electric and natural gas utility facilities, including transmission, to meet customer growth,

provide for necessary maintenance and replace its utility infrastructure. NorthWestern's capital spending is expected to be in excess of $333 million annually for the next three years. In connection with its purchase of PPL Montana's hydro-electric generating facilities, NorthWestern recently raised $400 million through the issuance of new shares of common stock and $450 million in the form of first mortgage bonds.

Q25. WHAT CREDIT RATINGS HAVE BEEN ASSIGNED TO NORTHWESTERN?

A25. NorthWestern has been assigned a corporate credit rating of "BBB" by Standard & Poor's Corporation ("S&P") and a senior unsecured debt credit rating of "A3" from Moody's Investor Services, Inc. ("Moody's"). Meanwhile, Fitch Ratings Ltd. ("Fitch") has assigned an issuer default rating of "BBB+" to NorthWestern.

B. Outlook for Capital Costs

Q26. DO CURRENT CAPITAL MARKET CONDITIONS PROVIDE A REPRESENTATIVE BASIS ON WHICH TO EVALUATE A FAIR ROE?

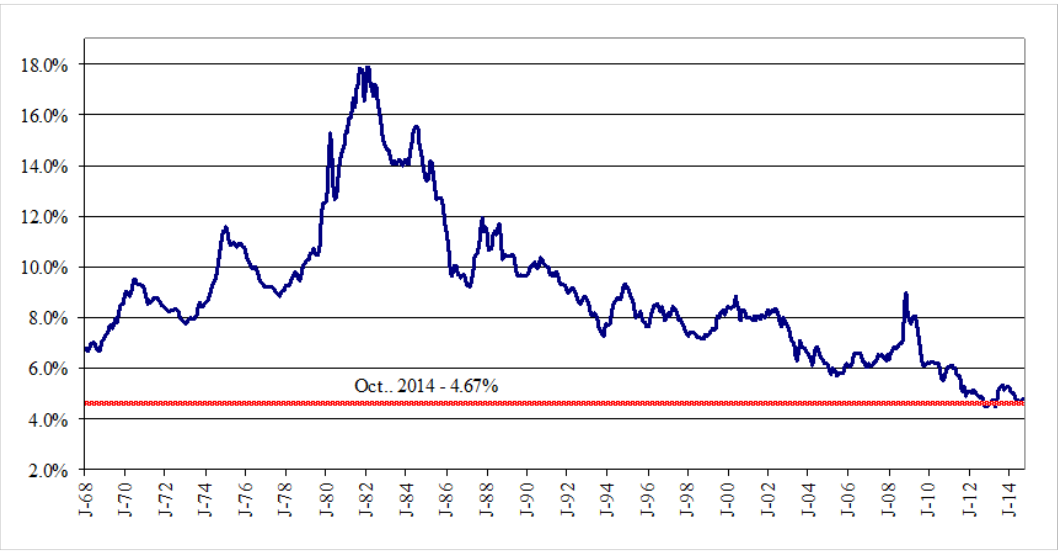
A26. No. Current capital market conditions reflect the legacy of the Great Recession, and are not representative of what investors expect in the future. Investors have had to contend with a level of economic uncertainty and capital market volatility that has been unprecedented in recent history. The ongoing potential for renewed turmoil in the capital markets has been seen repeatedly, with common stock prices exhibiting the dramatic volatility that is indicative of heightened sensitivity to risk. In response to heightened uncertainties in recent years, investors have repeatedly sought a safe haven in U.S. government bonds. As a result of this "flight to safety," Treasury bond yields have been pushed significantly lower in the face of political, economic, and capital market risks. In addition, the Federal

Reserve has implemented measures designed to push interest rates to historically low levels in an effort to stimulate the economy and bolster employment and investor confidence in the face of heightened economic risk.

Q27. HOW DO CURRENT YIELDS ON PUBLIC UTILITY BONDS COMPARE WITH WHAT INVESTORS HAVE EXPERIENCED IN THE PAST?

A27. The yields on utility bonds remain near their lowest levels in modern history. Figure 1, below, compares the October 2014 average yield on long-term, triple-B rated utility bonds with those prevailing since 1968:

FIGURE 1
BBB UTILITY BOND YIELDS – CURRENT VS. HISTORICAL



As illustrated above, prevailing capital market conditions, as reflected in the yields on triple-B utility bonds, are an anomaly when compared with historical experience. Similarly, while 10-year Treasury bond yields may reflect a modest increase from all-time lows less than 2.0%,[6] they are hardly comparable to

[6] The average yield on 10-year Treasury bonds for the six-months ended October 2014 was 2.46%.

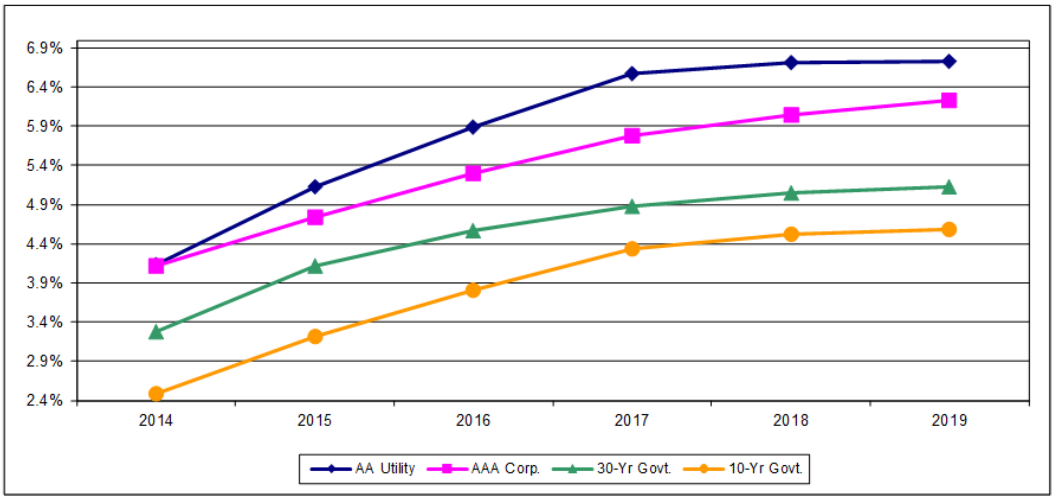
historical levels.[7] Federal Reserve President Charles Plosser recently observed that U.S. interest rates are unprecedentedly low, and "outside historical norms."[8]

Q28. ARE THESE VERY LOW INTEREST RATES EXPECTED TO CONTINUE?

A28. No. Investors do not anticipate that these low interest rates will continue into the future. It is widely anticipated that as the economy continues to stabilize and resumes a more robust pattern of growth, long-term capital costs will increase significantly from present levels. Figure 2 below compares current interest rates on 30-year Treasury bonds, triple-A rated corporate bonds, and double-A rated utility bonds with near-term projections from the Value Line Investment Survey ("Value Line"), IHS Global Insight, Blue Chip Financial Forecasts ("Blue Chip"), and the Energy Information Administration ("EIA"):

[7] Over the 1968-2014 period illustrated on Figure 2, 10-year Treasury bond yields averaged 6.76%.
[8] Barnato, Katy, "Fed's Plosser: Low rates 'should make us nervous'," *CNBC* (Nov. 11, 2014).

FIGURE 2
INTEREST RATE TRENDS



Source:
Value Line Investment Survey, Forecast for the U.S. Economy (Aug. 22, 2014)
IHS Global Insight, U.S. Economic Outlook at 79 (May 2014)
Energy Information Administration, Annual Energy Outlook 2014 (May 7, 2014)
Blue Chip Financial Forecasts, Vol. 33, No. 6 (Jun. 1, 2014)

These forecasting services are highly regarded and widely referenced, with FERC incorporating forecasts from IHS Global Insight and the EIA in its preferred DCF model for natural gas and oil pipelines, as well as for electric transmission utilities. As evidenced above, there is a clear consensus in the investment community that the cost of long-term capital will be significantly higher over 2015-2019 than it is currently.

Q29. DO RECENT ACTIONS OF THE FEDERAL RESERVE SUPPORT THE CONTENTION THAT CURRENT LOW INTEREST RATES WILL CONTINUE INDEFINITELY?

A29. No. While the Federal Reserve continues to express support for maintaining a highly accommodative monetary policy and an exceptionally low target range for the federal funds rate, it has also acted to steadily pare back its monthly bond-buying program. Citing improvement in the outlook for the labor market and

increasing strength in the broader economy, the Federal Reserve elected to discontinue further purchases under its bond-buying program at its October 2014 meeting. Elimination of the Federal Reserve's bond buying program should ultimately exert upward pressure on long-term interest rates, with *The Wall Street Journal* observing that:

> The Fed's decision to begin trimming its $85 billion monthly bond-buying program is widely expected to result in higher medium-term and long-term market interest rates. That means many borrowers, from home buyers to businesses, will be paying higher rates in the near future.[9]

While the Federal Reserve's tapering announcements and subsequent conclusion of its asset purchases have moderated uncertainties over just when, and to what degree, the stimulus program would be altered, investors continue to face ongoing uncertainties over future modifications that could ultimately affect how quickly and how much interest rates are affected.

Q30. DOES THE CESSATION OF FURTHER ASSET PURCHASES MARK A RETURN TO "NORMAL" IN CAPITAL MARKETS?

A30. No. The Federal Reserve continues to exert considerable influence over capital market conditions through its massive holdings of Treasuries and mortgage-backed securities. Prior to the initiation of the stimulus program in 2009, the Federal Reserve's holdings of U.S. Treasury bonds and notes amounted to approximately $400 - $500 billion. With the implementation of its asset purchase program, balances of Treasury securities and mortgage backed instruments climbed steadily, and their effect on capital market conditions became more

[9] Hilsenrath, Jon, "Fed Dials Back Bond Buying, Keeps a Wary Eye on Growth," *The Wall Street Journal* at A1 (Dec. 19, 2013).

pronounced. Table 1 below charts the course of the Federal Reserve's asset purchase program:

TABLE 1
FEDERAL RESERVE BALANCES OF
TREASURY BONDS AND MORTGAGE-BACKED SECURITIES

	(Billion $)
2008	$ 410
2009	$ 1,618
2010	$ 1,939
2011	$ 2,423
2012	$ 2,512
2013	$ 3,597
2014	$ 4,065

As illustrated above, far from representing a return to normal, the Federal Reserve's holdings of Treasury bonds and mortgage-backed securities now amount to more than $4 trillion,[10] which is an all-time high.

