BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF SOUTH DAKOTA

IN THE MATTER OF THE APPLICATION OF MONTANA-DAKOTA UTILITIES CO., A DIVISION OF MDU RESOURCES GROUP, INC. FOR AUTHORITY TO INCREASE ITS NATURAL GAS RATES)))))))))))	**DOCKET NO. NG15-005**

Direct Testimony and Exhibits of

Michael P. Gorman

On behalf of

Federal Executive Agencies

March 7, 2016

BAI

BRUBAKER & ASSOCIATES, INC.

Project 10129

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Direct Testimony of Michael P. Gorman

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Direct Testimony of Michael P. Gorman

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

2 A Michael P. Gorman. My business address is 16690 Swingley Ridge Road, Suite 140,

3 Chesterfield, MO 63017.

4 **Q WHAT IS YOUR OCCUPATION?**

5 A I am a consultant in the field of public utility regulation and an Associate of Brubaker

6 & Associates, Inc., energy, economic and regulatory consultants.

7 **Q PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.**

8 A This information is included in Appendix A to my testimony.

9 **Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?**

10 A I am appearing on behalf of the Federal Executive Agencies ("FEA"). FEA consists of

11 certain agencies of the United States Government which have offices, facilities,

12 and/or installations in the service area of Montana-Dakota Utilities ("MDU" or

BRUBAKER & ASSOCIATES, INC.

1   Company). Chief among the Federal customers served by MDU is Minot Air Force

2   Base ("AFB"). Minot AFB is a major consumer of gas purchased from MDU and an

3   increase in rates could affect the ability of Minot AFB to operate many of its loads to

4   the fullest extent possible, and thereby affect the military mission of Minot AFB.

5 **Q   WHAT IS THE SUBJECT MATTER OF YOUR TESTIMONY?**

6 A   In my testimony I will comment on the Company's proposed spread of the revenue

7   deficiency in this proceeding, and the reliability of the class cost of service study the

8   Company relies on to support its proposed revenue spread.

9   Also, I will comment on the Company's proposed overall rate of return

10   including a fair return on equity, capital structure, and embedded debt cost. I will also

11   respond to the Company witnesses Mr. Garret Senger and Dr. J. Stephen Gaske

12   concerning these rate of return issues.

13   **I. SUMMARY**

14 **Q   PLEASE SUMMARIZE THE COMPANY'S PROPOSED SPREAD OF THE**

15   **REVENUE DEFICIENCY IN THIS PROCEEDING.**

16 A   I have repeated the Company's class cost of service spread offered by Company

17   witness Ms. Tamie A. Aberle. This is attached to my testimony as Exhibit

18   No.___(MPG-2), Schedule 18 and discussed in greater detail later. The Company's

19   proposed spread of the revenue deficiency in this study is reasonably consistent with

20   moving customers' rates closer to cost of service based on the Company's cost of

21   service study.

1   **Q   PLEASE DESCRIBE YOUR PROPOSED SPREAD OF THE REVENUE**

2   **DEFICIENCY IN THIS PROCEEDING.**

3   A   Based on my proposed adjustments to the Company's class cost of service study, I

4   propose a spread which more accurately reflects the Company's cost of service to

5   both firm and interruptible customers. My proposed spread is shown below in Exhibit

6   No.___(MPG-2), Schedule 19.

7   **Q   PLEASE DESCRIBE THE COMPANY'S CLASS COST OF SERVICE STUDY.**

8   A   The Company's class cost of service study is generally reasonable, with one

9   important exception. The Company allocates its main costs to all customers based

10 on their contribution to peak day demand, and a portion based on number of

11 customers. This reasonably reflects the design characteristics of the main distribution

12 system which is designed to meet peak day demand requirements, but also reflects

13 costs incurred to reflect the number of customers and location of customers on the

14 system. The concern or exception I take to the Company's class cost of service study

15 is that it does not accurately distinguish between a firm customer and an interruptible

16 customer in allocating costs related to meeting peak day demands on the system.

17 This has the effect of over-allocating costs to interruptible customers and under-

18 allocating costs to firm customers.

19 **Q   PLEASE DESCRIBE YOUR PROPOSED ADJUSTMENT TO THE COMPANY'S**

20 **CLASS COST OF SERVICE STUDY.**

21 A   In this proceeding, I propose one adjustment to the Company's class cost of service

22 study. Specifically, the Company is proposing to allocate main costs to both firm and

23 interruptible customers based on their contribution to capacity demands on the

1 system. This proposal by the Company fails to recognize that interruptible customers

2 do not receive firm service. Hence, during periods of peak demands or constrained

3 systems, interruptible customers can be curtailed in order to ensure that firm

4 customers receive gas deliveries on these constrained days. To recognize the

5 difference in service quality, the allocation of costs related to providing firm service

6 needs to be differentiated between firm and interruptible customers.

7   With this revision, all customers pay the daily recurring cost of the main

8 delivery system. However, only firm service customers pay costs related to sizing the

9 system in order to provide service during peak day or constrained period service

10 demands on the system.

11 **Q**   **PLEASE SUMMARIZE YOUR RECOMMENDATIONS AND CONCLUSIONS ON**

12   **MDU'S RATE OF RETURN.**

13 A   I recommend the South Dakota Public Utilities Commission (the "Commission") award

14   MDU a return on common equity of 9.30%, which is at the approximate midpoint of

15   my recommended range of 9.00% to 9.60%. My recommended return on equity will

16   fairly compensate MDU for its current market cost of common equity, and it will

17   mitigate the claimed revenue deficiency in this proceeding by providing MDU fair

18   compensation with the lowest cost to customers.

19   In addition to my return on equity recommendation, I recommend adjustments

20   to MDU's proposed ratemaking capital structure. In developing its capital structure,

21   MDU in part removed common equity supporting investments in subsidiaries.

22   However, that did not result in common equity used to support only regulated utility

23   companies. I propose to also remove common equity supporting all Nonutility

24   Property and Other Investments, to better estimate the amount of common equity

1   supporting utility plant investments. With this adjustment, the common equity ratio in

2   the ratemaking capital structure decreases from 49.5% as proposed by MDU, down to

3   46.1%.

4   I am also proposing an adjustment to the Company's embedded cost of debt

5   to reflect debt issuances that have already occurred, as disclosed by Mr. Senger in

6   MDU's electric filing in Montana. My adjustment reduces MDU's embedded cost of

7   debt from 5.95% to 5.79%.

8   Based on my recommended return on equity, embedded cost of debt, and

9   capital structure, I recommend an overall rate of return of 7.03% as developed on my

10   Exhibit No.___(MPG-2), Schedule 1.

11   Finally, I will also comment on the return on equity recommendations and

12   supporting studies offered by Dr. Gaske.

13   ## II. RATE OF RETURN

14   **Q   PLEASE DESCRIBE THIS SECTION OF YOUR TESTIMONY.**

15   A   In this section of my testimony, I will explain the analysis I performed to determine the

16   reasonable rate of return for MDU in this proceeding and present the results of my

17   analysis. I begin my estimate of a fair return on equity for MDU by reviewing the

18   market's assessment of the regulated utility industry investment risk, credit standing,

19   and stock price performance. I used this information to get a sense of the market's

20   perception of the risk characteristics of regulated utility investments in general, which

21   is then used to produce a refined estimate of the market's return requirement for

22   assuming investment risk similar to MDU's utility operations.

23   As described below, I find the credit rating outlook of the industry to be strong,

24   supportive of the industry's financial integrity and access to capital. Further,

1   regulated utilities' stocks have exhibited strong price performance over the last

2   several years, which is evidence of utility access to capital.

3   Based on this review of credit outlooks and stock price performance, I

4   conclude that the market continues to embrace the regulated utility industry as a

5   safe-haven investment, and views utility equity and debt investments as low-risk

6   securities.

7   **II.A. Regulated Utility Industry Market Outlook**

8   **Q   PLEASE DESCRIBE THE CREDIT RATING OUTLOOK FOR REGULATED**

9   **UTILITIES.**

10   A   Regulated utilities' credit ratings have improved over the last few years and analysts

11   have concluded that the credit outlook is "Stable." Credit analysts have observed that

12   utilities have strong access to capital at attractive pricing (i.e., low capital costs),

13   which has supported very large capital programs.

14   Standard & Poor's ("S&P") recently published a report titled "The Outlook For

15   U.S. Regulated Utilities Remains <u>Stable</u> On Increasing Capital Spending And Robust

16   Financial Performance." In that report, S&P noted the following:

17   **Ratings Outlook.** <u>Stable</u> with a slight bias toward the negative.
18   Utilities in the U.S. continue to enjoy a confluence of financial,
19   economic, and regulatory environments that are tailor-made for
20   supporting credit quality. Low interest rates, modest economic growth,
21   and relatively stable commodity costs make for little pressure on rates
22   and therefore on the sunny disposition of regulators.

23   • **Credit Metrics.** We see credit metrics remaining within historic
24   norms for the industry as a whole and do not project overall financial
25   performance that would affect the industry's creditworthiness.

26   • **Industry Trends.** Taking advantage of the favorable market
27   conditions, utilities have been maintaining aggressive capital spending
28   programs to bolster system safety and reliability, as well as
29   technological advances to make the systems "smarter." The elevated
30   spending has not led to large rate increases, but if macro conditions

1   reverse and lead to rising costs that command higher rates, we would
2   expect utilities to throttle back on spending to manage regulatory risk. [1]

3   Similarly, Fitch states:

4   **Stable Financial Performance:** The stable financial performance of
5   Utilities, Power & Gas (UPG) issuers continues to support a sound
6   credit profile for the sector, with 93% of the UPG portfolio carrying
7   investment-grade ratings as of June 30, 2015, including 65% in the
8   'BBB' rating category. Second-quarter 2015 LTM [Long-Term Maturity]
9   leverage metrics remained relatively unchanged year over year (YOY)
10   while interest coverage metrics modestly improved. Fitch Ratings
11   expects this trend to broadly sustain for the remainder of 2015, driven
12   by positive recurring factors.

13   **Low Debt-Funded Costs:** The sustained low interest rate
14   environment has allowed UPG companies to refinance high-coupon
15   legacy debt with lower coupon new debt. Gross interest expense on an
16   absolute value represented approximately 4.6% of total adjusted debt
17   as of June 30, 2015, a decline of about 150 bps from the 6.1%
18   recorded in the midst of the recession. Fitch believes a rise in interest
19   rates would largely be neutral to credit quality, as issuers have
20   generally built enough headroom in coverage metrics to withstand
21   higher financing costs.

22   **Capex Moderately Declining:** Fitch expects the capex/depreciation
23   ratio to be at the lower end of its five-year historical range of 2.0x–2.5x
24   in the near term, reflecting a moderate decline in projected capex from
25   the 2011–2014 highs. The capex depreciation ratio was relatively flat
26   YOY at about 2.4x. Capex targets investments toward base
27   infrastructure upgrades, utility-scale renewables and transmission
28   investments.

29   *   *   *

30   Key credit metrics for IUCs [investor-owned utility companies]
31   remained relatively stable YOY and continue to support the sound
32   credit profiles and <u>Stable Outlooks</u> characteristic of the sector.
33   EBITDAR [Earnings Before Interest, Taxes, Depreciation, Amortization
34   and Rent] and FFO [Funds From Operations] coverage ratios were
35   5.6x and 5.9x, respectively, for the LTM ended second-quarter 2015,
36   while adjusted debt/EDITDAR and FFO-adjusted leverage were 3.5x
37   and 3.4x, respectively.[2]

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[1] *Standard & Poor's RatingsDirect*: "Corporate Industry credit Research: Industry Top Trends 2016, Utilities," December 9, 2015, at 22, emphasis added.
[2] *Fitch Ratings*: "U.S. Utilities, Power & Gas Data comparator," September 21, 2015, at 1 and 7, emphasis added.

1   Moody's recent comments on the U.S. Utility Sector state as follows:

2   Our outlook for the US regulated utilities industry <u>is stable</u>. This outlook
3   reflects our expectations for fundamental business conditions in the
4   industry over the next 12 to 18 months.

5   **» The credit-supportive regulatory environment is the main**
6   **reason for our stable outlook.** We expect that the relationship
7   between regulators and utilities in 2016 will remain credit-supportive,
8   enabling utilities to recover costs in a timely manner and maintain
9   stable cash flows.

10   **» We estimate that the ratio of cash flow from operations (CFO) to**
11   **debt will hold steady at about 21%, on average for the industry,**
12   **over the next 12 to 18 months.** The use of timely cost-recovery
13   mechanisms and continued expense management will help utilities
14   offset a lack of growth in electricity demand and lower allowed returns
15   on equity, enabling financial metrics to remain stable. Tax benefits tied
16   to the expected extension of bonus depreciation will also support CFO-
17   to-debt ratios.

18   *   *   *

19   **» Utilities are increasingly using holding company leverage to**
20   **drive returns, a credit negative.** Although not a driver of our outlook,
21   utilities are using leverage at the holding company level to invest in
22   other businesses, make acquisitions and earn higher returns on equity,
23   which could have negative implications across the whole family. [3]

24   **Q   PLEASE DESCRIBE UTILITY STOCK PRICE PERFORMANCE OVER THE LAST**

25   **SEVERAL YEARS.**

26   A   As shown in the graph below, SNL Financial has recorded utility stock price

27   performance compared to the market. The industry's stock performance data from

28   2004 through 2015 shows that the SNL Gas Company Index has outperformed the

29   market in downturns and trailed the market during recovery. This relatively stable

30   price performance for utilities supports my conclusion that utility stock investments

31   are regarded by market participants as a moderate- to low-risk investment.

