

MONTANA-DAKOTA UTILITIES CO.  
A Division of MDU Resources Group, Inc.

BEFORE THE NORTH DAKOTA PUBLIC SERVICE COMMISSION

CASE NO. PU-16-\_\_\_

PREPARED DIRECT TESTIMONY OF

J. STEPHEN GASKE

1 **Q1. Please state your name, position and business address.**

2 A1. My name is J. Stephen Gaske and I am a Senior Vice President of Concentric  
3 Energy Advisors, Inc., 1300 19<sup>th</sup> Street, N.W., Suite 620, Washington, DC  
4 20036.

5 **Q2. Would you please describe your educational and professional background?**

6 A2. I hold a B.A. degree from the University of Virginia and an M.B.A. degree with a  
7 major in finance and investments from George Washington University. I also  
8 earned a Ph.D. degree from Indiana University where my major field of study was  
9 public utilities and my supporting fields were finance and economics. A copy of  
10 my résumé is included as Attachment A to this testimony.

11 **Q3. Have you presented expert testimony in other proceedings?**

12 A3. Yes. I have testified or filed testimony or affidavits in more than 100 regulatory  
13 proceedings. This includes testimony on the cost of capital and capital structure  
14 issues for electric and natural gas distribution and oil and natural gas pipeline  
15 operations on numerous occasions before federal, state, and provincial regulatory  
16 bodies in the United States, Canada and Mexico, including the North Dakota  
17 Public Service Commission. In addition, I have testified or submitted testimony

1 before numerous regulatory bodies on issues such as regulatory principles, market  
2 power, cost allocation, rate design, pricing and generating plant economics.  
3 During the course of my consulting career, I have conducted many studies on  
4 issues related to regulated industries and have served as an advisor to numerous  
5 clients on economic, competitive, and financial matters. I also have spoken and  
6 lectured before many professional groups including the American Gas  
7 Association and the Edison Electric Institute Rate Fundamentals courses. Finally,  
8 I am a member of the American Economic Association, the Financial  
9 Management Association, and the American Finance Association.

10 **I. INTRODUCTION**

11 A. Scope and Overview

12 **Q4. What is the scope of your testimony in this proceeding?**

13 A4. I have been asked by Montana-Dakota Utilities Co. ("Montana-Dakota" or the  
14 "Company") to estimate the cost of common equity capital for the Company's  
15 electric utility operations in the state of North Dakota. In this testimony, I  
16 calculate the cost of common equity capital for Montana-Dakota's North Dakota  
17 electric utility operations based on a Discounted Cash Flow ("DCF") analysis of a  
18 group of proxy companies that have risks similar to those of Montana-Dakota's  
19 North Dakota electric utility operations. The results of this DCF study are  
20 supported by various benchmark criteria that I have used to test the  
21 reasonableness of the DCF study results.

1 **Q5. What rate of return is Montana-Dakota requesting in this proceeding?**

2 A5. Based on its test period capital structure, Montana-Dakota is requesting the  
3 following rate of return:

4 **Table 1: Requested Rate of Return – North Dakota Electric Utility Operations<sup>1</sup>**

Source	Amount	Percent	Cost	Overall Rate of Return
Long-Term Debt	\$605,441	41.31%	5.34%	2.21%
Short-Term Debt	\$108,737	7.42%	2.45%	0.18%
Preferred Stock	\$15,159	1.03%	4.57%	0.05%
Common Equity	\$736,149	50.23%	10.00%	5.02%
<b>TOTAL</b>	<b>\$1,465,486</b>	<b>100.00%</b>		<b>7.46%</b>

5

6 As my testimony discusses, an overall allowed rate of return of 7.46 percent, with  
7 a 10.00 percent return on common equity, represents the cost of capital for  
8 Montana-Dakota at this time.

9 B. Company Background

10 **Q6. Please describe Montana-Dakota's operations and those of its parent  
11 company, MDU Resources Group, Inc.**

12 A6. Montana-Dakota is a wholly-owned division of MDU Resources Group, Inc.  
13 ("MDU Resources") that is engaged in the generation, transmission, and  
14 distribution of electricity, and the distribution of natural gas in the states of  
15 Montana, North Dakota, South Dakota, and Wyoming. MDU Resources also  
16 owns Cascade Natural Gas Co., which distributes natural gas in the states of  
17 Oregon and Washington; Intermountain Gas Company, which distributes natural  
18 gas in the state of Idaho; and Great Plains Natural Gas Co., which distributes

<sup>1</sup> Projected average capital structure and rate of return for 2017.

1 natural gas in western Minnesota and southeastern North Dakota. Through other  
2 divisions and subsidiaries, MDU Resources is engaged in utility pipeline and  
3 midstream operations, construction materials and contracting, and construction  
4 services.

5 In 2015, Montana-Dakota provided electric utility service to over 142,000  
6 residential, commercial, industrial, and municipal customers in 177 communities  
7 and adjacent rural areas across four states.<sup>2</sup> In addition, the natural gas utilities  
8 provided natural gas distribution service to over 906,000 residential, commercial,  
9 and industrial customers in 334 communities across eight states.<sup>3</sup> Electric utility  
10 assets comprised 20.0 percent<sup>4</sup> of MDU Resources' total assets in 2015, and  
11 electric revenues comprised 6.7 percent<sup>5</sup> of total operating revenues. North  
12 Dakota accounted for 65.0 percent of the retail electric utility operating revenues,  
13 while Montana (21.0 percent), Wyoming (9.0 percent), and South Dakota (5.0  
14 percent) accounted for the other 35.0 percent of retail electric utility operating  
15 revenues.<sup>6</sup>

16 Montana-Dakota serves its integrated system electric utility customers across  
17 three states through an interconnected electric system consisting of twelve electric  
18 generating facilities and three small portable diesel generators which have an  
19 aggregate nameplate capacity of 735 megawatts. Table 2 below presents details

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<sup>2</sup> MDU Resources Group, Inc., Form 10-K for the fiscal year ended December 31, 2015, at 7 and 11.

<sup>3</sup> *Ibid.*, at 11.

<sup>4</sup> *Ibid.*, at 83.

<sup>5</sup> *Ibid.*, at 26.

<sup>6</sup> *Ibid.*, at 7.

1 for Montana-Dakota's integrated system electric generating stations which is  
 2 further discussed in the testimony of Montana-Dakota witness Nicole Kivisto.