For now, the Federal Reserve is maintaining its policy of reinvesting principal payments from these securities – about $16 billion a month – and rolling over maturing Treasuries at auction. As the Federal Reserve recently noted:

> The Committee is maintaining its existing policy of reinvesting principal payments from its holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities and of rolling over maturing Treasury securities at auction. This policy, by keeping the Committee's holdings of longer-term securities at sizable levels, should help maintain accommodative financial conditions.[11]

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[10] *Federal Reserve Statistical Release*, "Factors Affecting Reserve Balances of Depository Institutions and Condition Statement of Federal Reserve Banks," H.4.1, (Oct. 30, 2014).
[11] Federal Open Market Committee, *Press Release* (Oct. 29, 2014).

This continued investment maintains the downward pressure on interest rates that is the hallmark of the stimulus program and the anomalous conditions currently characterizing capital markets.

Of course, the corollary to these observations is that changes to this policy of reinvestment would further reduce stimulus measures and could place significant upward pressure on bond yields, especially considering the unprecedented magnitude of the Federal Reserve's holdings of Treasury bonds and mortgage-backed securities. The International Monetary Fund noted, "A lack of Fed clarity could cause a major spike in borrowing costs that could cause severe damage to the U.S. recovery and send destructive shockwaves around the global economy," adding that, "[a] smooth and gradual upward shift in the yield curve might be difficult to engineer, and there could be periods of higher volatility when longer yields jump sharply—as recent events suggest."[12] Similarly, *The Wall Street Journal* noted investors' "hypersensitivity to Fed interest rate decisions," and expectations that higher interest rates "may come a bit sooner and be a touch more aggressive than expected."[13] As a *Financial Analysts Journal* article noted:

> Because no precedent exists for the massive monetary easing that has been practiced over the past five years in the United States and Europe, the uncertainty surrounding the outcome of central bank policy is so vast. . . . Total assets on the balance sheets of most developed nations' central banks have grown massively since 2008,

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[12] Talley, Ian, "IMF Urges 'Improved' U.S. Fed Policy Transparency as It Mulls Easy Money Exit," *The Wall Street Journal* (July 26, 2013).

[13] Jon Hilsenrath and Victoria McGrane, "Yellen Debut Rattles Markets," Wall Street Journal (Mar. 19, 2014).

> and the timing of when the banks will unwind those positions is uncertain.[14]

These developments highlight continued concerns for investors and support expectations for higher interest rates as the economy and labor markets continue to recover. With the Federal Reserve curtailing the expansion of its enormous portfolio of Treasuries and mortgage bonds, ongoing concerns over political stalemate in Washington, the threat of renewed recession in the Eurozone, and political and economic unrest in Ukraine, the Middle East, and emerging markets, the potential for significant volatility and higher capital costs is clearly evident to investors.

Q31. WHAT DO THESE EVENTS IMPLY WITH RESPECT TO THE ROE FOR NORTHWESTERN MORE GENERALLY?

A31. Current capital market conditions continue to reflect the impact of unprecedented policy measures taken in response to recent dislocations in the economy and financial markets and ongoing economic and political risks. As a result, current capital costs are not representative of what is likely to prevail over the near-term future. As FERC recently concluded:

> [W]e also understand that any DCF analysis may be affected by potentially unrepresentative financial inputs to the DCF formula, including those produced by historically anomalous capital market conditions. Therefore, while the DCF model remains the Commission's preferred approach to determining allowed rate of return, the Commission may consider the extent to which economic anomalies may have affected the reliability of DCF analyses …[15]

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[14] Poole, William, "Prospects for and Ramifications of the Great Central Banking Unwind," *Financial Analysts Journal* (November/December 2013).

[15] Opinion No. 531, 147 FERC ¶ 61,234 at P 41 (2014).

This conclusion is supported by comparisons of current conditions to the historical record and independent forecasts. As demonstrated earlier, recognized economic forecasting services project that long-term capital costs will increase from present levels.

Given investors' expectations for rising interest rates and capital costs, the Commission should consider near-term forecasts for public utility bond yields in assessing the reasonableness of individual cost of equity estimates and in evaluating a fair ROE for NorthWestern from within the range of reasonableness. The use of these near-term forecasts for public utility bond yields is supported below by economic studies that show that equity risk premiums are higher when interest rates are at very low levels.

IV. COMPARABLE RISK PROXY GROUP

Q32. HOW DID YOU IMPLEMENT QUANTITATIVE METHODS TO ESTIMATE THE COST OF COMMON EQUITY FOR THE COMPANIES?

A32. Application of quantitative methods to estimate the cost of common equity requires observable capital market data, such as stock prices. Moreover, even for a firm with publicly traded stock, the cost of common equity can only be estimated. As a result, applying quantitative models using observable market data only produces an estimate that inherently includes some degree of observation error. Thus, the accepted approach to increase confidence in the results is to apply quantitative methods such as the DCF and ECAPM to a proxy group of publicly traded companies that investors regard as risk-comparable.

Q33. WHAT SPECIFIC PROXY GROUP OF UTILITIES DID YOU RELY ON FOR YOUR ANALYSIS?

A33. In order to reflect the risks and prospects associated with NorthWestern's jurisdictional electric utility operations, my analyses focused on a reference group of other utilities composed of those companies included in Value Line's electric utility industry groups with:

1. Corporate credit ratings from S&P of "BBB", "BBB+", or "A-";
2. Long-term issuer ratings from Moody's of "Baa2", "Baa1", or "A3";
3. Value Line Safety Rank of "2" or "3";
4. No ongoing involvement in a major merger or acquisition; and,
5. No cuts in dividend payments during the past six months.

These criteria resulted in a proxy group composed of 26 companies, which I refer to as the "Electric Group."

Q34. HOW DID YOU EVALUATE THE RISKS OF THE ELECTRIC GROUP RELATIVE TO NORTHWESTERN?

A34. My evaluation of relative risk considered four objective, published benchmarks that are widely relied on in the investment community. Credit ratings are assigned by independent rating agencies for the purpose of providing investors with a broad assessment of the creditworthiness of a firm. Ratings generally extend from triple-A (the highest) to D (in default). Other symbols (*e.g.*, "+" or "-") are used to show relative standing within a category. Because the rating agencies' evaluation includes virtually all of the factors normally considered important in assessing a firm's relative credit standing, corporate credit ratings provide a broad, objective measure of overall investment risk that is readily available to investors. Widely cited in the investment community and referenced by investors,

credit ratings are also frequently used as a primary risk indicator in establishing proxy groups to estimate the cost of common equity.

While credit ratings provide the most widely referenced benchmark for investment risks, other quality rankings published by investment advisory services also provide relative assessments of risks that are considered by investors in forming their expectations for common stocks. Value Line's primary risk indicator is its Safety Rank, which ranges from "1" (Safest) to "5" (Riskiest). This overall risk measure is intended to capture the total risk of a stock, and incorporates elements of stock price stability and financial strength. Given that Value Line is perhaps the most widely available source of investment advisory information, its Safety Rank provides useful guidance regarding the risk perceptions of investors.

The Financial Strength Rating is designed as a guide to overall financial strength and creditworthiness, with the key inputs including financial leverage, business volatility measures, and company size. Value Line's Financial Strength Ratings range from "A++" (strongest) down to "C" (weakest) in nine steps. These objective, published indicators incorporate consideration of a broad spectrum of risks, including financial and business position, relative size, and exposure to firm-specific factors.

Finally, beta measures a utility's stock price volatility relative to the market as a whole, and reflects the tendency of a stock's price to follow changes in the market. A stock that tends to respond less to market movements has a beta less than 1.00, while stocks that tend to move more than the market have betas greater than 1.00. Beta is the only relevant measure of investment risk under modern capital market theory, and is widely cited in academics and in the

investment industry as a guide to investors' risk perceptions. Moreover, in my experience Value Line is the most widely referenced source for beta in regulatory proceedings. As noted in *New Regulatory Finance*:

> Value Line is the largest and most widely circulated independent investment advisory service, and influences the expectations of a large number of institutional and individual investors. … Value Line betas are computed on a theoretically sound basis using a broadly based market index, and they are adjusted for the regression tendency of betas to converge to 1.00.[16]

Q35. HOW DO THE OVERALL RISKS OF YOUR PROXY GROUP COMPARE TO THE COMPANY?

A35. Table 2 compares the Electric Group with NorthWestern across the four key indicia of investment risk discussed above:

TABLE 2
COMPARISON OF RISK INDICATORS

			Value Line		
Proxy Group	**S&P**	**Moody's**	**Safety Rank**	**Financial Strength**	**Beta**
Electric Group	BBB+	Baa1	2	B++	0.75
NorthWestern	BBB	A3	3	B+	0.70

Q36. WHAT DOES THIS COMPARISON INDICATE REGARDING INVESTORS' ASSESSMENT OF THE RELATIVE RISKS ASSOCIATED WITH YOUR ELECTRIC GROUP?

A36. As shown above, NorthWestern's S&P credit rating falls one notch below the average for the Electric Group, while its Moody's issuer rating is one notch higher than the proxy group average. Meanwhile, the Company's higher Safety Rank and lower Financial Strength Rating suggests greater risk, while its lower beta

[16] Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports* at 71 (2006).

suggests somewhat less risk. Considered together, this comparison of objective measures, which incorporate a broad spectrum of risks, including financial and business position and exposure to company specific factors, indicates that investors would likely conclude that the overall investment risks for NorthWestern are comparable to those of the firms in the Electric Group.