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[3]*Moody's Investors Service*: "2016 Outlook – US Regulated Utilities: Credit-Supportive Regulatory Environment Drives Stable Outlook," November 6, 2015, at 1, emphasis added.

FIGURE 1

Index Comparison

Source: SNL Financial Update, data through December 31, 2015.
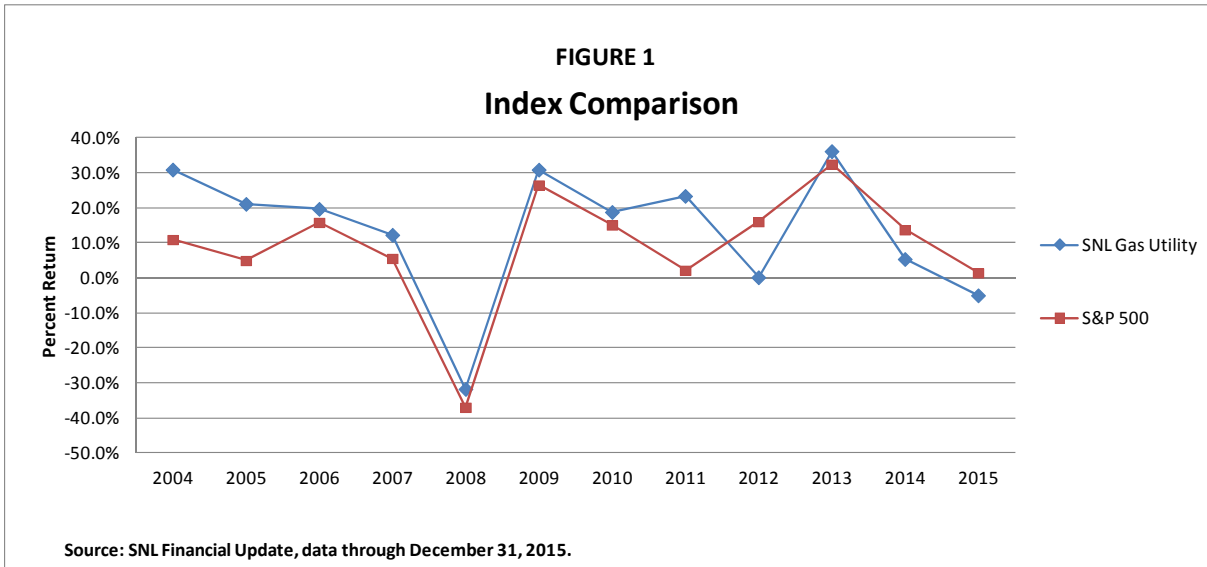
1   Similarly, *Value Line* comments as follows:

2   Stocks within *Value Line's* Natural Gas Utility Industry have
3   strengthened in price during the past few months. We believe one
4   driving force is indications that the economic recovery in the United
5   States will continue, albeit at an unspectacular rate of expansion.
6   What's more, natural gas prices have been subdued, which ought to
7   prevent purchasing costs from getting out of control, leading, perhaps,
8   to a decrease in bad-debt expense. It's also important to mention that
9   during these times of heightened financial market uncertainty (partially
10   reflecting worries over such factors as the welfare of China's economy
11   and worldwide crude oil pricing), shares in the Natural Gas Utility
12   category have held up better than many of those in other sectors. One
13   main reason for this is attractive amounts of dividend income, which
14   tend to act as an anchor, so to speak.[4]

15   **Q   WHAT ARE THE IMPORTANT TAKEAWAY POINTS FROM THIS ASSESSMENT**

16   **OF UTILITY INDUSTRY CREDIT AND INVESTMENT RISK OUTLOOKS?**

17   A   Credit rating agencies consider the regulated utility industry to be Stable and believe

18   investors will continue to provide an abundance of low-cost capital to support utilities'

19   large capital programs at attractive costs and terms. All of this reinforces my belief

20   that utility investments are generally regarded as safe-haven or low-risk investments,

21   and the market continues to embrace and demand low-risk investments such as utility

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[4] *The Value Line Investment Survey*, December 4, 2015 at 541.

1   securities.   The ongoing demand for low-risk investments can reasonably be

2   expected to continue to provide attractive low-cost capital for regulated utilities.

3   **II.B. MDU Investment Risk**

4   **Q**   **PLEASE DESCRIBE THE MARKET'S ASSESSMENT OF THE INVESTMENT RISK**

5   **OF MDU.**

6   A   The market's assessment of MDU's investment risk is described by credit rating

7   analysts' reports. MDU does not have a stand-alone credit rating from S&P; rather, it

8   is a wholly-owned subsidiary of MDU Resources. MDU Resources' current corporate

9   bond rating from S&P is BBB+. In its latest review, S&P changed MDU's credit

10   outlook to "Negative" from "Stable" due to the sale of its exploration and production

11   business, which was historically profitable but more volatile than the regulated

12   operations.

13   S&P expects the stable earnings and cash flows from the regulated utilities to

14   stabilize the credit measures.

15   Specifically, S&P comments as follows:

16   **Rationale**

17   The negative outlook reflects our expectation for weakening
18   financial measures pro forma for the sale of MDU's E&P assets
19   contained in its wholly owned subsidiary Fidelity Exploration
20   and Production Co. We have reassessed the business risk to
21   be at the higher-end of the "satisfactory" category versus the
22   lower-end where it was previously, reflecting the much higher
23   proportion of regulated operations; nevertheless, at the same
24   time, we are revising our assessment of financial risk to
25   "significant" from "intermediate," largely offsetting the benefits
26   to the business risk profile. Our analysis incorporates our
27   expectations that FFO to debt will decline from over 30% at the
28   end of 2014 to about 25% in 2015 and 2016 and that debt to
29   EBITDA will be approximately 3x over the next two years.

30   We have revised our comparable ratings analysis (CRA)
31   assessment to positive from stable reflecting the company's

1   strategic decision to disproportionly grow its lower-risk
2   regulated utility businesses. Following the sale of the more
3   volatile E&P business, we expect that the regulated businesses
4   will exceed 45% of the consolidated company. The positive
5   CRA provides a-one notch uplift to the ratings.

6   We view MDU's business risk profile as "satisfactory," per our
7   criteria. MDU is a diversified company currently operating in
8   four main business segments: utilities, pipelines, construction
9   services, and construction materials. Our assessment reflects
10   the diversity of its business operations and the relative stability
11   of its regulated operations, which provide steady and
12   predictable cash flows. This business diversity currently
13   provides a one-notch uplift to the ratings. The business risk
14   profile benefits from the stability of MDU's regulated utilities
15   and pipeline business, which we expect will contribute a greater
16   portion of earnings and cash flows to the company as a whole
17   resulting from the sale of the company's more volatile E&P
18   segment.

19   *   *   *

20   We consider MDU's financial risk profile to be "significant"
21   compared with our previous assessment of "intermediate," as
22   defined under our criteria. We expect the company's credit
23   ratios to weaken following the sale of the historically higher
24   margin but more volatile E&P segment. Nevertheless, we
25   expect the increase in stable earnings and cash flow from the
26   regulated utilities and pipeline businesses to help stabilize
27   credit measures. We expect FFO to debt of approximately
28   20% to 25% and debt to EBITDA of about 3x over the next 24
29   months. MDU announced that it will use proceeds from the
30   sale of its E&P segment, expected to be approximately $450
31   million, to reduce total debt levels.[5]

32 **Q   WHAT ARE THE KEY TAKEAWAYS FROM S&P'S REPORTS ON MDU?**

33 A   Overall, S&P views MDU as stable, consistent with the utility industry generally. As

34   shown by the assessment above, ratings analysts see risk in MDU's non-utility

35   activities (i.e., construction services and materials), and consider "the relative stability

36   of its regulated operations, which provide steady and predictable cash flows." Even

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[5] *Standard & Poor's RatingsDirect*: "Research Update: MDU Resources Group Inc. And Subsidiary 'BBB+' Corporate Credit Ratings Affirmed, Outlook Revised To Negative," November 30, 2015 at 2-4, emphasis added.

1   though MDU recently divested its exploration and production business, its

2   unregulated operations still account for over 50% of the consolidated company.

3 **II.C. MDU's Proposed Capital Structure**

4 **Q   WHAT IS MDU'S PROPOSED CAPITAL STRUCTURE?**

5 A   MDU's proposed capital structure is shown in Table 1 below:

TABLE 1

MDU's Proposed Capital Structure
(Pro Forma 2015)

Description	Weight
Long-Term Debt	41.14%
Short-Term Debt	8.11%
Preferred Stock	1.24%
Common Equity	49.52%
Total Regulatory Capital Structure	100.0%

Source: Rule 20:10:13:72, Statement G, Page 1.

6   MDU's proposed capital structure is largely based on its balance sheet

7   recordings as offered in its FERC Form 1 reflecting pro forma adjustments for

8   calendar year 2015. However, MDU witness Garret Senger developed the proposed

9   capital structure by removing common equity supporting MDU's investments in

10   subsidiaries.   Mr. Senger's adjustments are made on his Rule 20:10:13:75,

11   Statement G, page 1. There, he removes approximately $2.59 billion of Investment in

12   Subsidiaries in arriving at the common equity supporting utility plant and equipment.

1 **Q** **DO YOU BELIEVE MR. SENGER'S ADJUSTMENT TO MDU'S TOTAL COMMON**

2 **EQUITY ACCURATELY ESTIMATES THE AMOUNT OF COMMON EQUITY**

3 **SUPPORTING UTILITY INFRASTRUCTURE?**

4 A No. Mr. Senger should have removed all of the common equity supporting MDU's

5 Other Property and Investments shown on the Company's balance sheet on Rule

6 20:10:13:51 Statement A, page 1. For both 2013 and 2014, the Company had

7 $2.45 billion and $2.67 billion of Net Other Property and Investments, respectively.

8 This Net Other Property and Investments is largely made up of the Investment in

9 Subsidiary Companies recognized by Mr. Senger as not related to utility plant

10 investment. The Net Other Property and Investments also includes investment in

11 Nonutility Property and Other Investments. The common equity supporting these

12 non-utility investments should also be excluded from the ratemaking capital structure.

13 **Q** **HOW DOES MDU DEFINE ITS INVESTMENTS IN NONUTILITY PROPERTY**

14 **INVESTMENT CATEGORIES?**

15 A In its year-end 2014 FERC Form 1, MDU provides some description, albeit rather

16 vague, in describing its Nonutility Property and Other Investments categories.

17 Generally, MDU states as follows:

18 **Investments**

19 The Company's investments include its <u>investment in subsidiary</u>
20 <u>companies</u>, the cash surrender value of life insurance policies, an
21 insurance contract, and other miscellaneous investments. The
22 Company measures its investment in the insurance contract at fair
23 value with any unrealized gains and losses recorded on the Statement
24 of Income. The Company has not elected the fair value option for its
25 other investments. For more information, see Notes 4 and 11.[6]

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[6]MDU Resources Group, Inc. 2014/Q4 FERC Form No. 1, page 123.3, emphasis added.

1 **Q** **DID MDU PROVIDE AN EXPLANATION OF WHY IT DID NOT REMOVE THIS**

2 **NONUTILITY PROPERTY AND OTHER INVESTMENTS FROM ITS EQUITY**

3 **CAPITAL SUPPORTING UTILITY OPERATIONS?**

4 A No, not yet. FEA has issued data requests in regards to these additional accounts

5 that I believe should have been removed. However, FEA has not received the

6 responses yet.

7 **Q** **DO YOU BELIEVE IT IS REASONABLE TO ASSUME THAT THESE OTHER**

8 **NON-UTILITY INVESTMENTS ARE SUPPORTED BY THE DEBT RECORDED ON**

9 **MDU'S UTILITY ANNUAL REPORT FILING IN ITS FERC FORM 1?**

10 A No. MDU Resources Group, Inc.'s debt rating generally reflects the "relative stability

11 of its regulated operations." [7] This business risk assessment generally reflects the

12 stability and predictability of the cash flow produced from utility-related businesses.

13 Investments which do not produce this stable and predictable cash flow then should

14 not get the benefit of the debt issued based on MDU stable utility businesses. This

15 would provide a subsidy between MDU's utility and non-utility investments.

16 Therefore, it is not appropriate to assume that Nonutility Property and Other

17 Investments are supported by the utility debt recorded on MDU's FERC Form 1.

18 Therefore, it is reasonable to assume that they are financed entirely with common

19 equity. Hence, it is appropriate to remove the non-utility equity from the ratemaking

20 capital structure.

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[7] *Standard & Poor's RatingsDirect*: "Research Update: MDU Resources Group Inc. And Subsidiary 'BBB+' Corporate Credit Ratings Affirmed, Outlook Revised To Negative," November 30, 2015 at 2-4.

1 **Q WOULD YOU PLEASE DESCRIBE THE RATEMAKING CAPITAL STRUCTURE**

2 **YOU PROPOSE BE USED TO SET MDU'S RATES IN THIS PROCEEDING.**

3 A The ratemaking capital structure I propose be used to set rates for MDU is shown in

4 Table 2 below. I developed this table using the same methodology used by MDU

5 witness Mr. Senger, except I removed all "Net Other Property and Investments" from

6 common equity supporting utility plant and equipment. This results in reducing the

7 amount of common equity by approximately $77 million additionally in the pro forma

8 2015 year relative to that produced by Mr. Senger.