3 **Table 2: Montana-Dakota's Electric Generating Stations**

Generating Station	State	Fuel	Nameplate Capacity (MW) <sup>7</sup>	2015 Net Generation (MWh) <sup>8</sup>	2016 YTD <sup>9</sup> Generation (MWh)
Big Stone <sup>10</sup>	SD	Coal	107.3	303,844	270,310
Cedar Hills	ND	Wind	19.5	57,147	35,236
Coyote <sup>11</sup>	ND	Coal	108.2	481,995	298,369
Diamond Willow	MT	Wind	30.0	89,144	56,603
Diesel Units (3)	ND	Oil	6.2	9	8
Glen Ullin	ND	Waste Heat	7.5	38,248	22,014
Glendive	MT	Gas	73.9	1,212	681
Heskett I & II	ND	Coal	100.1	500,630	260,209
Heskett III	ND	Gas	82.4	1,211	196
Lewis & Clark	MT	Coal	52.3	222,192	166,122
Lewis & Clark (RICE)	MT	Gas	18.6	96	3,638
Miles City	MT	Gas	21.6	443	122
Thunder Spirit	ND	Wind	107.5	11,174	233,918
			<b>735.4</b>	<b>1,707,345</b>	<b>1,347,426</b>

4  
 5 Approximately 88 percent of the energy generated by Montana-Dakota's facilities  
 6 came from coal-fired power plants in 2015. In December, 2015, construction was  
 7 completed on the 107.5 MW Thunder Spirit Wind farm and it began commercial  
 8 operation. This project provides energy, capacity, and renewable energy credits  
 9 to Montana-Dakota's electric customers in North Dakota, Montana and South

<sup>7</sup> See testimony of Nicole Kivisto.

<sup>8</sup> MDU Resources Group, Inc., Form 10-K for the fiscal year ended December 31, 2015, at 9.

<sup>9</sup> Through June 2016.

<sup>10</sup> Reflects Montana-Dakota's partial ownership interest.

<sup>11</sup> Reflects Montana-Dakota's partial ownership interest.

1 Dakota. The total project cost was approximately \$214 million.<sup>12</sup> In addition, in  
2 December, 2015, the Company completed construction and commissioning of the  
3 18.6 MW reciprocating internal combustion engine generating project at the  
4 Lewis & Clark generating facility.

5 In addition to new generation additions, the Company was also required to  
6 recently invest in environmental controls to comply with federal and state  
7 environmental rules. The Lewis and Clark Station must comply with the  
8 Environmental Protection Agency's ("EPA") Mercury and Air Toxics Standards  
9 ("MATS"), and the Big Stone Plant ("Big Stone") must comply with the South  
10 Dakota Implementation Plan ("SIP") that was developed to comply with the EPA  
11 Regional Haze Rule. Each of these projects required significant capital. Without  
12 the environmental upgrades at Big Stone, the plant would be forced to close.

13 **Q7. Would you please describe Montana-Dakota's North Dakota electric utility**  
14 **service territory?**

15 A7. Montana-Dakota provides electric utility service to approximately 93,000  
16 customers<sup>13</sup> in 117 communities in North Dakota serving most of the western and  
17 south central part of the state.<sup>14</sup> Although Montana-Dakota's North Dakota  
18 electric utility operations tend to be concentrated in cities and towns, including  
19 Bismarck, a large portion of the local economies are based on agriculture and a  
20 volatile "boom and bust" oil production industry. From an economic perspective,

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<sup>12</sup> MDU Resources Group, Inc., Form 10-K for the fiscal year ended December 31, 2015, at 8.

<sup>13</sup> Montana-Dakota Utilities Co, Annual Report of the North Dakota Public Service Commission, Dec. 31, 2015.

<sup>14</sup> Montana-Dakota Utilities Co., State of North Dakota Electric Rate Schedule, Volume No. 4, Original Sheet No. 2.

1 the mostly rural nature of North Dakota poses accessibility challenges, resulting  
2 in less access to markets and high transportation costs to larger markets. In  
3 addition, rural county residents lack access to the same variety of goods and  
4 services available in more heavily populated areas of the country. Furthermore,  
5 as the oil industry has declined over the last two years, the local economy has  
6 similarly suffered.

7 Significant investment will continue to be required in coming years to support  
8 customer growth and to replace aging plant so that the Company can continue to  
9 provide safe, reliable and efficient electric utility service to its North Dakota  
10 customers. Montana-Dakota will require an adequate return in order to attract  
11 capital for these projects.

## 12 II. FINANCIAL MARKET STUDIES

### 13 A. Criteria for a Fair Rate of Return

14 **Q8. Please describe the criteria which should be applied in determining a fair**  
15 **rate of return for a regulated company.**

16 A8. The United States Supreme Court has provided general guidance regarding the  
17 level of allowed rate of return that will meet constitutional requirements. In  
18 *Bluefield Water Works & Improvement Company v. Public Service Commission of*  
19 *West Virginia (262 U.S. 679, 693 (1923))*, the Court indicated that:

20 The return should be reasonably sufficient to assure confidence in  
21 the financial soundness of the utility, and should be adequate,  
22 under efficient and economical management, to maintain and  
23 support its credit and enable it to raise the money necessary for the  
24 proper discharge of its public duties. A rate of return may be

1 reasonable at one time and become too high or too low by changes  
2 affecting opportunities for investment, the money market, and  
3 business conditions generally.

4 The Court has further elaborated on this requirement in its decision in *Federal*  
5 *Power Commission v. Hope Natural Gas Company* (320 U.S. 591, 603 (1944)).

6 There the Court described the relevant criteria as follows:

7 From the investor or company point of view, it is important that  
8 there be enough revenue not only for operating expenses, but also  
9 for the capital costs of the business. These include service on the  
10 debt and dividends on the stock.... By that standard, the return to  
11 the equity owner should be commensurate with returns on  
12 investments in other enterprises having corresponding risks. That  
13 return, moreover, should be sufficient to assure confidence in the  
14 financial integrity of the enterprise, so as to maintain its credit and  
15 to attract capital.

16 Thus, the standards established by the Court in Hope and Bluefield consist of  
17 three requirements. These are that the allowed rate of return should be:

- 18 1. commensurate with returns on enterprises with corresponding  
19 risks;
- 20 2. sufficient to maintain the financial integrity of the regulated  
21 company; and
- 22 3. adequate to allow the company to attract capital on reasonable  
23 terms.

24 These legal criteria will be satisfied best by employing the economic concept of  
25 the "cost of capital" or "opportunity cost" in establishing the allowed rate of  
26 return on common equity. For every investment alternative, investors consider  
27 the risks attached to the investment and attempt to evaluate whether the return  
28 they expect to earn is adequate for the risks undertaken. Investors also consider  
29 whether there might be other investment opportunities that would provide a better

1 return relative to the risk involved. This weighing of alternatives and the highly  
2 competitive nature of capital markets causes the prices of stocks and bonds to  
3 adjust in such a way that investors can expect to earn a return that is just adequate  
4 for the risks involved. Thus, for any given level of risk, there is a return that  
5 investors expect in order to induce them to voluntarily undertake that risk and not  
6 invest their money elsewhere. That return is referred to as the "opportunity cost"  
7 of capital or "investor required" return.