Q37. IS AN EVALUATION OF THE CAPITAL STRUCTURE MAINTAINED BY A UTILITY RELEVANT IN ASSESSING ITS RETURN ON EQUITY?

A37. Yes. Other things equal, a higher debt ratio, or lower common equity ratio, translates into increased financial risk for all investors. A greater amount of debt means more investors have a senior claim on available cash flow, thereby reducing the certainty that each will receive his contractual payments. This increases the risks to which lenders are exposed, and they require correspondingly higher rates of interest. From common shareholders' standpoint, a higher debt ratio means that there are proportionately more investors ahead of them, thereby increasing the uncertainty as to the amount of cash flow, if any, that will remain.

Q38. WHAT COMMON EQUITY RATIO IS USED IN NORTHWESTERN'S CAPITAL STRUCTURE?

A38. As supported in the testimony of Mr. Brian Bird, NorthWestern is proposing a common equity ratio of 53.6%.

Q39. HOW DOES THIS COMPARE TO THE AVERAGE CAPITALIZATION MAINTAINED BY THE ELECTRIC GROUP?

A39. As shown on Exhibit AMM-3, common equity ratios for the individual firms in the Electric Group ranged from a low of 30.9% to a high of 57.8% at year-end 2013, and averaged 47.5%. Meanwhile, Value Line's three-to-five year forecast

indicates an average common equity ratio of 49.4% for the Electric Group, with the individual equity ratios ranging from 37.0% to 58.0%.

Q40. WHAT OTHER FACTORS DO INVESTORS CONSIDER IN THEIR ASSESSMENT OF A COMPANY'S CAPITAL STRUCTURE?

A40. Utilities are facing significant capital investment plans, uncertainties over accommodating future environmental mandates, and ongoing regulatory risks. Coupled with the potential for turmoil in capital markets, these considerations warrant a stronger balance sheet to deal with an increasingly uncertain environment. A more conservative financial profile, in the form of a higher common equity ratio, is consistent with increasing uncertainties and the need to maintain the continuous access to capital that is required to fund operations and necessary system investment, even during times of adverse capital market conditions.

In addition, depending on their specific attributes, contractual agreements or other obligations that require the utility to make specified payments may be treated as debt in evaluating the Company's financial risk. For example, PPAs and leases typically obligate the utility to make specified minimum contractual payments. Because investors consider the debt impact of such fixed obligations in assessing a utility's financial position, they imply greater risk and reduced financial flexibility. Unless the utility takes action to offset this additional financial risk by maintaining a higher equity ratio, the resulting leverage will weaken its creditworthiness and imply greater risk.

Q41. WHAT DOES THIS EVIDENCE SUGGEST WITH RESPECT TO THE COMPANIES' PROPOSED CAPITAL STRUCTURE?

A41. The 53.6% common equity ratio requested by NorthWestern is consistent with the range of capital structures maintained by the utilities in the Electric Group at year-end 2013, and based on Value Line's expectations for these utilities over the near-term. While industry averages provide one benchmark for comparison, each firm must select its capitalization based on the risks and prospects it faces, as well as its specific needs to access the capital markets. A public utility with an obligation to serve must maintain ready access to capital so that it can meet the service requirements of its customers, even during unfavorable capital market conditions.

NorthWestern's proposed capital structure is consistent with the range of industry benchmarks and reflects the Company's ongoing efforts to maintain its credit standing and support access to capital on reasonable terms. The reasonableness of the Company's requested capital structure is reinforced by the need to accommodate the additional risks associated with the Company's relatively small size. Based on my evaluation, I conclude that NorthWestern's requested capital structure represents a reasonable mix of capital sources from which to calculate the overall rate of return.

V. CAPITAL MARKET ESTIMATES

Q42. WHAT IS THE PURPOSE OF THIS SECTION?

A42. This section presents capital market estimates of the cost of equity. First, I address the concept of the cost of common equity, along with the risk-return tradeoff principle fundamental to capital markets. Next, I describe DCF, ECAPM, and risk premium analyses conducted to estimate the cost of common equity for

the proxy group of comparable risk firms. Finally, I examine flotation costs, which are properly considered in evaluating a fair rate of return on equity.

A. Economic Standards

Q43. WHAT ROLE DOES THE RATE OF RETURN ON COMMON EQUITY PLAY IN A UTILITY'S RATES?

A43. The ROE compensates common equity investors for the use of their capital to finance the plant and equipment necessary to provide utility service. This investment is necessary to finance the asset base needed to provide utility service. Investors will commit money to a particular investment only if they expect it to produce a return commensurate with those from other investments with comparable risks. To be consistent with sound regulatory economics and the standards set forth by the Supreme Court in the Bluefield[17] and Hope[18] cases, a utility's allowed ROE should be sufficient to: (1) fairly compensate investors for capital invested in the utility, (2) enable the utility to offer a return adequate to attract new capital on reasonable terms, and (3) maintain the utility's financial integrity. Meeting these objectives allows the utility to fulfill its obligation to provide reliable service while meeting the needs of customers through necessary system expansion.

Q44. WHAT FUNDAMENTAL ECONOMIC PRINCIPLE UNDERLIES THE COST OF EQUITY CONCEPT?

A44. The fundamental economic principle underlying the cost of equity concept is the notion that investors are risk averse. In capital markets where relatively risk-free

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[17] *Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm'n*, 262 U.S. 679 (1923).
[18] *Fed. Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).

assets are available (*e.g.*, U.S. Treasury securities), investors can be induced to hold riskier assets only if they are offered a premium, or additional return, above the rate of return on a risk-free asset. Because all assets compete with each other for investor funds, riskier assets must yield a higher expected rate of return than safer assets to induce investors to invest and hold them.

Given this risk-return tradeoff, the required rate of return (k) from an asset (i) can generally be expressed as:

$$k_i = R_f + RP_i$$

where: R_f = Risk-free rate of return, and
RP_i = Risk premium required to hold riskier asset i.

Thus, the required rate of return for a particular asset at any time is a function of: (1) the yield on risk-free assets, and (2) the asset's relative risk, with investors demanding correspondingly larger risk premiums for bearing greater risk.

Q45. IS THERE EVIDENCE THAT THE RISK-RETURN TRADEOFF PRINCIPLE ACTUALLY OPERATES IN THE CAPITAL MARKETS?

A45. Yes. The risk-return tradeoff can be readily documented in segments of the capital markets where required rates of return can be directly inferred from market data and where generally accepted measures of risk exist. Bond yields, for example, reflect investors' expected rates of return, and bond ratings measure the risk of individual bond issues. Comparing the observed yields on government securities, which are considered free of default risk, to the yields on bonds of various rating categories demonstrates that the risk-return tradeoff does, in fact, exist.

Q46. DOES THE RISK-RETURN TRADEOFF OBSERVED WITH FIXED INCOME SECURITIES EXTEND TO COMMON STOCKS AND OTHER ASSETS?

A46. It is widely accepted that the risk-return tradeoff evidenced with long-term debt extends to all assets. Documenting the risk-return tradeoff for assets other than fixed income securities, however, is complicated by two factors. First, there is no standard measure of risk applicable to all assets. Second, for most assets – including common stock – required rates of return cannot be directly observed. Yet there is every reason to believe that investors exhibit risk aversion in deciding whether or not to hold common stocks and other assets, just as when choosing among fixed-income securities.

Q47. IS THIS RISK-RETURN TRADEOFF LIMITED TO DIFFERENCES BETWEEN FIRMS?

A47. No. The risk-return tradeoff principle applies not only to investments in different firms, but also to different securities issued by the same firm. The securities issued by a utility vary considerably in risk because they have different characteristics and priorities. As noted earlier, long-term debt is senior among all capital in its claim on a utility's net revenues and is, therefore, the least risky. The last investors in line are common shareholders. They receive only the net revenues, if any, remaining after all other claimants have been paid. As a result, the rate of return that investors require from a utility's common stock, the most junior and riskiest of its securities, must be considerably higher than the yield offered by the utility's senior, long-term debt.

Q48. WHAT DOES THE ABOVE DISCUSSION IMPLY WITH RESPECT TO ESTIMATING THE COST OF COMMON EQUITY FOR A UTILITY?

A48. Although the cost of common equity cannot be observed directly, it is a function of the returns available from other investment alternatives and the risks to which the equity capital is exposed. Because it is not readily observable, the cost of common equity for a particular utility must be estimated by analyzing information about capital market conditions generally, assessing the relative risks of the company specifically, and employing various quantitative methods that focus on investors' required rates of return. These various quantitative methods typically attempt to infer investors' required rates of return from stock prices, interest rates, or other capital market data.

B. Discounted Cash Flow Analyses

Q49. HOW IS THE DCF MODEL USED TO ESTIMATE THE COST OF COMMON EQUITY?

A49. DCF models attempt to replicate the market valuation process that sets the price investors are willing to pay for a share of a company's stock. The model rests on the assumption that investors evaluate the risks and expected rates of return from all securities in the capital markets. Given these expectations, the price of each stock is adjusted by the market until investors are adequately compensated for the risks they bear. Therefore, we can look to the market to determine what investors believe a share of common stock is worth. By estimating the cash flows investors expect to receive from the stock in the way of future dividends and capital gains, we can calculate their required rate of return. That is, the cost of equity is the discount rate that equates the current price of a share of stock with the present

value of all expected cash flows from the stock. The formula for the general form of the DCF model is as follows:

$$P_0 = \frac{D_1}{(1+k_e)^1} + \frac{D_2}{(1+k_e)^2} + \cdots + \frac{D_t}{(1+k_e)^t} + \frac{P_t}{(1+k_e)^t}$$

where: P_0 = Current price per share;
P_t = Expected future price per share in period t;
D_t = Expected dividend per share in period t;
k_e = Cost of common equity.

Q50. WHAT FORM OF THE DCF MODEL IS CUSTOMARILY USED TO ESTIMATE THE COST OF COMMON EQUITY IN RATE CASES?