TABLE 2

Gorman Proposed Capital Structure
(Pro Forma 2015)

Description	Weight
Long-Term Debt	43.89%
Short-Term Debt	8.65%
Preferred Stock	1.32%
Common Equity	46.14%
Total Regulatory Capital Structure	100.00%

Source: Exhibit No.___(MPG-2), Schedule 1.

9 **Q DO YOU BELIEVE YOUR PROPOSED RATEMAKING CAPITAL STRUCTURE IS**

10 **REASONABLE?**

11 A Yes. My proposed ratemaking capital structure has a common equity ratio of

12 approximately 46.1%, which is reasonably consistent with the proxy group average

13 common equity ratio of 47.6% used to measure MDU's return on equity in this

14 proceeding. I will discuss this proxy group later in my testimony.

1 **II.D. Embedded Cost of Debt**

2 **Q   WHAT IS THE EMBEDDED COST OF DEBT THAT THE COMPANY IS**

3 **PROPOSING IN THIS PROCEEDING?**

4 A   The Company is proposing an embedded debt cost of 5.95% for 2015.   The

5 embedded debt cost is sponsored by Company witness Garret Senger.

6 **Q   DO YOU HAVE ANY ISSUES WITH MDU'S PROPOSED EMBEDDED COST OF**

7 **DEBT?**

8 A   Yes. Mr. Senger included a projected 10-year debt issuance of $150 million with an

9 interest rate of 5.0%. However, in his rebuttal testimony in MDU's electric rate case

10 in Montana (Docket No. D2015.6.51), he identified the actual debt issuances as

11 follows:

12 • $87 million 10-year note at 3.78 percent on October 29, 2015;

13 • $11 million 15-year note at 4.87 percent on October 29, 2015; and

14 • $52 million 30-year note at 4.03 percent on December 10, 2015.[8]

15 Based on these actual debt issuances, the Company revised its cost of debt to

16 5.788%.

17 **Q   HOW DID YOU REVISE MDU'S PROPOSED COST OF DEBT?**

18 A   I used the Company's revised cost of debt of 5.788% as disclosed in its electric filing

19 described above.

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[8]Public Service Commission of Montana Docket No. D2015.6.51, Rebuttal Testimony of Garret Senger at 2.

1 ## II.E. Return on Equity

2 **Q**   **PLEASE DESCRIBE WHAT IS MEANT BY A "UTILITY'S COST OF COMMON**

3   **EQUITY."**

4 A   A utility's cost of common equity is the return investors require on an investment in

5   the utility.   Investors expect to achieve their return requirement from receiving

6   dividends and stock price appreciation.

7 **Q**   **PLEASE DESCRIBE THE FRAMEWORK FOR DETERMINING A REGULATED**

8   **UTILITY'S COST OF COMMON EQUITY.**

9 A   In general, determining a fair cost of common equity for a regulated utility has been

10   framed by two hallmark decisions of the U.S. Supreme Court: <u>Bluefield Water Works</u>

11   <u>& Improvement Co. v. Pub. Serv. Comm'n of W. Va.</u>, 262 U.S. 679 (1923) and <u>Fed.</u>

12   <u>Power Comm'n v. Hope Natural Gas Co.</u>, 320 U.S. 591 (1944).

13   These decisions identify the general standards to be considered in

14   establishing the cost of common equity for a public utility. Those general standards

15   provide that the authorized return should: (1) be sufficient to maintain financial

16   integrity; (2) attract capital under reasonable terms; and (3) be commensurate with

17   returns investors could earn by investing in other enterprises of comparable risk.

18 **Q**   **PLEASE DESCRIBE THE METHODS YOU HAVE USED TO ESTIMATE MDU'S**

19   **COST OF COMMON EQUITY.**

20 A   I have used several models based on financial theory to estimate MDU's cost of

21   common equity. These models are: (1) a constant growth Discounted Cash Flow

22   ("DCF") model using consensus analysts' growth rate projections; (2) a constant

23   growth DCF using sustainable growth rate estimates; (3) a multi-stage growth DCF

1   model; (4) a Risk Premium model; and (5) a Capital Asset Pricing Model ("CAPM"). I

2   have applied these models to a group of publicly traded utilities that have investment

3   risk similar to MDU.

4   ## II.F. Risk Proxy Group

5   **Q   HOW DID YOU SELECT A UTILITY PROXY GROUP SIMILAR IN INVESTMENT**

6   **RISK TO MDU TO ESTIMATE ITS CURRENT MARKET COST OF EQUITY?**

7   A   I relied on the same proxy group used by MDU witness Dr. J. Stephen Gaske to

8   estimate MDU's return on equity.   However, I excluded Piedmont Natural Gas

9   Company because October 26, 2015 it announced that it will be acquired by Duke

10   Energy Corp. Hence, its financials will be affected by this acquisition transaction.

11   **Q   PLEASE   DESCRIBE   WHY   YOU   BELIEVE   YOUR   PROXY   GROUP   IS**

12   **REASONABLY COMPARABLE IN INVESTMENT RISK TO MDU.**

13   A   MDU does not have a stand-alone credit rating from S&P and its parent company is

14   currently not rated by Moody's.   Therefore, I used the credit rating of its parent

15   company. The proxy group is shown in Exhibit No.___(MPG-2), Schedule 2. My

16   proxy group has an average corporate credit rating from S&P of A-, which is a notch

17   higher than MDU's parent company credit rating from S&P of BBB+. Accordingly, I

18   believe my proxy group is reasonably comparable in investment risk to MDU.

19   The proxy group has an average common equity ratio of 47.6% (including

20   short-term debt) from SNL Financial ("SNL") and 54.4% (excluding short-term debt)

21   from *The Value Line Investment Survey* ("*Value Line*") in 2015. The proxy group

22   common equity balance is comparable to my proposed ratemaking capital structure

23   common equity ratio of 46.1% for MDU.

1   Based on the similarity of corporate credit ratings and common equity ratios, I

2   conclude the proxy group reasonably approximates the investment risk of MDU.

3 ## II.G. Discounted Cash Flow Model

4 **Q   PLEASE DESCRIBE THE DISCOUNTED CASH FLOW MODEL.**

5 A   The Discounted Cash Flow (or "DCF") model posits that a stock price is valued by

6   summing the present value of expected future cash flows discounted at the investor's

7   required rate of return or cost of capital. This model is expressed mathematically as

8   follows:

9
10        $$P_0 = \frac{D_1}{(1+K)^1} + \frac{D_2}{(1+K)^2} \ .\ .\ .\ . \ \frac{D_\infty}{(1+K)^\infty} \qquad \text{(Equation 1)}$$

11   P_0 = Current stock price
12   D = Dividends in periods 1 - ∞
13   K = Investor's required return

14   This model can be rearranged in order to estimate the discount rate or

15   investor-required return, "K."   If it is reasonable to assume that earnings and

16   dividends will grow at a constant rate, then Equation 1 can be rearranged as follows:

17        $K = D_1/P_0 + G$ (Equation 2)

18   K = Investor's required return
19   D_1 = Dividend in first year
20   P_0 = Current stock price
21   G = Expected constant dividend growth rate

22   Equation 2 is referred to as the annual "constant growth" DCF model.

23 **Q   PLEASE DESCRIBE THE INPUTS TO YOUR CONSTANT GROWTH DCF MODEL.**

24 A   As shown in Equation 2 above, the constant growth DCF model requires a current

25   stock price, expected dividend, and expected growth rate in dividends.

1 **Q   WHAT STOCK PRICE HAVE YOU RELIED ON IN YOUR CONSTANT GROWTH**

2 **DCF MODEL?**

3 A   I relied on the average of the weekly high and low stock prices of the utilities in the

4   proxy group over a 13-week period ending on February 26, 2016. An average stock

5   price is less susceptible to market price variations than a spot price. Therefore, an

6   average stock price is less susceptible to aberrant market price movements, which

7   may not reflect the stock's long-term value.

8   A 13-week average stock price reflects a period that is still short enough to

9   contain data that reasonably reflects current market expectations, but the period is

10   not so short as to be susceptible to market price variations that may not reflect the

11   stock's long-term value. In my judgment, a 13-week average stock price is a

12   reasonable balance between the need to reflect current market expectations and the

13   need to capture sufficient data to smooth out aberrant market movements.

14 **Q   WHAT DIVIDEND DID YOU USE IN YOUR CONSTANT GROWTH DCF MODEL?**

15 A   I used the most recently paid quarterly dividend, as reported in *Value Line*.[9] This

16   dividend was annualized (multiplied by 4) and adjusted for next year's growth to

17   produce the D_1 factor for use in Equation 2 above.

18 **Q   WHAT DIVIDEND GROWTH RATES HAVE YOU USED IN YOUR CONSTANT**

19 **GROWTH DCF MODEL?**

20 A   There are several methods that can be used to estimate the expected growth in

21   dividends. However, regardless of the method, for purposes of determining the

22   market-required return on common equity, one must attempt to estimate investors'

---

[9] *The Value Line Investment Survey*, December 4, 2015.

1   consensus about what the dividend or earnings growth rate will be, and not what an

2   individual investor or analyst may use to make individual investment decisions.

3   As predictors of future returns, security analysts' growth estimates have been

4   shown to be more accurate than growth rates derived from historical data.[10] That is,

5   assuming the market generally reflects rational investment decisions, analysts' growth

6   projections are more likely to influence investors' decisions which are captured in

7   observable stock prices than growth rates derived only from historical data.

8   For my constant growth DCF analysis, I have relied on a consensus, or mean,

9   of professional security analysts' earnings growth estimates as a proxy for investor

10   consensus dividend growth rate expectations. I used the average of analysts' growth

11   rate estimates from three sources: Zacks, SNL, and Reuters. All such projections

12   were available on February 26, 2016, as reported online. These analysts' growth rate

13   projections are for three to five years out.

14   Each consensus growth rate projection is based on a survey of security

15   analysts. There is no clear evidence whether a particular analyst is most influential

16   on general market investors. Therefore, a single analyst's projection does not as

17   reliably predict consensus investor outlooks as does a consensus of market analysts'

18   projections. The consensus estimate is a simple arithmetic average, or mean, of

19   surveyed analysts' earnings growth forecasts. A simple average of the growth

20   forecasts gives equal weight to all surveyed analysts' projections. Therefore, a

21   simple average, or arithmetic mean, of analyst forecasts is a good proxy for market

22   consensus expectations.

---

[10]See, e.g., David Gordon, Myron Gordon, and Lawrence Gould, "Choice Among Methods of Estimating Share Yield," The Journal of Portfolio Management, Spring 1989.

1 **Q** **WHAT ARE THE GROWTH RATES YOU USED IN YOUR CONSTANT GROWTH**

2 **DCF MODEL?**

3 A The growth rates I used in my DCF analysis are shown in Exhibit No.___(MPG-2),

4 Schedule 3. The average growth rate for my proxy group is 5.70%.

5 **Q** **WHAT ARE THE RESULTS OF YOUR CONSTANT GROWTH DCF MODEL?**

6 A As shown in Exhibit No.___(MPG-2), Schedule 4, the average and median constant

7 growth DCF returns for my proxy group are 8.91% and 8.79%, respectively.

8 **Q** **DO YOU HAVE ANY COMMENTS ON THE RESULTS OF YOUR CONSTANT**

9 **GROWTH DCF ANALYSIS?**

10 A Yes. The constant growth DCF analysis for my proxy group is based on a long-term

11 sustainable growth rate of 5.70%. This growth rate is higher than my estimate of a

12 maximum long-term sustainable growth rate of 4.4%, which I discuss next. I will take

13 into consideration my conclusion that the proxy group's three- to five-year growth rate

14 is too high to be a rational outlook for long-term sustainable growth in interpreting my

15 DCF return results. Overall, I believe the 5.70% growth rate in the constant growth

16 DCF analysis produces overstated return estimates.

17 **Q** **HOW DID YOU ESTIMATE A MAXIMUM LONG-TERM SUSTAINABLE GROWTH**

18 **RATE?**

19 A A long-term sustainable growth rate for a utility stock cannot exceed the growth rate

20 of the economy in which it sells its goods and services. As I will discuss in my multi-

21 stage growth DCF analysis, academic and investment practitioner evidence accepts

22 the projected long-term GDP growth outlook as a maximum sustainable growth rate

1   projection. Hence, recognizing the long-term GDP growth rate as a maximum

2   sustainable growth is logical, and generally consistent with academic and economic

3   practitioner accepted practices.

4   As a result, a reasonable proxy for the long-term maximum sustainable growth

5   rate for a utility investment is best proxied by the projected long-term Gross Domestic

6   Product ("GDP"). *Blue Chip Financial Forecasts* projects that over the next 5 and 10

7   years, the U.S. nominal GDP will grow in the range of 4.5% to 4.2%. As such, the

8   average growth rate over the next 10 years is around 4.4%, which I believe is a

9   reasonable proxy of long-term sustainable growth.[11]

10   **Q   CAN YOU FURTHER EXPLAIN WHY YOU BELIEVE THE AVERAGE GROWTH**

11   **RATE IS NOT A REASONABLE ESTIMATE OF LONG-TERM SUSTAINABLE**

12   **GROWTH AS REQUIRED BY THE CONSTANT GROWTH DCF MODEL?**

13   A   Yes. Primarily, the three- to five-year growth rate for the proxy group is more than

14   100 basis points above the projected growth of the U.S. GDP. This short-term growth

15   simply cannot be sustained indefinitely. This will be discussed in greater detail in

16   developing my multi-stage growth DCF model.