8 **Q9. How should a fair rate of return be evaluated from the standpoint of**  
9 **consumers and the public?**

10 A9. The same standards should apply. When an unregulated entity faces competition,  
11 the pressure of that competition and consumer choices will combine to determine  
12 the fair rate of return. However, when regulation is appropriate, consumers and  
13 the public have a long-term interest in seeing that the regulated company has an  
14 opportunity to earn returns that are not so high as to be excessive, but that also are  
15 sufficient to encourage continued replacement and maintenance, as well as needed  
16 expansions, extensions, and new services. Thus, both the consumer and the  
17 public interest depend on establishing a return that will readily attract capital  
18 without being excessive.

19 **Q10. How are the costs of preferred stock and long-term debt determined?**

20 A10. For purposes of setting regulated rates, the current embedded costs of preferred  
21 stock and long-term debt are used in order to ensure that the company receives a  
22 return that is sufficient to pay the fixed dividend and interest obligations that are  
23 attached to these sources of capital.

1 **Q11. How is the cost of common equity determined?**

2 A11. The practice in setting a fair rate of return on common equity is to use the current  
3 market cost of common equity in order to ensure that the return is adequate to  
4 attract capital and is commensurate with returns available on other investments  
5 with similar levels of risk. However, determining the market cost of common  
6 equity is a relatively complicated task that requires analysis of many factors and  
7 some degree of judgment by an analyst. The current market cost of capital for  
8 securities that pay a fixed level of interest or dividends is relatively easy to  
9 determine. For example, the current market cost of debt for publicly-traded bonds  
10 can be calculated as the yield-to-maturity, adjusted for flotation costs, based on  
11 the current market price at which the bonds are selling. In contrast, because  
12 common stockholders receive only the residual earnings of the company, there are  
13 no fixed contractual payments which can be observed. This uncertainty  
14 associated with the dividends that eventually will be paid greatly complicates the  
15 task of estimating the cost of common equity capital. For purposes of this  
16 testimony, I have relied on several analytical approaches for estimating the cost of  
17 common equity. My primary approach relies on two DCF analyses. In addition, I  
18 have conducted a risk premium analysis, a market DCF analysis of the S&P 500,  
19 and a CAPM analysis as benchmarks to assess the reasonableness of the DCF  
20 results. Each of these approaches is described later in this testimony.

1 B. Interest Rates and the Economy

## 2 Q12. What are the general economic factors that affect the cost of capital?

3 A12. Companies attempting to attract common equity must compete with a variety of  
4 alternative investments. Prevailing interest rates and other measures of economic  
5 trends influence investors' perceptions of the economic outlook and its  
6 implications on both short- and long-term capital markets. Page 1 of Schedule 1  
7 of Exhibit No.\_\_(JSG-2) shows various general economic statistics. Real  
8 growth in the Gross Domestic Product ("GDP") has averaged 2.7 percent annually  
9 during the past 30 years, 2.4 percent for the past 20 years, and 1.6 percent for the  
10 past 10 years. Real GDP increased at a rate of 2.5 percent in 2015.<sup>15</sup> According  
11 to Blue Chip Economic Indicators, the consensus forecast for expected growth in  
12 real GDP is 1.5 percent for 2016,<sup>16</sup> and 2.2 percent for 2017, respectively.<sup>17</sup>  
13 Likewise, the U.S. unemployment rate has improved in recent months to 4.9  
14 percent as of August 2016,<sup>18</sup> but the labor force participation rate for civilians 16  
15 years old and over remained around 62.8 percent, one of the lowest rates since the  
16 late 1970s.<sup>19</sup> Improvements in the U.S. unemployment rate are partly attributed to  
17 the reduced U.S. labor force and are not fully explained by job growth. Economic  
18 conditions have improved somewhat and the Federal Open Market Committee  
19 ("FOMC") voted to increase short-term interest rates by 25 basis points in  
20 December 2015, and indicated its intention to gradually raise interest rates in

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<sup>15</sup> U.S. Department of Commerce, Bureau of Economic Analysis, News Release, July 29, 2016.

<sup>16</sup> Blue Chip Economic Indicators, Vol. 41, No. 4, September 10, 2016, at 2.

<sup>17</sup> *Ibid.*, at 3.

<sup>18</sup> U.S. Department of Labor, Bureau of Labor Statistics, News Release, September 2, 2016.

<sup>19</sup> U.S. Department of Labor, Bureau of Labor Statistics, civilian labor force participation rate, 16 years old and over, seasonally adjusted.

1 coming months.<sup>20</sup> The FOMC reiterated those rates in September, 2016 but  
2 noted that,

3 “Information received since the Federal Open Market Committee  
4 met in July indicates that the labor market has continued to  
5 strengthen and growth of economic activity has picked up from the  
6 modest pace seen in the first half of this year. Although the  
7 unemployment rate is little changed in recent months, job gains  
8 have been solid, on average. Household spending has been  
9 growing strongly but business fixed investment has remained soft.  
10 Inflation has continued to run below the Committee's 2 percent  
11 longer-run objective, partly reflecting earlier declines in energy  
12 prices and in prices of non-energy imports. Market-based measures  
13 of inflation compensation remain low; most survey-based  
14 measures of longer-term inflation expectations are little changed,  
15 on balance, in recent months.

16 Consistent with its statutory mandate, the Committee seeks to  
17 foster maximum employment and price stability. The Committee  
18 expects that, with gradual adjustments in the stance of monetary  
19 policy, economic activity will expand at a moderate pace and labor  
20 market conditions will strengthen somewhat further. Inflation is  
21 expected to remain low in the near term, in part because of earlier  
22 declines in energy prices, but to rise to 2 percent over the medium  
23 term as the transitory effects of past declines in energy and import  
24 prices dissipate and the labor market strengthens further. Near-  
25 term risks to the economic outlook appear roughly balanced. The  
26 Committee continues to closely monitor inflation indicators and  
27 global economic and financial developments.

28 Against this backdrop, the Committee decided to maintain the  
29 target range for the federal funds rate at 1/4 to 1/2 percent. The  
30 Committee judges that the case for an increase in the federal funds  
31 rate has strengthened but decided, for the time being, to wait for  
32 further evidence of continued progress toward its objectives. The  
33 stance of monetary policy remains accommodative, thereby  
34 supporting further improvement in labor market conditions and a  
35 return to 2 percent inflation.”

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<sup>20</sup>

Statement of the Federal Open Market Committee, December 16, 2015.

1 **Q13. Please discuss how the Federal Reserve's use of monetary policy has affected**  
2 **markets.**

3 A13. The Federal Reserve's highly accommodative monetary policy has influenced  
4 capital markets by maintaining the Fed Funds rate at zero or, as of the December  
5 2015 meeting, 25 basis points. Extraordinary and persistent federal intervention in  
6 capital markets has artificially lowered government bond yields since the Great  
7 Recession of 2008-09, as the Federal Reserve has used monetary policy (both  
8 reductions in short-term interest rates and purchases of Treasury bonds and  
9 mortgage backed securities) to stimulate the U.S. economy. This highly  
10 accommodative monetary policy has resulted in government bond yields that have  
11 been artificially suppressed by the Federal Reserve.