A50. Rather than developing annual estimates of cash flows into perpetuity, the DCF model can be simplified to a "constant growth" form:[19]

$$P_0 = \frac{D_1}{k_e - g}$$

where: g = Investors' long-term growth expectations.

The cost of common equity (k_e) can be isolated by rearranging terms within the equation:

$$k_e = \frac{D_1}{P_0} + g$$

[19] The constant growth DCF model is dependent on a number of strict assumptions, which in practice are never met. These include a constant growth rate for both dividends and earnings; a stable dividend payout ratio; the discount rate exceeds the growth rate; a constant growth rate for book value and price; a constant earned rate of return on book value; no sales of stock at a price above or below book value; a constant price-earnings ratio; a constant discount rate (*i.e.*, no changes in risk or interest rate levels and a flat yield curve); and all of the above extend to infinity.

This constant growth form of the DCF model recognizes that the rate of return to stockholders consists of two parts: 1) dividend yield (D_1/P_0); and, 2) growth (*g*). In other words, investors expect to receive a portion of their total return in the form of current dividends and the remainder through price appreciation.

Q51. WHAT FORM OF THE DCF MODEL DID YOU USE?

A51. I applied the constant growth DCF model to estimate the cost of common equity for NorthWestern, which is the form of the model most commonly relied on to establish the cost of common equity for traditional regulated utilities and the method most often referenced by regulators.

Q52. HOW IS THE CONSTANT GROWTH FORM OF THE DCF MODEL TYPICALLY USED TO ESTIMATE THE COST OF COMMON EQUITY?

A52. The first step in implementing the constant growth DCF model is to determine the expected dividend yield (D_1/P_0) for the firm in question. This is usually calculated based on an estimate of dividends to be paid in the coming year divided by the current price of the stock. The second, and more controversial, step is to estimate investors' long-term growth expectations (*g*) for the firm. The final step is to sum the firm's dividend yield and estimated growth rate to arrive at an estimate of its cost of common equity.

Q53. HOW DID YOU DETERMINE THE DIVIDEND YIELD FOR THE ELECTRIC GROUP?

A53. Estimates of dividends to be paid by each of these utilities over the next twelve months, obtained from Value Line, served as D_1. This annual dividend was then divided by the corresponding stock price for each utility to arrive at the expected dividend yield. The expected dividends, stock prices, and resulting dividend yields for the firms in the Electric Group are presented on page 1 of Exhibit

AMM-4. As shown there, dividend yields for the firms in the Electric Group ranged from 1.8% to 4.3%.

Q54. WHAT IS THE NEXT STEP IN APPLYING THE CONSTANT GROWTH DCF MODEL?

A54. The next step is to evaluate long-term growth expectations, or "*g*", for the firm in question. In constant growth DCF theory, earnings, dividends, book value, and market price are all assumed to grow in lockstep, and the growth horizon of the DCF model is infinite. But implementation of the DCF model is more than just a theoretical exercise; it is an attempt to replicate the mechanism investors used to arrive at observable stock prices. A wide variety of techniques can be used to derive growth rates, but the only "*g*" that matters in applying the DCF model is the value that investors expect.

Q55. WHAT ARE INVESTORS MOST LIKELY TO CONSIDER IN DEVELOPING THEIR LONG-TERM GROWTH EXPECTATIONS?

A55. Given that the DCF model is solely concerned with replicating the forward-looking evaluation of real-world investors, in the case of utilities, dividend growth rates are not likely to provide a meaningful guide to investors' current growth expectations. This is because utilities have significantly altered their dividend policies in response to more accentuated business risks in the industry, with the payout ratios falling significantly. As a result of this trend towards a more conservative payout ratio, dividend growth in the utility industry has remained largely stagnant as utilities conserve financial resources to provide a hedge against heightened uncertainties.

A measure that plays a pivotal role in determining investors' long-term growth expectations are future trends in earnings per share ("EPS"), which

provide the source for future dividends and ultimately support share prices. The importance of earnings in evaluating investors' expectations and requirements is well accepted in the investment community, and surveys of analytical techniques relied on by professional analysts indicate that growth in earnings is far more influential than trends in dividends per share ("DPS").

The availability of projected EPS growth rates also is key to investors relying on this measure as compared to future trends in DPS. Apart from Value Line, investment advisory services do not generally publish comprehensive DPS growth projections, and this scarcity of dividend growth rates relative to the abundance of earnings forecasts attests to their relative influence. The fact that securities analysts focus on EPS growth, and that DPS growth rates are not routinely published, indicates that projected EPS growth rates are likely to provide a superior indicator of the future long-term growth expected by investors.

Q56. DO THE GROWTH RATE PROJECTIONS OF SECURITY ANALYSTS CONSIDER HISTORICAL TRENDS?

A56. Yes. Professional security analysts study historical trends extensively in developing their projections of future earnings. Hence, to the extent there is any useful information in historical patterns, that information is incorporated into analysts' growth forecasts.

Q57. DID PROFESSOR MYRON J. GORDON, WHO ORIGINATED THE DCF APPROACH, RECOGNIZE THE PIVOTAL ROLE THAT EARNINGS PLAY IN FORMING INVESTORS' EXPECTATIONS?

A57. Yes. Dr. Gordon specifically recognized that "it is the growth that investors expect that should be used" in applying the DCF model and he concluded:

A number of considerations suggest that investors may, in fact, use earnings growth as a measure of expected future growth."[20]

Q58. ARE ANALYSTS' ASSESSMENTS OF GROWTH RATES APPROPRIATE FOR ESTIMATING INVESTORS' REQUIRED RETURN USING THE DCF MODEL?

A58. Yes. In applying the DCF model to estimate the cost of common equity, the only relevant growth rate is the forward-looking expectations of investors that are captured in current stock prices. Investors, just like securities analysts and others in the investment community, do not know how the future will actually turn out. They can only make investment decisions based on their best estimate of what the future holds in the way of long-term growth for a particular stock, and securities prices are constantly adjusting to reflect their assessment of available information.

Any claims that analysts' estimates are not relied upon by investors are illogical given the reality of a competitive market for investment advice. If financial analysts' forecasts do not add value to investors' decision making, then it is irrational for investors to pay for these estimates. Similarly, those financial analysts who fail to provide reliable forecasts will lose out in competitive markets relative to those analysts whose forecasts investors find more credible. The reality that analyst estimates are routinely referenced in the financial media and in investment advisory publications, as well as the continued success of services such as Thomson Reuters and Value Line, implies that investors use them as a basis for their expectations.

While the projections of securities analysts may be proven optimistic or pessimistic in hindsight, this is irrelevant in assessing the expected growth that

[20] Gordon, Myron J., "The Cost of Capital to a Public Utility," *MSU Public Utilities Studies* at 89 (1974).

investors have incorporated into current stock prices, and any bias in analysts' forecasts – whether pessimistic or optimistic – is irrelevant if investors share analysts' views. Earnings growth projections of security analysts provide the most frequently referenced guide to investors' views and are widely accepted in applying the DCF model. As explained in *New Regulatory Finance*:

> Because of the dominance of institutional investors and their influence on individual investors, analysts' forecasts of long-run growth rates provide a sound basis for estimating required returns. Financial analysts exert a strong influence on the expectations of many investors who do not possess the resources to make their own forecasts, that is, they are a cause of *g* [growth]. The accuracy of these forecasts in the sense of whether they turn out to be correct is not an issue here, as long as they reflect widely held expectations.[21]

Q59. WHAT ARE SECURITY ANALYSTS CURRENTLY PROJECTING IN THE WAY OF GROWTH FOR THE FIRMS IN THE UTILITY PROXY GROUP?

A59. The earnings growth projections for each of the firms in the Electric Group reported by Value Line, Thomson Reuters ("IBES"), Zacks Investment Research ("Zacks"), and Reuters are displayed on page 2 of Exhibit AMM-4.[22]

Q60. HOW ELSE ARE INVESTORS' EXPECTATIONS OF FUTURE LONG-TERM GROWTH PROSPECTS OFTEN ESTIMATED WHEN APPLYING THE CONSTANT GROWTH DCF MODEL?

A60. In constant growth theory, growth in book equity will be equal to the product of the earnings retention ratio (one minus the dividend payout ratio) and the earned rate of return on book equity. Furthermore, if the earned rate of return and the

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[21] Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports, Inc.* at 298 (2006) (emphasis added).

[22] Formerly I/B/E/S International, Inc., IBES growth rates are now compiled and published by Thomson Reuters.

payout ratio are constant over time, growth in earnings and dividends will be equal to growth in book value. Despite the fact that these conditions are never met in practice, this "sustainable growth" approach may provide a rough guide for evaluating a firm's growth prospects and is frequently proposed in regulatory proceedings.

The sustainable growth rate is calculated by the formula, g = br+sv, where "b" is the expected retention ratio, "r" is the expected earned return on equity, "s" is the percent of common equity expected to be issued annually as new common stock, and "v" is the equity accretion rate. Under DCF theory, the "sv" factor is a component of the growth rate designed to capture the impact of issuing new common stock at a price above, or below, book value. The sustainable, "br+sv" growth rates for each firm in the Electric Group are summarized on page 2 of Exhibit AMM-5, with the underlying details being presented on Exhibit AMM-6.[23]

Q61. ARE THERE SIGNIFICANT SHORTCOMINGS ASSOCIATED WITH THE "BR+SV" GROWTH RATE?

A61. Yes. First, in order to calculate the sustainable growth rate, it is necessary to develop estimates of investors' expectations for four separate variables; namely, "b", "r", "s", and "v." Given the inherent difficulty in forecasting each parameter and the difficulty of estimating the expectations of investors, the potential for measurement error is significantly increased when using four variables, as opposed to referencing a direct projection for EPS growth. Second, empirical research in the finance literature indicates that sustainable growth rates are not as

[23] Because Value Line reports end-of-year book values, an adjustment factor was incorporated to compute an average rate of return over the year, which is consistent with the theory underlying this approach.

significantly correlated to measures of value, such as share prices, as are analysts' EPS growth forecasts.[24]

The "sustainable growth" approach was included for completeness, but evidence indicates that analysts' forecasts provide a superior and more direct guide to investors' growth expectations. Accordingly, I give less weight to cost of equity estimates based on br+sv growth rates in evaluating the results of the DCF model.