17   ## II.H. Sustainable Growth DCF

18   **Q   PLEASE DESCRIBE HOW YOU ESTIMATED A SUSTAINABLE LONG-TERM**

19   **GROWTH RATE FOR YOUR SUSTAINABLE GROWTH DCF MODEL.**

20   A   A sustainable growth rate is based on the percentage of the utility's earnings that is

21   retained and reinvested in utility plant and equipment. These reinvested earnings

22   increase the earnings base (rate base). Earnings grow when plant funded by

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[11] *Blue Chip Financial Forecasts*, December 1, 2015 at 14.

1   reinvested earnings is put into service, and the utility is allowed to earn its authorized

2   return on such additional rate base investment.

3   The internal growth methodology is tied to the percentage of earnings retained

4   in the company and not paid out as dividends. The earnings retention ratio is 1 minus

5   the dividend payout ratio. As the payout ratio declines, the earnings retention ratio

6   increases. An increased earnings retention ratio will fuel stronger growth because

7   the business funds more investments with retained earnings.

8   The dividend payout ratios of the proxy group are shown in my Exhibit

9   No.___(MPG-2), Schedule 5. These dividend payout ratios and earnings retention

10   ratios then can be used to develop a sustainable long-term earnings retention growth

11   rate. A sustainable long-term earnings retention ratio will help gauge whether

12   analysts' current three- to five-year growth rate projections can be sustained over an

13   indefinite period of time.

14   The data used to estimate the long-term sustainable growth rate is based on

15   the Company's current market-to-book ratio and on *Value Line*'s three- to five-year

16   projections of earnings, dividends, earned returns on book equity, and stock

17   issuances.

18   As shown in Exhibit No.___(MPG-2), Schedule 6, the average sustainable

19   growth rate for the proxy group using this internal growth rate model is 6.37%.

1 **Q DO YOU HAVE ANY COMMENTS CONCERNING THE INTERNAL GROWTH**

2 **RATE OF 6.37%?**

3 A Yes. This growth rate is significantly above the long-term sustainable growth of 4.4%,

4 which is mainly driven by natural gas equities currently trading significantly above

5 book value at record high price levels. Most importantly, this growth rate cannot be

6 sustained indefinitely, as required by the DCF model.

7 **Q WHAT IS THE DCF ESTIMATE USING THESE SUSTAINABLE LONG-TERM**

8 **GROWTH RATES?**

9 A A constant growth DCF estimate based on these sustainable growth rates is

10 developed in Exhibit No.___(MPG-2), Schedule 7. As shown there, a sustainable

11 growth DCF analysis produces average and median DCF results of 9.77% and

12 9.48%, respectively.

13 While the growth rate projections used in this version of the DCF model are

14 referred to as sustainable long-term growth rates, they are based on projections of

15 earnings, dividends, and book value for the utilities three to five years out. Hence,

16 these parameters may change over time, and may result in long-term growth rates

17 being lower than that implied through the sustainable growth rate model.

18 **II.I. Multi-Stage Growth DCF Model**

19 **Q HAVE YOU CONDUCTED ANY OTHER DCF STUDIES?**

20 A Yes. My constant growth DCF is based on consensus analysts' growth rate

21 projections, so it is a reasonable reflection of rational investment expectations over

22 the next three to five years. The limitation on the constant growth DCF model is that

23 it cannot reflect the rational expectation that a period of high/low short-term growth

1   can be followed by a change in growth to a rate that is more reflective of long-term

2   sustainable growth. To address this issue with the constant growth DCF model, I

3   performed a multi-stage growth DCF analysis to reflect this outlook of changing

4   growth expectations.

5   **Q   WHY DO YOU BELIEVE GROWTH RATES CAN CHANGE OVER TIME?**

6   A   Analyst projected growth rates over the next three to five years will change as utility

7   earnings growth outlooks change. Utility companies go through cycles in making

8   investments in their systems. When utility companies are making large investments,

9   their rate base grows rapidly, which accelerates their earnings growth. Once a major

10   construction cycle is completed or levels off, growth in the utility rate base slows, and

11   its earnings growth slows from an abnormally high three- to five-year rate to a lower

12   sustainable growth rate.

13   As major construction cycles extend over longer periods of time, even with an

14   accelerated construction program, the growth rate of the utility will slow simply

15   because rate base growth will slow and the utility has limited human and capital

16   resources available to expand its construction program. Hence, the three- to five-

17   year growth rate projection should be used as a long-term sustainable growth rate

18   only if supported by a reasonable and informed judgment to determine whether the

19   three- to five-year growth outlook considers the current market environment, the

20   industry, and whether the three- to five-year growth outlook is sustainable.

21   **Q   PLEASE DESCRIBE YOUR MULTI-STAGE GROWTH DCF MODEL.**

22   A   The multi-stage growth DCF model reflects the possibility of non-constant growth for

23   a company over time. My multi-stage growth DCF model reflects three growth

1   periods: (1) a short-term growth period, which consists of the first five years; (2) a

2   transition period, which consists of the next five years (years 6 through 10); and (3) a

3   long-term growth period, starting in year 11 through perpetuity.

4   For the short-term growth period, I relied on the consensus analysts' growth

5   projections described above in relationship to my constant growth DCF model. For

6   the transition period, the growth rates were reduced or increased by an equal factor,

7   which reflects the difference between the analysts' growth rates and the long-term

8   sustainable growth rate. For the long-term growth period, I assumed each company's

9   growth would converge to the maximum sustainable long-term growth rate, as

10 measured by the consensus economists' GDP growth projection.

11 **Q   WHY IS THE GDP GROWTH PROJECTION A REASONABLE PROXY FOR THE**

12 **MAXIMUM SUSTAINABLE LONG-TERM GROWTH RATE?**

13 A   Utilities cannot indefinitely sustain a growth rate that exceeds the growth rate of the

14 economy in which they sell services. Utilities' earnings/dividend growth is created by

15 increased utility investment or rate base. Such investment, in turn, is driven by

16 service area economic growth and demand for utility service. In other words, utilities

17 invest in plant to meet sales demand growth, and sales growth, in turn, is tied to

18 economic growth in their service areas.

19   The U.S. Department of Energy, Energy Information Administration ("EIA")

20 has observed that utility sales growth tracks the U.S. GDP growth, albeit at a lower

21 level, as shown in Exhibit No.___(MPG-2), Schedule 8. Utility sales growth has

22 lagged behind GDP growth for more than a decade. As a result, nominal GDP

23 growth is a very conservative proxy for utility sales growth, rate base growth, and

1   earnings growth.   Therefore, the U.S. GDP nominal growth rate is a conservative

2   proxy for the highest sustainable long-term growth rate of a utility.

3 **Q   IS THERE RESEARCH THAT SUPPORTS YOUR POSITION THAT, OVER THE**

4   **LONG TERM, A COMPANY'S EARNINGS AND DIVIDENDS CANNOT GROW AT**

5   **A RATE GREATER THAN THE GROWTH OF THE U.S. GDP?**

6 A   Yes.   This concept is supported in both published analyst literature and academic

7   work.   Specifically, in a textbook entitled "Fundamentals of Financial Management,"

8   published by Eugene Brigham and Joel F. Houston, the authors state as follows:

9   The constant growth model is most appropriate for mature companies
10   with a stable history of growth and stable future expectations.
11   Expected growth rates vary somewhat among companies, but
12   <u>dividends for mature firms are often expected to grow in the future at</u>
13   <u>about the same rate as nominal gross domestic product (real GDP</u>
14   <u>plus inflation).</u>[12]

15 **Q   IS THERE ANY ACTUAL INVESTMENT HISTORY THAT SUPPORTS THE**

16   **NOTION THAT THE CAPITAL APPRECIATION FOR STOCK INVESTMENTS WILL**

17   **NOT EXCEED THE NOMINAL GROWTH OF THE U.S. GDP?**

18 A   Yes.   This is evident by a comparison of the compound annual growth of the U.S.

19   GDP relative to the geometric growth of the U.S. stock market.   Morningstar

20   measures the historical geometric growth of the U.S. stock market over the period

21   1926-2014 to be approximately 5.9%.[13]   During this same time period, the U.S.

22   nominal compound annual growth of the U.S. GDP was approximately 6.2%.

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[12]"Fundamentals of Financial Management," Eugene F. Brigham and Joel F. Houston, Eleventh Edition 2007, Thomson South-Western, a Division of Thomson Corporation at 298, emphasis added.

[13]*Morningstar, Inc., Ibbotson SBBI 2015 Classic Yearbook* inflation rate of 3.0% at 91, "U.S. Bureau of Economic Analysis," January 29, 2016.

1   As such, the compound geometric growth of the U.S. nominal GDP has been

2   higher but comparable to the nominal growth of the U.S. stock market capital

3   appreciation. This historical relationship indicates the U.S. GDP growth outlook is a

4   conservative estimate of the long-term sustainable growth of U.S. stock investments.

5   **Q   HOW DID YOU DETERMINE A SUSTAINABLE LONG-TERM GROWTH RATE**

6   **THAT REFLECTS THE CURRENT CONSENSUS OUTLOOK OF THE MARKET?**

7   A   I relied on the consensus analysts' projections of long-term GDP growth. *Blue Chip*

8   *Financial Forecasts* publishes consensus economists' GDP growth projections twice

9   a year. These consensus analysts' GDP growth outlooks are the best available

10   measure of the market's assessment of long-term GDP growth. These analyst

11   projections reflect all current outlooks for GDP, as reflected in analyst projections, and

12   are likely the most influential on investors' expectations of future growth outlooks.

13   The consensus economists' published GDP growth rate outlook is 4.5% to 4.2% over

14   the next 10 years.[14]

15   Therefore, I propose to use the consensus economists' projected 5- and

16   10-year average GDP consensus growth rates of 4.5% and 4.2%, respectively, as

17   published by *Blue Chip Financial Forecasts*, as an estimate of long-term sustainable

18   growth. *Blue Chip Financial Forecasts* projections provide real GDP growth

19   projections of 2.3% and 2.2%, and GDP inflation of 2.1% and 2.0%,[15] over the 5-year

20   and 10-year projection periods, respectively. These consensus GDP growth

21   forecasts represent the most likely views of market participants because they are

22   based on published consensus economist projections.

---

[14] *Blue Chip Financial Forecasts*, December 1, 2015 at 14.
[15] *Id.*

1 **Q DO YOU CONSIDER OTHER SOURCES OF PROJECTED LONG-TERM GDP**

2 **GROWTH?**

3 A Yes, and these sources corroborate my consensus analysts' projections, as shown

4 below in Table 3.

TABLE 3

GDP Forecasts

Source	Term	Real GDP	Inflation	Nominal GDP
EIA – Annual Earnings Outlook[16]	25 Yrs	2.4%	1.8%	4.2%
Congressional Budget Office[17]	10 Yrs	2.3%	1.9%	4.2%
Moody's Analytics[18]	30 Yrs	2.0%	2.0%	4.0%
Social Security Administration[19]	30-75 Yrs			4.5%
The Economist Intelligence Unit[20]	35 Yrs	1.9%	2.0%	3.9%
Blue Chip Financial Forecasts	5-10 Yrs	2.3%	2.1%	4.4%

5 The EIA in its *Annual Energy Outlook* projects real GDP out until 2040. In its

6 2015 Annual Report, the EIA projects real GDP through 2040 to be in the range of

7 1.8% to 2.9%, with a midpoint or reference case of 2.4%, and a long-term GDP price

8 inflation projection of 1.8%. The EIA data supports a long-term nominal GDP growth

9 outlook of 4.2%.[16]

10 Also, the Congressional Budget Office ("CBO") makes long-term economic

11 projections. The CBO is projecting real GDP growth to be in the range of 2.0% to

12 2.6%, with a midpoint of 2.3%, during the next 10 years, with a GDP price inflation

---

[16]DOE/EIA Annual Energy Outlook 2015 With Projections to 2040, April 2015, at 4 and A-38.

1   outlook in the range of 1.6% to 2.1%, with a midpoint of 1.9%.[17] The CBO 10-year

2   outlook for nominal GDP based on this projection is 4.2%.

3   Moody's Analytics also makes long-term economic projections. In its recent

4   30-year outlook to 2044, Moody's Analytics is projecting real GDP growth of 2.0%

5   with GDP inflation of 2.2%.[18] Based on these projections, Moody's is projecting

6   nominal GDP growth of 4.2% over the next 30 years.

7   The Social Security Administration makes long-term economic projections out

8   to 2090. The Social Security Administration's nominal GDP projections, under its

9   intermediate cost scenario for 30 and 75 years, ranges from 4.5% to 4.4%,

10   respectively.[19] These projections are in line with the consensus economists.

11   The Economist Intelligence Unit, a division of *The Economist* and a third-party

12   data provider to SNL Financial, makes a long-term economic projection out to 2050.[20]

13   The Economist Intelligence Unit is projecting real GDP growth of 1.9% with an

14   inflation rate of 2.0% out to 2050. The real GDP growth projection is in line with the

15   consensus economists. The long-term nominal GDP projection based on these

16   outlooks is approximately 3.9%.

17   The real GDP and nominal GDP growth projections made by these

18   independent sources support the use of the consensus economist 5-year and 10-year

19   projected GDP growth outlooks as a reasonable estimate of market participants'

20   long-term GDP growth outlooks.

