

**Montana Public Service Commission
Docket No. 2022.07.078
Electric and Natural Gas General Rate Review**

PREFILED DIRECT TESTIMONY

OF

ADRIEN M. MCKENZIE, CFA

On behalf of

NORTHWESTERN ENERGY

August 8, 2022

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<u>Attachment</u>	<u>Description</u>
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AMM-2	Summary of Results
AMM-3	Regulatory Mechanisms – Utility Group
AMM-4	DCF Model – Utility Group
AMM-5	BR + SV Growth Rate – Utility Group
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GLOSSARY

CAPM	Capital Asset Pricing Model
Commission	Montana Public Service Commission
CPI	Consumer Price Index
DCF	Discounted Cash Flow
DPS	dividends per share
ECAPM	Empirical Capital Asset Pricing Model
EPS	earnings per share
FCRM	Fixed Cost Recovery Mechanism
FERC	Federal Energy Regulatory Commission
FINCAP, Inc.	Financial Concepts and Applications, Inc.
FOMC	Federal Open Market Committee
GDP	Gross Domestic Product
IBES	Institutional Brokers' Estimate System (now Refinitiv)
MDPSC	Maryland Public Service Commission
Moody's	Moody's Investors Service
MRP	market risk premium
MW	Megawatts
NASDAQ	The Nasdaq Stock Market LLC
NorthWestern or Company	NorthWestern Corporation d/b/a NorthWestern Energy
PCCAM	Power Costs and Credits Adjustment Mechanism
PCE	Personal Consumption Expenditure Price Index
RCA	Regulatory Commission of Alaska
ROE	return on equity
RRA	S&P Global Market Intelligence, RRA Regulatory Focus (formerly Regulatory Research Associates, Inc.
S&P	S&P Global Ratings
Value Line	The Value Line Investment Survey
Zacks	Zacks Investment Research, Inc.

I. INTRODUCTION

1 **Q1. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

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

3 **Q2. IN WHAT CAPACITY ARE YOU EMPLOYED?**

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

6 **Q3. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND
7 QUALIFICATIONS.**

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

A. Overview

10
11 **Q4. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY IN THIS CASE?**

12 A4. The purpose of my direct testimony is to present to the Commission my independent
13 assessment of the just and reasonable ROE that NorthWestern should be authorized to
14 earn on its investment in providing electric and natural gas utility services. In addition,
15 I also examine the reasonableness of NorthWestern's requested capital structure,
16 considering both the specific risks faced by the Company and other industry guidelines.

17 **Q5. PLEASE SUMMARIZE THE INFORMATION AND MATERIALS YOU RELY
18 ON TO SUPPORT THE OPINIONS AND CONCLUSIONS CONTAINED IN
19 YOUR TESTIMONY.**

20 A5. To prepare my testimony, I use information from a variety of sources that would
21 normally be relied upon by a person in my capacity. In connection with the present
22 filing, I consider and rely upon discussions with corporate management, publicly
23 available financial reports, and prior regulatory filings relating to NorthWestern. I also
24 review information relating generally to current capital market conditions and
25 specifically to investor perceptions, requirements, and expectations for NorthWestern's

1 utility operations. These sources, coupled with my experience in the fields of finance
2 and utility regulation, have given me a working knowledge of the issues relevant to
3 investors' required return for NorthWestern, and they form the basis of my analyses and
4 conclusions.

5 **Q6. HOW IS YOUR TESTIMONY ORGANIZED?**

6 A6. I first briefly review NorthWestern's operations and finances. I then explain the
7 development of the proxy group of utilities used as the basis for my quantitative
8 analyses, including the implications of the Company's regulatory mechanisms. Next, I
9 discuss current conditions in the capital markets and their implications in evaluating a
10 just and reasonable ROE for the Company. With this as a background, I discuss well-
11 accepted quantitative analyses to estimate the current cost of equity for the proxy group
12 of utilities. These include the DCF model, the CAPM, the ECAPM, an equity risk
13 premium approach based on allowed equity returns, and reference to expected earned
14 rates of return for utilities, which are all methods that are commonly relied on in
15 regulatory proceedings. In addition, I discuss the issue of stock flotation expenses and
16 the implications of these legitimate costs on the estimation of a reasonable ROE for the
17 Company.

18 Based on the cost of equity estimates indicated by my analyses described above,
19 I determine a fair and reasonable ROE for NorthWestern. My ROE evaluation takes
20 into account the specific risks for the Company's utility operations in Montana and its
21 requirements for financial strength. As an adjunct to my independent evaluation, I also
22 examine the results of the ROE methodology followed by the Commission in its Order
23 No. 7575c in Docket No. D2017.9.80,¹ which incorporates quantitative analyses using

¹ This docket was in the matter of the joint application for approval to change natural gas delivery service rates for Energy West Montana, Inc. and Cut Bank Gas Company, and the Commission issued Order No. 7575c on September 26, 2018. I refer to this ROE approach as the "7575c Methodology."

1 the DCF model and the ECAPM. Finally, consistent with the fact that utilities must
2 compete for capital with firms outside their own industry, I corroborate my utility
3 quantitative analyses by applying the DCF model to a group of low-risk non-utility
4 firms.

5 **B. Summary and Conclusions**

6 **Q7. WHAT IS YOUR RECOMMENDED ROE FOR NORTHWESTERN?**

7 A7. My testimony supports an ROE for NorthWestern's Montana-jurisdictional electric and
8 gas utility operations of 10.60%. The results of alternative quantitative analyses applied
9 to a proxy group of other utilities indicates a cost of equity range of 9.6% to 10.9%, or
10 9.7% to 11.0% after adjusting for the impact of common equity flotation costs. As I
11 document in my testimony, NorthWestern has experienced a chronic inability to actually
12 earn the ROE authorized for its Montana utility operations. In addition, the sharing
13 provisions of the current PCCAM exacerbate the risks associated with NorthWestern's
14 significant shortfall in generating capacity during periods of rising energy prices and the
15 Company does not benefit from the wide range of regulatory mechanisms available to
16 the utilities in my proxy group. Taken together, I conclude that these considerations
17 warrant an upward adjustment of 25 basis points in establishing a fair ROE for
18 NorthWestern. Adding this 25 basis point adjustment to the 10.35% midpoint of the
19 proxy group range results in my recommended ROE for NorthWestern of 10.60%.

20 In arriving at this upward adjustment, I reference the observable yield spreads
21 between bonds rated Baa and A, which currently imply a risk premium of approximately
22 30 basis points. In addition, some regulators concluded that implementing decoupling
23 translated into reduced risk and warranted a lower ROE, with adjustments ranging from
24 10 to 50 basis points.² The corollary would hold that NorthWestern's lack of

² Pamela Morgan, *A Decade of Decoupling for US Energy Utilities: Rate Impacts, Designs, and Observations*, Graceful Systems, LLC (March 2013) at 14.

1 comparable insulation from regulatory lag relative to my proxy group would warrant a
2 similar upward adjustment to the ROE. My 10.60% ROE recommendation is supported
3 by the imperative of stabilizing the Company's credit ratings and maintaining access to
4 capital, addressing the implications of NorthWestern's electric capacity shortfall and
5 generation mix, and considering expectations for higher capital costs over the period
6 when rates established in this proceeding will be in effect.

7 **Q8. NORTHWESTERN'S FILING INCLUDES PROPOSALS TO MITIGATE THE**
8 **IMPACT OF CHRONIC ATTRITION AND REGULATORY LAG. WHAT IS**
9 **YOUR ROE RECOMMENDATION IF THESE PROPOSALS ARE ADOPTED?**

10 A8. Company witness Cynthia Fang summarizes NorthWestern's proposals to mitigate the
11 impact of chronic attrition and regulatory lag, which include:

- 12 • Adjustments for changes in facilities, operations, and costs that are known
13 and measurable with reasonable accuracy.
- 14 • Forward-looking cost recovery for wildfire mitigation and business
15 technology costs, including cyber security.
- 16 • A Reliability Rider to allow for more timely cost recovery for critical system
17 enhancements and reliability resources.
- 18 • Modifications to the PCCAM that better accommodate evolving market
19 conditions.
- 20 • Redesigning the FCRM pilot to better accomplish its intended purpose.

21 In light of the long history of under-earning experienced by NorthWestern and
22 its relative lack of regulatory mechanisms in Montana, approval of the modified
23 PCCAM and FCRM pilot and other cost recovery proposals would represent a
24 constructive step that would bring the Company more into line with the proxy group of
25 utilities used to estimate the cost of equity. Accordingly, should the Commission
26 approve the bulk of the Company's requested cost recovery proposals and modifications
27 to the PCCAM and FCRM pilot, I recommend an ROE for NorthWestern at the midpoint
28 of my proxy group range, or 10.35%.

II. FUNDAMENTAL ANALYSES

1 **Q9. WHAT IS THE PURPOSE OF THIS SECTION?**

2 A9. As a foundation for my opinions and subsequent quantitative analyses, this section
3 briefly reviews the operations and finances of NorthWestern and examines conditions
4 impacting today's capital markets and the general economy. An understanding of the
5 fundamental factors driving the risks and prospects of utilities is essential in developing
6 an informed opinion of investors' expectations and requirements that are the basis of a
7 fair ROE.

8 **A. NorthWestern Energy**

9 **Q10. BRIEFLY DESCRIBE NORTHWESTERN AND ITS MONTANA UTILITY** 10 **OPERATIONS.**

11 A10. NorthWestern provides electricity and natural gas to approximately 753,000 customers
12 in Montana, South Dakota, and Nebraska.³ Around 82% of NorthWestern's rate base
13 and earnings are related to its Montana utility operations.

14 The regulated electric utility business in Montana includes generation,
15 transmission, and distribution. In 2021, residential, commercial, and other sales
16 accounted for 44%, 47%, and 9%, respectively, of the Company's Montana retail
17 electric utility revenue. Total control area peak demand was approximately 1,909 MW
18 on January 27, 2021. Retail electric load requirements are supplied by owned and
19 contracted resources and market purchases. The nameplate capacity of Company-
20 owned and contracted generating resource include approximately 490 MW of hydro,
21 454 MW of wind, 309 MW of coal, 202 MW of natural gas resources, and 17 MW of
22 solar generation. The Company's electric transmission and distribution network
23 consists of approximately 25,000 miles of overhead and underground lines. Estimated

³ Unless otherwise noted, the information in this section comes from the NorthWestern Corporation, SEC Form 10-K, for the fiscal year ended December 31, 2021.

1 rate base attributable to NorthWestern’s Montana electric operations is approximately
2 \$2.8 billion, with total annual revenues of approximately \$880 million.

3 The regulated natural gas utility business in Montana includes production,
4 storage, transmission, and distribution. Natural gas is distributed to approximately
5 206,600 customers in 118 Montana communities over a system of approximately 4,900
6 miles of underground distribution pipelines. The natural gas transmission system
7 consists of more than 2,100 miles of transmission pipeline. Natural gas is used for
8 residential and commercial heating, and for fuel for two electric generating facilities.
9 Since 2010, the Company has acquired gas production and gathering systems as a part
10 of an overall strategy to provide rate stability and customer value through the addition
11 of regulated natural gas supply assets that are not subject to market forces. For 2021,
12 approximately 68% of the Company’s Montana natural gas operation revenues and
13 throughput were attributable to residential customers with commercial customers
14 making up the remaining balance. Estimated rate base attributable to NorthWestern’s
15 Montana natural gas operations is \$570 million, with total annual revenues of
16 approximately \$221 million.

17 **Q11. WHERE DOES NORTHWESTERN OBTAIN THE CAPITAL USED TO**
18 **FINANCE ITS INVESTMENT IN UTILITY PLANT?**

19 A11. Common equity capital supporting the Montana electric and natural gas utility
20 operations is provided through retained earnings and from the sale of common stock,
21 with NorthWestern being listed on NASDAQ. The Company also issues long-term debt
22 and has been assigned an issuer credit rating of “BBB” by S&P and a long-term rating
23 of “Baa2” by Moody’s. Meanwhile, Fitch downgraded the Company’s long-term issuer
24 default rating from “BBB+” to “BBB” on March 24, 2022.⁴

⁴ Fitch Ratings Ltd., *Fitch downgrades NorthWestern Corp. to ‘BBB’; Outlook Stable*, Rating Action Commentary (Mar. 24, 2022).

1 **Q12. DOES NORTHWESTERN ANTICIPATE THE NEED FOR CAPITAL GOING**
2 **FORWARD?**

3 A12. Yes. The Company must undertake investments to meet growing peak demand needs
4 and provide for necessary maintenance and replacements of its utility systems as it
5 continues to provide safe and reliable service to its customers. Company-wide utility
6 capital additions are expected to total approximately \$2.4 billion through 2026.⁵ These
7 planned capital additions are significant, given NorthWestern's total estimated rate base
8 of \$4.2 billion.⁶ Continued support for NorthWestern's financial integrity and flexibility
9 will be instrumental in attracting the capital necessary to fund these projects in an
10 effective manner.

11 **B. Outlook for Capital Costs**

12 **Q13. PLEASE SUMMARIZE CURRENT ECONOMIC CONDITIONS.**

13 A13. U.S. real GDP contracted 3.4% during 2020, but with the easing of lockdowns
14 accompanying the COVID-19 vaccine rollout, the economic outlook improved
15 significantly in 2021, with GDP growing at a pace of 5.7%. In the first quarter of 2022,
16 regional increases in COVID-19 cases, expiration of government assistance payments,
17 and decreases in wholesale trade led GDP to decrease at an annual rate of 1.5%.⁷
18 Indicators of employment have remained strong, with the national unemployment rate
19 in May 2022 stable at 3.8%.⁸

⁵ NorthWestern Corporation, SEC Form 10-K for the fiscal year ended December 31, 2021, at 42. Of this amount, approximately \$2.2 billion relates to NorthWestern's electric and natural gas utility systems in Montana.

⁶ *Id.* at 18.

⁷ <https://www.bea.gov/news/2022/gross-domestic-product-second-estimate-and-corporate-profits-preliminary-first-quarter>.

⁸ <https://www.bls.gov/charts/employment-situation/civilian-unemployment-rate.htm> (last visited Jun. 21, 2022).

1 More recently, the underlying risk and unease associated with successive waves
2 of the COVID-19 pandemic and related supply chain disruptions have been
3 overshadowed by Russia’s full-scale invasion of Ukraine on February 24, 2022. The
4 dramatic increase in geopolitical risks has also been accompanied by heightened
5 economic uncertainties as a wide-ranging sanctions regime seeks to isolate the Russian
6 economy. As Fed Chair Powell concluded, “The financial and economic implications
7 for the global economy and the U.S. Economy are highly uncertain.”⁹

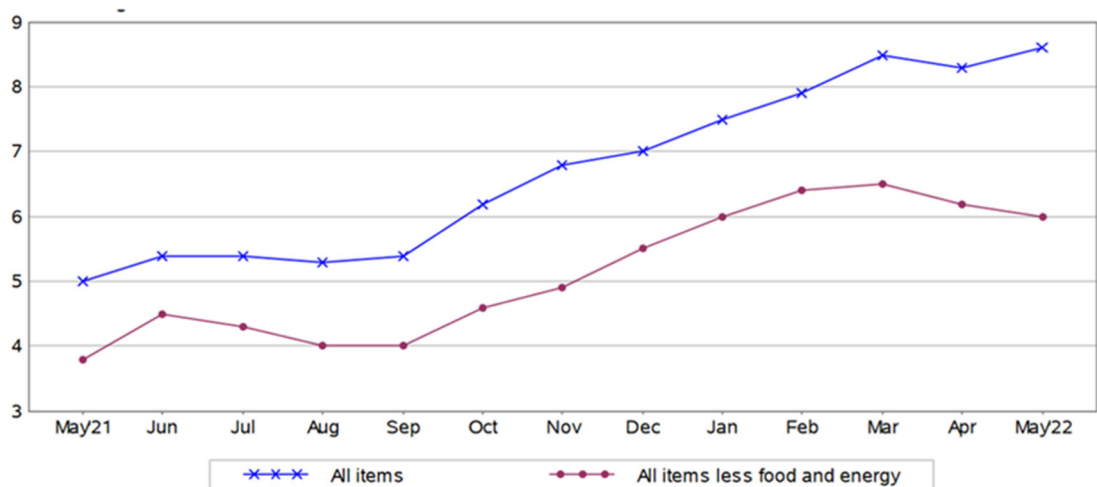
8 Stimulative monetary and fiscal policies, coupled with economic ramifications
9 stemming from the conflict in Ukraine, have led to increasing concern that inflation may
10 remain significantly above the 2% longer-run benchmark cited by the Federal Reserve.
11 The U.S. inflation rate as measured by the CPI reached 8.6% in May 2022, its highest
12 level since December 1981.¹⁰ As illustrated in Figure 1, below, this represents the
13 twelfth straight month in which inflation exceeded 5%. The so-called “core” price
14 index, which excludes more volatile energy and food costs, rose at an annual rate of
15 6.0%.

⁹ Federal Reserve, *Transcript of Chair Powell’s Press Conference* (Mar. 16, 2021),
<https://www.federalreserve.gov/monetarypolicy/fomcpressconf20220316.htm>.

¹⁰ <https://www.bls.gov/news.release/pdf/cpi.pdf> (last visited Jun. 13, 2022).

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FIGURE 1
TREND IN CONSUMER PRICE INDEX



Source: Bureau of Labor Statistics, *Consumer Price Index - May 2022*, Press Release (Jun. 10, 2022).

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Similarly, PCE inflation rose to 6.3% in April 2022, or 4.9% after excluding more volatile food and energy cost.¹¹

The Social Security Administration announced that beneficiaries would receive a cost-of-living adjustment of 5.9% for 2022, up from 1.3% a year earlier.¹² Meanwhile, the May 2022 *Survey of Consumer Expectations* conducted by the New York Fed reported a median point prediction for year-ahead inflation of 6.6% and an expected three-year inflation rate of 3.9%.¹³ After abandoning the word “transitory” for describing the nature of the current high inflation rate,¹⁴ Fed Chair Jerome Powell recently noted that:

¹¹ <https://www.bea.gov/news/2022/personal-income-and-outlays-march-2022> (last visited May 17, 2022).

¹² Social Security Administration, *Fact Sheet: 2022 Social Security Changes*, <https://www.ssa.gov/news/press/factsheets/colafacts2022.pdf>.

¹³ Federal Reserve Bank of New York, [https://www.newyorkfed.org/microeconomics/sce#/#/](https://www.newyorkfed.org/microeconomics/sce#/) (last visited Jun. 13, 2022).

¹⁴ <https://www.reuters.com/article/usa-fed-instant/feds-powell-floats-dropping-transitory-label-for-inflation-idUSKBN2IF1S0>.

1 Inflation remains well above our longer-run goal of 2 percent. Aggregate
2 demand is strong, and bottlenecks and supply constraints are limiting
3 how quickly production can respond. These supply disruptions have
4 been larger and longer lasting than anticipated, exacerbated by waves of
5 the virus here and abroad, and price pressures have spread to a broader
6 range of goods and services. Additionally, higher energy prices are
7 driving up overall inflation.¹⁵

8 As Value Line concluded, “Inflation clearly is worrisome.”¹⁶

9 **Q14. HOW HAVE COMMON EQUITY MARKETS BEEN IMPACTED BY THESE**
10 **EVENTS?**

11 A14. The threats posed by the coronavirus pandemic and military conflict in Ukraine have
12 led to extreme volatility in the capital markets as investors have been forced to
13 dramatically revise their risk perceptions and return requirements in the face of the
14 severe disruptions to commerce and the world economy. Despite the actions of the
15 world’s central banks to ease market strains and bolster the economy, global financial
16 markets have experienced precipitous declines as investors come to grips with the
17 related exposures. S&P noted that the Ukraine conflict “could have profound effects on
18 macroeconomic prospects and credit conditions around the world,”¹⁷ concluding that:

19 The implications of the Russia-Ukraine conflict could come in the form
20 of energy supply disruptions or price shocks, sustained inflationary
21 pressures, a drag on economic growth or policy missteps by central
22 banks, a migrant crisis in Eastern Europe, additional cyber attacks
23 between Russia and its perceived adversaries, risk-repricing that drives
24 up borrowing costs or limits funding access, and profit erosion for certain
25 sectors.¹⁸

¹⁵ Federal Reserve, *Transcript of Chair Powell’s Press Conference* (Mar. 16, 2021),
<https://www.federalreserve.gov/monetarypolicy/fomcpressconf20220316.htm>.