12 **Q14. Why do you believe that current market conditions are artificial and not**  
13 **"normal?"**

14 A14. The Federal Reserve's Open Market Committee (FOMC) continues to refer to its  
15 current policy stance as "accommodative," including in its most recent policy  
16 statement released on September 21, 2016, and has indicated that it intends to  
17 withdraw its extraordinary support for financial markets and extricate itself from  
18 the market over time. At the September 2014 Federal Open Market Committee  
19 ("FOMC") meeting, the FOMC published its "Policy Normalization Principles  
20 and Plans", which outlined the policy tools that would be used to return both the  
21 level of its Fed funds rate target and the size of its balance sheet to normalcy over  
22 time. Its plan is to begin by gradually raising the Fed funds target from its current  
23 accommodative level and, at some point thereafter, begin to reduce the

1           extraordinarily large size of its balance sheet primarily by ceasing its current  
2           practice of reinvesting payments it receives from maturing securities over time.  
3           As the Federal Reserve gradually declines to renew its massive loans in this  
4           manner, the large amount of Treasury and mortgage-backed security borrowings  
5           that will need to find private market lenders, in place of the Fed, will undoubtedly  
6           place upward pressure on interest rates.

7           Speaking at the Federal Reserve's conference in Jackson Hole, Wyoming on  
8           August 26, 2016, Federal Reserve Chair Janet Yellen indicated that the case for  
9           hiking interest rates had strengthened recently. Ms. Yellen stated: "In light of the  
10          continued solid performance of the labor market and our outlook for economic  
11          activity and inflation, I believe the case for an increase in the federal funds rate  
12          has strengthened in recent months."<sup>21</sup>

13       **Q15. What is the financial market's perspective on the likelihood for future**  
14       **increases in interest rates?**

15       A15. The 30-day average yield on the 30-year U.S. Treasury bond as of July 31, 2016  
16       was 2.23 percent, but according to Blue Chip Financial Forecasts, yields on 30-  
17       year Treasury bonds are forecasted to increase to 4.30 percent between 2018 and  
18       2022.<sup>22</sup>

19       Investors also are influenced by both the historical and projected level of inflation.  
20       As also shown on Page 1 of Schedule 1 of Exhibit No.\_\_\_\_(JSG-2), during the past  
21       decade, the Consumer Price Index has increased at an average annual rate of 2.1

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<sup>21</sup> "Fed's Yellen says case for interest rate hike has strengthened," Reuters Business News, August 26, 2016.

<sup>22</sup> Blue Chip Financial Forecasts, Volume 35, No. 6, June 1, 2016, at 14.

1 percent and the GDP Implicit Price Deflator, a measure of price changes for all  
2 goods produced in the United States, has increased at an average rate of 1.9  
3 percent. The extraordinary quantitative easing during the past eight years has  
4 pumped trillions of dollars of additional money into the economy without creating  
5 much stimulus in economic activity. Instead, the new money has either been used  
6 to artificially inflate the prices of stocks and bonds, or it has been used to create a  
7 huge increase in the cash held by corporations, individuals and banks. These  
8 enormous increases in cash holdings represent pent up inflation in the economy.  
9 Once the expanded cash holdings begin to be spent there will be “too many dollars  
10 chasing too few goods” – which is the classic definition of inflation. An increase  
11 in inflation rates will adversely affect regulated utility investments more than most  
12 other investments in the economy.

13 **Q16. Are expectations for higher interest rates, wider credit spreads, lower**  
14 **dividend yields, and high stock valuations for utility companies already**  
15 **reflected in the cost of equity produced by the DCF model?**

16 A16. In theory, and during times of general economic and capital market stability, I  
17 believe that the DCF analysis reflects market conditions and investor  
18 expectations. However, in the current market environment, the DCF model  
19 results are being distorted by the uncommonly low level of interest rates. Value  
20 Line recently observed that dividend yields for electric utilities are currently well  
21 below the historical average, that many of these stocks trade at a premium to the

1 market, which is very unusual for utilities, and that high valuations on utility  
2 shares are not expected to be sustained over the three-to-five year period.<sup>23</sup>

3 **Q17. Have other regulatory agencies recognized the effect of anomalous capital**  
4 **market conditions on the DCF model?**

5 A17. Yes. In two recent decisions, the FERC has recognized that recent anomalous  
6 conditions in capital markets have affected the results of the DCF model. In  
7 particular, the FERC has found that 10-year Treasury bond yields are evidence of  
8 anomalous conditions in capital markets, and that the low interest rate  
9 environment is reducing the dividend yield component of the DCF model, stating:

10 As is discussed, *infra*, the level of the dividend yield affects  
11 the reliability of the DCF process when that level is lower than  
12 the level acceptable to investors that value utility stocks based  
13 on their estimated long-term dividend growth. The record  
14 creates cause for concern that during a period including the  
15 Study Period, investors valuing utility stocks based solely or  
16 primarily on their current yield bid the prices of the proxy  
17 group stocks up to levels that rendered their Total Returns  
18 unacceptable to investors that valued such stocks based on  
19 their estimated long-term dividend growth. For reasons set  
20 out below, this record evidence creates further cause for  
21 concern that placement of the MISO TOs' Base ROE at the  
22 Midpoint may not meet the requirements of Hope.<sup>24</sup>

23  
24 The FERC also observed that due to anomalous conditions in capital markets (i.e.,  
25 low Treasury bond yields) the midpoint results of the DCF model are not a  
26 reasonable estimate of the cost of equity at this time, stating:

27 The yields of 10-year Treasury Bonds during the Study Period  
28 continue to reflect economic conditions that could render  
29 inputs to the DCF analysis unrepresentative. During the study  
30 period, the yields of 10-year Treasury Bonds averaged 2.21

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<sup>23</sup> Value Line Investment Survey, Electric Utility (East) Industry, August 19, 2016, at 140.

<sup>24</sup> 155 FERC ¶ 63,030 (June 30, 2016) at para. 128.

1 percent. That yield was 38 basis points higher than the  
2 average yield of those bonds during the Opinion No. 531 study  
3 period, but 79 basis points below the 3.0 percent level that so  
4 concerned the Commission in Opinion No. 531. If the average  
5 10-year Treasury-Bond yields for the Opinion No. 531 study  
6 period reflected economic conditions that could serve to  
7 render financial inputs into the DCF model unrepresentative,  
8 the average bond yields for the study period in this proceeding  
9 are close enough to the earlier yields to reflect the same  
10 conditions. Accordingly, the level of 10-year Treasury Bond  
11 yields during the Study Period create sufficient doubt  
12 regarding the representativeness of DCF inputs to warrant an  
13 examination of alternative metrics prior to making a final  
14 determination as to the level of the MISO TOs' Base ROE.<sup>25</sup>  
15

16 Consequently, the FERC has determined that it is necessary to consider the results  
17 of other Risk Premium models (such as a forward-looking CAPM analysis and a  
18 Bond Yield Plus Risk Premium methodology) and returns in other jurisdictions in  
19 order to assess the reasonableness of the DCF results and to determine where to  
20 set the appropriate return within the range of results.