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[17] *CBO: The Budget and Economic Outlook: 2016 to 2026*, January 2016, at 140.
[18] www.economy.com, *Moody's Analytics Forecast*, January 6, 2016.
[19] www.ssa.gov, "2015 OASDI Trustees Report," Table VI.G4.
[20] *SNL Financial, Economist Intelligence Unit*, downloaded on January 13, 2016.

1 **Q WHAT STOCK PRICE, DIVIDEND, AND GROWTH RATES DID YOU USE IN YOUR**

2 **MULTI-STAGE GROWTH DCF ANALYSIS?**

3 A I relied on the same 13-week average stock prices and the most recent quarterly

4 dividend payment data discussed above. For stage one growth, I used the

5 consensus analysts' growth rate projections presented above in the discussion of my

6 constant growth DCF model. The first stage growth covers the first five years,

7 consistent with the term of the analyst growth rate projections. The second stage, or

8 transition stage, begins in year 6 and extends through year 10. The second stage

9 growth transitions the growth rate from the first stage to the third stage using a linear

10 trend. For the third stage, or long-term sustainable growth stage, which starts in year

11 11, I used a 4.4% long-term sustainable growth rate, which conservatively is based

12 on the consensus economists' long-term projected nominal GDP growth rate.

13 **Q WHAT ARE THE RESULTS OF YOUR MULTI-STAGE GROWTH DCF MODEL?**

14 A As shown in Exhibit No.___(MPG-2), Schedule 9, the average and median DCF

15 returns on equity for my proxy group are 7.83% and 7.87%, respectively.

16 ## II.J. Summary and Conclusions Regarding DCF Analyses

17 **Q PLEASE SUMMARIZE THE RESULTS FROM YOUR DCF ANALYSES.**

18 A The results from my DCF analyses are summarized in Table 4 below:

TABLE 4

Summary of DCF Results

Description	Average	Median
Constant Growth DCF Model (Analysts' Growth)	8.91%	8.79%
Constant Growth DCF Model (Sustainable Growth)	9.77%	9.48%
Multi-Stage Growth DCF Model	<u>7.83%</u>	<u>7.87%</u>
Average	**8.83%**	**8.71%**

1 **Q**   **WHAT CONCLUSIONS DID YOU DRAW FROM YOUR DCF ANALYSES**?

2 A   I concluded that my DCF studies indicate a return on equity of 8.90% for MDU. As

3   discussed above, I believe certain constant growth DCF estimates using sustainable

4   growth rate projections are far too high to be rational estimates of long-term

5   sustainable growth produce overstated DCF results. However, I am also concerned

6   about my low-end DCF estimate as being reflective of capital cost. Therefore, I

7   recommend a DCF return estimate of 8.9% for MDU based on my DCF studies.

8 **II.K. Risk Premium Model**

9 **Q**   **PLEASE DESCRIBE YOUR BOND YIELD PLUS RISK PREMIUM MODEL.**

10 A   This model is based on the principle that investors require a higher return to assume

11   greater risk. Common equity investments have greater risk than bonds because

12   bonds have more security of payment in bankruptcy proceedings than common equity

13   and the coupon payments on bonds represent contractual obligations. In contrast,

14   companies are not required to pay dividends or guarantee returns on common equity

1   investments. Therefore, common equity securities are considered to be more risky

2   than bond securities.

3   This risk premium model is based on two estimates of an equity risk premium.

4   First, I estimated the difference between the required return on utility common equity

5   investments and U.S. Treasury bonds. The difference between the required return on

6   common equity and the Treasury bond yield is the risk premium. I estimated the risk

7   premium on an annual basis for each year over the period 1986 through 2015. The

8   common equity required returns were based on regulatory commission-authorized

9   returns for utility companies. Authorized returns are typically based on expert

10   witnesses' estimates of the contemporary investor-required return.

11   The second equity risk premium estimate is based on the difference between

12   regulatory commission-authorized returns on common equity and contemporary

13   "A" rated utility bond yields by Moody's. I selected the period 1986 through 2015

14   because public utility stocks consistently traded at a premium to book value during

15   that period. This is illustrated in Exhibit No.___(MPG-2), Schedule 10, which shows

16   that the market to book ratio since 1986 for the utility industry was consistently above

17   a multiple of 1.0x. Over this period, regulatory authorized returns were sufficient to

18   support market prices that at least exceeded book value. This is an indication that

19   regulatory authorized returns on common equity supported a utility's ability to issue

20   additional common stock without diluting existing shares. It further demonstrates that

21   utilities were able to access equity markets without a detrimental impact on current

22   shareholders.

23   Based on this analysis, as shown in Exhibit No.___(MPG-2), Schedule 10, the

24   average indicated equity risk premium over U.S. Treasury bond yields has been

25   5.31%. Since the risk premium can vary depending upon market conditions and

1   changing investor risk perceptions, I believe using an estimated range of risk

2   premiums provides the best method to measure the current return on common equity

3   for a risk premium methodology.

4   I incorporated five-year and 10-year rolling average risk premiums over the

5   study period to gauge the variability over time of risk premiums. These rolling

6   average risk premiums mitigate the impact of anomalous market conditions and

7   skewed risk premiums over an entire business cycle. As shown on my Exhibit

8   No.___(MPG-2), Schedule 11, the five-year rolling average risk premium over

9   Treasury bonds ranged from 4.17% to 6.49%, while the 10-year rolling average risk

10   premium ranged from 4.30% to 6.14%.

11   As shown on my Exhibit No.___(MPG-2), Schedule 12, the average indicated

12   equity risk premium over contemporary Moody's utility bond yields was 3.93%. The

13   five-year and 10-year rolling average risk premiums ranged from 2.80% to 5.38% and

14   3.11% to 4.81%, respectively.

15 **Q   DO YOU BELIEVE THAT THESE EQUITY RISK PREMIUM ESTIMATES ARE**

16   **BASED ON A TIME PERIOD THAT IS TOO LONG OR TOO SHORT TO DRAW**

17   **ACCURATE   CONCLUSIONS   CONCERNING   CONTEMPORARY   MARKET**

18   **CONDITIONS?**

19 A   No. The time period I use in this risk premium study is a generally accepted period to

20   develop a risk premium study using "expectational" data.

21   Contemporary market conditions can change dramatically during the period

22   that rates determined in this proceeding will be in effect. A relatively long period of

23   time where stock valuations reflect premiums to book value is an indication that the

24   authorized returns on equity and the corresponding equity risk premiums were

1   supportive of investors' return expectations and provided utilities access to the equity

2   markets under reasonable terms and conditions. Further, this time period is long

3   enough to smooth abnormal market movement that might distort equity risk

4   premiums. While market conditions and risk premiums do vary over time, this

5   historical time period is a reasonable period to estimate contemporary risk premiums.

6   Alternatively, studies have recommended that use of "actual achieved

7   investment return data" in a risk premium study should be based on long historical

8   time periods. The studies find that achieved returns over short time periods may not

9   reflect investors' expected returns due to unexpected and abnormal stock price

10   performance. Short-term abnormal actual returns would be smoothed over time and

11   the achieved actual investment returns over long time periods would approximate

12   investors' expected returns. Therefore, it is reasonable to assume that averages of

13   annual achieved returns over long time periods will generally converge on the

14   investors' expected returns.

15   My risk premium study is based on expectational data, not actual investment

16   returns, and, thus, need not encompass a very long historical time period.

17 **Q**   **BASED ON HISTORICAL DATA, WHAT RISK PREMIUM HAVE YOU USED TO**

18   **ESTIMATE MDU'S COST OF COMMON EQUITY IN THIS PROCEEDING?**

19 A   The equity risk premium should reflect the relative market perception of risk in the

20   utility industry today. I have gauged investor perceptions in utility risk today in Exhibit

21   No.___(MPG-2), Schedule 13. In that exhibit, I show the yield spread between utility

22   bonds and Treasury bonds over the last 36 years. As shown in this exhibit, the

23   average utility bond yield spreads over Treasury bonds for "A" and "Baa" rated utility

24   bonds for this historical period are 1.52% and 1.95%, respectively. The utility bond

1   yield spreads over Treasury bonds for "A" and "Baa" rated utilities through 2015 were

2   1.27% and 2.19%, respectively. The current average "Baa" rated utility bond yield

3   spreads over Treasury bond yields are higher than the 36-year average spreads.

4   A current 13-week average "A" rated utility bond yield of 4.24%, when

5   compared to the current Treasury bond yield of 2.81% as shown in Exhibit

6   No.___(MPG-2), Schedule 14, implies a yield spread of around 143 basis points.

7   This current utility bond yield spread is lower than the 36-year average spread for "A"

8   rated utility bonds of 1.52%. The current spread for the "Baa" rated utility bond yield

9   of 2.63% is higher than the 36-year average spread of 1.95%. However, comparing

10   the current Baa utility yield of 5.44% to the projected Treasury yield of 3.7% produces

11   a spread of 174 basis points, which is lower than the 36-year average spread of

12   1.95%.

13   **Q   HOW DID YOU ESTIMATE MDU'S COST OF COMMON EQUITY WITH THIS RISK**

14   **PREMIUM MODEL?**

15   A   I added a projected long-term Treasury bond yield to my estimated equity risk

16   premium over Treasury yields. The 13-week average 30-year Treasury bond yield,

17   ending February 26, 2016, was 2.81%, as shown in Exhibit No.___(MPG-2),

18   Schedule 14, page 1. *Blue Chip Financial Forecasts* projects the 30-year Treasury

19   bond yield to be 3.70%, and a 10-year Treasury bond yield to be 3.1% in the near

20   term.[21] Using the projected 30-year Treasury bond yield of 3.70%, and a Treasury

21   bond risk premium of 4.17% to 6.49%, as developed above, produces an estimated

22   common equity return in the range of 7.87% (3.70% + 4.17%) to 10.19% (3.70% +

23   6.49%). My risk premium estimates fall in the range of 7.87% to 10.19%.

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[21]*Blue Chip Financial Forecasts*, February 1, 2016 at 2.

1   I next added my equity risk premium over utility bond yields to a current

2   13-week average yield on "Baa" rated utility bonds for the period ending February 26,

3   2016. Adding the utility equity risk premium of 2.80% to 5.38%, as developed above,

4   to a "Baa" rated bond yield of 5.44%, produces a cost of equity in the range of 8.24%

5   (5.44% + 2.80%) to 10.82% (5.44% + 5.38%). Based on this methodology my risk

6   premium estimates fall in the range of 8.24% to 10.82%.

7 **Q   WHAT IS YOUR RECOMMENDED RETURN FOR MDU BASED ON YOUR RISK**

8   **PREMIUM STUDY?**

9 A   To be conservative, I am recommending slightly more weight to the high-end risk

10   premium estimates than the low-end. I state this because of the relatively low level of

11   interest rates now, but relative upward movements of utility yields more recently.

12   Hence, I propose to provide 60% weight to my high-end risk premium estimates and

13   40% to the low-end. Based on this methodology, my Treasury bond risk premium is

14   9.26%[22] and based on my utility bond risk premium I recommend a return of 9.79%.[23]

15   This methodology produces a return on equity in the range of 9.30% to 9.80%,

16   with a midpoint of approximately 9.60%.

17 **II.L. Capital Asset Pricing Model**

18 **Q   PLEASE DESCRIBE THE CAPITAL ASSET PRICING MODEL.**

19 A   The Capital Asset Pricing Model ("CAPM") method is based upon the theory that the

20   market-required rate of return for a security is equal to the risk-free rate, plus a risk

21   premium associated with the specific security. This relationship between risk and

22   return can be expressed mathematically as follows:

---

[22](7.87% * 40%) + (10.19% * 60%) = 9.26%.
[23](8.24% * 40%) + (10.82% * 60%) = 9.79%.

1          $R_i = R_f + B_i \times (R_m - R_f)$ where:

2   R_i =   Required return for stock i
3   R_f =   Risk-free rate
4   R_m =   Expected return for the market portfolio
5   B_i =   Beta - Measure of the risk for stock

6   The stock-specific risk term in the above equation is beta. Beta represents

7 the investment risk that cannot be diversified away when the security is held in a

8 diversified portfolio. When stocks are held in a diversified portfolio, firm-specific risks

9 can be eliminated by balancing the portfolio with securities that react in the opposite

10 direction to firm-specific risk factors (*e.g.*, business cycle, competition, product mix,

11 and production limitations).

12   The risks that cannot be eliminated when held in a diversified portfolio are

13 non-diversifiable risks. Non-diversifiable risks are related to the market in general

14 and are referred to as systematic risks. Risks that can be eliminated by diversification

15 are regarded as non-systematic risks. In a broad sense, systematic risks are market

16 risks, and non-systematic risks are business risks. The CAPM theory suggests that

17 the market will not compensate investors for assuming risks that can be diversified

18 away. Therefore, the only risk that investors will be compensated for are systematic

19 or non-diversifiable risks. The beta is a measure of the systematic or

20 non-diversifiable risks.

21 **Q**   **PLEASE DESCRIBE THE INPUTS TO YOUR CAPM.**

22 A   The CAPM requires an estimate of the market risk-free rate, the company's beta, and

23   the market risk premium.

1 **Q** **WHAT DID YOU USE AS AN ESTIMATE OF THE MARKET RISK-FREE RATE?**

2 A As previously noted, *Blue Chip Financial Forecasts*' projected 30-year Treasury bond

3 yield is 3.70%.[24] The current 30-year Treasury bond yield is 2.81%, as shown in

4 Exhibit No.___(MPG-2), Schedule 14, page 1. I used *Blue Chip Financial Forecasts*'

5 projected 30-year Treasury bond yield of 3.70% for my CAPM analysis.