¹⁶ The Value Line Investment Survey, *Selection and Opinion* (Dec. 3, 2021).

¹⁷ S&P Global Ratings, *Russia-Ukraine Military Conflict: Key takeaways From Our Articles*, Comments (Mar. 8, 2022).

¹⁸ *Id.*

1 As Fed Chair Powell concluded, “The financial and economic implications for
2 the global economy and the U.S. Economy are highly uncertain.”¹⁹ The greater
3 uncertainty faced by equity investors is confirmed by reference to the Chicago Board
4 Options Exchange Volatility Index (commonly known as the “VIX”), which is a key
5 measure of expectations of near-term volatility and market sentiment referenced by the
6 investment community. The VIX has trended sharply higher in 2022, reaching more
7 than double its pre-pandemic level. Similarly, the Merrill Lynch Option Volatility
8 Estimate, or “MOVE” index, which is a market-based measure of uncertainty about
9 interest rates and is often referred to as the “investor fear gauge,” is also elevated.
10 During May 2022, the MOVE index fluctuated in the range of approximately 98 to 135,
11 which is over 70% higher than it was at the same time in 2021.²⁰ This ongoing volatility
12 in capital markets is evidence of the greater risks now faced by investors.

13 **Q15. HAVE UTILITIES AND THEIR INVESTORS ALSO FACED HEIGHTENED**
14 **LEVELS OF UNCERTAINTY?**

15 A15. Yes. Concerns over weakening credit quality prompted S&P to revise its outlook for
16 the regulated utility industry from “stable” to “negative.”²¹ As S&P explained:

17 Even before the current downturn and COVID-19, a confluence of
18 factors, including the adverse impacts of tax reform, historically high
19 capital spending, and associated increased debt, resulted in little cushion
20 in ratings for unexpected operating challenges.²²

¹⁹ Federal Reserve, *Transcript of Chair Powell’s Press Conference* (Mar. 16, 2021), <https://www.federalreserve.gov/monetarypolicy/fomcpresconf20220316.htm>.

²⁰ <https://www.google.com/finance/quote/MOVE:INDEXNYSEGIS?sa=X&ved=2ahUKEwiWvr7E-uH0AhVcl2oFHQLTAzsQ3ecFegQIBxAc&window=MAX> (last visited Jun. 18, 2022).

²¹ S&P Global Ratings, *COVID-19: The Outlook For North American Regulated Utilities Turns Negative*, RatingsDirect (April 2, 2020).

²² S&P Global Ratings, *North American Regulated Utilities Face Tough Financial Policy Tradeoffs To Avoid Ratings Pressure Amid The COVID-19 Pandemic*, RatingsDirect (May 11, 2020).

1 While recognizing that regulatory protections have helped to mitigate the worst of the
2 coronavirus pandemic, S&P concluded that credit quality in the U.S. utility industry
3 weakened during 2020 and 2021, in part due to regulatory lag attributable to
4 COVID-19.²³

5 Meanwhile, rising inflation expectations also pose a challenge for utilities, with
6 S&P recently noting that “the threat of inflation comes at a time when credit metrics are
7 already under pressure relative to downside ratings thresholds.”²⁴ S&P recently
8 affirmed its negative outlook for investor-owned utilities, noting that “risk will continue
9 to pressure the credit quality of the industry in 2022.”²⁵ As S&P elaborated:

10 Recently, several new credit risks have emerged, including inflation,
11 higher interest rates, and rising commodity prices. Persistent pressure
12 from any of these risks would likely lead to a further weakening of the
13 industry’s credit quality in 2022.²⁶

14 **Q16. DO CHANGES IN UTILITY COMPANY BETA VALUES SINCE THE**
15 **PANDEMIC BEGAN CORROBORATE AN INCREASE IN INDUSTRY RISK?**

16 A16. Yes. As I explain subsequently, beta is used by the investment community as an
17 important guide to investors’ risk perceptions. As shown in Table 1 below, the average
18 beta for the proxy group of comparable utilities that I rely on in this case for estimating
19 the Company’s ROE is 0.89.²⁷ Prior to the pandemic, the average beta for the same
20 group of companies was 0.53.²⁸

²³ S&P Global Ratings, *Report: North American Regulated Utilities’ Credit Quality Begins The Year On A Downward Path*, RatingsDirect (Apr. 7, 2021); S&P Global Ratings, *For The First Time Ever, The Median Investor-Owned Utility Ratings Falls To The ‘BBB’ Category*, RatingsDirect (Jan. 20, 2022).

²⁴ S&P Global Ratings, *Will Rising Inflation Threaten North American Investor-Owned Regulated Utilities’ Credit Quality?* (Jul. 20, 2021).

²⁵ S&P Global Ratings, *For The First Time Ever, The Median Investor-Owned Utility Ratings Falls To The ‘BBB’ Category*, RatingsDirect (Jan. 20, 2022).

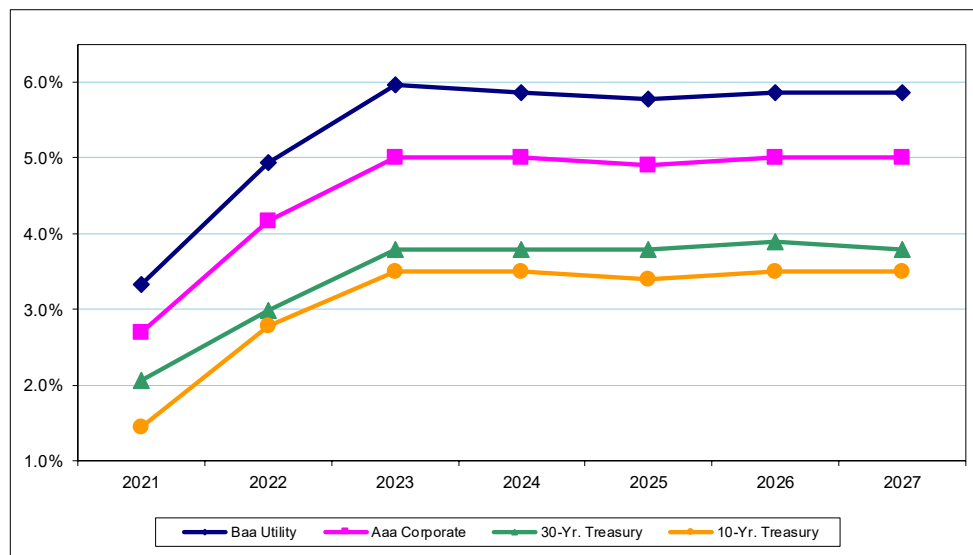
²⁶ *Id.*

²⁷ As indicated on Exhibit AMM-6, this is based on data as of March 11, 2022.

²⁸ The Value Line Investment Survey, *Summary & Index* (Feb. 14, 2020).

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**FIGURE 3
INTEREST RATE TRENDS**



	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>Change (bps)</u> <u>2021-27</u>
(a) 10-Yr. Treasury	1.5%	2.8%	3.5%	3.5%	3.4%	3.5%	3.5%	205
(a) 30-Yr. Treasury	2.1%	3.0%	3.8%	3.8%	3.8%	3.9%	3.8%	174
(a) Aaa Corporate	2.7%	4.2%	5.0%	5.0%	4.9%	5.0%	5.0%	230
(b) Baa Utility	3.3%	4.9%	6.0%	5.9%	5.8%	5.9%	5.9%	254

(a) 2021 from Moody's Investors Service; <https://fred.stlouisfed.org/>. 2022-27 from Wolters Kluwer, Blue Chip Financial Forecasts (Jun. 1, 2022).

(b) 2021 from Moody's Credit Trends. 2022-2027 based on yields on Baa corporate bonds (Wolters Kluwer, Blue Chip Financial Forecasts (Jun. 1, 2022)), adjusted for six-month average yield spreads at Apr. 2022 (Moody's Credit

3 **Q18. ARE EXPECTATIONS OF HIGHER BOND YIELDS AND EXPOSURE TO**
 4 **INFLATION CONSISTENT WITH RECENT FEDERAL RESERVE ACTIONS**
 5 **AND THE VIEWS OF THE FOMC?²⁹**

6 A18. Yes. The FOMC responded to concerns over accelerating inflation by raising the
 7 benchmark range for the federal funds rate by 0.25% in March 2022, 0.50% in May

²⁹ The FOMC is a committee composed of twelve members that serves as the monetary policymaking body of the Federal Reserve System.

1 2022, and a further 0.75% at its policy meeting on June 14-15 2022.³⁰ Fed Chair Powell
2 noted that “ongoing increases in the target range will be appropriate.”³¹ The Federal
3 Reserve has also announced that it will implement a significant draw-down of its
4 balance sheet holdings beginning in June 2022,³² and Fed Chair Powell surmised that
5 this process could be the equivalent of another one quarter percent rate hike over the
6 course of a year.³³

7 In conjunction with the June 14-15, 2022 policy meeting, the FOMC submitted
8 updated projections about where short-term interest rates are headed. The results are
9 the dot plot—a visual representation of where members think rates will trend over the
10 short, medium, and longer run. As shown in Figure 4 below, the most recent dot plot
11 indicates that all of the FOMC participants expect its benchmark interest rate to be
12 dramatically higher than current levels by the end of 2022,³⁴ with the median of the
13 federal funds target range rising to 3.375%, versus 1.625% currently.³⁵

³⁰ Federal Reserve, *Press Release* (Jun. 15, 2022),

<https://www.federalreserve.gov/monetarypolicy/files/monetary20220615a1.pdf>.

³¹ Federal Reserve, *Transcript of Chair Powell’s Press Conference* (Jun. 15, 2022),

<https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20220615.pdf>.

³² Federal Reserve, *Plans for Reducing the Size of the Federal Reserve’s Balance Sheet*, Press Release (May 4, 2022), <https://www.federalreserve.gov/newsevents/pressreleases/monetary20220504b.htm>

³³ Federal Reserve, *Transcript of Chair Powell’s Press Conference* (May 4, 2022),

<https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20220504.pdf>.

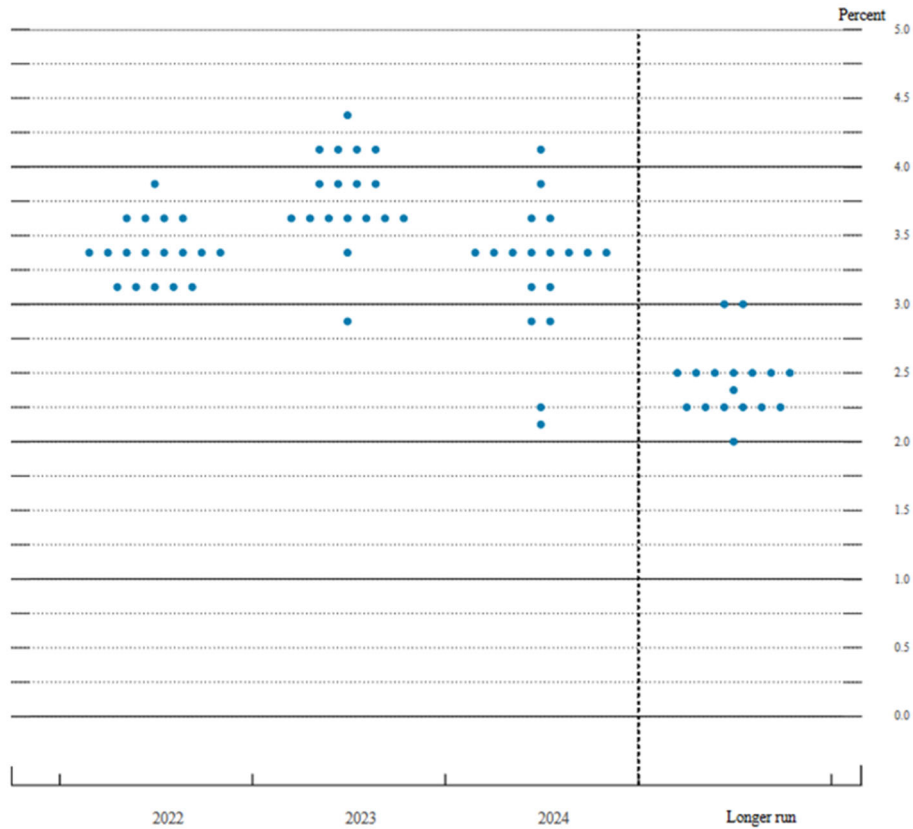
³⁴ *Summary of Economic Projections* (Jun. 15, 2022),

<https://www.federalreserve.gov/monetarypolicy/files/fomcprojtabl20220615.pdf>.

³⁵ *Id.*

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**FIGURE 4
FEDERAL RESERVE DOT PLOT**



3 **Q19. WHAT IMPLICATIONS DO THESE FORECASTS HAVE IN EVALUATING A**
4 **FAIR ROE FOR NORTHWESTERN?**

5 A19. Expectations for higher interest rates suggest that long-term capital costs—including the
6 cost of equity—will increase significantly over the intermediate term. As a result, cost
7 of equity estimates based on current data are likely to understate the return that will be
8 required by investors over the period when the rates established in this proceeding will
9 be in effect.

1 **Q20. WOULD IT BE REASONABLE TO DISREGARD THE IMPLICATIONS OF**
2 **CURRENT CAPITAL MARKET CONDITIONS IN ESTABLISHING A FAIR**
3 **ROE FOR NORTHWESTERN?**

4 A20. No. They reflect the reality of the situation in which NorthWestern must attract and
5 retain capital. The standards underlying a fair rate of return require an authorized ROE
6 for the Company that is competitive with other investments of comparable risk and
7 sufficient to preserve its ability to maintain access to capital on reasonable terms. These
8 standards can only be met by considering the requirements of investors over the time
9 period when the rates established in this proceeding will be in effect. If the upward shift
10 in investors' risk perceptions and required rates of return for long-term capital is not
11 incorporated in the allowed ROE, the results will fail to meet the comparable earnings
12 standard that is fundamental in determining the cost of capital. From a more practical
13 perspective, failing to provide investors with the opportunity to earn a rate of return
14 commensurate with NorthWestern's risks will weaken its financial integrity, while
15 hampering the Company's ability to attract necessary capital.

III. DETERMINATION OF THE PROXY GROUP

16 **Q21. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?**

17 A21. My objective is to evaluate and recommend a just and reasonable ROE for
18 NorthWestern. Much of my work is predicated on a comparison of the Company with
19 the utility industry, and more specifically to a proxy group of publicly traded utilities.
20 This section explains the basis for the proxy group I used to estimate the cost of equity,
21 examines alternative objective indicators of investment risk for these firms, and
22 compare the investment risks of NorthWestern with my reference group.

1 **A. Proxy Group Criteria**

2 **Q22. HOW DO YOU IMPLEMENT QUANTITATIVE METHODS TO ESTIMATE**
3 **THE COST OF COMMON EQUITY FOR NORTHWESTERN?**

4 A22. Application of quantitative methods to estimate the cost of common equity requires
5 observable capital market data, such as stock prices and beta values. Moreover, even
6 for a firm with publicly traded stock, the cost of common equity can only be estimated.
7 As a result, applying quantitative models using observable market data only produces
8 an estimate that inherently includes some degree of observation error. Thus, the
9 accepted approach to increase confidence in the results is to apply quantitative methods
10 to a proxy group of publicly traded companies that investors regard as risk comparable.
11 The results of the analysis on the sample of companies are relied upon to establish a
12 range of reasonableness for the cost of equity for the specific company at issue.

13 **Q23. HOW DO YOU IDENTIFY THE PROXY GROUP OF UTILITIES RELIED ON**
14 **FOR YOUR ANALYSES?**

15 A23. To reflect the risks and prospects associated with NorthWestern’s jurisdictional utility
16 operations, I began with the following criteria to identify a proxy group of utilities:

- 17 1. Included in the Electric Utility Industry groups compiled by Value Line.
- 18 2. Paid common dividends over the last six months and have not announced a
19 dividend cut since that time.
- 20 3. No ongoing involvement in a major merger or acquisition that would
21 distort quantitative results.

22 In addition, my analysis also considered credit ratings from Moody’s and S&P
23 in evaluating relative risk. Specifically, I excluded any companies with ratings more
24 than one “notch” higher or lower than NorthWestern’s corporate credit ratings of Baa2
25 and BBB assigned by Moody’s and S&P, respectively. In my view, credit ratings
26 provide an important and objective guide to overall investment risks that is referenced
27 by both fixed income and equity investors. Credit ratings are also widely accepted by

1 regulatory agencies as a guide to investment risk, with FERC finding that “corporate
2 credit ratings are a reasonable measure to use to screen for investment risk,” and
3 concluding, “[c]redit ratings are a key consideration in developing a proxy group that is
4 risk comparable.”³⁶

5 **Q24. IS THERE ANY OTHER PUBLICLY TRADED UTILITY THAT IS RELEVANT**
6 **IN ESTABLISHING A PROXY GROUP?**

7 A24. Yes. Emera Inc.’s electric and gas utility operations are comparable to those of the other
8 utilities in the proxy group.³⁷ Although Value Line currently includes Emera Inc. in its
9 power industry group, rather than its utility groups, Emera Inc.’s regulated electric and
10 gas utility operations are its dominant businesses and account for approximately 95%
11 of consolidated net income.³⁸ Emera Inc.’s Florida and New Mexico utility operations
12 account for 64% of consolidated net income.³⁹ Thus, investors would regard Emera Inc.
13 as a comparable investment alternative that is relevant to an evaluation of the required
14 rate of return for NorthWestern.

15 These criteria result in the proxy group of twenty companies listed on page 1 of
16 Exhibit AMM-3, which I refer to as the “Utility Group.”⁴⁰

³⁶ *Potomac-Appalachian Transmission Highline*, 133 FERC ¶ 61,152 at P 63 (2010).

³⁷ In addition to Emera, Inc., I also considered Algonquin Power & Utilities Company. While this company would be regarded as a comparable utility investment opportunity by investors, it did not meet my required screening criteria due to a major acquisition, which is ongoing.

³⁸ Emera Inc., *Investors Presentation* (March 2022).

https://s25.q4cdn.com/978989322/files/doc_presentations/2022/03/March-2022-Marketing-Presentation_FINAL.pdf (last visited Mar. 23, 2022).

³⁹ *Id.*

⁴⁰ Of these twenty companies, fourteen are combination electric/natural gas utilities, while six are electric utilities.

1 **B. Relative Risks of the Utility Group and NorthWestern**

2 **Q25. HOW DO YOU EVALUATE INVESTORS' RISK PERCEPTIONS FOR THE**
3 **UTILITY GROUP?**

4 A25. My evaluation of relative risk considers four published benchmarks that are widely
5 relied on by investors; namely, credit ratings from Moody's and S&P, along with Value
6 Line's Safety Rank, Financial Strength Rating, and beta values. Credit ratings are
7 assigned by independent rating agencies for the purpose of providing investors with a
8 broad assessment of the creditworthiness of a firm. Ratings generally extend from
9 triple-A (the highest) to D (in default). Other symbols (*e.g.*, "+" or "-") are used to show
10 relative standing within a category. Because the rating agencies' evaluation includes
11 virtually all of the factors normally considered important in assessing a firm's relative
12 credit standing, corporate credit ratings provide broad, objective measures of overall
13 investment risk that are readily available to investors. Widely cited in the investment
14 community and referenced by investors, credit ratings are also frequently used as a
15 primary risk indicator in establishing proxy groups to estimate the cost of common
16 equity.

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

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

7 Finally, beta measures a utility’s stock price volatility relative to the market as a
8 whole and reflects the tendency of a stock’s price to follow changes in the market. A
9 stock that tends to respond less to market movements has a beta less than 1.00, while
10 stocks that tend to move more than the market have betas greater than 1.00. Beta is the
11 only relevant measure of investment risk under modern capital market theory and is
12 widely cited in academics and in the investment industry as a guide to investors’ risk
13 perceptions. Moreover, in my experience Value Line is the most widely referenced
14 source for beta in regulatory proceedings. As noted in *New Regulatory Finance*:

15 Value Line is the largest and most widely circulated independent
16 investment advisory service, and influences the expectations of a large
17 number of institutional and individual investors. ... Value Line betas are
18 computed on a theoretically sound basis using a broadly based market
19 index, and they are adjusted for the regression tendency of betas to
20 converge to 1.00.⁴¹

21 **Q26. HOW DO THE OVERALL RISK OF YOUR PROXY GROUP COMPARE TO**
22 **NORTHWESTERN?**

23 A26. Table 1 compares the Utility Group with the Company across the four key indices of
24 investment risk discussed above.