21 **Q18. What is your conclusion regarding the effect of capital market conditions on**  
22 **the authorized ROE for Montana-Dakota North Dakota?**

23 A18. My primary conclusion is that, under current market conditions, the DCF model is  
24 not adequately reflecting the returns that investors require to justify investment in  
25 new plant and equipment. Investors expect interest rates to increase as the  
26 Federal Reserve withdraws the extraordinary level of monetary stimulus that has  
27 been provided to the U.S. economy since the Great Recession. The DCF model  
28 does not adequately reflect these unusual market conditions and this fact is an  
29 important consideration in determining where the ROE should be set within the  
30 range of results established by the DCF model.

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<sup>25</sup> *Id.*, at paragraph 126.

1 C. Discounted Cash Flow ("DCF") Method

2 **Q19. Please describe the DCF method of estimating the cost of common equity**  
3 **capital.**

4 A19. The DCF method reflects the assumption that the market price of a share of  
5 common stock represents the discounted present value of the stream of all future  
6 dividends that investors expect the firm to pay. The DCF method suggests that  
7 investors in common stocks expect to realize returns from two sources: a current  
8 dividend yield plus expected growth in the value of their shares as a result of  
9 future dividend increases. Estimating the cost of capital with the DCF method,  
10 therefore, is a matter of calculating the current dividend yield and estimating the  
11 long-term future growth rate in dividends that investors reasonably expect from a  
12 company.

13 The dividend yield portion of the DCF method utilizes readily-available  
14 information regarding stock prices and dividends. The market price of a firm's  
15 stock reflects investors' assessments of risks and potential earnings as well as  
16 their assessments of alternative opportunities in the competitive financial markets.  
17 By using the market price to calculate the dividend yield, the DCF method  
18 implicitly recognizes investors' market assessments and alternatives. However,  
19 the other component of the DCF formula, investors' expectations regarding the  
20 future long-run growth rate of dividends, is not readily apparent from stock  
21 market data and must be estimated using informed judgment.

1 **Q20. What is the appropriate DCF formula to use in this proceeding?**

2 A20. There can be many different versions of the basic DCF formula, depending on the  
 3 assumptions that are most reasonable regarding the timing of future dividend  
 4 payments. In my opinion, it is most appropriate to use a model that is based on  
 5 the assumptions that dividends are paid quarterly and that the next annual  
 6 dividend increase is a half year away. One version of this quarterly model  
 7 assumes that the next dividend payment will be received in three months, or one  
 8 quarter. This model multiplies the dividend yield by  $(1 + 0.75g)$ . Another  
 9 version assumes that the next dividend payment will be received today. This  
 10 model multiplies the dividend yield by  $(1 + 0.5g)$ . Since, on average, the next  
 11 dividend payment is a half quarter away, the average of the results of these two  
 12 models is a reasonable approximation of the average timing of dividends and  
 13 dividend increases that investors can expect from companies that pay dividends  
 14 quarterly. The average of these two quarterly dividend models is:

$$K = \frac{D_0(1 + 0.625g)}{P} + g$$

15

16 Where:  $K$  = the cost of capital, or total return that investors expect to  
 17 receive;

18  $P$  = the current market price of the stock;

19  $D_0$  = the current annual dividend rate; and

20  $g$  = the future annual growth rate that investors expect.

21 In my opinion, this is the DCF model that is most appropriate for estimating the  
 22 cost of common equity capital for companies that pay dividends quarterly, such as  
 23 those used in my analysis.

1 D. Flotation Cost Adjustment

2 **Q21. Does the investor return requirement that is estimated by a DCF analysis**  
3 **need to be adjusted for flotation costs in order to estimate the cost of capital?**

4 A21. Yes. There are significant costs associated with issuing new common equity  
5 capital, and these costs must be considered in determining the cost of capital.  
6 Schedule 2 of Exhibit No.\_\_(JSG-2) shows a representative sample of flotation  
7 costs incurred with 41 new common stock issues by electric utilities from May  
8 2006 through May 2016. Flotation costs associated with these new issues  
9 averaged 3.16 percent.

10 This indicates that in order to be able to issue new common stock on reasonable  
11 terms, without diluting the value of the existing stockholders' investment,  
12 Montana-Dakota must have an expected return that places a value on its equity  
13 that is approximately 3.2 percent above book value. The cost of common equity  
14 capital is therefore the investor return requirement multiplied by 1.032.

15 One purpose of a flotation cost adjustment is to compensate common equity  
16 investors for past flotation costs by recognizing that their real investment in the  
17 company exceeds the equity portion of the rate base by the amount of past  
18 flotation costs. For example, the proxy companies generally have incurred  
19 flotation costs in the past and, thus, the cost of capital invested in these companies  
20 is the investor return requirement plus an adjustment for flotation costs. A more  
21 important purpose of a flotation cost adjustment is to establish a return that is  
22 sufficient to enable a company to attract capital on reasonable terms. This

1 fundamental requirement of a fair rate of return is analogous to the well-  
2 understood basic principle that a firm, or an individual, should maintain a good  
3 credit rating even when they do not expect to be borrowing money in the near  
4 future. Regardless of whether a company can confidently predict its need to issue  
5 new common stock several years in advance, it should be in a position to do so on  
6 reasonable terms at all times without dilution of the book value of the existing  
7 investors' common equity. This requires that the flotation cost adjustment be  
8 applied to the entire common equity investment and not just a portion of it.

9 E. DCF Study of Electric Utility Companies

10 **Q22. Would you please describe the overall approach used in your DCF analysis**  
11 **of Montana-Dakota's cost of common equity for its North Dakota electric**  
12 **utility operations?**

13 A22. Because Montana-Dakota's North Dakota electric utility operations must compete  
14 for capital with many other potential projects and investments, it is essential that it  
15 have an allowed return that matches the returns potentially available from other  
16 similarly risky investments. The DCF method usually provides a good measure  
17 of the returns required by investors in the financial markets. However, the DCF  
18 method requires a market price of common stock to compute the dividend yield  
19 component. Since Montana-Dakota is a division of MDU Resources and does not  
20 have publicly-traded common stock, a direct, market-based DCF analysis of  
21 Montana-Dakota's North Dakota electric utility operations as a stand-alone  
22 company is not possible. As an alternative, I have used a group of electric  
23 utilities that have publicly-traded common stock as a proxy group for purposes of

1 estimating the cost of common equity for Montana-Dakota's North Dakota  
2 electric utility operations.