6 **Q** **WHY DID YOU USE LONG-TERM TREASURY BOND YIELDS AS AN ESTIMATE**

7 **OF THE RISK-FREE RATE?**

8 A Treasury securities are backed by the full faith and credit of the United States

9 government, so long-term Treasury bonds are considered to have negligible credit

10 risk. Also, long-term Treasury bonds have an investment horizon similar to that of

11 common stock. As a result, investor-anticipated long-run inflation expectations are

12 reflected in both common stock required returns and long-term bond yields.

13 Therefore, the nominal risk-free rate (or expected inflation rate and real risk-free rate)

14 included in a long-term bond yield is a reasonable estimate of the nominal risk-free

15 rate included in common stock returns.

16 Treasury bond yields, however, do include risk premiums related to

17 unanticipated future inflation and interest rates. A Treasury bond yield is not a

18 risk-free rate. Risk premiums related to unanticipated inflation and interest rates are

19 systematic or market risks. Consequently, for companies with betas less than 1.0,

20 using the Treasury bond yield as a proxy for the risk-free rate in the CAPM analysis

21 can produce an overstated estimate of the CAPM return.

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[24]*Blue Chip Financial Forecasts*, February 1, 2016 at 2.

1 **Q** **WHAT BETA DID YOU USE IN YOUR ANALYSIS?**

2 A As shown in Exhibit No.___(MPG-2), Schedule 15, the average *Value Line* beta

3 estimate is 0.76 for my proxy group.

4 **Q** **HOW DID YOU DERIVE YOUR MARKET RISK PREMIUM ESTIMATE?**

5 A I derived two market risk premium estimates, a forward-looking estimate and one

6 based on a long-term historical average.

7 The forward-looking estimate was derived by estimating the expected return

8 on the market (as represented by the S&P 500) and subtracting the risk-free rate from

9 this estimate. I estimated the expected return on the S&P 500 by adding an expected

10 inflation rate to the long-term historical arithmetic average real return on the market.

11 The real return on the market represents the achieved return above the rate of

12 inflation.

13 Morningstar's *Stocks, Bonds, Bills and Inflation 2015 Classic Yearbook*

14 estimates the historical arithmetic average real market return over the period 1926 to

15 2014 as 8.9%.[25] A current consensus analysts' inflation projection, as measured by

16 the Consumer Price Index, is 2.5%.[26] Using these estimates, the expected market

17 return is 11.62%.[27] The market risk premium then is the difference between the

18 11.62% expected market return, and my 3.70% risk-free rate estimate, or

19 approximately 7.92%.

20 The historical estimate of the market risk premium was also estimated by

21 Morningstar in *Stocks, Bonds, Bills and Inflation 2015 Classic Yearbook*. Over the

22 period 1926 through 2014, Morningstar's study estimated that the arithmetic average

---

[25] *Morningstar, Inc., Ibbotson SBBI 2015 Classic Yearbook* at 92.
[26] *Blue Chip Financial Forecasts*, February 1, 2016 at 2.
[27] $\{ \ [\ (1 + 0.089) * (1 + 0.025) \ ] - 1 \ \} * 100.$

1   of the achieved total return on the S&P 500 was 12.1%,[28] and the total return on

2   long-term Treasury bonds was 6.10%.[29] The indicated market risk premium is 6.0%

3   (12.1% - 6.1% = 6.0%).   The average of my market risk premium estimates is

4   approximately 7.0% (6.0% to 7.9%).

5 **Q**   **HOW DOES YOUR ESTIMATED MARKET RISK PREMIUM RANGE COMPARE TO**

6   **THAT ESTIMATED BY MORNINGSTAR?**

7 A   Morningstar's analysis indicates that a market risk premium falls somewhere in the

8   range of 6.3% to 7.0%. My market risk premium falls in the range of 6.0% to 7.6%.

9   My average market risk premium of 6.80% is within Morningstar's range.

10   Morningstar estimates a forward-looking market risk premium based on actual

11   achieved data from the historical period of 1926 through 2014.   Using this data,

12   Morningstar estimates a market risk premium derived from the total return on large

13   company stocks (S&P 500), less the income return on Treasury bonds.   The total

14   return includes capital appreciation, dividend or coupon reinvestment returns, and

15   annual yields received from coupons and/or dividend payments. The income return,

16   in contrast, only reflects the income return received from dividend payments or

17   coupon yields. Morningstar argues that the income return is the only true risk-free

18   rate associated with Treasury bonds and is the best approximation of a truly risk-free

19   rate.[30] I disagree with this assessment from Morningstar, because it does not reflect a

20   true investment option available to the marketplace and therefore does not produce a

21   legitimate estimate of the expected premium of investing in the stock market versus

22   that of Treasury bonds. Nevertheless, I will use Morningstar's conclusion to show the

23   reasonableness of my market risk premium estimates.

---

[28]*Morningstar, Inc., Ibbotson SBBI 2015 Classic Yearbook* at 91.
[29]*Id.*
[30]*Id.* at 153.

1   Morningstar's range is based on several methodologies. First, Morningstar

2   estimates a market risk premium of 7.0% based on the difference between the total

3   market return on common stocks (S&P 500) less the income return on Treasury bond

4   investments.   Second, Morningstar found that if the New York Stock Exchange

5   ("NYSE") was used as the market index rather than the S&P 500, that the market risk

6   premium would be 6.8%, not 7.0%.   Third, if only the two deciles of the largest

7   companies included in the NYSE were considered, the market risk premium would be

8   6.3%.[31]

9   Finally, Morningstar found that the 7.0% market risk premium based on the

10 S&P 500 was influenced by an abnormal expansion of price-to-earnings ("P/E") ratios

11 relative to earnings and dividend growth during the period 1980 through 2001.

12 Morningstar believes this abnormal P/E expansion is not sustainable.[32]   Therefore,

13 Morningstar adjusted this market risk premium estimate to normalize the growth in the

14 P/E ratio to be more in line with the growth in dividends and earnings. Based on this

15 alternative methodology, Morningstar published a long-horizon supply-side market

16 risk premium of 6.2%.[33]

17 **Q   WHAT ARE THE RESULTS OF YOUR CAPM ANALYSIS?**

18 A   As shown in Exhibit No.___(MPG-2), Schedule 16, based on my market risk premium

19   estimates of 6.0% and 7.9%, a risk-free rate of 3.7%, and a beta of 0.76, the CAPM

20   analysis produces a return of 8.24% to 9.68%. Similar to my previous risk premium, I

---

[31]Morningstar observes that the S&P 500 and the NYSE Decile 1-2 are both large
capitalization benchmarks. *Id.* at 152.
[32]*Id.* at 156.
[33]*Id.* at 157.

1   place 60% weight on my high-end CAPM return estimate, and 40% weight on my low-

2   end. This produces a CAPM return estimate recommendation of 9.11%.[34]

3   **II.M. Return on Equity Summary**

4   **Q**   **BASED ON THE RESULTS OF YOUR RETURN ON COMMON EQUITY**

5   **ANALYSES DESCRIBED ABOVE, WHAT RETURN ON COMMON EQUITY DO**

6   **YOU RECOMMEND FOR MDU?**

7   A   Based on my analyses, I estimate MDU's current market cost of equity to be 9.30%.

TABLE 5	
Return on Common Equity Summary	
Description	**Results**
DCF	8.90%
Risk Premium	9.60%
CAPM	9.11%

8   My recommended return on common equity of 9.30% is at the approximate

9   midpoint of my estimated range of 9.00% to 9.60%. The high-end of my estimated

10   range is based on my risk premium analysis. The low-end is based on my DCF

11   studies and CAPM return estimates.

12   This range reflects current market capital costs, increased interest rate risk in

13   the current market due to Federal Reserve policies and other factors, and represents

14   fair compensation to MDU's investors for the total investment risk of its regulated

15   utility.

---

[34](8.24% * 40%) + (9.68% * 60%) = 9.11%.

1   ## II.N. Financial Integrity

2   **Q   WILL YOUR RECOMMENDED OVERALL RATE OF RETURN SUPPORT AN**

3   **INVESTMENT GRADE BOND RATING FOR MDU?**

4   A   Yes. I have reached this conclusion by comparing the key credit rating financial

5   ratios for MDU, at my proposed return on equity, embedded cost of debt, and my

6   proposed capital structure, to S&P's benchmark financial ratios using S&P's new

7   credit metric ranges.

8   **Q   PLEASE DESCRIBE THE MOST RECENT S&P FINANCIAL RATIO CREDIT**

9   **METRIC METHODOLOGY.**

10   A   S&P publishes a matrix of financial ratios that correspond to its assessment of the

11   business risk of utility companies and related bond ratings. On May 27, 2009, S&P

12   expanded its matrix criteria by including additional business and financial risk

13   categories.[35]

14   Based on S&P's most recent credit matrix, the business risk profile categories

15   are "Excellent," "Strong," "Satisfactory," "Fair," "Weak," and "Vulnerable."   Most

16   utilities have a business risk profile of "Excellent" or "Strong."

17   The financial risk profile categories are "Minimal," "Modest," "Intermediate,"

18   "Significant," "Aggressive," and "Highly Leveraged."   Most of the utilities have a

19   financial risk profile of "Aggressive." MDU has a "Satisfactory" business risk profile

20   and a "Significant" financial risk profile.

---

[35]S&P updated its 2008 credit metric guidelines in 2009, and incorporated utility metric benchmarks with the general corporate rating metrics. *Standard & Poor's RatingsDirect*: "Criteria Methodology: Business Risk/Financial Risk Matrix Expanded," May 27, 2009.

1 **Q PLEASE DESCRIBE S&P'S USE OF THE FINANCIAL BENCHMARK RATIOS IN**

2 **ITS CREDIT RATING REVIEW.**

3 A S&P evaluates a utility's credit rating based on an assessment of its financial and

4 business risks. A combination of financial and business risks equates to the overall

5 assessment of MDU's total credit risk exposure. On November 19, 2013, S&P

6 updated its methodology. In its update, S&P published a matrix of financial ratios that

7 defines the level of financial risk as a function of the level of business risk.

8 S&P publishes ranges for three primary financial ratios that it uses as

9 guidance in its credit review for utility companies. The two core financial ratio

10 benchmarks it relies on in its credit rating process include: (1) Debt to Earnings

11 Before Interest, Taxes, Depreciation and Amortization ("EBITDA"); and (2) Funds

12 From Operations ("FFO") to Total Debt.[36]

13 **Q HOW DID YOU APPLY S&P'S FINANCIAL RATIOS TO TEST THE**

14 **REASONABLENESS OF YOUR RATE OF RETURN RECOMMENDATIONS?**

15 A I calculated each of S&P's financial ratios based on MDU's cost of service for its retail

16 jurisdictional operations. While S&P would normally look at total consolidated MDU

17 Resources financial ratios in its credit review process, my investigation in this

18 proceeding is not the same as S&P's. I am attempting to judge the reasonableness

19 of my proposed cost of capital for rate-setting in MDU's gas retail regulated utility

20 operations in South Dakota. Hence, I am attempting to determine whether my

21 proposed rate of return will in turn support cash flow metrics, balance sheet strength,

22 and earnings that will support an investment grade bond rating and MDU's financial

23 integrity.

---

[36] *Standard & Poor's RatingsDirect*: "Criteria: Corporate Methodology," November 19, 2013.

1   Importantly, MDU Resources does have off-balance sheet debt obligations

2   reported by S&P. However, S&P's report for MDU Resources does not allow for a

3   reasonable identification of those off-balance sheet obligations that allows for

4   allocation between MDU Resources' non-regulated and regulated operations. For

5   these reasons, I have not reflected any off-balance sheet debt equivalents in my

6   credit metric evaluation. Therefore, in interpreting my ratios, I am recognizing a need

7   for conservative compliance with investment grade credit metrics.

8   **Q   PLEASE DESCRIBE THE RESULTS OF THIS CREDIT METRIC ANALYSIS FOR**

9   **MDU.**

10 A   The S&P financial metric calculations for MDU at a 9.30% return are developed on

11   Exhibit No.___(MPG-2), Schedule 17, pages 1-3. S&P currently rates MDU's

12   business risk as "Satisfactory" and financial risk as "Significant." The credit metrics

13   produced below, with this financial and business risk outlook by S&P, will be used to

14   assess the strength of the credit metrics based on MDU's retail operations in South

15   Dakota.

16   MDU's adjusted total debt ratio for retail cost of service is approximately 54%.

17 This adjusted debt ratio is generally comparable to the adjusted debt ratios for utilities

18 with an S&P bond rating of BBB, which is comparable to MDU's bond rating. Hence, I

19 concluded this capital structure reasonably supports MDU's current investment grade

20 bond rating. This adjusted total debt ratio will support an investment grade bond

21 rating.

1   Based on an equity return of 9.30%, MDU will be provided an opportunity to

2   produce a debt to EBITDA ratio of 2.9x, which is within S&P's "Intermediate" guideline

3   range of 2.5x to 3.5x,[37] which will support MDU's investment grade credit rating.

4   MDU's retail operations FFO to total debt coverage at a 9.30% equity return is

5   38%. The FFO to debt ratio projected for 2015 is within S&P's "Modest" range of

6   35% to 50%. These FFO/total debt ratios will support an investment grade bond

7   rating.

8   At my recommended return on equity of 9.30% and proposed embedded debt

9   cost and capital structure, MDU's financial credit metrics are supportive of its

10   investment grade utility bond rating.