⁴¹ Roger A. Morin, *New Regulatory Finance*, Pub. Util. Reports (2006) at 71.

**TABLE 1
COMPARISON OF RISK INDICATORS**

	Moody's	S&P	Value Line		
			Safety Rank	Financial Strength	Beta
Utility Group	Baa2	BBB+	2	A	0.89
NorthWestern Corp.	Baa2	BBB	2	B++	0.95

Q27. WHAT DOES THIS COMPARISON INDICATE REGARDING INVESTORS' ASSESSMENT OF THE RELATIVE RISKS ASSOCIATED WITH YOUR UTILITY GROUP?

A27. While the average Moody's credit rating corresponding to the Utility Group is identical to that of NorthWestern, the Company's lower S&P rating indicates slightly greater risk. The average Value Line Safety Rank for the Utility Group, which incorporates a broad spectrum of risks, including financial and business position, regulatory recovery mechanisms, and exposure to company specific factors, is identical to that assigned to the Company. Meanwhile, the average Financial Strength rating and beta value for the Utility Group indicates lower risk compared to NorthWestern. Considered together, a comparison of these objective measures indicates that investors would likely conclude that the overall investment risks for the firms in the Utility Group are comparable to if not slightly less risky than NorthWestern.

Q28. WHAT EXPOSURES ARE PARTICULARLY ACCUTE FOR NORTHWESTERN?

A28. Based on NorthWestern's supply plan filed at the MPSC in 2019, the Company was facing a significant deficit in generating capacity, with the power supply shortfall expected to reach 725 MW by 2025. While NorthWestern has put forth a plan towards reducing that deficit, the Company's resource adequacy is exacerbated by uncertainties regarding future availability of output from Colstrip Unit 4, as well as the intermittent nature of certain renewable resources.

1 Investors recognize that the potential for volatile energy markets and
2 NorthWestern’s reliance on wholesale purchases to meet a significant portion of its
3 resource needs can expose the Company to the risk of reduced cash flows and
4 unrecovered power supply costs. The risks inherent in NorthWestern’s exposure to
5 wholesale electricity markets is exacerbated by the capacity constraints associated with
6 large-scale retirements of coal-fired generation in the Pacific Northwest region, which
7 further reduce energy supply availability. As BofA Securities highlighted, the
8 Company’s “longer term needs are particularly acute amongst regional peers.”⁴²

9 Moody’s observed that NorthWestern “faces various near and long-term supply
10 uncertainties, mainly as a result of its capacity shortfall position in Montana,” and
11 concluded that this exposure represents a key challenge to the Company’s credit
12 standing.⁴³ The Company’s efforts to mitigate market exposure through the
13 construction of a new natural gas-fired capacity resource has been further complicated
14 by supply-chain difficulties for necessary materials and components, with BofA
15 Securities concluding that the Company is “particularly exposed to inflation.”⁴⁴
16 Moreover, a long-standing “pre-approval” process allowed NorthWestern to include
17 electric generating facilities into rates outside a full base rate case, but the statute was

⁴² BofA Securities, *NorthWestern Corporation, Regulatory risk vs generation opportunities with backdrop of elevated energy prices* (May 2, 2022).

⁴³ Moody’s Investors Service, *NorthWestern Corporation, Update to credit analysis*, Credit Opinion (Mar. 31, 2022).

⁴⁴ BofA Securities, *NorthWestern Corporation, Regulatory risk vs generation opportunities with backdrop of elevated energy prices* (May 2, 2022).

1 recently ruled unconstitutional by the Missoula County District Court.⁴⁵ Moody's
2 recently highlighted these risks:

3 There are also questions as to what [NorthWestern's] supply portfolio
4 will consist of over the next several years amid the company's short
5 capacity supply position, inflationary pressures on new generation and
6 the ultimate cost recovery of its [sic] 175-megawatt gas plant that is
7 currently under construction.⁴⁶

8 NorthWestern's reliance on purchased power to meet shortfalls in generating
9 capacity magnifies the importance of strengthening financial flexibility, which is
10 essential to guarantee the cash resources and interim financing required to cover
11 inadequate operating cash flows, as well as maintaining access to the long-term capital
12 necessary to support an expanded capital expenditure program.

13 **Q29. DOES THE CURRENT PCCAM AMPLIFY INVESTORS' CONCERNS OVER**
14 **NORTHWESTERN'S EXPOSURE TO WHOLESALE POWER MARKETS?**

15 A29. Yes. Under the PCCAM that currently governs recovery of electric supply costs for
16 NorthWestern's Montana-jurisdictional electric utility operations, 90% of the difference
17 between actual costs and base level costs are passed through to customers, with 10%
18 absorbed/retained by shareholders.⁴⁷ Investors recognize that this sharing mechanism
19 exposes the Company to unrecovered electric supply costs. As Fitch recently
20 concluded, the PCCAM's "unusual risk-sharing mechanism between customers and
21 shareholders . . . exacerbates regulatory lag during a period of rising energy prices,

⁴⁵ While NorthWestern initially filed an application with the Commission for advanced approval to construct a 175 MW generation plant in Montana, the Company ultimately withdrew its application due to concerns that the timeline established by the Commission's approval docket would adversely impact timely availability of critical components that could substantially delay commercial operation and lead to escalating labor and construction costs due to the COVID-19 pandemic.

⁴⁶ Moody's Investors Service, *Rating Action: Moody's affirms NorthWestern Corp. ratings; outlook changed to stable from negative* (May 11, 2022).

⁴⁷ Amounts related to power supplied by Qualifying Facilities are not subject to cost sharing under the PCCAM.

1 which is significant given the company's reliance on purchased power to meet
2 approximately 40% of its total energy needs.”⁴⁸ Fitch noted that NorthWestern under-
3 recovered \$5 million of electric supply costs in 2021,⁴⁹ and characterized the sharing
4 mechanism under the current PCCAM as “punitive.”⁵⁰

5 NorthWestern’s ability to recover its actual energy costs on a timely basis is
6 further undermined by the Commission’s October 2021 determination that the PCCAM
7 Base can only be updated in a general rate case. Considering NorthWestern’s significant
8 shortfall in generating capacity, this magnifies the risks of under-recovery of electric
9 supply costs amid a climate of rising energy prices.

10 **Q30. HOW DOES GLOBAL WARMING IMPACT INVESTORS’ ASSESSMENT OF**
11 **NORTHWESTERN’S RISK EXPOSURE?**

12 A30. The risk posed by climate-related weather events magnifies concerns over the
13 Company’s shortfall in generating capacity. S&P concluded that “water-intensive assets
14 like power plants [are] especially vulnerable,” and concluded that water stress is “a
15 serious threat.”⁵¹ In addition, rising temperatures and reduced rainfall have led to
16 increasing exposure to wildfires, particularly for utilities in the western U.S. While
17 noting that the risks of such events are generally manageable under recovery
18 mechanisms that allow related costs to be recuperated, S&P also observed that:

19 In the most extreme events, including those of late, utility companies'
20 exposure to acute and chronic climate risks can damage assets or disrupt
21 supplies, which can weaken their financial position and ultimately credit
22 quality.⁵²

⁴⁸ Fitch Ratings, Inc., *Fitch Downgrades NorthWestern Corp. to ‘BBB’; Outlook Stable*, Rating Action Commentary (Mar. 24, 2022).

⁴⁹ *Id.*

⁵⁰ Fitch Ratings, Inc., *NorthWestern Corporation*, Rating Report (May 19, 2022).

⁵¹ S&P Global Ratings, *Keeping The Lights On: U.S. Utilities’ Exposure To Physical Climate Risks*, RatingsDirect (Sep. 16, 2021).

⁵² *Id.*

1 **Q31. DO EXTREME WEATHER EVENTS ALSO HIGHLIGHT THE IMPORTANCE**
2 **OF MAINTAINING NORTHWESTERN'S FINANCIAL INTEGRITY?**

3 A31. Yes. In February 2021, Winter Storm Uri resulted in uncharacteristically frigid
4 temperatures that disrupted natural gas supplies and power plant operations at a time of
5 unprecedented winter electricity demand. In turn, this produced dramatic spikes in the
6 costs of natural gas and wholesale power and electric and natural gas utilities incurred
7 significant incremental procurement costs to maintain service to customers. Flowing
8 substantial incremental energy costs through existing recovery mechanisms was
9 generally viewed as impracticable given the enormous magnitude of the spike in
10 procurement costs and the implications for customers' bills. As a result, utilities were
11 required to secure liquidity quickly in order to fund the extraordinary energy costs
12 necessary to maintain service to customers. Continued support for the Company's
13 financial strength is instrumental to ensure that NorthWestern can maintain access to the
14 capital necessary to respond effectively under times of turmoil in the energy and capital
15 markets.

16 **Q32. DO YOU CONSIDER THE IMPLICATIONS OF REGULATORY**
17 **MECHANISMS IN YOUR EVALUATION?**

18 A32. Yes. In response to increasing sensitivity over fluctuations in costs and the importance
19 of advancing other public interest goals such as reliability, energy conservation, and
20 safety, utilities and their regulators have sought to mitigate cost recovery uncertainty
21 and align the interest of utilities and their customers. As a result, adjustment
22 mechanisms, cost trackers, and future test years have become increasingly prevalent,
23 along with alternatives to traditional ratemaking such as formula rates and multi-year
24 rate plans. *RRA Regulatory Focus* concluded in its most recent review of adjustment
25 clauses that:

1 More recently and with greater frequency, commissions have approved
2 mechanisms that permit the costs associated with the construction of new
3 generation capacity or delivery infrastructure to be reflected in rates,
4 effectively including these items in rate base without a full rate case. In
5 some instances, these mechanisms may even provide the utilities a cash
6 return on construction work in progress.

7 . . . [C]ertain types of adjustment clauses are more prevalent than others.
8 For example, those that address electric and fuel and gas commodity
9 charges are in place in all jurisdictions. Also, about two-thirds of all
10 utilities have riders in place to recover costs related to energy efficiency
11 programs, and roughly half of the utilities utilize some type of
12 decoupling mechanism.⁵³

13 As shown on Exhibit AMM-3, and reflective of this trend, the companies in the
14 Utility Group operate under a wide variety of cost adjustment mechanisms, which
15 encompass revenue decoupling and adjustment clauses designed to address rising
16 capital investment outside of a traditional rate case and increasing costs of
17 environmental compliance measures, as well as riders to recover the cost of
18 environmental compliance measures, bad debt expenses, certain taxes and fees, post-
19 retirement employee benefit costs and transmission-related charges.

20 **Q33. WHAT REGULATORY MECHANISMS ARE APPLICABLE TO**
21 **NORTHWESTERN'S UTILITY OPERATIONS IN MONTANA?**

22 A33. Apart from the PCCAM, NorthWestern also operates under a tracker that allows
23 recovery of a portion of incremental property taxes since the Company's last base rate
24 filing.

25 In addition, the Commission approved the FCRM pilot, which is intended to
26 decouple NorthWestern's recovery of fixed, test year-based electric transmission,
27 distribution, and generation costs from energy sales. While the FCRM pilot was to be
28 implemented for a four-year pilot period on July 1, 2021, on April 15, 2021, the

⁵³ S&P Global Market Intelligence, *Adjustment Clauses, A State-by-State Overview*, RRA Regulatory Focus (Nov. 12, 2019).

1 Company filed a request with the Commission to delay implementation until July 1,
2 2022, due to concerns over the impact of COVID-19 billing dynamics. On April 15,
3 2022, the Company requested the Commission to defer the implementation of the
4 FCRM pilot to this rate review as the Company is requesting a new design for the pilot.
5 The Commission issued an order approving NorthWestern's request on June 9, 2022.

6 With respect to its natural gas utility operations in Montana, the Company
7 benefits from the Natural Gas Supply Tracker, which adjusts certain supply rates on a
8 monthly basis for volumes and costs during a 12-month tracking period. Annually,
9 supply rates are adjusted to include any differences between the previous tracking year's
10 revenues and expenses for recovery during the subsequent tracking year.
11 NorthWestern's also operates under a tracker applicable to both electric and natural gas
12 services that allows recovery of a portion of incremental property taxes since the
13 Company's last base rate filing.

14 **Q34. DOES THE COMPANY'S LACK OF REGULATORY MECHANISMS SET IT**
15 **APART FROM THE FIRMS IN THE UTILITY GROUP?**

16 A34. Yes. The mechanisms currently in place for the Company's Montana jurisdictional
17 utility operations are more limited than those approved for other firms in the industry.
18 In contrast to many of the specific operating companies associated with the firms in the
19 Utility Group, the Commission has not approved cost tracking mechanisms to address
20 ongoing investment in generation capacity or allowed for timely recovery of significant
21 capital investment in other facilities. Nor does NorthWestern benefit from a
22 normalization adjustment or decoupling mechanism to insulate natural gas utility
23 margins from weather fluctuations or declining usage.

24 Further, Montana has routinely relied on a historical test year approach that
25 creates a lag in cost recovery and, as discussed earlier, investors recognize that the
26 sharing mechanism under the PCCAM exposes the Company to unrecovered electric

1 supply costs. Finally, as summarized in the testimony of Company witness Cynthia
2 Fang, the current design of the FCRM Pilot does not insulate NorthWestern from the
3 impact of changing electric sales volumes on revenues. Rather, in contrast to decoupling
4 mechanisms in effect for other utilities, the current FCRM design can actually contribute
5 to NorthWestern's inability to recover its costs of providing service.

6 **Q35. PLEASE DESCRIBE THE CONCEPT OF ATTRITION AS IT RELATES TO**
7 **RATEMAKING.**

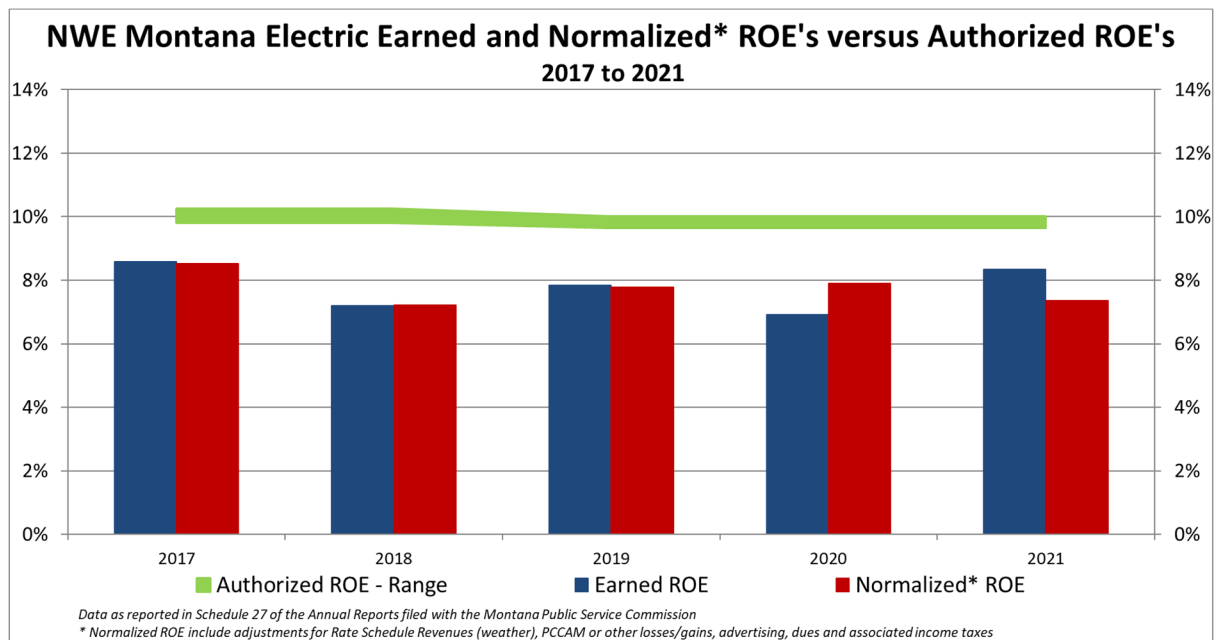
8 A35. Attrition refers to a shortfall between a utility's actual return and the allowed return
9 approved by regulators. It occurs when the assumptions regarding sales, costs, and rate
10 base used to establish rates do not produce revenues that reflect the actual costs incurred
11 to serve customers during the period that rates are in effect. For example, if external
12 factors are driving costs to increase more than revenues, then the rate of return will fall
13 short of the allowed return even if the utility is operating efficiently. Similarly, when
14 the utility's investment in utility plant exceeds the rate base used for ratemaking, the
15 earned rate of return will fall below the allowed return through no fault of the utility's
16 management. These imbalances are exacerbated as the regulatory lag increases between
17 the period during which the data used to establish rates is measured and the date when
18 the rates go into effect.

19 **Q36. IS THERE EVIDENCE THAT THE INVESTMENT COMMUNITY**
20 **CONTINUES TO VIEW ATTRITION AS AN ONGOING RISK FOR**
21 **NORTHWESTERN?**

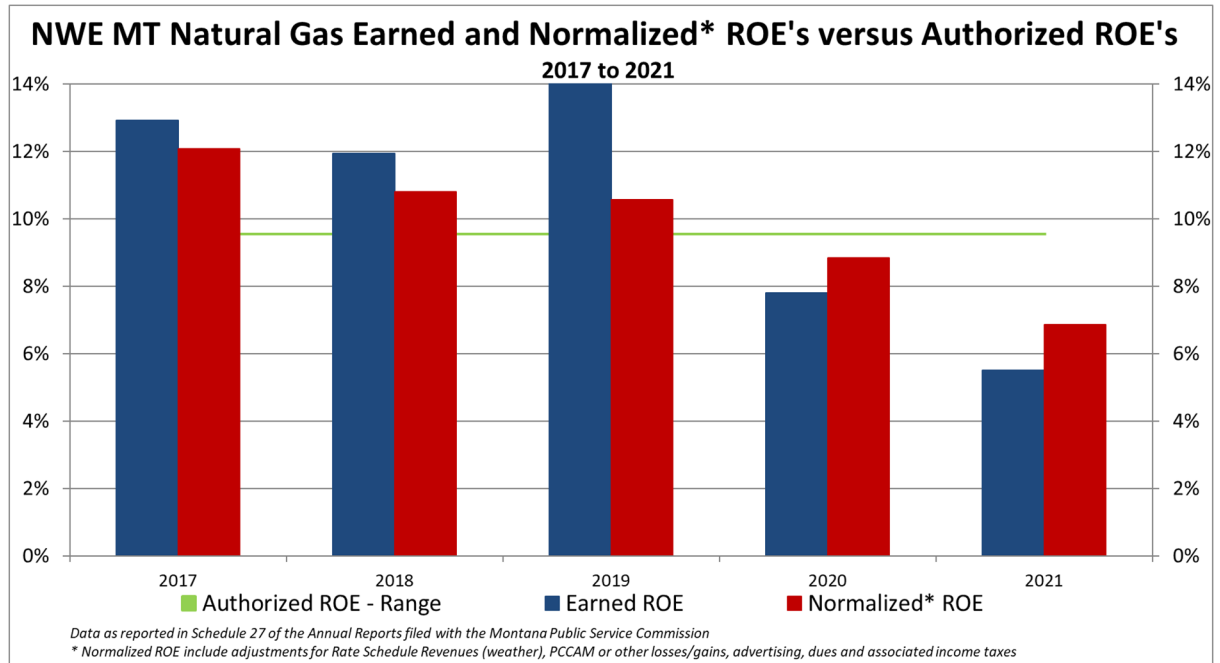
22 A36. Yes. Investors are concerned with what they can expect in the future, not what they
23 might expect in theory if a historical test year were to repeat. As S&P recently
24 emphasized, it "is important for NorthWestern to earn its authorized returns and

1 maintain steady cash flows, which are fundamental to our forecast.”⁵⁴ However,
 2 regulatory lag and attrition have been ongoing issues for NorthWestern, and the
 3 Company has been unable to consistently earn its authorized ROE. Company witness
 4 Crystal Lail discusses this fact in more detail. Figure 5 below compares NorthWestern’s
 5 actual earned ROE attributable to its jurisdictional electric and natural gas utility
 6 operations with its authorized ROE over the last five years:

7 **FIGURE 5**
 8 **ACTUAL VS. AUTHORIZED ROE**
 9 **(2017-2021)**



⁵⁴ S&P Global Ratings, *NorthWestern Corp.*, RatingsDirect (Apr. 11, 2022).