3 **Q23. How did you select a group of electric utility proxy companies?**

4 A23. I started with the 43 companies that Value Line classifies as Electric Utilities to  
5 ensure that the company is considered to be primarily engaged in the electric  
6 utility business and that retention growth rate projections are available. From that  
7 group, I eliminated any companies that did not have investment-grade credit  
8 ratings from either Standard & Poor's ("S&P") or Moody's Investors Service  
9 ("Moody's") because such companies are not sufficiently comparable in terms of  
10 business and financial risk to Montana-Dakota. In order to ensure that the  
11 company is primarily engaged in the electric utility business, I eliminated any  
12 company that did not derive at least 75 percent of its operating income from  
13 regulated electric utility operations in 2015, or that did not have at least 75  
14 percent of its total assets devoted to the provision of electric utility service in  
15 2015. Lastly, in order to ensure that the proxy companies have risks that are most  
16 similar to those of Montana-Dakota I included only companies that own a large  
17 share of their own generation and that also have significant exposure to the risks  
18 of coal-fired generation. For example, Montana-Dakota generated approximately  
19 72 percent of its energy needs in 2014 and 52 percent of its energy needs in 2015.  
20 As shown on Table 2, a return to greater company-owned generation has been  
21 occurring in 2016. Approximately, 88 percent of the generation on Montana-  
22 Dakota's integrated system was from coal-fired power plants.<sup>26</sup> In selecting

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<sup>26</sup> MDU Resources Group, Inc., Form 10-K for the fiscal year ended December 31, 2015, at 9.

1 proxy companies for my analysis, with one exception, I excluded any company  
2 that did not produce at least 50.0 percent of its energy requirements from  
3 company-owned generation in 2015 and I excluded companies that did not use  
4 coal for at least 50.0 percent of its energy production in 2015. I included Otter  
5 Tail Corporation (“Otter Tail”) in my proxy group even though it did not generate  
6 50 percent of its net generation from company owned sources in 2015. Otter Tail,  
7 which also owns a portion of Big Stone and Coyote, saw a decrease in company-  
8 owned generation in 2015 similar to that of Montana-Dakota because those units  
9 were off-line for repairs. Otter Tail’s generation is more than 75 percent coal-fired  
10 and its company-owned generation can be expected to return to normal in future  
11 years.<sup>27</sup> Because it operates in overlapping states and shares ownership in certain  
12 plants, Otter Tail’s risks are similar to those of Montana-Dakota and it should be  
13 included in the proxy group. As shown on page 1 of Schedule 3 of Exhibit  
14 No.\_\_(JSG-2), eight companies met these criteria for inclusion in the proxy  
15 group.

16 **Q24. How did you calculate the dividend yields for the companies in your proxy**  
17 **group?**

18 A24. These calculations are shown on pages 1 through 4 of Schedule 4 of Exhibit  
19 No.\_\_(JSG-2). For the price component of the calculation, I used the average of  
20 the high and low stock prices for each month during the six-month period from  
21 February 2016 through July 2016. The average monthly dividend yields were  
22 calculated for each company by dividing the prevailing annualized dividend for

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<sup>27</sup> Otter Tail Corporation Form 10Q for the second quarter of fiscal year 2016 at pages 33 and 38.

1 the period by the average of the stock prices for each month. These dividend  
2 yields were then multiplied by the quarterly DCF model factor  $(1 + 0.625g)$  to  
3 arrive at the projected dividend yield component of the DCF model.

4 **Q25. Please describe the method you used to estimate the future growth rate that**  
5 **investors expect from this group of companies.**

6 A25. I developed two different DCF analyses of the proxy companies based on two  
7 different growth rate estimation methods. There are many methods that  
8 reasonably can be employed in formulating a growth rate estimate, but an analyst  
9 must attempt to ensure that the end result is an estimate that fairly reflects the  
10 forward-looking growth rate that investors expect.

11 In the first approach, I conducted a Basic DCF analysis that relied on analysts'  
12 earnings forecasts from Zacks and Yahoo Finance for the growth rate component  
13 of the model. My second approach calculated the retention growth (also known  
14 as "sustainable growth") forecasts using Value Line forecasts of dividends,  
15 earnings, and returns on equity and blended those growth rates with the average  
16 analyst growth rates used in my Basic DCF analysis. In this Blended DCF  
17 analysis I gave the average analyst growth rates a 2/3 weight and the retention  
18 growth rate a 1/3 weight.

1 F. Basic DCF Analysis

2 **Q26. Q25. How did you estimate the expected future growth rate in your Basic**  
3 **DCF analysis?**

4 A26. In my Basic DCF analysis, I have estimated expected future growth based on  
5 long-term earnings per share growth rate forecasts of investment analysts, which  
6 are an important source of information regarding investors' growth rate  
7 expectations. This Basic DCF analysis assumes that the analysts' earnings growth  
8 forecasts incorporate all information required to estimate a long-term expected  
9 growth rate for a company. Zacks is a service that collects earnings growth  
10 estimates by professional investment analysts and publishes a summary of the  
11 consensus forecasts. In addition, Yahoo Finance also publishes earnings growth  
12 estimates from investment analysts. I have used the average of the Zacks and  
13 Yahoo consensus forecasts as the primary source for analysts' forecasts in my  
14 calculations. As shown on page 5 of Schedule 4 of Exhibit No. \_\_\_(JSG-2), the  
15 average of the analysts' long-term earnings growth rate estimates for the electric  
16 utility proxy companies is 5.80 percent.

17 **Q27. How did you calculate the cost of capital using the Basic DCF analysis?**

18 A27. These calculations are shown on page 6 of Schedule 4 of Exhibit No. \_\_\_(JSG-2).  
19 Again, the annual dividend yield is multiplied by the quarterly dividend  
20 adjustment factor ( $1 + 0.625g$ ) and this product is added to the growth rate  
21 estimate to arrive at the investor-required return. Then, the investor return  
22 requirement is multiplied by the flotation cost adjustment factor, 1.032, to arrive  
23 at the Basic DCF estimate of the cost of common equity capital for the proxy

1 companies. The Basic DCF analysis indicates a cost of common equity for the  
2 proxy companies in a range from 7.97 percent to 11.33 percent. In this analysis,  
3 the median for the group is 9.42 percent and the third quartile is 10.18 percent.

4 G. Blended Growth Rate Analysis

5 **Q28. How did you use your Blended Growth Rate Analysis to estimate investors'**  
6 **long-term growth rate expectations for the proxy companies?**

7 A28. The Blended Growth Rate approach combines: (i) Value Line retention growth  
8 forecasts; and (ii) estimates of long-term earnings growth for each company that  
9 are published by various investment analysts.

10 **Q29. Please describe the Retention Growth rate component of your analysis.**

11 A29. I have relied upon Value Line projections of the retention growth rates that the  
12 proxy companies are expected to begin maintaining three to five years in the  
13 future. Although companies may experience extended periods of growth for other  
14 reasons, in the long-run, growth in earnings and dividends per share depend in  
15 part on the amount of earnings that is being retained and reinvested in a company.  
16 Thus, the primary determinants of growth for the proxy companies will be (i) their  
17 ability to find and develop profitable opportunities; (ii) their ability to generate  
18 profits that can be reinvested in order to sustain growth; and, (iii) their willingness  
19 and inclination to reinvest available profits. Expected future retention rates  
20 provide a general measure of these determinants of expected growth, particularly  
21 items (ii) and (iii).