11   ### III. RESPONSE TO MDU WITNESS DR. J. STEPHEN GASKE

12   **Q   WHAT IS DR. GASKE'S RETURN ON EQUITY RECOMMENDATION?**

13   A   Dr. Gaske recommends a return on equity of 10.00% based on results summarized in

14   Table 6 below.

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[37] *Id.*

TABLE 6

Dr. Gaske's Results

	Median (1)	High (2)	Low (3)	Adjusted Median (4)
DCF				
Retention Growth	8.40%	10.88%	6.88%	8.08%
Analyst Growth	9.12%	10.36%	7.60%	8.77%
Blended Growth	8.76%	10.44%	7.86%	8.42%
Risk Premium				
Large Company Stocks (S&P 500)	9.7%			9.29%
Small Company Stocks	18.2%			Reject
Market DCF (S&P 500)	12.4%			9.29%

—————————————

Sources: Direct Testimony of Dr. J. Stephen Gaske
(Exhibit No.___(JSG-1)) at 35 and Exhibit No.___(JSG-2), Schedule 4, pages 6-8.

1   As outlined in Table 6 above under Column (4), Dr. Gaske's DCF models

2   indicate a return no higher than 8.77%. Further, reasonable adjustments to his risk

3   premium studies would indicate a fair return on equity for MDU regulated operations

4   of no higher than 9.29%. Hence, a reasonable interpretation of Dr. Gaske's models,

5   adjusted to reflect MDU's regulated operations investment risk, indicates a fair return

6   on equity in this proceeding in the range of 8.8% to 9.3%.

7   **Q   DO DR. GASKE'S RETURN ON EQUITY STUDIES SUPPORT A 10% RETURN**

8   **FOR MDU?**

9   A   No. Dr. Gaske's studies support a return on equity in the range of 8.40% to 9.12% for

10   MDU.

1   **Q   PLEASE DESCRIBE DR. GASKE'S DCF ANALYSIS.**

2   A   Dr. Gaske developed three versions of the DCF analysis. His first approach

3   calculates the DCF return based on Value Line projected dividends, earnings and

4   returns, which results in a recommended return in the range of 6.62% to 10.46% with

5   a median of 8.08%. Dr. Gaske then adjusted his proxy group Retention Growth DCF

6   results for flotation costs by increasing the DCF return estimate by 4.0%. This

7   increased the median result of the proxy group from 8.08% up to 8.40%. (Exhibit

8   No.___(JSG-2), Schedule 4, page 6 of 8).

9   His second approach is based on a traditional or basic DCF analysis using

10   analysts' projected growth rate estimates. This basic DCF analysis estimates a return

11   on equity for MDU in the range of 7.31% to 9.96%, with a median of 8.77%. Again,

12   Dr. Gaske increased his proxy group return by adjusting each DCF estimate by a

13   4.0% flotation cost adjustment. This increased the group proxy median from 8.77%

14   up to 9.12%. (Exhibit No.___(JSG-2), Schedule 4, page 7 of 8).

15   Finally, Dr. Gaske develops a blended DCF analysis relying on both his

16   retention and analysts' projected growth rate estimates. This approach yields a

17   return on equity in the range of 7.56% to 10.04% with a median of 8.42%. Once

18   again, Dr. Gaske adjusted his Blended Growth DCF return by a 4.0% flotation cost

19   adjustment. This increased his Blended Growth DCF return from 8.42% to 8.76%.

20   (Exhibit No.___(JSG-2), Schedule 4, page 8 of 8).

21 **Q   PLEASE DESCRIBE THE ISSUES YOU HAVE WITH DR. GASKE'S DCF**

22   **ANALYSES.**

23 A   My primary issue with Dr. Gaske's DCF studies lies in his proposal to adjust all of the

24   DCF return estimates by a flotation cost adder or adjustment of 4.0%. The effect of

1   this flotation cost adjustment is to increase the DCF return estimate by approximately

2   35 basis points.

3   **Q   DO YOU BELIEVE THAT DR. GASKE'S FLOTATION COST ADJUSTMENT TO**

4   **HIS DCF RETURN ESTIMATES IS REASONABLE?**

5   A   No. Dr. Gaske's proposed flotation cost adjustment for MDU is not based on known

6   and measurable costs for MDU. Therefore, his flotation cost adjustment should be

7   rejected.

8   **Q   HOW DID DR. GASKE DEVELOP A FLOTATION COST ADJUSTMENT FOR**

9   **MDU?**

10 A   Dr. Gaske reviews a representative sample of flotation costs incurred with 50 new

11   common stock issues by natural gas distribution utilities since January 2000. This

12   produces an average flotation cost of 3.90%. Dr. Gaske rounds this up to 4.0%, and

13   increases his proposed return on equity by approximately 35 basis points. This

14   flotation cost adjustment is intended to recover the cost a utility incurred by issuing

15   additional stock to the public.

16 **Q   WHY IS DR. GASKE'S FLOTATION COST ADJUSTMENT FLAWED?**

17 A   Dr. Gaske's flotation cost adjustment is not based on the recovery of prudent and

18   reasonable flotation expenses for MDU. Rather, as discussed at pages 16-17 of his

19   direct testimony, Dr. Gaske derives a flotation cost adjustment based on cost

20   information of other companies relying on publicly available information. Because Dr.

21   Gaske does not show that his adjustment is based on MDU's actual and verifiable

22   flotation expenses, there are no means of verifying whether his proposal is

1   reasonable or appropriate. Stated differently, Dr. Gaske's flotation cost adder is not

2   based on known and measurable MDU costs. Therefore, the Commission should

3   reject his proposed flotation expense return on equity adder.

4 **Q IF DR. GASKE HAD SHOWN AN ACTUAL AND VERIFIABLE FLOTATION**

5   **EXPENSE ALLOCATED TO MDU'S REGULATED OPERATIONS, WOULD HIS**

6   **PROPOSED FLOTATION COST ADJUSTMENT BE REASONABLE?**

7 A No. A clear understanding of how the actual and verifiable flotation costs were

8   treated in the past for ratemaking purposes is also needed. Specifically, if the

9   flotation expenses had been amortized to cost of service, then these costs would

10   have already been recovered in past rates. If this is the case, then allowing a return

11   on equity adjustment in this case would provide cost recognition in prospective rates

12   for costs that have already been recovered, this double recovery of flotation costs

13   would be unjust and unreasonable.

14   As such, Dr. Gaske would have to identify MDU Resources' actual flotation

15   costs that are properly allocated to regulated operations, show the time period these

16   costs were incurred, and show how they have been treated for ratemaking purposes

17   in the past. Without this clear demonstration, Dr. Gaske's proposed flotation cost

18   adjustment is simply not a known and measurable component of MDU's cost of

19   service in this case.

20 **Q CAN DR. GASKE'S DCF ANALYSES BE ADJUSTED TO PRODUCE MORE**

21   **REASONABLE RESULTS?**

22 A Yes. Removing the flotation cost adjustment from Dr. Gaske's DCF studies produces

23   a DCF return in the range of 8.1% up to 8.8%. These are the medians of his proxy

1   group studies which eliminate low-end and high-end outliers. Hence, these estimates

2   reasonably reflect the investment risk and a fair return for his proxy group based on

3   his own DCF studies. Conservatively, Dr. Gaske's DCF studies demonstrate that a

4   fair return on equity for MDU in this case is not higher than 8.77%, or approximately

5   8.8%.

6 **Q**   **DO YOU HAVE ANY OTHER ISSUES WITH DR. GASKE'S DCF RETURN**

7   **RESULTS?**

8 A   Yes. Dr. Gaske's proposal to set the return on equity for MDU above the median, at

9   the high end of the DCF results will place an unreasonable burden on the ratepayers

10   and should be rejected. As discussed below, MDU's relative risk is comparable to the

11   risk of the utility companies included in the proxy group.

12 **Q**   **WHY DO YOU BELIEVE THAT MDU FACES RISKS THAT ARE COMPARABLE**

13   **TO THE RISKS FACED BY DR. GASKE'S PROXY GROUP COMPANIES?**

14 A   This is evident by Dr. Gaske's own testimony.   He describes his stringent

15   methodology to identify companies that are risk comparable to MDU's operations and

16   on his Exhibit No. ___(JSG-2), Schedule 3 he shows that the average credit rating for

17   his proxy group of A-, just a notch higher than MDU Resources' credit rating from

18   S&P of BBB+. The relative risks discussed on pages 28-35 of Dr. Gaske testimony

19   are already incorporated in the credit ratings of the proxy group companies. S&P and

20   other credit rating agencies go through great detail in assessing a utility's business

21   risk and financial risk in order to evaluate their assessment of its total investment risk.

22   Therefore, this total risk investment assessment of MDU, in comparison to a proxy

1   group, is fully absorbed into the market's perception of MDU's risk and the proxy

2   group fully captures the investment risk of MDU.

3 **Q**   **HOW DOES S&P ASSIGN CORPORATE CREDIT RATINGS FOR REGULATED**

4   **UTILITIES?**

5 **A**   In assigning corporate credit ratings the credit rating agency considers both business

6   and financial risks. Business risks among others include company's size and

7   competitive position, generation portfolio, as well as a consideration of the regulatory

8   environment, current state of the industry and the economy as whole. Specifically,

9   S&P states:

> 10   To determine the assessment for a corporate issuer's business risk profile, the
> 11   criteria combine our assessments of industry risk, country risk, and
> 12   competitive position. Cash flow/leverage analysis determines a company's
> 13   financial risk profile assessment. The analysis then combines the corporate
> 14   issuer's business risk profile assessment and its financial risk profile
> 15   assessment to determine its anchor. In general, the analysis weighs the
> 16   business risk profile more heavily for investment-grade anchors, while the
> 17   financial risk profile carries more weight for speculative-grade anchors.[38]

18 **Q**   **PLEASE DESCRIBE DR. GASKE'S UTILITY RISK PREMIUM ANALYSIS.**

19 **A**   Dr. Gaske develops two risk premium studies based on the average Moody's

20   corporate bond yield for the 6-month period from November 2014 to April 2015 of

21   4.0%. For his first risk premium study Dr. Gaske derived an equity risk premium of

22   5.7%, which is the difference between the annual total return on a large company

23   stock of 12.1% and the return on long-term corporate bonds of 6.4% since 1926 as

24   published by Ibbotson Associates 2015 Classic Yearbook. Then, Dr. Gaske added

25   the Moody's corporate bond yield of 4.0% to his risk premium of 5.7% to produce a

26   return on equity for MDU of 9.7%. (Exhibit No.___(JSG-1) at 26).

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[38]*Standard & Poor's RatingsDirect*: "Criteria/Corporates/General: Corporate Methodology," November 19, 2013.

1   In his second risk premium analysis Dr. Gaske estimates a risk premium over

2   the return for a small company stock again using the data from Ibbotson Associates.

3   He estimates MDU's market capitalization based on the Company's projected rate

4   base and equity ratio and he determines that MDU falls in the Ibbotson's 10th decile,

5   which has a return of 20.6%. Then, he estimates a risk premium of 14.2% over the

6   return of long-term corporate bonds of 6.4%. Adding his small company risk premium

7   of 14.2% to Moody's corporate bond yield of 4.0% produces a return on equity of

8   18.2%. (Exhibit No.___(JSG-1) at 27).

9 **Q   ARE DR. GASKE'S RISK PREMIUMS A FAIR RETURN ON EQUITY ESTIMATE**

10   **FOR MDU?**

11 A   No. Dr. Gaske's risk premium estimates reasonably reflect returns on the overall

12   market or some unregulated market index.   These returns on equity were not

13   calibrated to reflect the low risk of MDU's regulated utility operations.

14 **Q   DO YOU BELIEVE THAT DR. GASKE'S PROPOSAL FOR A SMALL COMPANY**

15   **RETURN ON EQUITY ADDER FOR MDU IS REASONABLY DEVELOPED?**

16 A   No. This is unreasonable for several reasons. First, Dr. Gaske has not properly

17   gauged an investment risk adjustment for MDU relative to his proxy group.

18   Therefore, to the extent MDU could justify a small company risk adder, it should be

19   relative to the proxy group market return and not to the return on the total market.

20   Second, the development of a small company adder should not be the only

21   consideration in developing a fair return for MDU's regulated business operations.

22   The risk assessment for MDU's regulated operations should reflect small company

23   risk adders, as well as regulatory risk reductions. Dr. Gaske's small company risk

1   return is not a fair return for MDU because he ignores the risk reduction produced by

2   regulatory protections and cost-based prices.

3   Finally, Dr. Gaske's risk premium analysis is the development of his small

4   company risk premium of 14.2%. The total return of 20.6% for the 10th decile reflects

5   risks that are not characteristic of MDU. This total return used by Dr. Gaske reflects

6   companies that have beta estimates of approximately 1.40.[39] These beta estimates

7   are substantially higher than the average beta of 0.76 for the proxy group. Therefore,

8   his small company risk premium produces a return estimate that is inflated and does

9   not reflect a risk appropriate return for MDU. Hence, the return produced by Dr.

10   Gaske small company risk premium is not reasonable and should be rejected.

11   His large company risk premium suffers from the same deficiencies described

12   above in regards to his small company risk premium. However, Dr. Gaske's large

13   company risk premium produces a return on equity that is in line with market

14   expectation.

15   **Q   PLEASE DESCRIBE DR. GASKE'S MARKET DCF ANALYSIS.**

16   A   Dr. Gaske developed a market DCF analysis as a benchmark to test the

17   reasonableness of his proxy group DCF estimates. He calculated the required return

18   for the companies included in the S&P 500, based on an expected dividend yield of

19   2.5% and an expected growth rate of 9.9%, which produced a market DCF return of

20   12.4%. (Exhibit No.___(JSG-2), Schedule 5).