Q62. WHAT COST OF COMMON EQUITY ESTIMATES WERE IMPLIED FOR THE ELECTRIC GROUP USING THE DCF MODEL?

A62. After combining the dividend yields and respective growth projections for each utility, the resulting cost of common equity estimates are shown on page 3 of Exhibit AMM-4.

Q63. IN EVALUATING THE RESULTS OF THE CONSTANT GROWTH DCF MODEL, IS IT APPROPRIATE TO ELIMINATE ESTIMATES THAT ARE EXTREME LOW OR HIGH OUTLIERS?

A63. Yes. In applying quantitative methods to estimate the cost of equity, it is essential that the resulting values pass fundamental tests of reasonableness and economic logic. Accordingly, DCF estimates that are implausibly low or high should be eliminated when evaluating the results of this method.

Q64. HOW DID YOU EVALUATE DCF ESTIMATES AT THE LOW END OF THE RANGE?

A64. I based my evaluation of DCF estimates at the low end of the range on the fundamental risk-return tradeoff, which holds that investors will only take on more risk if they expect to earn a higher rate of return to compensate them for the

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[24] Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports, Inc.*, at 307 (2006).

greater uncertainly. Because common stocks lack the protections associated with an investment in long-term bonds, a utility's common stock imposes far greater risks on investors. As a result, the rate of return that investors require from a utility's common stock is considerably higher than the yield offered by senior, long-term debt. Consistent with this principle, DCF results that are not sufficiently higher than the yield available on less risky utility bonds must be eliminated.

Q65. HAVE SIMILAR TESTS BEEN APPLIED BY REGULATORS?

A65. Yes. FERC has noted that adjustments are justified where applications of the DCF approach produce illogical results. FERC evaluates DCF results against observable yields on long-term public utility debt and has recognized that it is appropriate to eliminate estimates that do not sufficiently exceed this threshold.[25] FERC recently affirmed that:

> The purpose of the low-end outlier test is to exclude from the proxy group those companies whose ROE estimates are below the average bond yield or are above the average bond yield but are sufficiently low that an investor would consider the stock to yield essentially the same return as debt. In public utility ROE cases, the Commission has used 100 basis points above the cost of debt as an approximation of this threshold, but has also considered the distribution of proxy group companies to inform its decision on which companies are outliers. As the Presiding Judge explained, this is a flexible test.[26]

Q66. WHAT INTEREST RATE BENCHMARK DID YOU CONSIDER IN EVALUATING THE DCF RESULTS FOR NORTHWESTERN?

A66. As noted earlier, the average S&P and Moody's ratings for the Electric Group is BBB+ and Baa1, respectively, which fall in the triple-B rating category.

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[25] *See, e.g., Southern California Edison Co.*, 131 FERC ¶ 61,020 at P 55 (2010) ("*SoCal Edison*").

[26] *Martha Coakley et al., v. Bangor Hydro-Electric Company, et al.*, Opinion No. 531, 147 FERC ¶ 61,234 at P 122 (2014).

Accordingly, I referenced average yields on triple-B utilities bonds as one benchmark in evaluating low-end DCF results. Monthly yields on triple-B bonds reported by Moody's averaged approximately 4.7% over the six months ended October 2014.[27]

Q67. WHAT ELSE SHOULD BE CONSIDERED IN EVALUATING DCF ESTIMATES AT THE LOW END OF THE RANGE?

A67. As indicated earlier, while corporate bond yields have declined substantially as the worst of the financial crisis has abated, it is generally expected that long-term interest rates will rise as the economy returns to a more normal pattern of growth. As shown in Table 3 below, forecasts of IHS Global Insight and the EIA imply an average triple-B bond yield of approximately 6.8% over the period 2015-2019:

TABLE 3
IMPLIED BBB BOND YIELD

	2015-19
Projected AA Utility Yield	
IHS Global Insight (a)	6.32%
EIA (b)	6.08%
Average	6.20%
Current BBB - AA Yield Spread (c)	0.57%
Implied Triple-B Utility Yield	**6.77%**

(a) IHS Global Insight, U.S. Economic Outlook at 79 (May 2014)
(b) Energy Information Administration, Annual Energy Outlook 2014 (May 7, 2014)
(c) Based on monthly average bond yields from Moody's Investors Service for the six-month period May 2014 - Oct. 2014

[27] Moody's Investors Service, http://credittrends.moodys.com/chartroom.asp?c=3.

The increase in debt yields anticipated by IHS Global Insight and EIA is also supported by the widely referenced Blue Chip Financial Forecasts, which projects that yields on corporate bonds will climb on the order of 200 basis points through 2019.[28]

Q68. WHAT DOES THIS TEST OF LOGIC IMPLY WITH RESPECT TO THE DCF RESULTS FOR THE ELECTRIC GROUP?

A68. Adding FERC's 100 basis-point premium to the historical and projected average utility bond yields implies a low-end threshold on the order of 5.7% to 7.8%. As highlighted on page 3 of Exhibit AMM-4, after considering this test and the distribution of the individual estimates, I eliminated low-end DCF estimates ranging from 4.8% to 7.4%. Based on my professional experience and the risk-return principle that is fundamental to finance, it is inconceivable that investors are not requiring a substantially higher rate of return for holding common stock. As a result, consistent with the threshold established by historical and projected utility bond yields, these values provide little guidance as to the returns investors require from utility common stocks and should be excluded.

Q69. IS THERE A BASIS TO ELIMINATE HIGH-END DCF VALUES FOR THE ELECTRIC GROUP?

A69. Yes. It is just as important to eliminate high-end outliers as low-end outliers. This is also consistent with the precedent adopted by FERC, which has established that estimates found to be "extreme outliers" should be disregarded in interpreting the results of the DCF model.[29] As shown on page 3 of Exhibit

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[28] *Blue Chip Financial Forecasts*, Vol. 33, No. 6 (Jun. 1, 2014).

[29] See, *e.g.*, *ISO New England, Inc.*, 109 FERC ¶ 61,147 at P 205 (2004). Under FERC's test, cost of equity estimates of 17.7% or greater are considered extreme outliers, as are estimates based on growth rates of 13.3% or higher.

AMM-4, the upper end of the DCF cost of common equity range produced for the Electric Group was set by cost of equity estimates of 19.8% and 17.3%. When compared with the balance of the remaining estimates, these values are outliers and should be excluded in evaluating the results of the DCF model.

Q70. WHAT COST OF COMMON EQUITY ESTIMATES ARE IMPLIED BY YOUR DCF RESULTS FOR THE ELECTRIC GROUP?

A70. As shown on page 3 of Exhibit AMM-4 and summarized in Table 4, below, after eliminating illogical values, application of the constant growth DCF model resulted in the following average cost of common equity estimates:

TABLE 4
DCF RESULTS – ELECTRIC GROUP

	Cost of Equity	
Growth Rate	**Average**	**Midpoint**
Value Line	9.5%	10.2%
IBES	9.9%	10.8%
Zacks	9.7%	10.7%
Reuters	10.0%	10.8%
br + sv	9.2%	10.6%

C. Empirical Capital Asset Pricing Model

Q71. PLEASE DESCRIBE THE ECAPM.

A71. The ECAPM is a variant of the traditional CAPM, which is a theory of market equilibrium that measures risk using the beta coefficient. Assuming investors are fully diversified, the relevant risk of an individual asset (*e.g.*, common stock) is its volatility relative to the market as a whole, with beta reflecting the tendency of a stock's price to follow changes in the market. A stock that tends to respond less to market movements has a beta less than 1.00, while stocks that tend to move more

than the market have betas greater than 1.00. The CAPM is mathematically expressed as:

$$R_j = R_f + \beta_j(R_m - R_f)$$

Where: R_j = Required rate of return for stock j;
R_f = risk-free rate;
R_m = expected return on the market portfolio; and,
β_j = beta, or systematic risk, for stock j.

Like the DCF model, the ECAPM is an *ex-ante*, or forward-looking model based on expectations of the future. As a result, in order to produce a meaningful estimate of investors' required rate of return, the ECAPM must be applied using estimates that reflect the expectations of actual investors in the market, not with backward-looking, historical data.

Q72. WHY IS THE ECAPM APPROACH AN APPROPRIATE COMPONENT IN EVALUATING THE COST OF EQUITY FOR THE COMPANY?

A72. The CAPM approach, which forms the foundation of the ECAPM, generally is considered to be the most widely referenced method for estimating the cost of equity among academicians and professional practitioners, with the pioneering researchers of this method receiving the Nobel Prize in 1990. Because this is the dominant model for estimating the cost of equity outside the regulatory sphere,[30] the ECAPM provides important insight into investors' required rate of return for utility stocks, including NorthWestern.

[30] *See, e.g.*, Bruner, R.F., Eades, K.M., Harris, R.S., and Higgins, R.C., "Best Practices in Estimating Cost of Capital: Survey and Synthesis," *Financial Practice and Education* (1998).

Q73. HOW DOES THE ECAPM APPROACH DIFFER FROM TRADITIONAL APPLICATIONS OF THE CAPM?

A73. Myriad empirical tests of the CAPM have shown that low-beta securities earn returns somewhat higher than the CAPM would predict, and high-beta securities earn less than predicted. In other words, the CAPM tends to overstate the actual sensitivity of the cost of capital to beta, with low-beta stocks tending to have higher returns and high-beta stocks tending to have lower risk returns than predicted by the CAPM. This empirical finding is widely reported in the finance literature, as summarized in *New Regulatory Finance*:

> As discussed in the previous section, several finance scholars have developed refined and expanded versions of the standard CAPM by relaxing the constraints imposed on the CAPM, such as dividend yield, size, and skewness effects. These enhanced CAPMs typically produce a risk-return relationship that is flatter than the CAPM prediction in keeping with the actual observed risk-return relationship. The ECAPM makes use of these empirical relationships.[31]

As discussed in *New Regulatory Finance*, based on a review of the empirical evidence, the expected return on a security is related to its risk by the ECAPM, which is represented by the following formula:

$$R_j = R_f + 0.25(R_m - R_f) + 0.75[\beta_j(R_m - R_f)]$$

This ECAPM equation, and the associated weighting factors, recognize the observed relationship between standard CAPM estimates and the cost of capital documented in the financial research, and correct for the understated returns that would otherwise be produced for low beta stocks.