1 Concern over ongoing regulatory lag was a key driver in Fitch’s decision to
 2 downgrade the Company in March 2022.⁵⁵ Fitch concluded that “under-recovery of
 3 electric supply costs amid rising energy prices could further exacerbate growing
 4 regulatory lag.”⁵⁶ As Fitch reaffirmed in its most recent rating review of NorthWestern:

5 Growing Regulatory Lag: Fitch is watching for pervasive regulatory lag
 6 during a period of heavy capex. Regulatory lag stems from a challenging
 7 regulatory framework, which is largely backward-looking and a punitive
 8 90%/10% risk-sharing mechanism for electric supply costs between
 9 customers and shareholders under its energy supply tracking mechanism.
 10 Timely recovery of expenses is hindered by the use of historical test
 11 years in rate cases that use an average rate base methodology between
 12 periods.⁵⁷

⁵⁵ Fitch Ratings, Inc., *Fitch Downgrades NorthWestern Corp. to ‘BBB’; Outlook Stable*, Rating Action Commentary (Mar. 24, 2022).

⁵⁶ *Id.*

⁵⁷ Fitch Ratings, Inc., *NorthWestern Corporation*, Rating Report (May 19, 2022).

1 **Q37. IS NORTHWESTERN PROPOSING MODIFICATIONS TO ADDRESS**
2 **ONGOING ATTRITION AND REGULATORY LAG?**

3 A37. Yes. As noted earlier, NorthWestern’s filing advances a number of proposals to mitigate
4 the impact of chronic attrition and regulatory lag, as summarized in the testimony of
5 Company witness Cynthia Fang.

6 **Q38. WOULD APPROVAL OF THESE PROPOSALS SET NORTHWESTERN**
7 **APART FROM OTHERS IN THE INDUSTRY?**

8 A38. No, quite the opposite. In light of the long history of under-earning experienced by
9 NorthWestern and its relative lack of regulatory mechanisms in Montana, approval of
10 these proposals would only serve to bring the Company into line with the majority of
11 the members of the Utility Group and make it competitive for investment in the industry.
12 Moreover, addressing the underlying factors that undermine NorthWestern’s ability to
13 earn a fair rate of return does not remove overhanging regulatory risks. NorthWestern
14 remains exposed to future determinations as to the prudence of its expenditures and
15 investments, and investors continue to evaluate expectations for balance in the
16 regulatory framework and in establishing allowed ROEs.

17 **Q39. IS THE REGULATORY RELATIONSHIP IN MONTANA AN ONGOING**
18 **CONCERN FOR INVESTORS?**

19 A39. Yes. Moody’s noted that “[w]e view decisions rendered by the MPSC, for
20 [NorthWestern], to have been somewhat unpredictable over the past several years, with
21 certain decisions deviating from what is typical and credit supportive across the broader
22 U.S. utility landscape.”⁵⁸ More recently Moody’s affirmed that:

⁵⁸ Moody’s Investors Service, *Moody’s affirms NorthWestern Corp.’s Baa2 rating; outlook changed to negative*, Rating Action (Mar. 12, 2021).

1 The company’s relationship with the MPSC has been somewhat
2 challenging in recent years, due to various commission decisions that
3 have reduced, or disallowed, [NorthWestern’s] financial recovery for
4 items such as lost revenue, replacement power, property tax recovery and
5 introduced a degree of uncertainty into long-term generation cost
6 recovery and a portion of fuel costs.⁵⁹

7 Similarly, in announcing its decision to downgrade NorthWestern’s credit ratings, Fitch
8 concluded that, “A series of unfavorable rulings by the [MPSC] to deny or delay
9 recovery of expenses weighs on [NorthWestern’s] credit quality.”⁶⁰

IV. CAPITAL MARKET ESTIMATES AND ANALYSES

10 **Q40. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?**

11 A40. This section presents capital market estimates of the cost of equity. First, I discuss the
12 concept of the cost of common equity, along with the risk-return tradeoff principle
13 fundamental to capital markets. Next, I describe various quantitative analyses
14 conducted to estimate the cost of common equity for the proxy group of comparable
15 risk utilities.

16 **A. Economic Standards**

17 **Q41. WHAT FUNDAMENTAL ECONOMIC PRINCIPLE UNDERLIES THE COST** 18 **OF EQUITY CONCEPT?**

19 A41. The fundamental economic principle underlying the cost of equity concept is the notion
20 that investors are risk averse. In capital markets where relatively risk-free assets are
21 available (e.g., U.S. Treasury securities), investors can be induced to hold riskier assets
22 only if they are offered a premium, or additional return, above the rate of return on a
23 risk-free asset. Because all assets compete for investor funds, riskier assets must yield

⁵⁹ Moody’s Investors Service, *NorthWestern Corporation, Update to credit analysis*, Credit Opinion (Mar. 31, 2022).

⁶⁰ Fitch Ratings, Inc., *Fitch Downgrades NorthWestern Corp. to ‘BBB’; Outlook Stable*, Rating Action Commentary (Mar. 24, 2022).

1 a higher expected rate of return than safer assets to induce investors to invest and hold
2 them.

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

$$5 \quad k_i = R_f + RP_i$$

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

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

11 **Q42. IS THERE EVIDENCE THAT THE RISK-RETURN TRADEOFF PRINCIPLE**
12 **OPERATES IN THE CAPITAL MARKETS?**

13 A42. Yes. The risk-return tradeoff can be readily documented in segments of the capital
14 markets where required rates of return can be directly inferred from market data and
15 where generally accepted measures of risk exist. Bond yields, for example, reflect
16 investors' expected rates of return, and bond ratings measure the risk of individual bond
17 issues. Comparing the observed yields on government securities, which are considered
18 free of default risk, to the yields on bonds of various rating categories demonstrates that
19 the risk-return tradeoff does, in fact, exist.

20 **Q43. DOES THE RISK-RETURN TRADEOFF OBSERVED WITH FIXED INCOME**
21 **SECURITIES EXTEND TO COMMON STOCKS AND OTHER ASSETS?**

22 A43. It is widely accepted that the risk-return tradeoff evidenced with long-term debt extends
23 to all assets. Documenting the risk-return tradeoff for assets other than fixed income
24 securities, however, is complicated by two factors. First, there is no standard measure
25 of risk applicable to all assets. Second, for most assets – including common stock –
26 required rates of return cannot be observed. Yet there is every reason to believe that

1 investors demonstrate risk aversion in deciding whether to hold common stocks and
2 other assets, just as when choosing among fixed-income securities.

3 **Q44. IS THIS RISK-RETURN TRADEOFF LIMITED TO DIFFERENCES**
4 **BETWEEN FIRMS?**

5 A44. No. The risk-return tradeoff principle applies not only to investments in different firms,
6 but also to different securities issued by the same firm. The securities issued by a utility
7 vary considerably in risk because they have different characteristics and priorities.
8 Long-term debt is senior among all capital in its claim on a utility's net revenues and is,
9 therefore, the least risky. The last investors in line are common shareholders: they
10 receive only the net revenues, if any, remaining after all other claimants have been paid.
11 As a result, the rate of return that investors require from a utility's common stock, the
12 most junior and riskiest of its securities, must be considerably higher than the yield
13 offered by the utility's senior, long-term debt.

14 **Q45. WHAT ARE THE CHALLENGES IN DETERMINING A JUST AND**
15 **REASONABLE ROE FOR A REGULATED ENTERPRISE?**

16 A45. The actual return investors require is unobservable. Different methodologies have been
17 developed to estimate investors' expected and required return on capital, but all such
18 methodologies are merely theoretical tools and generally produce a range of estimates,
19 based on different assumptions and inputs. The DCF method, which is frequently
20 referenced and relied on by regulators, is only one theoretical approach to gain insight
21 into the return investors require; there are numerous other methodologies for estimating
22 the cost of capital and the ranges produced by the different approaches can vary widely.

23 **Q46. IS IT CUSTOMARY TO CONSIDER THE RESULTS OF MULTIPLE**
24 **APPROACHES WHEN EVALUATING A JUST AND REASONABLE ROE?**

25 A46. Yes. In my experience, financial analysts and regulators routinely consider the results
26 of alternative approaches in determining allowed ROEs. It is widely recognized that no

1 single method can be regarded as failsafe; with all approaches having advantages and
2 shortcomings. As FERC has noted, “[t]he determination of rate of return on equity starts
3 from the premise that there is no single approach or methodology for determining the
4 correct rate of return.”⁶¹ Similarly, a publication of the Society of Utility and Regulatory
5 Financial Analysts concluded that:

6 Each model requires the exercise of judgment as to the reasonableness
7 of the underlying assumptions of the methodology and on the
8 reasonableness of the proxies used to validate the theory. Each model
9 has its own way of examining investor behavior, its own premises, and
10 its own set of simplifications of reality. Each method proceeds from
11 different fundamental premises, most of which cannot be validated
12 empirically. Investors clearly do not subscribe to any singular method,
13 nor does the stock price reflect the application of any one single method
14 by investors.⁶²

15 As this treatise succinctly observed, “no single model is so inherently precise that it can
16 be relied on solely to the exclusion of other theoretically sound models.”⁶³ Similarly,
17 *New Regulatory Finance* concluded that:

18 There is no single model that conclusively determines or estimates the
19 expected return for an individual firm. Each methodology possesses its
20 own way of examining investor behavior, its own premises, and its own
21 set of simplifications of reality. Each method proceeds from different
22 fundamental premises that cannot be validated empirically. Investors do
23 not necessarily subscribe to any one method, nor does the stock price
24 reflect the application of any one single method by the price-setting
25 investor. There is no monopoly as to which method is used by investors.
26 In the absence of any hard evidence as to which method outdoes the
27 other, all relevant evidence should be used and weighted equally, in order
28 to minimize judgmental error, measurement error, and conceptual
29 infirmities.⁶⁴

⁶¹ *Northwest Pipeline Co.*, Opinion No. 396-C, 81 FERC ¶ 61,036 at 4 (1997).

⁶² David C. Parcell, *The Cost of Capital – A Practitioner’s Guide*, Society of Utility and Regulatory Financial Analysts (2010) at 84.

⁶³ *Id.*

⁶⁴ Roger A. Morin, *New Regulatory Finance*, Pub. Util. Reports, Inc. (2006) at 429.

1 Thus, while the DCF model is a recognized approach to estimating the ROE, it
2 is not without shortcomings and does not otherwise eliminate the need to ensure that the
3 “end result” is fair. The Indiana Utility Regulatory Commission has recognized this
4 principle:

5 There are three principal reasons for our unwillingness to place a great
6 deal of weight on the results of any DCF analysis. One is . . . the failure
7 of the DCF model to conform to reality. The second is the undeniable
8 fact that rarely if ever do two expert witnesses agree on the terms of a
9 DCF equation for the same utility – for example, as we shall see in more
10 detail below, projections of future dividend cash flow and anticipated
11 price appreciation of the stock can vary widely. And, the third reason is
12 that the unadjusted DCF result is almost always well below what any
13 informed financial analysis would regard as defensible, and therefore
14 require an upward adjustment based largely on the expert witness’s
15 judgment. In these circumstances, we find it difficult to regard the results
16 of a DCF computation as any more than suggestive.⁶⁵

17 More recently, FERC recognized the potential for any application of the DCF model to
18 produce unreliable results.⁶⁶

19 As this discussion indicates, consideration of the results of alternative
20 approaches reduces the potential for error associated with any single quantitative
21 method. Just as investors inform their decisions using a variety of methodologies, my
22 evaluation of a fair ROE for the Company considered the results of multiple financial
23 models.

24 **Q47. WHAT DOES THE ABOVE DISCUSSION IMPLY WITH RESPECT TO**
25 **ESTIMATING THE ROE FOR A UTILITY?**

26 A47. Although the ROE is unobservable, it is a function of the returns available from other
27 investment alternatives and the risks to which the equity capital is exposed. Because it
28 is not readily observable, the ROE for a particular utility must be estimated by analyzing

⁶⁵ *Ind. Michigan Power Co.*, Cause No. 38728, 116 PUR4th 1, 17-18 (IURC 8/24/1990).

⁶⁶ *Coakley v. Bangor Hydro-Elec. Co.*, Opinion No. 531, 147 FERC ¶ 61,234 at P 41 (2014).

1 information about capital market conditions generally, assessing the relative risks of the
2 company specifically, and employing various quantitative methods that focus on
3 investors' required rates of return. These various quantitative methods typically attempt
4 to infer investors' required rates of return from stock prices, interest rates, or other
5 capital market data.

6 B. Discounted Cash Flow Analyses

7 Q48. HOW IS THE DCF MODEL USED TO ESTIMATE THE COST OF COMMON 8 EQUITY?

9 A48. DCF models assume that the price of a share of common stock is equal to the present
10 value of the expected cash flows (i.e., future dividends and stock price) that will be
11 received while holding the stock, discounted at investors' required rate of return. Rather
12 than developing annual estimates of cash flows into perpetuity, the DCF model can be
13 simplified to a "constant growth" form:⁶⁷

$$14 P_0 = \frac{D_1}{k_e - g}$$

15 where: P_0 = Current price per share;
16 D_1 = Expected dividend per share in the coming year;
17 k_e = Cost of equity; and,
18 g = Investors' long-term growth expectations.

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

⁶⁷ 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 the above extend to infinity. Nevertheless, the DCF method provides a workable and practical approach to estimate investors' required return that is widely referenced in utility ratemaking.

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

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.

Q49. WHAT STEPS ARE REQUIRED TO APPLY THE CONSTANT GROWTH DCF MODEL?

A49. 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 add the firm's dividend yield and estimated growth rate to arrive at an estimate of its cost of common equity.

Q50. HOW DO YOU DETERMINE THE DIVIDEND YIELDS FOR THE UTILITY GROUP?

A50. 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 is then divided by a 30-day average 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 Utility Group are presented on Exhibit AMM-4. As shown on the first page of this Exhibit, dividend yields for the firms in the Utility Group range from 2.7% to 4.8% and average 3.7%.

1 **Q51. WHAT IS THE NEXT STEP IN APPLYING THE CONSTANT GROWTH DCF**
2 **MODEL?**

3 A51. The next step is to evaluate long-term growth expectations, or “g”, for the firm in
4 question. In constant growth DCF theory, earnings, dividends, book value, and market
5 price are all assumed to grow in lockstep, and the growth horizon of the DCF model is
6 infinite. But implementation of the DCF model is more than just a theoretical exercise;
7 it is an attempt to replicate the mechanism investors used to arrive at observable stock
8 prices. A wide variety of techniques can be used to derive growth rates, but the only
9 “g” that matters in applying the DCF model is the value that investors expect.

10 **Q52. WHAT ARE INVESTORS MOST LIKELY TO CONSIDER IN DEVELOPING**
11 **THEIR LONG-TERM GROWTH EXPECTATIONS?**

12 A52. Implementation of the DCF model is solely concerned with replicating the forward-
13 looking evaluation of real-world investors. In the case of utilities, dividend growth rates
14 are not likely to provide a meaningful guide to investors’ current growth expectations.
15 Utility dividend policies reflect the need to accommodate business risks and investment
16 requirements in the industry, as well as potential uncertainties in the capital markets. As
17 a result, dividend growth in the utility industry has lagged growth in earnings as utilities
18 conserve financial resources.

19 A measure that plays a pivotal role in determining investors’ long-term growth
20 expectations is future trends in EPS, which provide the source for future dividends and
21 ultimately support share prices. The importance of earnings in evaluating investors’
22 expectations and requirements is well accepted in the investment community, and
23 surveys of analytical techniques relied on by professional analysts indicate that growth
24 in earnings is far more influential than trends in DPS.

25 The availability of projected EPS growth rates also is key to investors relying
26 on this measure as compared to future trends in DPS. Apart from Value Line, investment

1 advisory services do not generally publish comprehensive DPS growth projections, and
2 this scarcity of dividend growth rates relative to the abundance of earnings forecasts
3 attests to their relative influence. The fact that securities analysts focus on EPS growth,
4 and that DPS growth rates are not routinely published, indicates that projected EPS
5 growth rates are likely to provide a superior indicator of the future long-term growth
6 expected by investors.

7 **Q53. DO THE GROWTH RATE PROJECTIONS OF SECURITY ANALYSTS**
8 **CONSIDER HISTORICAL TRENDS?**

9 A53. Yes. Professional security analysts study historical trends extensively in developing
10 their projections of future earnings. Hence, to the extent there is any useful information
11 in historical patterns, that information is incorporated into analysts' growth forecasts.

12 **Q54. DID PROFESSOR MYRON J. GORDON, A PIONEER OF THE CONSTANT**
13 **GROWTH DCF APPROACH, RECOGNIZE THE PIVOTAL ROLE THAT**
14 **EARNINGS PLAY IN FORMING INVESTORS' EXPECTATIONS?**

15 A54. Yes. Dr. Gordon specifically recognized that "it is the growth that investors expect that
16 should be used" in applying the DCF model and he concluded, "A number of
17 considerations suggest that investors may, in fact, use earnings growth as a measure of
18 expected future growth."⁶⁸

19 **Q55. ARE ANALYSTS' ASSESSMENTS OF GROWTH RATES APPROPRIATE FOR**
20 **ESTIMATING INVESTORS' REQUIRED RETURN USING THE DCF**
21 **MODEL?**

22 A55. Yes. In applying the DCF model to estimate the cost of common equity, the only
23 relevant growth rate is the forward-looking expectations of investors that are captured
24 in current stock prices. Investors, just like securities analysts and others in the

⁶⁸ Myron J. Gordon, *The Cost of Capital to a Public Utility*, MSU Public Utilities Studies (1974) at 89.

1 investment community, do not know how the future will actually turn out. They can
2 only make investment decisions based on their best estimate of what the future holds in
3 the way of long-term growth for a particular stock, and securities prices are constantly
4 adjusting to reflect their assessment of available information.

5 The highly competitive market for investment guidance supports a finding that
6 analysts' estimates are relied on by investors. If financial analysts' forecasts do not add
7 value to investors' decision-making, then it is irrational for investors to pay for these
8 estimates. Similarly, those financial analysts who fail to provide reliable forecasts will
9 lose out in competitive markets relative to those analysts whose forecasts investors find
10 more credible. The reality that analysts' estimates are routinely referenced in the
11 financial media and in investment advisory publications (*e.g.*, Value Line) implies that
12 investors use them as a basis for their expectations.

13 While the projections of securities analysts may be proven optimistic or
14 pessimistic in hindsight, this is irrelevant in assessing the expected growth that investors
15 have incorporated into current stock prices, and any bias in analysts' forecasts – whether
16 pessimistic or optimistic – is irrelevant if investors share analysts' views. Earnings
17 growth projections of security analysts provide the most frequently referenced guide to
18 investors' views and are widely accepted in applying the DCF model. As explained in
19 *New Regulatory Finance*:

20 Because of the dominance of institutional investors and their influence
21 on individual investors, analysts' forecasts of long-run growth rates
22 provide a sound basis for estimating required returns. Financial analysts
23 exert a strong influence on the expectations of many investors who do
24 not possess the resources to make their own forecasts, that is, they are a
25 cause of *g* [growth]. The accuracy of these forecasts in the sense of
26 whether they turn out to be correct is not an issue here, as long as they
27 reflect widely held expectations.⁶⁹

⁶⁹ Roger A. Morin, *New Regulatory Finance*, Pub. Util. Reports, Inc. (2006) at 298 (emphasis added).

1 **Q56. HAVE OTHER REGULATORS ALSO RECOGNIZED THAT ANALYSTS’**
2 **GROWTH RATE ESTIMATES ARE AN IMPORTANT AND MEANINGFUL**
3 **GUIDE TO INVESTORS’ EXPECTATIONS?**

4 A56. Yes. The Kentucky Public Service Commission has indicated its preference for relying
5 on analysts’ projections in establishing investors’ expectations:

6 KU’s argument concerning the appropriateness of using investors’
7 expectations in performing a DCF analysis is more persuasive than the
8 AG’s argument that analysts’ projections should be rejected in favor of
9 historical results. The Commission agrees that analysts’ projections of
10 growth will be relatively more compelling in forming investors’ forward-
11 looking expectations than relying on historical performance . . .⁷⁰

12 Similarly, the Public Utility Regulatory Authority of Connecticut has also noted that
13 “there is not growth in DPS without growth in EPS,” and concluded that securities
14 analysts’ growth projections have a greater influence over investors’ expectations and
15 stock prices.⁷¹ In addition, the RCA has previously determined that analysts’ EPS
16 growth rates provide a superior basis on which to estimate investors’ expectations:

17 We also find persuasive the testimony . . . that projected EPS returns are
18 more indicative of investor expectations of dividend growth than
19 historical growth data because persons making the forecasts already
20 consider the historical numbers in their analyses.⁷²

21 The RCA has concluded that arguments against exclusive reliance on analysts’ EPS
22 growth rates to apply the DCF model “are not convincing.”⁷³

⁷⁰ *Kentucky Utilities Co.*, Case No. 2009-00548 (Ky PSC Jul. 30, 2010) at 30-31.