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[39] *Morningstar, Inc., Ibbotson SBBI 2015 Classic Yearbook* at 109.

1 **Q** **DO YOU HAVE ANY CONCERNS IN REGARDS TO DR. GASKE'S MARKET DCF**

2 **ANALYSIS.**

3 A Yes. I have two major concerns with his analysis. First, his market DCF return is

4 based on a growth rate of 9.9%, which is significantly above the long-term

5 sustainable growth rate of 4.4% that I discussed earlier. It is unreasonable to assume

6 that this growth rate that is almost twice the growth of the U.S. economy can be

7 sustained indefinitely.

8 Second, the S&P 500 includes companies with risk characteristics significantly

9 different than the risks encountered by MDU and its parent company. The companies

10 in the utility industry operate as natural monopolies and are shielded from the

11 economic turbulence faced by corporations operating in other industries. As noted by

12 the major credit rating agencies, the utility industry has relatively low risk in

13 comparison with the market. Indeed, the regulatory process itself provides an

14 effective mechanism to mitigate some of the market risks influencing the U.S.

15 economy. Therefore, using Dr. Gaske's market DCF analysis as a benchmark will

16 produce an unreliable and inflated return on equity for a low-risk utility such as MDU.

17 Therefore, the Commission should disregard the results of Dr. Gaske's market DCF

18 analysis.

19 **Q** **CAN DR. GASKE'S RISK PREMIUM STUDIES BE USED TO ESTIMATE A FAIR**

20 **RETURN FOR MDU REGULATED OPERATIONS?**

21 A Dr. Gaske's risk premium models largely ignore the investment risk and a fair return

22 based on that risk for MDU's regulated operations. Hence, these models are

23 primarily just not useful in estimating a fair risk-adjusted return for regulated utility

24 systems.

1   However, he has estimated two returns for the S&P 500: one based on a risk

2   premium estimate of 9.7% and one based on a DCF return on the market of 12.4%.

3   The midpoint of these two estimates produces a market return estimate of 11.05%.

4   Using a risk-free rate of 3.7%, and a comparable risk proxy group systematic risk beta

5   factor of 0.76, would produce a risk premium estimated fair return for the proxy group

6   of 9.29%.[40]

7   His small company stock return of 18.2% is based on non-regulated small

8   companies. There has been no demonstration that this proxy group reasonably

9   reflects the investment risk of MDU Resources, much less its lower-risk regulated

10   subsidiaries. Hence, this Small Company market return estimate should simply be

11   rejected.

12   # IV. CLASS COST OF SERVICE STUDY

13 **Q**   **HAVE YOU REVIEWED THE RESULTS OF THE EMBEDDED CLASS COST OF**

14   **SERVICE STUDY PERFORMED BY THE COMPANY?**

15 A   Yes, I have reviewed the results of the Company's embedded class cost of service

16   study.

17 **Q**   **WITH RESPECT TO THE COMPANY'S CLASS COST OF SERVICE STUDY, HOW**

18   **HAS THE COMPANY ALLOCATED THE COSTS OF DISTRIBUTION MAINS TO**

19   **ITS CUSTOMERS?**

20 A   The company has allocated distribution main costs on both design day demand

21   (75%) and the number of customers (25%).

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[40](11.05% - 3.7%) x 0.76 + 3.7% = 9.29%.

1   **Q   IS THE COMPANY'S METHOD OF ALLOCATING DISTRIBUTION MAIN COSTS**

2   **APPROPRIATE?**

3   A   Generally, yes. The Company's system is designed to meet the design day demand

4   of its firm customers as well as designed to ensure that all customers are connected

5   to the system. Since the costs to connect customers vary due to the location of

6   customers on the system, there is a cost associated with the length of distribution

7   main that is not related to design day demand. As a result, it is appropriate to

8   allocate a portion of distribution main costs on a customer basis. The customer

9   component of distribution main costs will recover a portion of the costs the Company

10   incurs to connect customers to the system, regardless of whether they ever used any

11   gas.

12   Though I generally agree with the Company's method to allocate distribution

13   main costs, I do take exception as to how distribution main costs have been allocated

14   to interruptible customers.

15   **Q   HOW HAS THE COMPANY ALLOCATED THE COSTS OF MAINS TO ITS**

16   **INTERRUPTIBLE CUSTOMERS?**

17   A   The Company has assumed a 100 percent load factor for the interruptible classes.

18   As a result, this assumption results in an allocation of a portion of distribution main

19   costs (both plant related costs and expenses) to interruptible customers based on

20   design day demand.

1 **Q** **IS IT REASONABLE TO ALLOCATE DESIGN DAY COSTS TO INTERRUPTIBLE**

2   **CUSTOMERS?**

3 A Not completely. Since a gas utility typically does not design its gas system to meet

4   the design day demand of interruptible customers, the allocation of plant related

5   distribution main costs to interruptible customers using design day demand is not an

6   accurate cost allocation. Since there is a cost to connect interruptible customers to

7   the gas system and maintain the system, I do not disagree with the customer

8   allocation of plant related distribution costs, nor do I disagree that the interruptible

9   class should be allocation a portion of distribution main O&M expenses. However,

10   interruptible customers should not be allocated a portion of the costs associated with

11   designing the system in order to provide customers service on the critical high peak

12   days. During these critical demand periods, interruptible customers are available to

13   interrupt in an effort to have adequate capacity to meet firm customer load demands.

14 **Q** **ARE YOU IN EFFECT TAKING ISSUE WITH THE COMPANY'S DISTINCTION**

15   **BETWEEN THE SERVICE QUALITY FOR A FIRM AND AN INTERRUPTIBLE**

16   **CUSTOMER?**

17 A Yes. The Company allocates peak day demand costs for interruptible and firm

18   customers in a comparable manner. As such, an allocated cost of service study

19   would charge interruptible customers rates that reflect costs the Company incurs to

20   provide firm service to these customers. That simply is unjust and unreasonable. As

21   such, the Company's class cost of service study should be modified to recognize

22   interruptible customers are subject to interruptions during the Company's peak day or

23   critical peak period demands. The availability of interruptible customers then provides

1   the Company more capacity to ensure that it is able to meet its firm service

2   requirements to firm customers on peak day and critical peak periods.

3   **Q   HAVE YOU CORRECTED THE CLASS COST OF SERVICE STUDY FOR THE**

4   **ALLOCATION OF PLANT RELATED DISTRIBUTION MAIN COSTS TO**

5   **INTERRUPTIBLE CUSTOMERS?**

6   A   Yes. I have removed the design day demand allocation of plant related costs to

7   interruptible customers. I have continued to allocate a portion of plant-related

8   distribution main costs on the basis of customers, and I have also continued to

9   allocate distribution O&M expenses to the interruptible classes as proposed by the

10   Company.

11   **Q   WHAT DO THE RESULTS OF YOUR CORRECTED CLASS COST OF SERVICE**

12   **STUDY INDICATE?**

13   A   The results of the corrected cost of service study indicate that the current distribution

14   rates for several classes result in those classes paying more than their respective

15   allocated cost of service and, therefore, are deserving of a decrease in current

16   distribution revenues. This is shown on Exhibit No.___(MPG-2), Schedule 20,

17   page 2. The classes whose current distribution rates collect more revenue than their

18   allocated cost of service indicated in the Company's cost of service study include the

19   Firm General Service, Small Interruptible, and Large Interruptible classes. The

20   Company's corrected class cost of service study also indicates that the current

21   distribution rates paid by the Residential class under collect their respective allocated

22   cost of service.

1 **Q**   **WHAT IS YOUR RECOMMENDATION WITH RESPECT TO CLASS COST OF**

2   **SERVICE?**

3 **A**   I recommend that my cost of service study, which has been corrected for the

4   allocation of distribution main plant-related costs to the interruptible classes be used

5   for the basis of setting rates in this proceeding.

6   **V. CLASS REVENUE ALLOCATION**

7 **Q**   **HAVE YOU ALSO REVIEWED THE COMPANY'S PROPOSED CLASS REVENUE**

8   **ALLOCATION?**

9 **A**   Yes. I have reviewed Exhibit No. _____(TAA-1) filed by the Company which includes

10   the Company's proposed class revenue allocation. The Company's proposed class

11   revenue allocation for distribution revenues is shown on Exhibit No.___(MPG-2),

12   Schedule 18, page 2.

13 **Q**   **DO YOU HAVE ANY RECOMMENDATIONS REGARDING HOW THE COMPANY'S**

14   **PROPOSED REVENUE REQUIREMENT IS ALLOCATED TO ITS CLASSES?**

15 **A**   Yes. Since the Company's cost of service study with my corrections indicates that

16   the Firm General Service, Small Interruptible, and Large Interruptible classes should

17   actually see a reduction in their current distribution rates, I would recommend that the

18   Company move all class distribution rates towards my calculated cost of service,

19   subject to rate mitigation to ensure that no one class receives more than 1.5 times the

20   system average increase.

1   **Q**   **WHAT IS YOUR SPECIFIC RECOMMENDATION FOR CLASS REVENUE**

2   **ALLOCATION?**

3   **A**   My specific class revenue allocation for distribution revenues is shown Exhibit

4   No.___(MPG-2), Schedule 19.

5   **Q**   **WHAT IS THE BASIS FOR YOUR REVENUE ALLOCATION PROPOSAL?**

6   **A**   Moving class revenue allocations to their respective indicated cost of service will

7   result in class distribution rates that reflect cost causation for all classes. Distribution

8   rates that reflect cost causation for all customers will send proper price signals to all

9   customer classes. The movement to cost-based rates will also put the Company in a

10   better position to collect each respective class cost of service from all of its customer

11   classes and eliminate revenue subsidies between rate classes.

12   **VI. TARGETED INFRASTRUCTURE RIDER**

13   **Q**   **HAS THE COMPANY PROPOSED A NEW RIDER IN THIS PROCEEDING?**

14   **A**   The Company is also proposing a new Targeted Infrastructure Rider ("TIR"), which

15   would allow for an increase in customer rates outside of a general rate case. The TIR

16   would cover replacement and upgrades to the distribution system, once the projects

17   are authorized by the South Dakota Public Utilities Commission ("Commission").

18   The TIR will allow for annual adjustments to customers' bills to reflect the

19   Company's costs associated with state and federal pipeline programs, and natural

20   gas main additions and replacements and other safety-related infrastructure

21   replacements or upgrades deemed prudent by the Commission and not currently

22   reflected in base rates. The Company requests to include in the TIR operation and

23   maintenance expenses, depreciation, and return on qualifying investments.

1   The Company proposes to recover the TIR costs as a uniform adjustment per

2   dekatherm or volumetric throughput for all rate classes. It also proposes to adjust the

3   TIR annually and true-up over- or under-recoveries of the TIR from prior periods

4   reflecting actual to forecasted costs.

5   **Q   IS THE COMPANY'S PROPOSED TIR DEFICIENT?**

6   A   Yes. There are several significant deficiencies in the proposed TIR.   These

7   deficiencies include the following:

8   1. The Company has proposed to recover O&M expenses through the TIR. It would
9   be difficult to determine whether or not the O&M expenses to be recovered via the
10   TIR are already reflected in base rates, or which the Company may claim, without
11   proof, reflect incremental costs associated with the TIR. At a minimum, the TIR
12   should be adjusted to remove an allowance for recovery of O&M costs.

13   2. The Company's proposed incremental capital investment costs likely will result in
14   higher rates with the TIR, in comparison to annual rate filings. The Company's
15   proposed methodology will result in an over-recovery of its investment costs
16   because it does not account for declines in net plant investment over time for
17   investments recovered in base rates, and separates the TIR based on only
18   incremental plant investments.

19   3. The Company's proposal for a reconciliation is unjustified. The Company should
20   assume sales risk and cost risk associated with its TIR. These risks will provide
21   adequate economic incentive for the Company to aggressively manage the TIR
22   program, and ensure its costs are in line with its projected cost of service.

23 **Q   WHAT IS YOUR RECOMMENDATION WITH RESPECT TO THE COMPANY'S**

24 **PROPOSED TIR?**

25 A   I recommend that the TIR be rejected since it is an imbalanced rate mechanism. The

26 TIR will discourage the need for economic efficiency in managing capital programs

27 and related O&M expenses. In addition, the TIR should be rejected since it results in

28 single issue ratemaking. The need for additional rate revenue by the Company would

29 not be completely reviewed in a TIR review case. The Company's witness Nicole A.

1   Kivisto at page 8 of her direct testimony indicates that the growth in plant investment

2   is not the primary driver in the need for additional revenues in this rate case. As a

3   result, this exemplifies the need for a full rate case review of the Company's costs

4   and revenues before approving a customer rate increase.

5   In the event the TIR is approved, I recommend that O&M expenses be

6   excluded from the rider, the costs to be recovered via the rider to be defined to a

7   specific limited qualifying investment category, and costs be allocated across rate

8   classes consistent with the Company's proposed cost of service, corrected for the

9   allocation of plant-related distribution main costs to interruptible customers as

10 described earlier in my testimony. The TIR should not be based on a uniform per

11 dekatherm cost since this would not properly reflect cost causation, but rather should

12 be allocated between classes using a capacity cost allocation factor, and each rate

13 class should have a separate demand and/or volumetric charge for TIR qualifying

14 investments.

15 **Q   DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

16 A   Yes, it does.