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[31] Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports* at 189 (2006).

Q74. HOW DID YOU APPLY THE ECAPM TO ESTIMATE THE COST OF COMMON EQUITY?

A74. Application of the ECAPM to the Electric Group based on a forward-looking estimate for investors' required rate of return from common stocks is presented on Exhibit AMM-6. In order to capture the expectations of today's investors in current capital markets, the expected market rate of return was estimated by conducting a DCF analysis on the 408 dividend paying firms in the S&P 500.

The dividend yield for each firm was obtained from Value Line, and the growth rate was equal to the average of the EPS growth projections for each firm published by IBES, with each firm's dividend yield and growth rate being weighted by its proportionate share of total market value. Based on the weighted average of the projections for the 408 individual firms, current estimates imply an average growth rate over the next five years of 10.8%. Combining this average growth rate with a year-ahead dividend yield of 2.3% results in a current cost of common equity estimate for the market as a whole (R_m) of approximately 13.1%. Subtracting a 3.3% risk-free rate based on the average yield on 30-year Treasury bonds for October 2014 produced a market equity risk premium of 9.8%.

Q75. WHAT WAS THE SOURCE OF THE BETA VALUES YOU USED TO APPLY THE ECAPM?

A75. As indicated earlier, I relied on the beta values reported by Value Line, which in my experience is the most widely referenced source for beta in regulatory proceedings.

Q76. WHAT ELSE SHOULD BE CONSIDERED IN APPLYING THE ECAPM?

A76. As explained by Morningstar:

> One of the most remarkable discoveries of modern finance is that of a relationship between firm size and return. The relationship cuts

> across the entire size spectrum but is most evident among smaller companies, which have higher returns on average than larger ones.[32]

Because financial research indicates that the ECAPM does not fully account for observed differences in rates of return attributable to firm size, a modification is required to account for this size effect.

According to the ECAPM, the expected return on a security should consist of the riskless rate, plus a premium to compensate for the systematic risk of the particular security. The degree of systematic risk is represented by the beta coefficient. The need for the size adjustment arises because differences in investors' required rates of return that are related to firm size are not fully captured by beta. To account for this, Morningstar has developed size premiums that need to be added to the theoretical ECAPM cost of equity estimates to account for the level of a firm's market capitalization in determining the ECAPM cost of equity.[33] These premiums correspond to the size deciles of publicly traded common stocks, and range from a premium of approximately 6.0% for a company in the first decile (market capitalization less than $338.8 million), to a reduction of 33 basis points for firms in the tenth decile (market capitalization between $21.8 billion and $428.7 billion). Accordingly, my ECAPM analyses also incorporated an adjustment to recognize the impact of size distinctions, as measured by the average market capitalization for the Electric Group.

Q77. WHAT COST OF EQUITY IS IMPLIED FOR THE ELECTRIC GROUP USING THE ECAPM APPROACH?

A77. As shown on page 1 of Exhibit AMM-6, a forward-looking application of the ECAPM approach resulted in an average unadjusted ROE estimate of 11.2%.

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[32] *Morningstar*, "Ibbotson SBBI 2013 Valuation Yearbook," at p. 85.
[33] *Id.* at Table C-1.

After adjusting for the impact of firm size, the ECAPM approach implied an average cost of equity of 12.2% for the Electric Group.[34]

Q78. DID YOU ALSO APPLY THE ECAPM USING FORECASTED BOND YIELDS?

A78. Yes. As discussed earlier, there is widespread consensus that interest rates will increase materially as the economy continues to strengthen. Accordingly, in addition to the use of current bond yields, I also applied the ECAPM based on the forecasted long-term Treasury bond yields developed based on projections published by Value Line, IHS Global Insight and Blue Chip. As shown on page 2 of Exhibit AMM-6, incorporating a forecasted Treasury bond yield for 2015-2019 implied a cost of equity of approximately 11.5% for the Electric Group, or 12.4% after adjusting for the impact of relative size. The midpoints of the unadjusted and size adjusted cost of equity ranges were 11.7% and 12.4%, respectively.

D. Utility Risk Premium

Q79. BRIEFLY DESCRIBE THE RISK PREMIUM METHOD.

A79. The risk premium method extends the risk-return tradeoff observed with bonds to estimate investors' required rate of return on common stocks. The cost of equity is estimated by first determining the additional return investors require to forgo the relative safety of bonds and to bear the greater risks associated with common stock, and by then adding this equity risk premium to the current yield on bonds. Like the DCF model, the risk premium method is capital market oriented. However, unlike DCF models, which indirectly impute the cost of equity, risk

[34] The midpoints of the unadjusted and size adjusted ECAPM ranges were 11.4% and 12.2%, respectively.

premium methods directly estimate investors' required rate of return by adding an equity risk premium to observable bond yields.

Q80. IS THE RISK PREMIUM APPROACH A WIDELY ACCEPTED METHOD FOR ESTIMATING THE COST OF EQUITY?

A80. Yes. The risk premium approach is based on the fundamental risk-return principle that is central to finance, which holds that investors will require a premium in the form of a higher return in order to assume additional risk. This method is routinely referenced by the investment community and in academia and regulatory proceedings, and provides an important tool in estimating a fair ROE for NorthWestern.

Q81. HOW DID YOU IMPLEMENT THE RISK PREMIUM METHOD?

A81. Estimates of equity risk premiums for utilities were based on surveys of previously authorized ROEs. Authorized ROEs presumably reflect regulatory commissions' best estimates of the cost of equity, however determined, at the time they issued their final order. Such ROEs should represent a balanced and impartial outcome that considers the need to maintain a utility's financial integrity and ability to attract capital. Moreover, allowed returns are an important consideration for investors and have the potential to influence other observable investment parameters, including credit ratings and borrowing costs. Thus, these data provide a logical and frequently referenced basis for estimating equity risk premiums for regulated utilities.

Q82. IS IT CIRCULAR TO CONSIDER RISK PREMIUMS BASED ON AUTHORIZED RETURNS IN ASSESSING A FAIR ROE FOR THE COMPANIES?

A82. No. In establishing authorized ROEs, regulators typically consider the results of alternative market-based approaches, including the DCF model. Because allowed risk premiums consider objective market data (*e.g.*, stock prices dividends, beta, and interest rates), and are not based strictly on past actions of other regulators, this mitigates concerns over any potential for circularity.

Q83. HOW DID YOU CALCULATE THE EQUITY RISK PREMIUMS BASED ON ALLOWED ROES?

A83. The ROEs authorized for electric utilities by regulatory commissions across the U.S. are compiled by Regulatory Research Associates and published in its *Regulatory Focus* report. In Exhibit AMM-7, the average yield on public utility bonds is subtracted from the average allowed ROE for electric utilities to calculate equity risk premiums for each year between 1974 and 2013.[35] As shown on page 3 of Exhibit AMM-7, over this period, these equity risk premiums for electric utilities averaged 3.53%, and the yield on public utility bonds averaged 8.69%.

Q84. IS THERE ANY CAPITAL MARKET RELATIONSHIP THAT MUST BE CONSIDERED WHEN IMPLEMENTING THE RISK PREMIUM METHOD?

A84. Yes. There is considerable evidence that the magnitude of equity risk premiums is not constant and that equity risk premiums tend to move inversely with interest

[35] My analysis encompasses the entire period for which published data is available.

rates.[36] In other words, when interest rate levels are relatively high, equity risk premiums narrow, and when interest rates are relatively low, equity risk premiums widen. The implication of this inverse relationship is that the cost of equity does not move as much as, or in lockstep with, interest rates. Accordingly, for a 1% increase or decrease in interest rates, the cost of equity may only rise or fall, say, 50 basis points. Therefore, when implementing the risk premium method, adjustments may be required to incorporate this inverse relationship if current interest rate levels have diverged from the average interest rate level represented in the data set.

Q85. HAS THIS INVERSE RELATIONSHIP BEEN DOCUMENTED IN THE FINANCIAL RESEARCH?

A85. Yes. There is considerable empirical evidence that when interest rates are relatively high, equity risk premiums narrow, and when interest rates are relatively low, equity risk premiums are greater.[37] This inverse relationship between equity risk premiums and interest rates has been widely reported in the financial literature. For example, *New Regulatory Finance* documented this inverse relationship:

> Published studies by Brigham, Shome, and Vinson (1985), Harris (1986), Harris and Marston (1992, 1993), Carelton, Chambers, and Lakonishok (1983), Morin (2005), and McShane (2005), and others demonstrate that, beginning in 1980, risk premiums varied inversely with the level of interest rates – rising when rates fell and declining when rates rose.[38]

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[36] *See, e.g.,* Brigham, E.F., Shome, D.K., and Vinson, S.R., "The Risk Premium Approach to Measuring a Utility's Cost of Equity," *Financial Management* (Spring 1985); Harris, R.S., and Marston, F.C., "Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts," *Financial Management* (Summer 1992).

[37] *Id.*

[38] Morin, Roger A., "New Regulatory Finance," Public Utilities Reports, at 128 (2006).

Other regulators have also recognized that the cost of equity does not move in tandem with interest rates.[39]

Q86. WHAT ARE THE IMPLICATIONS OF THIS RELATIONSHIP UNDER CURRENT CAPITAL MARKET CONDITIONS?

A86. As noted earlier, bond yields are at unprecedented lows. Given that equity risk premiums move inversely with interest rates, these uncharacteristically low bond yields also imply a sharp increase in the equity risk premium that investors require to accept the higher uncertainties associated with an investment in utility common stocks versus bonds. In other words, higher required equity risk premiums offset the impact of declining interest rates on the ROE.