⁷¹ *Decision*, Docket No. 13-02-20 (Sept. 24, 2013).

⁷² Regulatory Commission of Alaska, U-07-76(8) at 65, n. 258.

⁷³ Regulatory Commission of Alaska, U-08-157(10) at 36.

1 **Q57. WHAT SOURCES OF SECURITY ANALYSTS' EPS GROWTH RATES DO**
2 **YOU RELY ON IN YOUR DCF ANALYSIS?**

3 A57. I rely on EPS growth projections for each of the firms in the Utility Group reported by
4 Value Line, IBES,⁷⁴ and Zacks. These growth rates are displayed on page 2 of Exhibit
5 AMM-4.

6 **Q58. HOW ELSE ARE INVESTORS' EXPECTATIONS OF FUTURE LONG-TERM**
7 **GROWTH PROSPECTS OFTEN ESTIMATED WHEN APPLYING THE**
8 **CONSTANT GROWTH DCF MODEL?**

9 A58. In constant growth theory, growth in book equity will be equal to the product of the
10 earnings retention ratio (one minus the dividend payout ratio) and the earned rate of
11 return on book equity. Furthermore, if the earned rate of return and the payout ratio are
12 constant over time, growth in earnings and dividends will be equal to growth in book
13 value. Even though these conditions are never met in practice, this “sustainable growth”
14 approach may provide a rough guide for evaluating a firm’s growth prospects and is
15 frequently proposed in regulatory proceedings.

16 The sustainable growth rate is calculated by the formula, $g = br + sv$, where “b”
17 is the expected retention ratio, “r” is the expected earned return on equity, “s” is the
18 percent of common equity expected to be issued annually as new common stock, and
19 “v” is the equity accretion rate. Under DCF theory, the “sv” factor is a component of
20 the growth rate designed to capture the impact of issuing new common stock at a price
21 above, or below, book value. The sustainable, “br+sv” growth rates for each firm in the
22 proxy group are summarized on page 2 of Exhibit AMM-4, with the underlying details
23 being presented in Exhibit AMM-5.

⁷⁴ Formerly I/B/E/S International, Inc., IBES growth rates are now compiled and published by Refinitiv.

1 The sustainable growth rate analysis shown in Exhibit AMM-5 incorporates an
2 “adjustment factor” because Value Line’s reported returns are based on year-end book
3 values. Since earnings is a flow over the year while book value is determined at a given
4 point in time, the measurement of earnings and book value are distinct concepts. It is
5 this fundamental difference between a flow (earnings) and point estimate (book value)
6 that makes it necessary to adjust to mid-year in calculating the ROE. Given that book
7 value will increase or decrease over the year, using year-end book value (as Value Line
8 does) understates or overstates the average investment that corresponds to the flow of
9 earnings. To address this concern, earnings must be matched with a corresponding
10 representative measure of book value, or the resulting ROE will be distorted. The
11 adjustment factor determined in Exhibit AMM-5, is solely a means of converting Value
12 Line’s end-of-period values to an average return over the year, and the formula for this
13 adjustment is supported in recognized textbooks and has been adopted by other
14 regulators.⁷⁵

15 **Q59. ARE THERE SIGNIFICANT SHORTCOMINGS ASSOCIATED WITH THE**
16 **“BR+SV” GROWTH RATE?**

17 A59. Yes. First, in order to calculate the sustainable growth rate, it is necessary to develop
18 estimates of investors’ expectations for four separate variables; namely, “b”, “r”, “s”,
19 and “v.” Given the inherent difficulty in forecasting each parameter and the difficulty
20 of estimating the expectations of investors, the potential for measurement error is
21 significantly increased when using four variables, as opposed to referencing a direct
22 projection for EPS growth. Second, empirical research in the finance literature indicates
23 that sustainable growth rates are not as significantly correlated to measures of value,

⁷⁵ See, Roger A. Morin, *New Regulatory Finance*, Pub. Utils. Reports, Inc. (2006) at 305-306; *Bangor Hydro-Electric Co. et al.*, 122 FERC ¶ 61,265 at n.12 (2008).

1 such as share prices, as are analysts' EPS growth forecasts.⁷⁶ The "sustainable growth"
2 approach is included for completeness, but evidence indicates that analysts' forecasts
3 provide a superior and more direct guide to investors' growth expectations.
4 Accordingly, I give less weight to cost of equity estimates based on br+sv growth rates
5 in evaluating the results of the DCF model.

6 **Q60. WHAT COST OF COMMON EQUITY ESTIMATES ARE IMPLIED FOR THE**
7 **UTILITY GROUP USING THE DCF MODEL?**

8 A60. After combining the dividend yields and respective growth projections for each utility,
9 the resulting cost of common equity estimates are shown on page 3 of Exhibit AMM-4.

10 **Q61. IN EVALUATING THE RESULTS OF THE CONSTANT GROWTH DCF**
11 **MODEL, IS IT APPROPRIATE TO ELIMINATE ILLOGICAL ESTIMATES?**

12 A61. Yes. It is essential that cost of equity estimates resulting from quantitative methods pass
13 fundamental tests of reasonableness and economic logic. Accordingly, DCF estimates
14 that are implausibly low or high should be eliminated when evaluating the results of this
15 method.

16 **Q62. HAVE OTHER REGULATORS EMPLOYED SUCH TESTS?**

17 A62. Yes. FERC has noted that adjustments are justified where applications of the DCF
18 approach and other methods produce illogical results. FERC evaluates low-end DCF
19 results against observable yields on long-term public utility debt and eliminates
20 estimates that do not sufficiently exceed this threshold,⁷⁷ while also excluding estimates
21 that are "irrationally or anomalously high."⁷⁸ Similarly, the Staff of the MDPSC

⁷⁶ Roger A. Morin, *New Regulatory Finance*, Pub. Util. Reports, Inc. (2006) at 307.

⁷⁷ *Ass'n of Bus. Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator, Inc.*, 169 FERC ¶ 61,129 at PP 184-185 (2019).

⁷⁸ *Ass'n of Bus. Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator, Inc.*, 171 FERC ¶ 61,154 at P 152 (2020).

1 recently elected to eliminate DCF values below 6.5%, observing that returns below this
2 level do not offer a sufficient premium above the cost of debt to be attractive to an equity
3 investor.⁷⁹

4 **Q63. DO YOU EXCLUDE ANY ESTIMATES AT THE LOW OR HIGH END OF THE**
5 **RANGE OF RESULTS?**

6 A63. Yes. As highlighted on page 3 of Exhibit AMM-4, I eliminate nine low-end DCF
7 estimates ranging from 4.8% to 6.4%. Based on my professional experience and the
8 risk-return tradeoff principle that is fundamental to finance, it is inconceivable that
9 investors are not requiring a substantially higher rate of return for holding common
10 stock. As a result, these values provide little guidance as to the returns investors require
11 from utility common stocks and should be excluded.

12 Also highlighted on page 3 of Exhibit AMM-4, I eliminate a high-end DCF
13 estimate of 14.8%. The upper end of the remaining DCF results for the Utility Group
14 is set by a cost of equity estimate of 13.3%. While a 13.3% cost of equity estimate may
15 exceed the majority of the remaining values, low-end DCF estimates in the 6.6% to
16 7.3% range are assuredly far below investors' required rate of return. Taken together
17 and considered along with the balance of the results, the remaining values provide a
18 reasonable basis on which to frame the range of plausible DCF estimates and evaluate
19 investors' required rate of return.

20 **Q64. WHAT ROE ESTIMATES ARE IMPLIED BY YOUR DCF RESULTS FOR THE**
21 **UTILITY GROUP?**

22 A64. As shown on page 3 of Exhibit AMM-4 and summarized in Table 2, after eliminating
23 the illogical values noted above, application of the constant growth DCF model resulted
24 in the following cost of equity estimates:

⁷⁹ Maryland Public Service Commission, Case No. 9670, *Direct Testimony and Exhibits of Drew M. McAuliffe* (Dec. 2, 2021) at 15-16.

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TABLE 2
DCF RESULTS – UTILITY GROUP

<u>Growth Rate</u>	<u>Average</u>
Value Line	8.9%
IBES	9.6%
Zacks	8.6%
br + sv	8.9%

Q65. WHAT DO THE INTEREST RATE PROJECTIONS DISCUSSED EARLIER IN YOUR TESTIMONY IMPLY WITH RESPECT TO THESE DCF ESTIMATES?

A65. As documented earlier, interest rates on Baa utility bonds are projected to be approximately 1.0% higher over the 2023-2027 timeframe than they are currently. As will be discussed in more detail later in my testimony, the cost of equity moves in the same direction as interest rates, but by approximately one-half as much.⁸⁰ This suggests that the average 1.0% increase in Baa utility bond yields would imply an increase of about 50 basis points to account for higher capital costs when rates will be in effect.

C. Capital Asset Pricing Model

Q66. PLEASE DESCRIBE THE CAPM.

A66. The CAPM 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 1.0, while stocks that tend to move more than the market have betas greater than 1.0. The CAPM is mathematically expressed as:

⁸⁰ See, Exhibit AMM-8, page 4; Roger A. Morin, *New Regulatory Finance*, Pub. Util. Reports, Inc. (2006) at 129 (noting that, "The gist of the empirical research on this subject is that the cost of equity has changed only half as much as interest rates have changed in the past.").

1
$$R_j = R_f + \beta_j(R_m - R_f)$$

2 where: R_j = required rate of return for stock j;
3 R_f = risk-free rate;
4 R_m = expected return on the market portfolio; and,
5 β_j = beta, or systematic risk, for stock j.

6 Under the CAPM formula above, a stock's required return is a function of the
7 risk-free rate (R_f), plus a risk premium that is scaled to reflect the relative volatility of a
8 firm's stock price, as measured by beta (β). Like the DCF model, the CAPM is an *ex-*
9 *ante*, or forward-looking model based on expectations of the future. As a result, to
10 produce a meaningful estimate of investors' required rate of return, the CAPM must be
11 applied using estimates that reflect the expectations of actual investors in the market,
12 not with backward-looking, historical data.

13 **Q67. WHY IS THE CAPM APPROACH A RELEVANT COMPONENT WHEN**
14 **EVALUATING THE COST OF EQUITY FOR NORTHWESTERN?**

15 A67. The CAPM approach (which also forms the foundation of the ECAPM) generally is
16 considered to be the most widely referenced method for estimating the cost of equity
17 among academicians and professional practitioners, with the pioneering researchers of
18 this method receiving the Nobel Prize in 1990. Because this is the dominant model for
19 estimating the cost of equity outside the regulatory sphere, the CAPM (and ECAPM)
20 provides important insight into investors' required rate of return for utility stocks,
21 including the Company.

22 **Q68. HOW DID YOU APPLY THE CAPM TO ESTIMATE THE ROE?**

23 A68. Application of the CAPM to the Utility Group is based on a forward-looking estimate
24 for investors' required rate of return from common stocks presented in Exhibit AMM-
25 6. To capture the expectations of today's investors in current capital markets, the
26 expected market rate of return was estimated by conducting a DCF analysis on the
27 dividend paying firms in the S&P 500.

1 The dividend yield for each firm is obtained from Value Line, and the growth
2 rate is equal to the average of the earnings growth projections for each firm published
3 by IBES, Zacks, and Value Line, with each firm's dividend yield and growth rate being
4 weighted by its proportionate share of total market value. After removing companies
5 with growth rates that were negative or greater than 20%, the weighted average of the
6 projections for the individual firms implies an average growth rate over the next five
7 years of 11.2%. Combining this average growth rate with a year-ahead dividend yield
8 of 1.9% results in a current cost of common equity estimate for the market as a whole
9 (R_m) of 13.1%. Subtracting a 2.8% risk-free rate based on the average yield on 30-year
10 Treasury bonds for April 2022 produced a market equity risk premium of 10.3%.

11 **Q69. IN PREVIOUS TESTIMONY YOU HAVE CUSTOMARILY RELIED ON A SIX-**
12 **MONTH AVERAGE YIELD ON TREASURY BONDS AS THE RISK-FREE**
13 **RATE. WHY ARE YOU NOW REFERENCING THE APRIL 2022 AVERAGE?**

14 A69. Coupled with the Federal Reserve's recent decision to adopt tighter monetary policies,
15 increased concerns over rising inflation and geopolitical risks has led to a significant
16 upward shift in bond yields. As a result, six-month average data does not reflect
17 investors' current expectations and requirements. Accordingly, I relied on April 2022
18 yield averages to better reflect present economic realities. This is particularly important
19 in light of even higher interest rates projected over the intermediate term.

20 **Q70. WHAT WAS THE SOURCE OF THE BETA VALUES YOU USED TO APPLY**
21 **THE CAPM?**

22 A70. As indicated earlier in my discussion of risk measures for the Utility Group, I relied on
23 the beta values reported by Value Line, which in my experience is the most widely
24 referenced source for beta in regulatory proceedings.

1 **Q71. WHAT ELSE SHOULD BE CONSIDERED IN APPLYING THE CAPM?**

2 A71. Financial research indicates that the CAPM does not fully account for observed
3 differences in rates of return attributable to firm size. Accordingly, a modification is
4 required to account for this size effect. As explained by Morningstar:

5 One of the most remarkable discoveries of modern finance is that of a
6 relationship between company size and return. ... The relationship
7 between company size and return cuts across the entire size spectrum; it
8 is not restricted to the smallest stocks. ... This size-rated phenomenon
9 has prompted a revision to the CAPM, which includes a size premium.⁸¹

10 According to the CAPM, the expected return on a security should consist of the
11 riskless rate, plus a premium to compensate for the systematic risk of the particular
12 security. The degree of systematic risk is represented by the beta coefficient. The need
13 for the size adjustment arises because differences in investors' required rates of return
14 that are related to firm size are not fully captured by beta. To account for this,
15 researchers have developed size premiums that need to be added to account for the level
16 of a firm's market capitalization in determining the CAPM cost of equity.⁸²
17 Accordingly, my CAPM analysis also incorporates an adjustment to recognize the
18 impact of size distinctions, as measured by the market capitalization for the firms in the
19 Utility Group.

20 **Q72. IS THIS SIZE ADJUSTMENT RELATED TO THE RELATIVE SIZE OF**
21 **NORTHWESTERN AS COMPARED WITH THE UTILITY GROUP?**

22 A72. No. I am not proposing to apply a general size risk premium in evaluating a just and
23 reasonable ROE for the Company and my recommendation does not include any
24 adjustment related to the relative size of NorthWestern. Rather, this size adjustment is

⁸¹ Morningstar, *Ibbotson S&P 500 2015 Classic Yearbook*, at pp. 99, 108.

⁸² Originally compiled by Ibbotson Associates and published in their annual yearbook entitled, *Stocks, Bonds, Bills and Inflation*, these size premia are now developed by Kroll and presented in its *2022 Supplementary CRSP Decile Size Study Data*.

1 specific to the CAPM and merely corrects for an observed inability of the beta measure
2 to fully reflect the risks perceived by investors for the firms in the Utility Group. As
3 FERC has recognized, “[t]his type of size adjustment is a generally accepted approach
4 to CAPM analyses.”⁸³

5 **Q73. WHAT IS THE IMPLIED ROE FOR THE UTILITY GROUP USING THE**
6 **CAPM APPROACH?**

7 A73. As shown on page 1 of Exhibit AMM-6, the CAPM approach implies an average ROE
8 for the Utility Group of 12.0%, or 12.6% after adjusting for the impact of firm size.

9 **Q74. DO YOU ALSO APPLY THE CAPM USING FORECASTED BOND YIELDS?**

10 A74. Yes. As discussed earlier, widely recognized economic forecasting services indicate
11 that interest rates are expected to increase over the near-term. Accordingly, in addition
12 to the use of current bond yields, I apply the CAPM based on the projected yields on
13 30-year Treasury bonds published by Blue Chip. As shown on page 2 of Exhibit AMM-
14 6, incorporating an average forecasted Treasury bond yield of 3.8% for 2023-2027
15 implies an average cost of equity estimate of 12.1% for the Utility Group, or 12.7% after
16 accounting for the size adjustment.

17 **D. Empirical Capital Asset Pricing Model**

18 **Q75. HOW DOES THE ECAPM APPROACH DIFFER FROM TRADITIONAL**
19 **APPLICATIONS OF THE CAPM?**

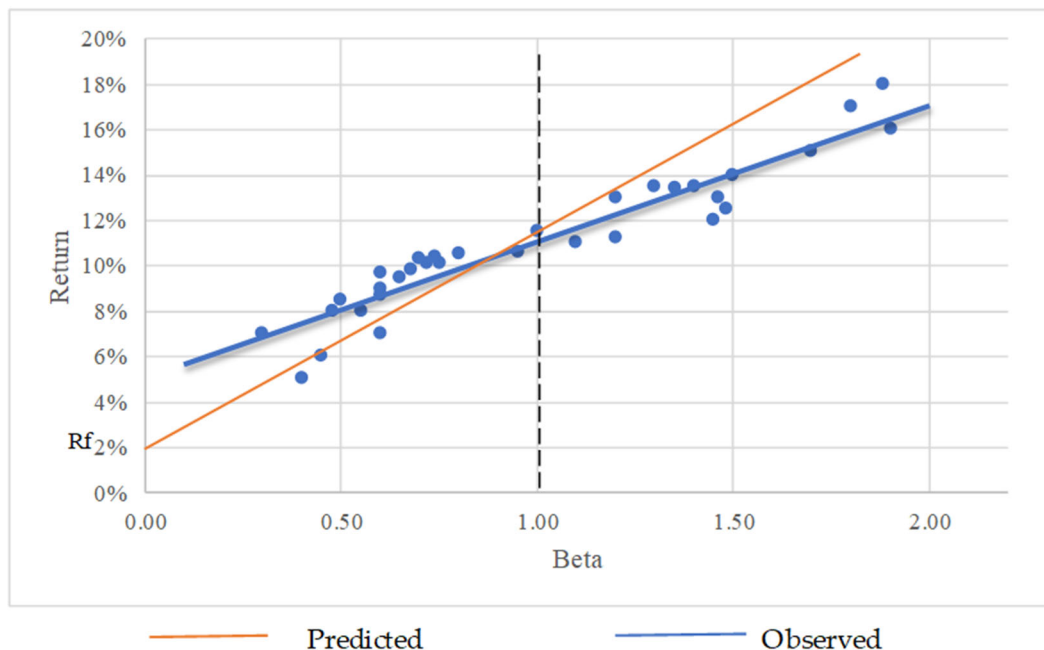
20 A75. Empirical tests of the CAPM have shown that low-beta securities earn returns somewhat
21 higher than the CAPM would predict, and high-beta securities earn less than predicted.
22 In other words, the CAPM tends to overstate the actual sensitivity of the cost of capital
23 to beta, with low-beta stocks tending to have higher returns and high-beta stocks tending

⁸³ *Coakley Mass. Attorney Gen. v. Bangor Hydro-Electric Co.*, Opinion No. 531-B, 150 FERC ¶ 61,165 at P 117 (2015).

1 to have lower risk returns than predicted by the CAPM. This is illustrated graphically
2 in Figure 6:

3
4

FIGURE 6
CAPM – PREDICTED VS. OBSERVED RETURNS



5 Because the betas of utility stocks, including those in the Utility Group, are generally
6 less than 1.0, this implies that cost of equity estimates based on the traditional CAPM
7 would understate the cost of equity. This empirical finding is widely reported in the
8 finance literature, as summarized in *New Regulatory Finance*:

9 As discussed in the previous section, several finance scholars have
10 developed refined and expanded versions of the standard CAPM by
11 relaxing the constraints imposed on the CAPM, such as dividend yield,
12 size, and skewness effects. These enhanced CAPMs typically produce a
13 risk-return relationship that is flatter than the CAPM prediction in
14 keeping with the actual observed risk-return relationship. The ECAPM
15 makes use of these empirical relationships.⁸⁴

⁸⁴ Roger A. Morin, *New Regulatory Finance*, Pub. Util. Reports (2006) at 189.