1 **Q30. How can a company's earnings retention rate affect its future growth?**

2 A30. Retention of earnings causes an increase in the book value per share and, other  
3 factors being equal, increases the amount of earnings that is generated per share of  
4 common stock. The retention growth rate can be estimated by multiplying the  
5 expected retention rate (*b*) by the rate of return on common equity (*r*) that a  
6 company is expected to earn in the future. For example, a company that is  
7 expected to earn a return of 12 percent and retain 75 percent of its earnings might  
8 be expected to have a growth rate of 9 percent, computed as follows:

9 
$$0.75 \times 12\% = 9\%$$

10 On the other hand, another company that is also expected to earn 12 percent but  
11 only retains 25 percent of its earnings might be expected to have a growth rate of  
12 3.0 percent, computed as follows:

13 
$$0.25 \times 12\% = 3\%$$

14 Thus, the rate of growth in a firm's book value per share is primarily determined  
15 by the level of earnings and the proportion of earnings retained in the company.

16 **Q31. How did you calculate the expected future retention rates of the proxy**  
17 **companies?**

18 A31. For most companies, Value Line publishes forecasts of data that can be used to  
19 estimate the retention rates that its analysts expect individual companies to have  
20 three to five years in the future. Since these retention rates are projected to occur  
21 several years in the future, they should be indicative of a normal expectation for a

1 primary underlying determinant of growth that would be sustainable indefinitely  
2 beyond the period covered by analysts' forecasts. While companies may have  
3 either accelerating or decelerating growth rates for extended periods of time, the  
4 retention growth rates expected to be in effect three to five years in the future  
5 generally represent a minimum "cruising speed" that companies can be expected  
6 to maintain indefinitely. The derivation of Value Line's retention growth rate  
7 forecasts for each of the proxy companies is shown on page 4 of Schedule 4 of  
8 Exhibit No.\_\_(JSG-2). The projected earnings per share and projected dividends  
9 per share can be used to calculate the percentage of earnings per share that is  
10 being retained and reinvested in the company. This earnings retention rate is  
11 multiplied by the projected return on common equity to arrive at the projected  
12 retention growth rate. The average retention growth rate for the proxy companies  
13 is 3.86 percent.

14 **Q32. How did you utilize the analysts' projected earnings growth rates and the**  
15 **projected earnings retention growth rates in estimating expected growth for**  
16 **the proxy companies in the Blended Growth Rate Analysis?**

17 A32. As shown on page 5 of Schedule 4 of Exhibit No.\_\_(JSG-2), I calculated a  
18 weighted average of the analysts' projected earnings growth rates and the  
19 projected retention growth rates to derive long-term growth rate estimates for  
20 each of the proxy companies. In these calculations, I gave a two-thirds weighting  
21 to the analysts' earnings growth rate projections and a one-third weighting to the  
22 projected retention growth rates. The average of the blended growth rates for the  
23 proxy companies is 5.16 percent and the median is 4.97 percent.

1 **Q33. How did you utilize these Blended Growth Rate estimates in estimating the**  
2 **return on common equity capital that investors require from the proxy**  
3 **companies?**

4 A33. These calculations are shown on page 7 of Schedule 4 of Exhibit No.\_\_\_\_(JSG-2).  
5 Again, the annual dividend yield for each company is multiplied by the quarterly  
6 dividend adjustment factor ( $1 + 0.625g$ ), and this product is added to the growth  
7 rate estimate to arrive at the investor-required return. Finally, the investor return  
8 requirement is multiplied by the flotation cost adjustment factor, 1.032, to arrive  
9 at the cost of common equity capital for the proxy companies. This Blended  
10 Growth Rate Analysis indicates that the cost of common equity capital for the  
11 electric utility proxy companies is in a range between 7.68 percent and 9.97  
12 percent. In this analysis, the median for the group is 8.70 percent and the third  
13 quartile is 9.60 percent.

14 H. Risk Premium Analysis

15 **Q34. Have you conducted additional analyses in determining the cost of equity**  
16 **capital for Montana-Dakota?**

17 A34. Yes. The risk premium approach provides a general guideline for determining the  
18 level of returns that investors expect from an investment in common stocks.  
19 Investments in the common stocks of companies carry considerably greater risk  
20 than investments in bonds of those companies since common stockholders receive  
21 only the residual income that is left after the bondholders have been paid. In  
22 addition, in the event of bankruptcy or liquidation of the company, the  
23 stockholders' claims on the assets of a company are subordinate to the claims of

1 bondholders. This priority standing provides bondholders with greater assurances  
2 that they will receive the return on investment that they expect and that they will  
3 receive a return of their investment when the bonds mature. Accompanying the  
4 greater risk associated with common stocks is a requirement by investors that they  
5 can expect to earn, on average, a return that is greater than the return they could  
6 earn by investing in less risky bonds. Thus, the risk premium approach estimates  
7 the return investors require from common stocks by utilizing current market  
8 information that is readily available in bond yields and adding to those yields a  
9 premium for the added risk of investing in common stocks.

10 Investors' expectations for the future are influenced to a large extent by their  
11 knowledge of past experience. Ibbotson Associates annually publishes extensive  
12 data regarding the returns that have been earned on stocks, bonds and U.S.  
13 Treasury bills since 1926. Historically, the annual return on large company  
14 common stocks has exceeded the return on long-term corporate bonds by a  
15 premium of 570 basis points (5.7 percent) per year from 1926-2015.<sup>28</sup> When this  
16 premium is added to the average yield on Moody's corporate bonds for the period  
17 from August 2015 through July 2016 of 4.32 percent<sup>29</sup>, the result is an investor  
18 return requirement for large company stocks of approximately 10.02 percent.  
19 However, investors in smaller companies expect higher returns over the long-  
20 term, due to the additional business and financial risks that smaller companies  
21 face. According to Ibbotson Associates, companies in the same size range as

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<sup>28</sup> Ibbotson SBBI 2015 Classic Yearbook, at 91. Calculation: (12.1 percent – 6.4 percent = 5.7 percent)

<sup>29</sup> Exhibit No.\_\_(JSG-2), Schedule 1, at 4.

1 Montana-Dakota's North Dakota electric operations have had a premium of 995  
 2 basis points (9.95 percent) over the average return on long-term corporate  
 3 bonds.<sup>30</sup> When added to the recent average corporate bond yield, this size-related  
 4 premium suggests an expected return of 14.10 percent. This analysis indicates  
 5 that the rate of return that I am proposing in this proceeding would be low relative  
 6 to the historic risk premiums earned by similarly-sized unregulated companies.