Q87. WHAT COST OF EQUITY IS IMPLIED BY THE RISK PREMIUM METHOD USING SURVEYS OF ALLOWED ROES?

A87. Based on the regression output between the interest rates and equity risk premiums displayed on page 4 of Exhibit AMM-7, the equity risk premium for electric utilities increased approximately 42 basis points for each percentage point drop in the yield on average public utility bonds. As illustrated on page 1 of Exhibit AMM-7, with an average yield on public utility bonds for the six-months ending October 2014 of 4.34%, this implied a current equity risk premium of 5.38% for electric utilities. Adding this equity risk premium to the average yield on triple-B utility bonds of 4.70% implies a current cost of equity of 10.08%.

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[39] *See, e.g.,* California Public Utilities Commission, Decision 08-05-035 (May 29, 2008); Entergy Mississippi Formula Rate Plan FRP-5, http://www.entergy-mississippi.com/content/price/tariffs/emi_frp.pdf; *Martha Coakley et al.*, 147 FERC ¶ 61,234 at P 147 (2014).

Q88. WHAT RISK PREMIUM COST OF EQUITY ESTIMATE WAS PRODUCED AFTER INCORPORATING FORECASTED BOND YIELDS?

A88. As shown on page 2 of Exhibit AMM-7, incorporating a forecasted yield for 2015-2019 and adjusting for changes in interest rates since the study period implied an equity risk premium of 4.50% for electric utilities. Adding this equity risk premium to the implied average yield on triple-B public utility bonds for 2015-2019 of 6.77% resulted in an implied cost of equity of 11.27%.

E. Flotation Costs

Q89. WHAT OTHER CONSIDERATIONS ARE RELEVANT IN SETTING THE RETURN ON EQUITY FOR A UTILITY?

A89. The common equity used to finance the investment in utility assets is provided from either the sale of stock in the capital markets or from retained earnings not paid out as dividends. When equity is raised through the sale of common stock, there are costs associated with "floating" the new equity securities. These flotation costs include services such as legal, accounting, and printing, as well as the fees and discounts paid to compensate brokers for selling the stock to the public. Also, some argue that the "market pressure" from the additional supply of common stock and other market factors may further reduce the amount of funds a utility nets when it issues common equity.

Q90. IS THERE AN ESTABLISHED MECHANISM FOR A UTILITY TO RECOGNIZE EQUITY ISSUANCE COSTS?

A90. No. While debt flotation costs are recorded on the books of the utility, amortized over the life of the issue, and thus increase the effective cost of debt capital, there is no similar accounting treatment to ensure that equity flotation costs are recorded and ultimately recognized. No rate of return is authorized on flotation

costs necessarily incurred to obtain a portion of the equity capital used to finance plant. In other words, equity flotation costs are not included in a utility's rate base because neither that portion of the gross proceeds from the sale of common stock used to pay flotation costs is available to invest in plant and equipment, nor are flotation costs capitalized as an intangible asset. Unless some provision is made to recognize these issuance costs, a utility's revenue requirements will not fully reflect all of the costs incurred for the use of investors' funds. Because there is no accounting convention to accumulate the flotation costs associated with equity issues, they must be accounted for indirectly, with an upward adjustment to the cost of equity being the most appropriate mechanism.

Q91. IS THERE A THEORETICAL AND PRACTICAL BASIS TO INCLUDE A FLOTATION COST ADJUSTMENT IN THIS CASE?

A91. Yes. First, an adjustment for flotation costs associated with past equity issues is appropriate, even when the utility is not contemplating any new sales of common stock. The need for a flotation cost adjustment to compensate for past equity issues has been recognized in the financial literature. In a *Public Utilities Fortnightly* article, for example, Brigham, Aberwald, and Gapenski demonstrated that even if no further stock issues are contemplated, a flotation cost adjustment in all future years is required to keep shareholders whole, and that the flotation cost adjustment must consider total equity, including retained earnings.[40] Similarly, *New Regulatory Finance* contains the following discussion:

> Another controversy is whether the flotation cost allowance should still be applied when the utility is not contemplating an imminent common stock issue. Some argue that flotation costs are real and

[40] Brigham, E.F., Aberwald, D.A., and Gapenski, L.C., "Common Equity Flotation Costs and Rate Making," *Public Utilities Fortnightly*, May, 2, 1985.

> should be recognized in calculating the fair rate of return on equity, but only at the time when the expenses are incurred. In other words, the flotation cost allowance should not continue indefinitely, but should be made in the year in which the sale of securities occurs, with no need for continuing compensation in future years. This argument implies that the company has already been compensated for these costs and/or the initial contributed capital was obtained freely, devoid of any flotation costs, which is an unlikely assumption, and certainly not applicable to most utilities. … The flotation cost adjustment cannot be strictly forward-looking unless all past flotation costs associated with past issues have been recovered.[41]

Q92. WHAT IS THE MAGNITUDE OF THE ADJUSTMENT TO THE "BARE BONES" COST OF EQUITY TO ACCOUNT FOR ISSUANCE COSTS?

A92. There are a number of ways in which a flotation cost adjustment can be calculated, but the most common methods used to account for flotation costs in regulatory proceedings is to apply an average flotation-cost percentage to a utility's dividend yield. Based on a review of the finance literature, *Regulatory Finance: Utilities' Cost of Capital* concluded:

> The flotation cost allowance requires an estimated adjustment to the return on equity of approximately 5% to 10%, depending on the size and risk of the issue.[42]

Alternatively, a study of data from Morgan Stanley regarding issuance costs associated with utility common stock issuances suggests an average flotation cost percentage of 3.6%,[43] with NorthWestern incurring issuance costs equal to approximately 3.8% of the gross proceeds from its recent public offering of

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[41] Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports, Inc.* (2006) at 335.

[42] Roger A. Morin, "Regulatory Finance: Utilities' Cost of Capital," *Public Utilities Reports, Inc. at 166* (1994).

[43] *Application of Yankee Gas Services Company for a Rate Increase*, DPUC Docket No. 04-06-01, Direct Testimony of George J. Eckenroth (Jul. 2, 2004) at Exhibit GJE-11.1. Updating the results presented by Mr. Eckenroth through April 2005 also resulted in an average flotation cost percentage of 3.6%.

common stock.[44] Applying this 3.8% expense percentage for NorthWestern to a representative dividend yield of 3.6% implies a minimum flotation cost adjustment on the order of 14 basis points.

VI. OTHER ROE BENCHMARKS

Q93. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?

A93. This section presents alternative tests to demonstrate that the end-results of the ROE analyses discussed earlier are reasonable and do not exceed a fair ROE given the facts and circumstances of NorthWestern. The first test is based on applications of the traditional CAPM analysis using current and projected interest rates. The second test is based on expected earned returns for electric utilities. Finally, I present a DCF analysis for a select, low risk group of non-utility firms, with which NorthWestern must compete for investors' money.

A. Capital Asset Pricing Model

Q94. WHAT COST OF EQUITY ESTIMATES WERE INDICATED BY THE TRADITIONAL CAPM?

A94. My application of the traditional CAPM was based on the same forward-looking market rate of return, risk-free rates, and beta values discussed earlier in connections with the ECAPM. As shown on page 1 of Exhibit AMM-8, applying the forward-looking CAPM approach to the firms in the Electric Group results in an average theoretical cost of equity estimate of 10.6%, or 11.6% after incorporating the size adjustment corresponding to the market capitalization of the individual utilities.

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[44] NorthWestern Corporation, *Prospectus Supplement (To Prospectus dated February 17, 2014)* (Nov. 4, 2014).

As shown on page 2 of Exhibit AMM-8, incorporating a forecasted Treasury bond yield for 2015-2019 implied a cost of equity of approximately 11.07% for the Electric Group, or 11.9 % after adjusting for the impact of relative size.

B. Expected Earnings Approach

Q95. WHAT OTHER ANALYSES DID YOU CONDUCT TO ESTIMATE THE COST OF COMMON EQUITY?

A95. As noted earlier, I also evaluated the cost of common equity using the expected earnings method. Reference to rates of return available from alternative investments of comparable risk can provide an important benchmark in assessing the return necessary to assure confidence in the financial integrity of a firm and its ability to attract capital. This expected earnings approach is consistent with the economic underpinnings for a fair rate of return established by the U.S. Supreme Court in *Bluefield* and *Hope*. Moreover, it avoids the complexities and limitations of capital market methods and instead focuses on the returns earned on book equity, which are readily available to investors.

Q96. WHAT ECONOMIC PREMISE UNDERLIES THE EXPECTED EARNINGS APPROACH?

A96. The simple, but powerful concept underlying the expected earnings approach is that investors compare each investment alternative with the next best opportunity. If the utility is unable to offer a return similar to that available from other opportunities of comparable risk, investors will become unwilling to supply the capital on reasonable terms. For existing investors, denying the utility an opportunity to earn what is available from other similar risk alternatives prevents them from earning their opportunity cost of capital. In this situation the

government is effectively taking the value of investors' capital without adequate compensation. The expected earnings approach is consistent with the economic rationale underpinning established regulatory standards, which specifies a methodology to determine an ROE benchmark based on earned rates of return for a peer group of other regional utilities.

Q97. HOW IS THE EXPECTED EARNINGS APPROACH TYPICALLY IMPLEMENTED?

A97. The traditional comparable earnings test identifies a group of companies that are believed to be comparable in risk to the utility. The actual earnings of those companies on the book value of their investment are then compared to the allowed return of the utility. While the traditional comparable earnings test is implemented using historical data taken from the accounting records, it is also common to use projections of returns on book investment, such as those published by recognized investment advisory publications (*e.g.*, Value Line). Because these returns on book value equity are analogous to the allowed return on a utility's rate base, this measure of opportunity costs results in a direct, "apples to apples" comparison.