1 As discussed in *New Regulatory Finance*,⁸⁵ based on a review of the empirical evidence,
2 the expected return on a security is related to its risk by the ECAPM, which is
3 represented by the following formula:

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

4
5 Like the CAPM formula presented earlier, the ECAPM represents a stock's
6 required return as a function of the risk-free rate (R_f), plus a risk premium. In the
7 formula above, this risk premium is composed of two parts: (1) the market risk premium
8 ($R_m - R_f$) weighted by a factor of 25%, and (2) a company-specific risk premium based
9 on the stock's relative volatility [$\beta_j(R_m - R_f)$] weighted by 75%. This ECAPM equation,
10 and its associated weighting factors, recognizes the observed relationship between
11 standard CAPM estimates and the cost of capital documented in the financial research,
12 and corrects for the understated returns that would otherwise be produced for low beta
13 stocks.

14 **Q76. IS THE USE OF THE ECAPM CONSISTENT WITH THE USE OF VALUE**
15 **LINE BETAS?**

16 A76. Yes. Value Line beta values are adjusted for the observed tendency of beta to converge
17 toward the mean value of 1.00 over time.⁸⁶ The purpose of this adjustment is to refine
18 beta values determined using historical data to better match forward-looking estimates
19 of beta, which are the relevant parameter in applying the CAPM or ECAPM models.
20 Meanwhile, the ECAPM does not involve any adjustment to beta whatsoever. Rather,
21 it represents a formal recognition of findings in the financial literature that the observed
22 risk-return tradeoff illustrated in Figure 6 is flatter than predicted by the CAPM. In
23 other words, even if a firm's beta value were estimated with perfect precision, the

⁸⁵ *Id.* at 190.

⁸⁶ See, e.g., Marshall E. Blume, *Betas and Their Regression Tendencies*, *Journal of Finance* (Jun. 1975), pp. 785-795.

1 CAPM would still understate the return for low-beta stocks and overstate the return for
2 high-beta stocks. The ECAPM and the use of adjusted betas represent two separate and
3 distinct issues in estimating returns.

4 **Q77. HAS THE COMMISSION AND OTHER REGULATORS RELIED ON THE**
5 **ECAPM?**

6 A77. Yes. The Commission relied on the ECAPM as a primary method in Order No. 7575c.⁸⁷
7 Staff witnesses for the MDPSC have also relied on this approach in prior testimony,
8 noting that “the ECAPM model adjusts for the tendency of the CAPM model to
9 underestimate returns for low Beta stocks,” and concluding that “the ECAPM gives a
10 more realistic measure of the ROE than the CAPM model does.”⁸⁸ The staff of the
11 Colorado Public Utilities Commission has recognized that, “The ECAPM is an
12 empirical method that attempts to enhance the CAPM analysis by flattening the risk-
13 return relationship,”⁸⁹ and relied on the exact same standard ECAPM equation presented
14 above.⁹⁰

15 The New York Department of Public Service also routinely incorporates the
16 results of the ECAPM approach, which it refers to as the “zero-beta CAPM.”⁹¹ The
17 RCA has also relied on the ECAPM approach, concluding that:

18 Tesoro averaged the results it obtained from CAPM and ECAPM while
19 at the same time providing empirical testimony that the ECAPM results
20 are more accurate than [sic] traditional CAPM results. The reasonable

⁸⁷ *Mont. Pub. Serv. Comm’n*, Order No. 7575c at P114 (Sept. 26, 2018).

⁸⁸ *Direct Testimony and Exhibits of Julie McKenna*, Maryland PSC Case No. 9299 (Oct. 12, 2012) at 9.

⁸⁹ Proceeding No. 13AL-0067G, *Answer Testimony and Attachments of Scott England* (July 31, 2013) at 47.

⁹⁰ *Id.* at 48.

⁹¹ *See, e.g.*, New York Department of Public Service, Cases 19-E-0065 19-G-0066, *Prepared Fully Redacted Testimony of Staff Finance Panel* (May 2019) at 94-95.

1 investor would be aware of these empirical results. Therefore, we adjust
2 Tesoro's recommendation to reflect only the ECAPM result.⁹²

3 The Wyoming Office of Consumer Advocate, an independent division of the Wyoming
4 Public Service Commission, has also relied on this ECAPM formula in estimating the
5 cost of equity for a regulated utility,⁹³ as has a witness for the Office of Arkansas
6 Attorney General.⁹⁴

7 **Q78. WHAT COST OF EQUITY IS INDICATED BY THE ECAPM?**

8 A78. My application of the ECAPM is based on the same forward-looking market rate of
9 return, risk-free rates, and beta values discussed earlier in connections with the CAPM.
10 As shown on page 1 of Exhibit AMM-7, applying the forward-looking ECAPM based
11 on the average yield on 30-year Treasury bonds for March 2022 results in an average
12 cost of equity estimate of 12.3% for the Utility Group, or 12.8% after incorporating the
13 size adjustment.

14 As shown on page 2 of Exhibit AMM-7, incorporating a forecasted Treasury
15 bond yield for 2023-2027 implies an average cost of equity for the Utility Group of
16 12.4%, or 12.9% after adjusting for firm size.

17 **E. Utility Risk Premium**

18 **Q79. BRIEFLY DESCRIBE THE RISK PREMIUM METHOD.**

19 A79. The risk premium method extends the risk-return tradeoff observed with bonds to
20 estimate investors' required rate of return on common stocks. The cost of equity is
21 estimated by first determining the additional return investors require to forgo the relative
22 safety of bonds and to bear the greater risks associated with common stock, and by then
23 adding this equity risk premium to the current yield on bonds. Like the DCF model, the

⁹² Regulatory Commission of Alaska, Order No. P-97-004(151) (Nov. 27, 2002) at 145.

⁹³ *Pre-Filed Direct Testimony of Anthony J. Ornelas*, Docket No. 30011-97-GR-17, (May 1, 2018) at 52-53.

⁹⁴ *Direct Testimony of Marlon F. Griffing, PH.D.*, Docket No. 17-071-U, (May 29, 2018) at 33-35.

1 risk premium method is capital market oriented. However, unlike DCF models, which
2 indirectly impute the cost of equity, risk premium methods directly estimate investors'
3 required rate of return by adding an equity risk premium to observable bond yields.

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

6 A80. Yes. The risk premium approach is based on the fundamental risk-return principle that
7 is central to finance, which holds that investors will require a premium in the form of a
8 higher return to assume additional risk. This method is routinely referenced by the
9 investment community and in academia and regulatory proceedings⁹⁵ and provides an
10 important tool in estimating a just and reasonable ROE for NorthWestern.

11 **Q81. HOW DID YOU IMPLEMENT THE RISK PREMIUM METHOD?**

12 A81. Estimates of equity risk premiums for utilities are based on surveys of previously
13 authorized ROEs. Authorized ROEs presumably reflect regulatory commissions' best
14 estimates of the cost of equity, however determined, at the time they issued their final
15 orders. Such ROEs should represent a balanced and impartial outcome that considers
16 the need to maintain a utility's financial integrity and ability to attract capital. Moreover,
17 allowed returns are an important consideration for investors and have the potential to
18 influence other observable investment parameters, including credit ratings and
19 borrowing costs. Thus, when considered in the context of a complete and rigorous
20 analysis, this data provides a logical and frequently referenced basis for estimating
21 equity risk premiums for regulated utilities.

⁹⁵ See, e.g., James C. Bonbright, Albert L. Danielsen, David R. Kamerschen, *Principles of Public Utility Rates*, Pub. Util. Reports, Inc. (1988) at 322 (noting, "The risk premium approach is probably the second most popular approach to estimating the cost of equity.").

1 **Q82. IS IT CIRCULAR TO CONSIDER RISK PREMIUMS BASED ON**
2 **AUTHORIZED RETURNS IN ASSESSING A JUST AND REASONABLE ROE**
3 **FOR NORTHWESTERN?**

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

9 **Q83. HOW DID YOU CALCULATE THE EQUITY RISK PREMIUMS BASED ON**
10 **ALLOWED RETURNS?**

11 A83. The ROEs authorized for public utilities by regulatory commissions across the U.S. are
12 compiled by S&P Global Market Intelligence and published in its *RRA Regulatory*
13 *Focus* report. On page 3 of Exhibit AMM-8, the average yield on public utility bonds
14 is subtracted from the average allowed ROE to calculate equity risk premiums for each
15 year between 1974 and 2021.⁹⁶ As shown there, over this period these equity risk
16 premiums average 3.87%, and the yields on public utility bonds average 7.89%.

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

19 A84. Yes. The magnitude of equity risk premiums is not constant and equity risk premiums
20 tend to move inversely with interest rates. In other words, when interest rate levels are
21 relatively high, equity risk premiums narrow, and when interest rates are relatively low,
22 equity risk premiums widen. The implication of this inverse relationship is that the cost
23 of equity does not move as much as, or in lockstep with, interest rates. Accordingly, for
24 a 1% increase or decrease in interest rates, the cost of equity may only rise or fall some

⁹⁶ My analysis encompasses the entire period for which published data is available.

1 fraction of 1%. Therefore, when implementing the risk premium method, adjustments
2 may be required to incorporate this inverse relationship if current interest rate levels
3 have diverged from the average interest rate level represented in the data set.

4 Current bond yields are lower than those prevailing over the risk premium study
5 periods. Given that equity risk premiums move inversely with interest rates, these lower
6 bond yields also imply an increase in the equity risk premium that investors require to
7 accept the higher uncertainties associated with an investment in utility common stocks
8 versus bonds. In other words, higher required equity risk premiums offset the impact
9 of declining interest rates on the ROE.

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

12 A85. Yes. There is considerable empirical evidence that when interest rates are relatively
13 high, equity risk premiums narrow, and when interest rates are relatively low, equity
14 risk premiums are greater. This inverse relationship between equity risk premiums and
15 interest rates has been widely reported in the financial literature. As summarized by
16 *New Regulatory Finance*:

17 Published studies by Brigham, Shome, and Vinson (1985), Harris
18 (1986), Harris and Marston (1992, 1993), Carleton, Chambers, and
19 Lakonishok (1983), Morin (2005), and McShane (2005), and others
20 demonstrate that, beginning in 1980, risk premiums varied inversely with
21 the level of interest rates – rising when rates fell and declining when rates
22 rose.⁹⁷

⁹⁷ Roger A. Morin, *New Regulatory Finance*, Pub. Util. Reports (2006) at 128.

1 Other regulators have also recognized that, while the cost of equity trends in the
2 same direction as interest rates, these variables do not move in lockstep.⁹⁸ This
3 relationship is illustrated in the figure on page 4 of Exhibit AMM-8.

4 **Q86. WHAT ROE IS IMPLIED BY THE RISK PREMIUM METHOD USING**
5 **SURVEYS OF ALLOWED RETURNS?**

6 A86. Based on the regression output between the interest rates and equity risk premiums
7 displayed on page 4 of Exhibit AMM-8, the equity risk premium increases by
8 approximately 43 basis points for each percentage point drop in the yield on average
9 public utility bonds. As illustrated on page 1 of Exhibit AMM-8 with an average yield
10 on public utility bonds for April 2022 of 4.34%, this implies a current equity risk
11 premium of 5.40%. Adding this equity risk premium to the average yield on Baa utility
12 bonds for April 2022 implies a current ROE of 10.01%.

13 **Q87. WHAT RISK PREMIUM COST OF EQUITY ESTIMATE IS PRODUCED**
14 **AFTER INCORPORATING PROJECTED BOND YIELDS?**

15 A87. As shown on page 2 of Exhibit AMM-8, incorporating an average projected yield for
16 2023-2027 and adjusting for changes in interest rates since the study period implies an
17 equity risk premium of 4.83%, which is less than the current equity risk premium. This
18 lower equity risk premium is consistent with the inverse relationship I described above.
19 Adding this equity risk premium to the implied average yield on Baa utility bonds for
20 2023-2027 of 5.87% results in an implied cost of equity of 10.70%.

⁹⁸ See, e.g., California Public Utilities Commission, Decision 08-05-035 (May 29, 2008); Entergy Mississippi Formula Rate Plan FRP-7, https://cdn.entergy-mississippi.com/userfiles/content/price/tariffs/eml_frp.pdf (last visited Mar. 8, 2022); *Martha Coakley et al.*, 147 FERC ¶ 61,234 at P 147 (2014).

1 **F. Expected Earnings Approach**

2 **Q88. WHAT OTHER ANALYSES DO YOU CONDUCT TO ESTIMATE THE ROE?**

3 A88. I also evaluate the ROE using the expected earnings method. Reference to rates of
4 return available from alternative investments of comparable risk can provide an
5 important benchmark in assessing the return necessary to assure confidence in the
6 financial integrity of a firm and its ability to attract capital. This expected earnings
7 approach is consistent with the economic underpinnings for a just and reasonable rate
8 of return established by the U.S. Supreme Court in *Bluefield* and *Hope*.⁹⁹ Moreover, it
9 avoids the complexities and limitations of capital market methods and instead focuses
10 on the returns earned on book equity, which are readily available to investors.

11 **Q89. WHAT ECONOMIC PREMISE UNDERLIES THE EXPECTED EARNINGS**
12 **APPROACH?**

13 A89. The simple, but powerful concept underlying the expected earnings approach is that
14 investors compare each investment alternative with the next best opportunity. If the
15 utility is unable to offer a return similar to that available from other opportunities of
16 comparable risk, investors will become unwilling to supply the capital on reasonable
17 terms. For existing investors, denying the utility an opportunity to earn what is available
18 from other similar risk alternatives prevents them from earning their opportunity cost of
19 capital. While I am not a lawyer and do not offer a legal opinion, from my position as
20 a financial economist such an outcome would violate the *Hope* and *Bluefield* standards
21 and undermine the utility's access to capital on reasonable terms.

⁹⁹ *Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm'n*, 262 U.S. 679 (1923); *Fed. Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).

1 **Q90. HOW IS THE EXPECTED EARNINGS APPROACH TYPICALLY**
2 **IMPLEMENTED?**

3 A90. The traditional comparable earnings test identifies a group of companies that are
4 believed to be comparable in risk to the utility. The actual earnings of those companies
5 on the book value of their investment are then compared to the allowed return of the
6 utility. While the traditional comparable earnings test is implemented using historical
7 data taken from the accounting records, it is also common to use projections of returns
8 on book investment, such as those published by recognized investment advisory
9 publications (*e.g.*, Value Line). Because these returns on book value equity are
10 analogous to the allowed return on a utility's rate base, this measure of opportunity costs
11 results in a direct, "apples to apples" comparison.

12 Moreover, regulators do not set the returns that investors earn in the capital
13 markets, which are a function of dividend payments and fluctuations in common stock
14 prices - both of which are outside their control. Regulators can only establish the
15 allowed ROE, which is applied to the book value of a utility's investment in rate base,
16 as determined from its accounting records. This is analogous to the expected earnings
17 approach, which measures the return that investors expect the utility to earn on book
18 value. As a result, the expected earnings approach provides a meaningful guide to
19 ensure that the allowed ROE is similar to what other utilities of comparable risk will
20 earn on invested capital. This expected earnings test does not require theoretical models
21 to indirectly infer investors' perceptions from stock prices or other market data. As long
22 as the proxy companies are similar in risk, their expected earned returns on invested
23 capital provide a direct benchmark for investors' opportunity costs that is independent
24 of fluctuating stock prices, market-to-book ratios, debates over DCF growth rates, or
25 the limitations inherent in any theoretical model of investor behavior.

1 **Q91. WHAT ROES ARE INDICATED FOR NORTHWESTERN BASED ON THE**
2 **EXPECTED EARNINGS APPROACH?**

3 A91. For the firms in the Utility Group, the year-end returns on common equity projected by
4 Value Line over its forecast horizon are shown on Exhibit AMM-9. As I explained
5 earlier in my discussion of the $br+sv$ growth rates used in applying the DCF model,
6 Value Line's returns on common equity are calculated using year-end equity balances,
7 which understates the average return earned over the year.¹⁰⁰ Accordingly, these
8 year-end values were converted to average returns using the same adjustment factor
9 discussed earlier and developed on Exhibit AMM-5. As shown on Exhibit AMM-9,
10 Value Line's projections suggest an average ROE of 11.0% for the Utility Group.

11 **G. Flotation Costs**

12 **Q92. WHAT OTHER CONSIDERATIONS ARE RELEVANT IN SETTING THE**
13 **RETURN ON EQUITY FOR A UTILITY?**

14 A92. The common equity used to finance the investment in utility assets is provided from
15 either the sale of stock in the capital markets or from retained earnings not paid out as
16 dividends. When equity is raised through the sale of common stock, there are costs
17 associated with "floating" the new equity securities. These flotation costs include
18 services such as legal, accounting, and printing, as well as the fees and discounts paid
19 to compensate brokers for selling the stock to the public. Also, some argue that the
20 "market pressure" from the additional supply of common stock and other market factors
21 may further reduce the amount of funds a utility nets when it issues common equity.

¹⁰⁰ For example, to compute the annual return on a passbook savings account with a beginning balance of \$1,000 and an ending balance of \$5,000, the interest income would be divided by the average balance of \$3,000. Using the \$5,000 balance at the end of the year would understate the actual return.

1 **Q93. ARE EQUITY FLOTATION COSTS PARTICULARLY RELEVANT TO**
2 **NORTHWESTERN?**

3 A93. Yes. In order to finance a substantial capital expenditures program and maintain the
4 Company's credit standing, NorthWestern will continue to rely on additional sales of
5 common stock to raise new capital. As Fitch reported, "To enhance liquidity, the
6 company raised \$200 million of equity through common stock issuances in 2021 and
7 plans to issue \$299 million of equity in 2022 under its equity forward agreement."¹⁰¹
8 Moody's noted that the Company's stable outlook was dependent in part on
9 "management's commitment to issue around \$300 million of incremental equity by
10 February 2023."¹⁰²

11 **Q94. IS THERE AN ESTABLISHED MECHANISM FOR A UTILITY TO**
12 **RECOGNIZE EQUITY ISSUANCE COSTS?**

13 A94. No. While debt flotation costs are recorded on the books of the utility, amortized over
14 the life of the issue, and thus increase the effective cost of debt capital, there is no similar
15 accounting treatment to ensure that equity flotation costs are recorded and ultimately
16 recognized. No rate of return is authorized on flotation costs necessarily incurred to
17 obtain a portion of the equity capital used to finance plant. In other words, equity flotation
18 costs are not included in a utility's rate base because neither that portion of the gross
19 proceeds from the sale of common stock used to pay flotation costs is available to invest
20 in plant and equipment, nor are flotation costs capitalized as an intangible asset. Unless
21 some provision is made to recognize these issuance costs, a utility's revenue requirements
22 will not fully reflect all of the costs incurred for the use of investors' funds. Because there
23 is no accounting convention to accumulate the flotation costs associated with equity

¹⁰¹ Fitch Ratings, Inc., *NorthWestern Corporation*, Rating Report (May 19, 2022).

¹⁰² Moody's Investors Service, *Moody's affirms NorthWestern Corp. ratings; outlook changed to stable from negative*, Rating Action (May 11, 2022).

1 issues, they must be accounted for indirectly, with an upward adjustment to the cost of
2 equity being the most appropriate mechanism.

3 **Q95. IS THERE ACADEMIC EVIDENCE THAT SUPPORTS A FLOTATION COST**
4 **ADJUSTMENT?**

5 A95. The financial literature and evidence in this case provides a sound theoretical and
6 practical basis to include consideration of flotation costs for NorthWestern. An
7 adjustment for flotation costs associated with past sales of common stock is appropriate,
8 even when the utility is not contemplating any new sales of common stock. The need
9 for a flotation cost adjustment to compensate for past common stock offerings has been
10 recognized in the financial literature. In a *Public Utilities Fortnightly* article, for
11 example, Brigham, Aberwald, and Gapenski demonstrated that even if no further stock
12 issues are contemplated, a flotation cost adjustment in all future years is required to keep
13 shareholders whole, and that the flotation cost adjustment must consider total equity,
14 including retained earnings.¹⁰³ Similarly, *New Regulatory Finance* contains the
15 following discussion:

16 Another controversy is whether the flotation cost allowance should still
17 be applied when the utility is not contemplating an imminent common
18 stock issue. Some argue that flotation costs are real and should be
19 recognized in calculating the fair rate of return on equity, but only at the
20 time when the expenses are incurred. In other words, the flotation cost
21 allowance should not continue indefinitely, but should be made in the
22 year in which the sale of securities occurs, with no need for continuing
23 compensation in future years. This argument implies that the company
24 has already been compensated for these costs and/or the initial
25 contributed capital was obtained freely, devoid of any flotation costs,
26 which is an unlikely assumption, and certainly not applicable to most
27 utilities. ... The flotation cost adjustment cannot be strictly forward-

¹⁰³ E. F. Brigham, D. A. Aberwald, and L. C. Gapenski, *Common Equity Flotation Costs and Rate Making*, Pub. Util. Fortnightly (May 2, 1985).

1 looking unless all past flotation costs associated with past issues have
2 been recovered.¹⁰⁴

3 **Q96. CAN YOU ILLUSTRATE WHY INVESTORS WILL NOT HAVE THE**
4 **OPPORTUNITY TO EARN THEIR REQUIRED ROE UNLESS A FLOTATION**
5 **COST ADJUSTMENT IS INCLUDED?**

6 A96. Yes. Assume a utility sells \$10 worth of common stock at the beginning of year 1. If
7 the utility incurs flotation costs of \$0.48 (5% of the net proceeds), then only \$9.52 is
8 available to invest in rate base. Assume that common shareholders' required rate of
9 return is 10.5%, the expected dividend in year 1 is \$0.50 (*i.e.*, a dividend yield of 5%),
10 and that growth is expected to be 5.5% annually. As developed in Table 3 below, if the
11 allowed rate of return on common equity is only equal to the utility's 10.5% "bare
12 bones" cost of equity, common stockholders will not earn their required rate of return
13 on their \$10 investment, since growth will only be 5.25%, instead of 5.5%:

14 **TABLE 3**
15 **NO FLOTATION COST ADJUSTMENT**

<u>Year</u>	<u>Common Stock</u>	<u>Retained Earnings</u>	<u>Total Equity</u>	<u>Market Price</u>	<u>M/B Ratio</u>	<u>Allowed ROE</u>	<u>EPS</u>	<u>DPS</u>	<u>Payout Ratio</u>
1	\$ 9.52	\$ -	\$ 9.52	\$10.00	1.050	10.50%	\$ 1.00	\$ 0.50	50.0%
2	\$ 9.52	\$ 0.50	\$ 10.02	\$10.52	1.050	10.50%	\$ 1.05	\$ 0.53	50.0%
3	\$ 9.52	\$ 0.53	<u>\$ 10.55</u>	<u>\$11.08</u>	1.050	10.50%	<u>\$ 1.11</u>	<u>\$ 0.55</u>	50.0%
Growth			5.25%	5.25%			5.25%	5.25%	

16 The reason that investors never really earn 10.5% on their investment in the above
17 example is that the \$0.48 in flotation costs initially incurred to raise the common stock
18 is not treated like debt issuance costs (*i.e.*, amortized into interest expense and therefore
19 increasing the embedded cost of debt), nor is it included as an asset in rate base.

20 Including a flotation cost adjustment allows investors to be fully compensated
21 for the impact of these costs. One commonly referenced method for calculating the

¹⁰⁴ Roger A. Morin, *New Regulatory Finance*, Pub. Util. Reports, Inc. (2006) at 335.

1 flotation cost adjustment is to multiply the dividend yield by a flotation cost percentage.
 2 Thus, with a 5% dividend yield and a 5% flotation cost percentage, the flotation cost
 3 adjustment in the above example would be approximately 25 basis points. As shown in
 4 Table 4 below, by allowing a rate of return on common equity of 10.75% (a 10.5% cost
 5 of equity plus a 25 basis point flotation cost adjustment), investors earn their 10.5%
 6 required rate of return, since actual growth is now equal to 5.5%:

7 **TABLE 4**
 8 **INCLUDING FLOTATION COST ADJUSTMENT**

<u>Year</u>	<u>Common Stock</u>	<u>Retained Earnings</u>	<u>Total Equity</u>	<u>Market Price</u>	<u>M/B Ratio</u>	<u>Allowed ROE</u>	<u>EPS</u>	<u>DPS</u>	<u>Payout Ratio</u>
1	\$ 9.52	\$ -	\$ 9.52	\$10.00	1.050	10.75%	\$ 1.02	\$ 0.50	48.9%
2	\$ 9.52	\$ 0.52	\$ 10.04	\$10.55	1.050	10.75%	\$ 1.08	\$ 0.53	48.9%
3	\$ 9.52	\$ 0.55	<u>\$ 10.60</u>	<u>\$11.13</u>	1.050	10.75%	<u>\$ 1.14</u>	<u>\$ 0.56</u>	48.9%
Growth			5.50%	5.50%			5.50%	5.50%	

9 The only way for investors to be fully compensated for issuance costs is to include an
 10 ongoing adjustment to account for past flotation costs when setting the return on
 11 common equity. This is the case regardless of whether the utility is expected to issue
 12 additional shares of common stock in the future.

13 **Q97. WHAT IS THE MAGNITUDE OF THE ADJUSTMENT TO THE “BARE**
 14 **BONES” COST OF EQUITY TO ACCOUNT FOR ISSUANCE COSTS?**

15 A97. The most common method used to account for flotation costs in regulatory proceedings
 16 is to apply an average flotation-cost percentage to a utility’s dividend yield. In Exhibit
 17 AMM-10, I present a survey of recent open-market common stock issues for each
 18 company in Value Line’s electric and gas utility industries. For all companies in the
 19 electric and gas industries, flotation costs averaged 2.8%. This data includes
 20 NorthWestern’s 2021 public offering where it incurred issuance costs equal to
 21 approximately 3.3% of the gross proceeds. Applying the average 2.8% expense

1 percentage to the Utility Group dividend yield of 3.5% produces a flotation cost
2 adjustment on the order of 10 basis points.

3 **Q98. HAVE OTHER REGULATORS RECOGNIZED FLOTATION COSTS IN**
4 **EVALUATING A FAIR AND REASONABLE ROE?**

5 A98. Yes. For example, in Docket No. UE-991606 the Washington Utilities and
6 Transportation Commission concluded that a flotation cost adjustment of 25 basis points
7 should be included in the allowed return on equity.¹⁰⁵ In Case No. INT-G-16-02 the
8 staff of the Idaho Public Utilities Commission noted that applying a flotation cost
9 percentage to the dividend yield “is referred to as the ‘conventional’ approach. Its use
10 in regulatory proceedings is widespread, and the formula is outlined in several corporate
11 finance textbooks.”¹⁰⁶

12 More recently, the Wyoming Office of Consumer Advocate, an independent
13 division of the Wyoming Public Service Commission, recommended a 10 basis point
14 flotation cost adjustment.¹⁰⁷ Similarly, the South Dakota Public Utilities Commission
15 has recognized the impact of issuance costs, concluding that, “recovery of reasonable
16 flotation costs is appropriate.”¹⁰⁸ Another example of a regulator that approves common
17 stock issuance costs is the Mississippi Public Service Commission, which routinely
18 includes a flotation cost adjustment in its Rate Stabilization Adjustment Rider

¹⁰⁵ *Third Supplemental Order*, Washington Utilities and Transportation Commission Docket No. UE-991606, *et al.* (September 2000) at 95.

¹⁰⁶ Case No. INT-G-16-02, *Direct Testimony of Mark Rogers* (Dec. 16, 2016) at 18.

¹⁰⁷ Docket No. 30011-97-GR-17, *Pre-Filed Direct Testimony of Anthony J. Ornelas* (May 1, 2018) at 52-53.

¹⁰⁸ *Northern States Power Co.*, EL11-019, Final Decision and Order at P 22 (2012).

1 formula.¹⁰⁹ The Public Utilities Regulatory Authority of Connecticut¹¹⁰ the Minnesota
2 Public Utilities Commission,¹¹¹ and the Virginia State Corporation Commission¹¹² have
3 also recognized that flotation costs are a legitimate expense worthy of consideration in
4 setting a fair and reasonable ROE.

V. 7575C METHODOLOGY

5 **Q99. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?**

6 A99. This section presents my application of the 7575c Methodology to estimate the cost of
7 equity for the Utility Group.

8 **Q100. PLEASE DESCRIBE THE OVERALL METHODOLOGY ADOPTED BY THE** 9 **COMMISSION IN ORDER NO. 7575C.**

10 A100. The results of the Commission’s methodology were presented in Table 8 to Order No.
11 7575c and described in paragraph 129:

12 The Commission calculates the allowed ROE as follows:

- 13 (1) Calculates the arithmetic mean of the three DCF results,
- 14 (2) Calculates the arithmetic mean of the two ECAPM results,
- 15 (3) Takes the results of the Commission’s Modified ECAPM using a market risk
16 premium (“MRP”) of 9.19% and a β of 0.72, *Supra* ¶ 124, and
- 17 (4) Calculates both the arithmetic and geometric means of the resulting figures
18 from steps 1-3.

¹⁰⁹ See, e.g., Entergy Mississippi Formula Rate Plan FRP-7, https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwiLs4Sy67nsAhVKHqwKHddgA1wQFjABegQIBRAC&url=https%3A%2F%2Fcdn.entergy-mississippi.com%2Fuserfiles%2Fcontent%2Fprice%2Ftariffs%2Feml_frp.pdf&usg=AOvVaw1vyc6J_1IccZshzpfCtD0v (last visited Mar. 27, 2022).

¹¹⁰ See, e.g., Docket No. 14-05-06, Decision (Dec. 17, 2014) at 133-134.

¹¹¹ See, e.g., Docket No. E001/GR-10-276, Findings of Fact, Conclusions, and Order at 9.

¹¹² Roanoke Gas Company, Case No. PUR-2018-00013, *Final Order*, (Jan. 24, 2020) at 6.

1 **Q101. DO YOU AGREE WITH THE METHODOLOGY OUTLINED BY THE**
2 **COMMISSION IN ORDER NO. 7575C?**

3 A101. I support the Commission's general conclusion that the DCF methodology is not an
4 inherently superior or reliable approach to estimate a utility's cost of equity and I agree
5 that the ECAPM represents a useful and accepted method in evaluating a just and
6 reasonable ROE. However, I believe the 7575c Methodology is deficient because it
7 fails to consider the risk premium and expected earnings methods, which are both
8 accepted approaches to evaluate a fair ROE. I also disagree with certain aspects of the
9 Commission's methodology, including reference to historical data in applying the
10 ECAPM, the lack of an adjustment to account for beta's inability to fully account for
11 size differences, and a failure to exclude illogical cost of equity estimates in the 5%-6%
12 range.

13 **Q102. WHAT COST OF COMMON EQUITY ESTIMATES WERE CALCULATED**
14 **FOR THE UTILITY GROUP USING THE DCF MODEL CONSISTENT WITH**
15 **7575C METHODOLOGY?**

16 A102. DCF results from page 3 of Exhibit AMM-4 based on analysts' EPS growth rates from
17 Value Line, IBES, and Zacks are reproduced on Exhibit AMM-11. Consistent with the
18 7575c Methodology, I reviewed these DCF results to ensure that none of them fell
19 outside the 5% to 20% "collar" adopted by the Commission in paragraph 124 of Order
20 No. 7575c. That is, consistent with the Commission's prior findings, all DCF values
21 less than 5% and greater than 20% would be eliminated. As highlighted on Exhibit
22 AMM-11, application of this test resulted in the exclusion of three DCF values ranging
23 from 4.7% to 4.9%.

24 Eliminating these illogical values resulted in average DCF cost of equity
25 estimates of 9.0%, 9.2%, and 8.6% for the Utility Group based on EPS growth rates
26 from Value Line, IBES, and Zacks, respectively.

1 **Q103. HOW DO YOU APPLY THE ECAPM IN ACCORDANCE WITH ORDER NO.**
2 **7575C?**

3 A103. I follow the methodology presented in Table 8 of Order No. 7575c, which references
4 two ECAPM studies: (1) an ECAPM study based on an MRP derived from historical
5 realized rates of return reported by Duff & Phelps, and (2) a “modified” ECAPM using
6 a forward-looking MRP based on the dividend-paying companies in the S&P 500.

7 **Q104. WHAT IS THE SOURCE OF THE RISK-FREE RATE USED IN YOUR**
8 **APPLICATION OF THE ECAPM UNDER THE 7575C METHODOLOGY?**

9 A104. Consistent with the ECAPM approaches presented in Table 8 of Order No. 7575c, I
10 relied on a risk-free rate equal to the average of the projected yields on 30-year U.S.
11 Treasury bonds for 2023-2027 from Blue Chip.

12 **Q105. WHAT IS THE BASIS OF THE MRP YOU USE TO APPLY THE HISTORICAL**
13 **ECAPM UNDER THE COMMISSION’S GUIDELINES?**

14 A105. As shown on Exhibit AMM-12, my application of the Commission’s historical ECAPM
15 approach is based on a MRP of 7.40%. This value is calculated as the difference
16 between the arithmetic mean total return on large company common stocks for the
17 period 1926-2021 (12.3%) and the arithmetic mean income return on long-term
18 Treasury bonds over this same period (4.9%), both as reported by Kroll.¹¹³

19 **Q106. HOW DO YOU DETERMINE THE MRP FOR USE IN THE MODIFIED**
20 **ECAPM?**

21 A106. To capture the expectations of today’s investors in current capital markets, I relied on
22 the same DCF analysis of the dividend paying firms in the S&P 500 discussed earlier in
23 my testimony.

¹¹³ Kroll, *2022 SBBI Yearbook* at 145.

1 **Q107. WHAT ROES ARE IMPLIED FOR THE UTILITY GROUP USING THE**
2 **ECAPM APPROACH?**

3 A107. As shown on Exhibit AMM-12, application of the ECAPM using an historical MRP
4 implies an average ROE for the Utility Group of 10.6%, or 11.2% after adjusting for the
5 impact of firm size.

6 The results of the “modified” ECAPM using a forward-looking MRP are
7 identical to those presented on page 2 of Exhibit AMM-7. As shown there, this analysis
8 implies an average ROE for the Utility Group of 12.4%, or 12.9% after adjusting for the
9 impact of firm size.

10 **Q108. WHAT ARE THE RESULTS OF APPLYING THE 7575C METHODOLOGY?**

11 A108. The results of the methodology adopted by the Commission in Order No. 7575c, as
12 applied to the specifics of this proceeding, are presented in Table 5, below:

13 **TABLE 5**
14 **ROE RESULTS BASED ON 7575C METHODOLOGY**

Method	Including Size Adjustment	Excluding Size Adjustment
<u>DCF</u>		
Value Line	9.0%	9.0%
IBES	9.2%	9.2%
Zacks	8.6%	8.6%
	8.9%	8.9%
<u>ECAPM</u>		
Historical Market Risk Premium	11.2%	10.6%
Projected Market Risk Premium	12.9%	12.4%
	12.0%	11.5%
Average ROE	10.5%	10.2%

VI. NON-UTILITY BENCHMARK

1 **Q109. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?**

2 A109. This section presents the results of my DCF analysis applied to a group of low-risk firms
3 in the competitive sector, which I refer to as the “Non-Utility Group.” This analysis
4 was not relied on to arrive at my recommended ROE range of reasonableness; however,
5 it is my opinion that this is a relevant consideration in evaluating just and reasonable
6 ROEs for the Company’s utility operations.

7 **Q110. DO UTILITIES HAVE TO COMPETE WITH NON-REGULATED FIRMS FOR**
8 **CAPITAL?**

9 A110. Yes. The cost of capital is an opportunity cost based on the returns that investors could
10 realize by putting their money in other alternatives. Clearly, the total capital invested in
11 utility stocks is only the tip of the iceberg of total common stock investment, and there
12 is a plethora of other enterprises available to investors beyond those in the utility
13 industry. Utilities must compete for capital, not just against firms in their own industry,
14 but with other investment opportunities of comparable risk. Indeed, modern portfolio
15 theory is built on the assumption that rational investors will hold a diverse portfolio of
16 stocks, not just companies in a single industry.

17 **Q111. IS IT CONSISTENT WITH THE *BLUEFIELD* AND *HOPE* CASES TO**
18 **CONSIDER INVESTORS’ COST OF EQUITY FOR NON-UTILITY**
19 **COMPANIES?**

20 A111. Yes. The cost of equity capital in the competitive sector of the economy forms the very
21 underpinning for utility ROEs because regulation purports to serve as a substitute for
22 the actions of competitive markets. The United States Supreme Court has recognized
23 that it is the degree of risk, not the nature of the business, which is relevant in evaluating
24 an allowed ROE for a utility. The *Bluefield* case refers to “business undertakings

1 attended with comparable risks and uncertainties.” It does not restrict consideration to
2 other utilities. Similarly, the *Hope* case states:

3 By that standard the return to the equity owner should be commensurate
4 with returns on investments in other enterprises having corresponding
5 risks.¹¹⁴

6 As in the *Bluefield* decision, there is nothing to restrict “other enterprises” solely to the
7 utility industry.

8 **Q112. DOES CONSIDERATION OF THE RESULTS FOR THE NON-UTILITY**
9 **GROUP IMPROVE THE RELIABILITY OF DCF RESULTS?**

10 A112. Yes. The estimates of growth from the DCF model depend on analysts’ forecasts. It is
11 possible for utility growth rates to be distorted by short-term trends in the industry, or
12 by the industry falling into favor or disfavor by analysts. Such distortions could result
13 in biased DCF estimates for utilities. Because the Non-Utility Group includes low risk
14 companies from more than one industry, it helps to insulate against any possible
15 distortion that may be present in results for a particular sector.

16 **Q113. WHAT CRITERIA DO YOU APPLY TO DEVELOP THE NON-UTILITY**
17 **GROUP?**

18 A113. My comparable risk proxy group was composed of those United States companies
19 followed by Value Line that:

- 20 1) pay common dividends;
21 2) have a Safety Rank of “1”;
22 3) have a Financial Strength Rating of “A” or greater;
23 4) have a beta value less than 1.00; and
24 5) have investment grade credit ratings from Moody’s and S&P.

¹¹⁴ *Federal Power Comm’n v. Hope Natural Gas Co.*, 320 U.S. 391 (1944).

1 **Q114. HOW DO THE OVERALL RISKS OF THIS NON-UTILITY GROUP**
2 **COMPARE WITH THE UTILITY GROUP?**

3 A114. Table 6 compares the Non-Utility Group with the Utility Group across the measures of
4 investment risk discussed earlier.

5 **TABLE 6**
6 **COMPARISON OF RISK INDICATORS**

	Moody's	S&P	Value Line		
			Safety Rank	Financial Strength	Beta
Non-Utility Group	A2	A	1	A+	0.79
Utility Group	Baa2	BBB+	2	A	0.89
NorthWestern Corp.	Baa2	BBB	2	B++	0.95

7 As shown above, considered together the risk indicators for the Non-Utility Group
8 generally suggest less risk than for the Utility Group and NorthWestern.

9 The companies that make up the Non-Utility Group, which are shown in Exhibit
10 AMM-13, are representative of the pinnacle of corporate America. These firms, which
11 include household names such as Coca-Cola, Kellogg, Procter & Gamble, and Walmart,
12 have long corporate histories, well-established track records, and conservative risk
13 profiles. Many of these companies pay dividends on a par with utilities, with the
14 average dividend yield for the group exceeding 2%. Moreover, because of their
15 significance and name recognition, these companies receive intense scrutiny by the
16 investment community, which increases confidence that published growth estimates are
17 representative of the consensus expectations reflected in common stock prices.

18 **Q115. WHAT WERE THE RESULTS OF YOUR DCF ANALYSIS FOR THE NON-**
19 **UTILITY GROUP?**

20 A115. I applied the DCF model to the Non-Utility Group using the same analysts' EPS growth
21 projections described earlier for the Utility Group. The results of my DCF analysis for
22 the Non-Utility Group are presented in Exhibit AMM-13. As summarized in Table 7,

1 after eliminating illogical values, application of the constant growth DCF model
2 resulted in the following cost of equity estimates:

3 **TABLE 7**
4 **DCF RESULTS – NON-UTILITY GROUP**

<u>Growth Rate</u>	<u>Average</u>
Value Line	10.1%
IBES	10.6%
Zacks	10.4%

5 As discussed earlier, reference to the Non-Utility Group is consistent with
6 established regulatory principles. Required returns for utilities should be in line with
7 those of non-utility firms of comparable risk operating under the constraints of free
8 competition. Because the actual cost of equity is unobservable, and DCF results
9 inherently incorporate a degree of error, cost of equity estimates for the Non-Utility
10 Group provide an important benchmark in evaluating a just and reasonable ROE for
11 NorthWestern.