Moreover, regulators do not set the returns that investors earn in the capital markets, which are a function of dividend payments and fluctuations in common stock prices – both of which are outside their control. Regulators can only establish the allowed ROE, which is applied to the book value of a utility's investment in rate base, as determined from its accounting records. This is directly analogous to the expected earnings approach, which measures the return that investors expect the utility to earn on book value. As a result, the expected earnings approach provides a meaningful guide to ensure that the allowed ROE is

similar to what other utilities of comparable risk will earn on invested capital. This expected earnings test does not require theoretical models to indirectly infer investors' perceptions from stock prices or other market data. As long as the proxy companies are similar in risk, their expected earned returns on invested capital provide a direct benchmark for investors' opportunity costs that is independent of fluctuating stock prices, market-to-book ratios, debates over DCF growth rates, or the limitations inherent in any theoretical model of investor behavior.

Q98. WHAT RATES OF RETURN ON EQUITY ARE INDICATED FOR UTILITIES BASED ON THE EXPECTED EARNINGS APPROACH?

A98. Value Line's projections imply an average rate of return on common equity for the electric utility industry of 10.6% over its forecast horizon.[45] Meanwhile, for the firms in the Electric Group specifically, the year-end returns on common equity projected by Value Line over its forecast horizon are shown on Exhibit AMM-9. Consistent with the rationale underlying the development of the br+sv growth rates, these year-end values were converted to average returns using the same adjustment factor discussed earlier and developed on Exhibit AMM-5. As shown on Exhibit AMM-9, Value Line's projections for the Electric Group suggest an average ROE of approximately 10.5%.

[45] The Value Line Investment Survey (Aug. 22, Sep. 19, & Oct. 31, 2014). Value Line reports return on year-end equity so the equivalent return on average equity would be higher.

C. Low Risk Non-Utility DCF

Q99. WHAT OTHER PROXY GROUP DID YOU CONSIDER IN EVALUATING A FAIR ROE FOR THE COMPANIES?

A99. Consistent with underlying economic and regulatory standards, I also applied the DCF model to a reference group of low-risk companies in the non-utility sectors of the economy. I refer to this group as the "Non-Utility Group".

Q100. DO UTILITIES HAVE TO COMPETE WITH NON-REGULATED FIRMS FOR CAPITAL?

A100. Yes. The cost of capital is an opportunity cost based on the returns that investors could realize by putting their money in other alternatives. Clearly, the total capital invested in utility stocks is only the tip of the iceberg of total common stock investment, and there are a plethora of other enterprises available to investors beyond those in the utility industry. Utilities must compete for capital, not just against firms in their own industry, but with other investment opportunities of comparable risk. Indeed, modern portfolio theory is built on the assumption that rational investors will hold a diverse portfolio of stocks, not just companies in a single industry.

Q101. IS IT CONSISTENT WITH THE *BLUEFIELD* AND *HOPE* CASES TO CONSIDER INVESTORS' REQUIRED ROE FOR NON-UTILITY COMPANIES?

A101. Yes. The cost of equity capital in the competitive sector of the economy form the very underpinning for utility ROEs because regulation purports to serve as a substitute for the actions of competitive markets. The Supreme Court has recognized that it is the degree of risk, not the nature of the business, which is relevant in evaluating an allowed ROE for a utility. The *Bluefield* case refers to

"business undertakings attended with comparable risks and uncertainties." It does not restrict consideration to other utilities. Similarly, the *Hope* case states:

> By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks.[46]

As in the *Bluefield* decision, there is nothing to restrict "other enterprises" solely to the utility industry.

Q102. DOES CONSIDERATION OF THE RESULTS FOR THE NON-UTILITY GROUP MAKE THE ESTIMATION OF THE COST OF EQUITY USING THE DCF MODEL MORE RELIABLE?

A102. Yes. The estimates of growth from the DCF model depend on analysts' forecasts. It is possible for utility growth rates to be distorted by short-term trends in the industry, or by the industry falling into favor or disfavor by analysts. The result of such distortions would be to bias the DCF estimates for utilities. Because the Non-Utility Group includes low risk companies from many industries, it diversifies away any distortion that may be caused by the ebb and flow of enthusiasm for a particular sector.

Q103. WHAT CRITERIA DID YOU APPLY TO DEVELOP THE NON-UTILITY GROUP?

A103. The comparable risk proxy group was composed of those United States companies followed by Value Line that:

1) pay common dividends;
2) have a Safety Rank of "1";
3) have a Financial Strength Rating of "B++" or greater;
4) have a beta of 0.70 or less; and

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[46] *Federal Power Comm'n v. Hope Natural Gas Co.* 320 U.S. 391, (1944).

5) have investment grade credit ratings from S&P and Moody's.[47]

Q104. HOW DO THE OVERALL RISKS OF THIS NON-UTILITY GROUP COMPARE WITH THE ELECTRIC GROUP?

A104. Table 5 compares the Non-Utility Group with the Electric Group and NorthWestern across the risk measures discussed earlier:

TABLE 5
COMPARISON OF RISK INDICATORS

			Value Line		
Proxy Group	**S&P**	**Moody's**	**Safety Rank**	**Financial Strength**	**Beta**
Non-Utility	A	A2	1	A+	0.66
Electric	BBB+	Baa1	2	B++	0.75
NorthWestern	BBB	A3	3	B+	0.70

As shown above, the average credit ratings, Safety Rank, Financial Strength Rating, and beta for the Non-Utility Group suggest less risk than for NorthWestern and the proxy group of electric utilities. When considered together, a comparison of these objective measures, which consider a broad spectrum of risks, including financial and business position, relative size, and exposure to company-specific factors, indicates that investors would likely conclude that the overall investment risks for the Electric Group and NorthWestern are greater than those of the firms in the Non-Utility Group.

The sixteen companies that make up the Non-Utility Group are representative of the pinnacle of corporate America. These firms, which include

[47] Credit rating firms, such as S&P, use designations consisting of upper- and lower-case letters 'A' and 'B' to identify a bond's credit quality rating. 'AAA', 'AA', 'A', and 'BBB' ratings are considered investment grade. Credit ratings for bonds below these designations ('BB', 'B', 'CCC', etc.) are considered speculative grade, and are commonly referred to as "junk bonds". The term "investment grade" refers to bonds with ratings in the 'BBB' category and above.

household names such as Colgate-Palmolive, McDonalds, Proctor & Gamble, and Wal-Mart, have long corporate histories, well-established track records, and exceedingly conservative risk profiles. Many of these companies pay dividends on a par with utilities, with the average dividend yield for the group approaching 3%. Moreover, because of their significance and name recognition, these companies receive intense scrutiny by the investment community, which increases confidence that published growth estimates are representative of the consensus expectations reflected in common stock prices.

Q105. WHAT WERE THE RESULTS OF YOUR DCF ANALYSIS FOR THE NON-UTILITY GROUP?

A105. I applied the DCF model to the Non-Utility Group using the same analysts' EPS growth projections described earlier for the Electric Group, with the results being presented in Exhibit AMM-10. As summarized in Table 6, below, application of the constant growth DCF model resulted in the following cost of equity estimates:

TABLE 6
DCF RESULTS – NON-UTILITY GROUP

	Cost of Equity	
Growth Rate	**Average**	**Midpoint**
Value Line	10.9%	10.9%
IBES	10.5%	10.4%
Zacks	10.4%	10.7%
Reuters	10.6%	11.1%

As discussed earlier, reference to the Non-Utility Group is consistent with established regulatory principles. Required returns for utilities should be in line with those of non-utility firms of comparable risk operating under the constraints of free competition.

Q106. HOW CAN YOU RECONCILE THESE DCF RESULTS FOR THE NON-UTILITY GROUP AGAINST THE LOWER ESTIMATES PRODUCED FOR YOUR GROUP OF UTILITIES?

A106. First, it is important to be clear that the higher DCF results for the Non-Utility Group cannot be attributed to risk differences. As documented earlier, the risks that investors associate with the group of non-utility firms – as measured by S&P's credit ratings, Value Line's Safety Rank, Financial Strength, and beta – are lower than the risks investors associate with the Electric Group and NorthWestern. The objective evidence provided by these observable risk measures rules out a conclusion that the higher non-utility DCF estimates are associated with higher investment risk.

Rather, the divergence between the DCF results for these groups of utility and non-utility firms can be attributed to the fact that DCF estimates invariably depart from the returns that investors actually require because their expectations may not be captured by the inputs to the model, particularly the assumed growth rate. Because the actual cost of equity is unobservable, and DCF results inherently incorporate a degree of error, cost of equity estimates for the Non-Utility Group provide an important benchmark in evaluating a fair ROE for NorthWestern. There is no basis to conclude that DCF results for a group of utilities would be inherently more reliable than those for firms in the competitive sector, and the divergence between the DCF estimates for the group of utilities and the Non-Utility Group suggests that both should be considered to ensure a balanced end-result. The DCF results for the Non-Utility Group suggest that a 10.64% ROE for NorthWestern is a conservative estimate of a fair return.

Q107. PLEASE SUMMARIZE THE RESULTS OF YOUR ROE CHECKS OF REASONABLENESS.

A107. The cost of common equity estimates produced by the various tests of reasonableness discussed above are shown on page 2 of Exhibit AMM-2, and summarized in Table 2, which is reproduced below:

TABLE 2
SUMMARY OF ROE CHECKS OF REASONABLENESS

	Average	Midpoint
CAPM - Historical Bond Yield		
Unadjusted	10.6%	10.9%
Size Adjusted	11.6%	11.7%
CAPM - Projected Bond Yield		
Unadjusted	11.0%	11.2%
Size Adjusted	11.9%	11.9%
Expected Earnings		
Industry	10.6%	
Proxy Group	10.5%	11.1%
Non-Utility DCF		
Value Line	10.9%	10.9%
IBES	10.5%	10.4%
Zacks	10.4%	10.7%
Reuters	10.6%	11.1%

The results of these checks of reasonableness confirm my conclusion that an ROE of 10.64% for NorthWestern' electric utility operations is reasonable.

Q108. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?

A108. Yes.