VII. RETURN ON EQUITY FOR NORTHWESTERN

12 **Q116. WHAT IS THE PURPOSE OF THIS SECTION?**

13 A116. This section presents an overview of the relationship between ROE and preservation of
14 a utility's financial integrity and the ability to attract capital under reasonable terms and
15 presents my conclusions regarding the just and reasonable ROE applicable to
16 NorthWestern's utility operations. Finally, I discuss the reasonableness of the
17 Company's capital structure request in this case.

18 **A. Importance of Financial Strength**

19 **Q117. WHAT IS THE ROLE OF THE ROE IN SETTING A UTILITY'S RATES?**

20 A117. The ROE is the cost of attracting and retaining common equity investment in the utility's
21 physical plant and assets. This investment is necessary to finance the asset base needed
22 to provide utility service. Investors commit capital only if they expect to earn a return

1 on their investment commensurate with returns available from alternative investments
2 with comparable risks. Moreover, a just and reasonable ROE is integral in meeting
3 sound regulatory economics and the standards set forth by the U.S. Supreme Court. The
4 *Bluefield* case set the standard against which just and reasonable rates are measured:

5 A public utility is entitled to such rates as will permit it to earn a return
6 on the value of the property which it employs for the convenience of the
7 public equal to that generally being made at the same time and in the
8 same general part of the country on investments in other business
9 undertakings which are attended by corresponding risks and
10 uncertainties. . . . The return should be reasonable, sufficient to assure
11 confidence in the financial soundness of the utility, and should be
12 adequate, under efficient and economical management, to maintain and
13 support its credit and enable it to raise money necessary for the proper
14 discharge of its public duties.¹¹⁵

15 The *Hope* case expanded on the guidelines as to a reasonable ROE,
16 reemphasizing its findings in *Bluefield* and establishing that the rate-setting process
17 must produce an end-result that allows the utility a reasonable opportunity to cover its
18 capital costs. The Court stated:

19 From the investor or company point of view it is important that there be
20 enough revenue not only for operating expenses but also for the capital
21 costs of the business. These include service on the debt and dividends
22 on the stock. . . . By that standard, the return to the equity owner should
23 be commensurate with returns on investments in other enterprises having
24 corresponding risks. That return, moreover, should be sufficient to
25 assure confidence in the financial integrity of the enterprise, so as to
26 maintain credit and attract capital.¹¹⁶

27 In summary, the Supreme Court's findings in *Hope* and *Bluefield* established
28 that a just and reasonable ROE must be sufficient to 1) fairly compensate the utility's
29 investors, 2) enable the utility to offer a return adequate to attract new capital on
30 reasonable terms, and 3) maintain the utility's financial integrity. These standards

¹¹⁵ *Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm'n*, 262 U.S. 679 (1923).

¹¹⁶ *Fed. Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).

1 should allow the utility to fulfill its obligation to provide reliable service while meeting
2 the needs of customers through necessary system replacement and expansion, but the
3 Supreme Court’s requirements can only be met if the utility has a reasonable opportunity
4 to actually earn its allowed ROE.

5 While the *Hope* and *Bluefield* decisions did not establish a particular method to
6 be followed in fixing rates (or in determining the allowed ROE),¹¹⁷ these and subsequent
7 cases enshrined the importance of an end result that meets the opportunity cost standard
8 of finance. Under this doctrine, the required return is established by investors in the
9 capital markets based on expected returns available from comparable risk investments.
10 Coupled with modern financial theory, which has led to the development of formal risk-
11 return models (e.g., DCF and CAPM), practical application of the *Bluefield* and *Hope*
12 standards involves the independent, case-by-case consideration of capital market data
13 in order to evaluate an ROE that will produce a balanced and fair end result for investors
14 and customers.

15 **Q118. THROUGHOUT YOUR TESTIMONY YOU REFER REPEATEDLY TO THE**
16 **CONCEPTS OF “FINANCIAL STRENGTH,” “FINANCIAL INTEGRITY,”**
17 **AND “FINANCIAL FLEXIBILITY.” WOULD YOU BRIEFLY DESCRIBE**
18 **WHAT YOU MEAN BY THESE TERMS?**

19 A118. These terms are generally synonymous and refer to the utility’s ability to attract and
20 retain the capital that is necessary to provide service at reasonable cost, consistent with
21 the Supreme Court standards. NorthWestern’s plans call for a continuation of capital
22 investments to preserve and enhance service reliability for its customers. The Company
23 must generate adequate cash flow from operations to fund these requirements and
24 maintain access to capital from external sources.

¹¹⁷ *Id.* at 602 (finding, “the Commission was not bound to the use of any single formula or combination of formulae in determining rates.” and, “[I]t is not theory but the impact of the rate order which counts.”)

1 Rating agencies and potential debt investors tend to place significant emphasis
2 on maintaining strong financial metrics and credit ratings that support access to debt
3 capital markets under reasonable terms. This emphasis on financial metrics and credit
4 ratings is shared by equity investors who also focus on cash flows, capital structure, and
5 liquidity, much like debt investors. Investors understand the important role that a
6 supportive regulatory environment plays in establishing a sound financial profile that
7 will permit the utility access to debt and equity capital markets on reasonable terms in
8 both favorable financial markets and during times of potential disruption and crisis.

9 **Q119. WHAT PART DOES REGULATION PLAY IN ENSURING THAT**
10 **NORTHWESTERN HAS ACCESS TO CAPITAL UNDER REASONABLE**
11 **TERMS AND ON A SUSTAINABLE BASIS?**

12 A119. Regulatory signals are a major driver of investors' risk assessment for utilities. Investors
13 recognize that constructive regulation is a key ingredient in supporting utility credit
14 ratings and financial integrity. Security analysts study commission orders and
15 regulatory policy statements to advise investors about where to put their money. As
16 Moody's noted, "the regulatory environment is the most important driver of our outlook
17 because it sets the pace for cost recovery."¹¹⁸ Similarly, S&P observed that, "Regulatory
18 advantage is the most heavily weighted factor when S&P Global Ratings analyzes a
19 regulated utility's business risk profile."¹¹⁹ Value Line summarizes these sentiments:

20 As we often point out, the most important factor in any utility's success,
21 whether it provides electricity, gas, or water, is the regulatory climate in
22 which it operates. Harsh regulatory conditions can make it nearly

¹¹⁸ Moody's Investors Service, *Regulation Will Keep Cash Flow Stable As Major Tax Break Ends*, Industry Outlook (Feb. 19, 2014).

¹¹⁹ S&P Global Ratings, *Assessing U.S. Investors-Owned Utility Regulatory Environments*, RatingsExpress (Aug. 10, 2016).

1 impossible for the best run utilities to earn a reasonable return on their
2 investment.¹²⁰

3 **Q120. DO CUSTOMERS BENEFIT BY ENHANCING THE UTILITY’S FINANCIAL**
4 **FLEXIBILITY?**

5 A120. Yes. Providing an ROE that is sufficient to maintain the Company’s ability to attract
6 capital under reasonable terms, even in times of financial and market stress, is not only
7 consistent with the economic requirements embodied in the U.S. Supreme Court’s *Hope*
8 and *Bluefield* decisions, but it is also in customers’ best interests. Customers enjoy the
9 benefits that come from ensuring that the utility has the financial wherewithal to take
10 whatever actions are required to ensure safe and reliable service.

11 **B. Conclusions and Recommendations**

12 **Q121. WHAT ARE YOUR FINDINGS REGARDING A FAIR ROE FOR**
13 **NORTHWESTERN?**

14 A121. Considering the economic requirements necessary to support continuous access to
15 capital under reasonable terms and the results of my analysis, I recommend a 10.60%
16 ROE for NorthWestern’s utility operations, which is consistent with the case-specific
17 evidence presented in my testimony. The bases for my conclusion are summarized
18 below:

- 19 • In order to reflect the risks and prospects associated with
20 NorthWestern’s utility business, my analyses focused on a proxy
21 group of twenty utility firms.
- 22 • Because investors’ required return on equity is unobservable and no
23 single method should be viewed in isolation, I applied the DCF,
24 CAPM, ECAPM, and risk premium methods to estimate a just and
25 reasonable ROE for NorthWestern, as well as referencing the
26 expected earnings approach.

¹²⁰ Value Line Investment Survey, *Water Utility Industry* (Jan. 13, 2017) at p. 1780.

- 1 • Based on the average values resulting from these analyses, and
2 giving less weight to extremes at the high and low ends of the range,
3 I conclude that the cost of equity falls in the 9.6% to 10.9% range.
- 4 • My evaluation of a fair ROE also incorporated an upward adjustment
5 of 10 basis points to account for flotation costs, which are a
6 legitimate cost incurred to raise equity capital supporting
7 NorthWestern's investment in utility infrastructure. Incorporating
8 this flotation cost adjustment resulted in my recommended ROE
9 range of 9.7% to 11.0%.
- 10 • The midpoint of this ROE range is 10.35%. To this result, I add an
11 adjustment of 25 basis points to account for the relative lack of
12 regulatory mechanisms available to the Company and to offset the
13 impact of attrition and regulatory lag.

14 **Q122. WHAT OTHER EVIDENCE DO YOU CONSIDER IN EVALUATING A FAIR**
15 **ROE FOR NORTHWESTERN?**

16 A122. My conclusion that an ROE of 10.60% is fair and reasonable and should be approved is
17 reinforced by the following findings:

- 18 • The reasonableness of a 10.60% for NorthWestern is supported by the need
19 to consider the challenges to the Company's credit standing:
 - 20 ▪ The pressure of funding electric utility capital expenditures of
21 approximately \$2.4 billion through 2026 heighten the
22 uncertainties associated with NorthWestern, especially given
23 that the Company's existing net property, plant, and
24 equipment is approximately \$5.2 billion.
 - 25 ▪ NorthWestern's significant electric capacity shortfall position
26 in Montana exposes NorthWestern to relatively greater risks
27 of power cost volatility.
 - 28 ▪ The PCCAM exacerbates these risks during times of rising
29 energy prices, given that NorthWestern absorbs 10% of the
30 variance between established base revenues and actual costs.
- 31 • Widespread expectations for higher interest rates emphasize the need to
32 consider the impact of projected bond yields in evaluating the results of
33 quantitative methods.
- 34 • The opportunity to actually earn a fair ROE and mitigate exposure to attrition
35 is an important objective, and NorthWestern's utility operations in Montana
36 have been chronically unable to earn the authorized rate of return.
- 37 • The Company currently operates with a narrower range of regulatory
38 adjustment mechanisms than exist for the utilities in the Utility Group, which
39 makes NorthWestern's utility operations relatively more susceptible to
40 attrition.

- 1 • Investors recognize that constructive regulation is a key ingredient in
2 supporting utility credit standing and financial integrity, and providing
3 NorthWestern with the opportunity to earn a return that adequately reflects
4 its risks is an essential ingredient to support the Company’s financial
5 position, which ultimately benefits customers by ensuring reliable service at
6 lower long-run costs.
- 7 • Continued support for NorthWestern’s financial integrity, including the
8 opportunity to earn a reasonable ROE, is imperative to ensure that the
9 Company has the capability to maintain and build its credit standing while
10 confronting potential challenges associated with funding infrastructure
11 development necessary to meet the needs of its customers.

12 These findings indicate that a 10.60% ROE for NorthWestern is reasonable and should
13 be approved.

14 **Q123. IF NORTHWESTERN’S MODIFICATIONS TO THE FCRM AND PCCAM AND**
15 **PROPOSALS TO ADDRESS REGULATORY LAG ARE APPROVED, WHAT IS**
16 **YOUR RECOMMENDED ROE?**

17 A123. As summarized by Company witness Cynthia Fang, approval of the modifications to
18 the PCCAM and FCRM pilot, along with other cost recovery proposals advanced by
19 NorthWestern, would help to significantly mitigate the impact of chronic attrition and
20 regulatory lag. Addressing NorthWestern’s lack of comparable regulatory mechanisms
21 and the Company’s ongoing exposure to attrition and regulatory lag would also bring
22 the Company more into line with the Utility Group used to estimate the cost of equity.
23 Accordingly, should the Commission approve the bulk of the Company’s requested cost
24 recovery proposals and modifications to the PCCAM and FCRM pilot, I recommend an
25 ROE for NorthWestern at the midpoint of my proxy group range, or 10.35%.

26 **Q124. DO THE RESULTS OF THE 7575C METHODOLOGY SUPPORT THE**
27 **REASONABLENESS OF YOUR ROE RECOMMENDATIONS?**

28 A124. Yes. As discussed earlier, application of the 7575c Methodology indicates a cost of
29 equity of 10.5%, or 10.2% when ignoring the ECAPM size adjustment. These results
30 fall well within my recommended “bare bones” cost of equity range of 9.6% to 10.9%,

1 and support my conclusion that an ROE of 10.35% is reasonable for the Utility Group.
2 This conclusion is reinforced by the built-in downward bias of the 7575c Methodology
3 due to inclusion of illogical low-end results, reliance on backward-looking data to derive
4 the market risk premium used in the ECAPM, and the failure to recognize that beta
5 values do not fully account for risk differences related to firm size.

6 **Q125. WHAT DID THE DCF RESULTS FOR YOUR SELECT GROUP OF NON-**
7 **UTILITY FIRMS INDICATE WITH RESPECT TO YOUR EVALUATION?**

8 A125. As shown on page 3 of Exhibit AMM-13, average DCF estimates for a low-risk group
9 of firms in the competitive sector of the economy ranged from 10.1% to 10.6% before
10 consideration of flotation costs. While I did not base my recommendations on these
11 results, they confirm that the proxy group midpoint of 10.35% and an ROE for
12 NorthWestern of 10.60% falls in a reasonable range to maintain the Company's financial
13 integrity, provide a return commensurate with investments of comparable risk, and
14 support the ability to attract capital.

15 **C. Capital Structure**

16 **Q126. IS AN EVALUATION OF THE CAPITAL STRUCTURE MAINTAINED BY A**
17 **UTILITY RELEVANT IN ASSESSING ITS RETURN ON EQUITY?**

18 A126. Yes. Other things being equal, a higher debt ratio and lower common equity ratio,
19 translates into increased financial risk for all investors. A greater amount of debt means
20 more investors have a senior claim on available cash flow, thereby reducing the certainty
21 that each will receive their contractual payments. This increases the risks to which
22 lenders are exposed, and they require correspondingly higher rates of interest. From
23 common shareholders' standpoint, a higher debt ratio means that there are
24 proportionately more investors ahead of them, thereby increasing the uncertainty as to
25 the amount of cash flow that will remain.

1 **Q127. WHAT COMMON EQUITY RATIO IS IMPLICIT IN NORTHWESTERN'S**
2 **CAPITAL STRUCTURE?**

3 A127. NorthWestern's capital structure is presented in the Direct Testimony of Crystal Lail.
4 As summarized in her testimony, the Company is requesting a capital structure
5 composed of 51.98% long-term debt and 48.02% common equity.

6 **Q128. HOW DOES THIS COMPARE TO THE AVERAGE EQUITY RATIOS**
7 **MAINTAINED BY THE UTILITIES IN THE UTILITY GROUP?**

8 A128. Exhibit AMM-14 presents the sources of long-term capital (long-term debt and common
9 equity) used by the publicly traded firms in the Utility Group. As shown on page 1 of
10 this Exhibit, at year-end 2021, common equity ratios for the Utility Group ranged
11 between 31.0% and 59.8% and averaged 45.0%.

12 **Q129. HOW DO THESE HISTORICAL CAPITALIZATION RATIOS COMPARE**
13 **WITH INVESTORS' FORWARD-LOOKING EXPECTATIONS?**

14 A129. Also shown on Exhibit AMM-14, Value Line expects an average common equity ratio
15 of 45.9% for the Utility Group over its three-to-five-year forecast horizon. Projected
16 equity ratios for the individual firms in the Utility Group range from 33.0% to 61.0%.

17 **Q130. WHAT CAPITALIZATION RATIOS ARE MAINTAINED BY COMPARABLE**
18 **UTILITY OPERATING COMPANIES?**

19 A130. Exhibit AMM-15 display capital structure data for the most recently available annual
20 period for the group of other utility operating companies owned by the firms in the
21 Utility Group used to estimate the cost of equity. As shown there, common equity ratios
22 for these utilities ranged from 42.4% to 60.5% and averaged 51.3%.

1 **Q131. DO ONGOING ECONOMIC AND CAPITAL MARKET UNCERTAINTIES**
2 **ALSO INFLUENCE THE APPROPRIATE CAPITAL STRUCTURE FOR**
3 **NORTHWESTERN?**

4 A131. Yes. Financial flexibility plays a crucial role in ensuring the wherewithal to meet
5 funding needs, and utilities with higher financial leverage may be foreclosed or have
6 limited access to additional borrowing, especially during times of stress. As Moody's
7 observed:

8 Utilities are among the largest debt issuers in the corporate universe and
9 typically require consistent access to capital markets to assure adequate
10 sources of funding and to maintain financial flexibility. During times of
11 distress and when capital markets are exceedingly volatile and tight,
12 liquidity becomes critically important because access to capital markets
13 may be difficult.¹²¹

14 As a result, the Company's capital structure must maintain adequate equity to preserve
15 the flexibility necessary to maintain continuous access to capital even during times of
16 unfavorable market conditions.

17 **Q132. WHAT OTHER FACTORS DO INVESTORS CONSIDER IN THEIR**
18 **ASSESSMENT OF A COMPANY'S CAPITAL STRUCTURE?**

19 A132. Utilities, including NorthWestern, are facing significant capital investment plans.
20 Coupled with the potential for turmoil in capital markets, this warrants a stronger
21 balance sheet to deal with an uncertain environment. As S&P recently noted:

22 Under our base case, we expect that by 2024 the industry's capital
23 spending will exceed \$180 billion. Because of the industry's continued
24 robust capital spending, we expect that industry will continue to generate
25 negative discretionary cash flow. This requires that the industry has

¹²¹ Moody's Investors Service, *FAQ on credit implications of the coronavirus outbreak*, Sector Comment (Mar. 26, 2020).

1 consistent access to the capital markets to finance capital spending and
2 dividends requirements.¹²²

3 The rating agencies have recognized that NorthWestern’s significant capital
4 expenditures, coupled with the impact of ongoing regulatory lag, place significant
5 downward pressure on its credit metrics. As Fitch observed, the Company’s “large
6 capex program continues to pressure leverage metrics with little to no headroom for
7 deterioration at current levels.”¹²³ Moody’s noted that the Company’s commitment to
8 a balanced capital structure “will help to improve NorthWestern’s financials metrics and
9 bring stability to its credit profile.”¹²⁴ A conservative financial profile, in the form of a
10 reasonable common equity ratio, is consistent with the need to accommodate these
11 uncertainties and maintain the continuous access to capital under reasonable terms that
12 is required to fund operations and necessary system investment, even during times of
13 adverse capital market conditions.

14 **Q133. WHAT DOES THIS EVIDENCE SUGGEST WITH RESPECT TO**
15 **NORTHWESTERN’S PROPOSED CAPITAL STRUCTURE?**

16 A133. NorthWestern’s ratemaking capital structure is consistent with the range of industry
17 benchmarks reflected in the average capital structure ratios maintained by the Utility
18 Group. The capitalization employed by the Company reflects the need to address the
19 funding of ongoing capital expenditures, and support NorthWestern’s financial integrity
20 and access to capital on reasonable terms. This mix of external financing is reasonable
21 considering investors’ future expectations for the Utility Group and the importance of
22 maintaining the Company’s financial strength. Based on this evidence, I conclude that

¹²² S&P Global Ratings, *For The First Time Ever, The Median Investor-Owned Utility Ratings Falls To The ‘BBB’ Category*, RatingsDirect (Jan. 20, 2022).

¹²³ Fitch Ratings, Inc., *NorthWestern Corporation*, Rating Report (May 19, 2022).

¹²⁴ Moody’s Investors Service, *Moody’s affirms NorthWestern Corp. ratings; outlook changed to stable from negative*, Rating Action (May 11, 2022).

1 the Company's ratemaking capital structure represents a reasonable mix of capital
2 sources from which to calculate the NorthWestern's overall rate of return.

3 **Q134. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

4 A134. Yes, it does.

5

VERIFICATION

This Pre-filed Direct Testimony of Adrien M. McKenzie is true and accurate to the best
of my knowledge, information, and belief.

/s/ Adrien M. McKenzie
Adrien M. McKenzie