7 **Q35. Did you also perform another risk premium analysis?**

8 A35. Yes, I did. Research studies provide empirical support for the proposition that  
 9 equity risk premia generally increase as interest rates decrease, and vice versa. In  
 10 fact, the data provided in Schedule 5, Exhibit No.\_\_(JSG-02) produce statistical  
 11 results that are consistent with existing research in this area. Using this data, I  
 12 performed a linear regression to estimate the relationship between 30-year U.S.  
 13 Treasury bonds and the risk premium required for regulated electric distribution  
 14 companies. The resulting equation is presented in Schedule 5, Exhibit  
 15 No.\_\_(JSG-02) and re-created below:

16 
$$\text{Intercept} + \text{Coefficient} \times \text{Bond Yield} = \text{Risk Premium}$$

17 
$$0.085266 + (-0.55691 \times \text{Bond Yield}) = \text{Risk Premium}$$

18 The regression statistics indicate that this equation is statistically significant and  
 19 the R-square reveals that approximately 76 percent of the variation in the risk

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<sup>30</sup> Ibbotson SBBI 2015 Classic Yearbook, at 91 and 109. Ibbotson Associates defines size ranges based on market capitalization. I calculated the implied market capitalization for Montana-Dakota's North Dakota electric operations based on the Company's projected average rate base for 2015 (\$556.6 million) and the projected average equity ratio for 2015 (50.23 percent). This places Montana-Dakota's North Dakota electric operations in Ibbotson Associates' tenth decile. Calculation: 16.35 percent - 6.4 percent = 9.95 percent.

1 premium is explained by the bond yield. The negative coefficient in the above  
2 equation demonstrates the inverse relationship between bond yields and the risk  
3 premium. For every change of 100 basis points in the bond yield, the risk  
4 premium changes by approximately 56 basis points in the opposite direction.

5 This electric utility Risk Premium analysis was conducted using three different  
6 risk-free rates: (1) the current average yield on 30-year Treasury bonds; (2) the  
7 near-term projected yields on 30-year Treasury bonds in 2016 and 2017; and (3)  
8 the longer-term projected yields on 30-year Treasury bonds from 2018-  
9 2022. Based on these three interest rates, the regression equation produces an  
10 average ROE estimate is 9.94 percent.

11 I. Market DCF Analysis

12 **Q36. What other analysis did you conduct in determining the cost of equity capital**  
13 **for Montana-Dakota?**

14 A36. For an additional benchmark of the reasonableness of my DCF results, I  
15 calculated the current required return for the companies contained in the S&P  
16 500. Using data provided by the Bloomberg Professional service, I performed a  
17 market capitalization-weighted DCF calculation on the S&P 500 companies based  
18 on the current dividend yields and long-term growth rate estimates as of July 31,  
19 2016. These calculations are shown in Schedule 6 of Exhibit No. \_\_\_(JSG-2).  
20 The current secondary market required ROE for the S&P 500 is 11.94 percent.  
21 This analysis indicates that the rate of return that I am proposing in this

1 proceeding is low relative to the return required by investors who invest in the  
2 S&P 500.

3 J. Forward-Looking CAPM

4 **Q37. Many analysts would argue that vertically integrated electric companies are**  
5 **less risky than the S&P 500 companies. Does this make the S&P 500 a poor**  
6 **benchmark for evaluating the DCF results?**

7 A37. No. The DCF required return for the S&P 500 is significantly greater than the  
8 return required for the electrics company proxy group, and the large magnitude of  
9 this difference is an indicator that the electric utility proxy company DCF results  
10 may be on the low side. Some analysts use the capital asset pricing model  
11 ("CAPM") to adjust for differences in risk between the market average and a  
12 particular group of proxy companies. While I do not consider the CAPM to be a  
13 reliable measure of the cost of capital, one could use it to adjust the S&P 500  
14 results to achieve a risk-adjusted benchmark for the electric company proxy  
15 group. For example, Beta is frequently used as the measure of relative risk in the  
16 CAPM. As shown on page 1 of Exhibit No. \_\_\_(JSG-2), Schedule 7, the betas  
17 estimated by Value Line for the proxy companies are in a range between 0.65 and  
18 0.80. However, financial research has shown that the capital asset pricing model  
19 underestimates the returns required by smaller companies. As a result,  
20 Ibbotson/Morningstar has calculated the amount that CAPM results should be  
21 adjusted to eliminate the bias inherent in CAPM estimates of the cost of common  
22 equity. These adjustments are shown on Exhibit No. \_\_\_(JSG-2), Schedule 7, page  
23 2. Using the Value Line beta estimates and the Ibbotson adjustments for bias

1 suggests that the CAPM estimate of the cost of common equity is in a range between  
2 8.90 and 11.86 percent.<sup>31</sup> The median unbiased CAPM result for the proxy  
3 companies is 10.48 percent.

4 K. Relative Risk Analysis

5 **Q38. Have you compared the risks faced by Montana-Dakota's North Dakota**  
6 **electric utility operations with the risks faced by the proxy group of**  
7 **companies?**

8 A38. Yes. There are four broad categories of risk that concern investors. These  
9 include:

- 10 1. Business Risk;
- 11 2. Regulatory Risk;
- 12 3. Financial Risk; and,
- 13 4. Market Risk.

14 **Q39. Please describe the business risks inherent in the electric utility industry.**

15 A39. Business risk refers to the ability of the firm to generate revenues that exceed its  
16 cost of operations. Business risk exists because forecasts of both demand and  
17 costs are inherently uncertain. Markets change and the level of demand for the  
18 firm's output may be sufficient to cover its costs at one time and later become  
19 insufficient. Sunk investments in long-lived electric utility assets, for which cost  
20 recovery occurs over a period of thirty years or more, are subject to enormous

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<sup>31</sup> In several recent decisions the U.S. Federal Energy Regulatory Commission has determined that current DCF estimates of the cost of equity are too low as a result of the current abnormal financial market conditions. In those opinions FERC used the CAPM as a benchmark and set the allowed rate of return above the median indicated by a DCF analysis of proxy companies. See, for example, *Martha Coakley, et al. v. Bangor Hydro-Electric Company, et al.*, Opinion No. 531, 147 FERC ¶61,234 (2014); aff'd in Opinion No. 531-B, 150 FERC ¶61,165 (March 3, 2015).

1           uncertainties and risks that demand, costs, supply, and competition may change in  
2           ways that adversely affect the value of the investment.

3   **Q40. Is it appropriate to evaluate the risks of Montana-Dakota's North Dakota**  
4   **electric utility operations on a stand-alone basis for ratemaking purposes?**

5   A40. Yes. The stand-alone principle is widely-recognized in public utility regulation.  
6           This is the principle that regulated rates and the allowed rate of return should be  
7           set at a level that reflects the risks and investment characteristics of the regulated  
8           entity alone, as if it has no affiliates. If a parent company has greater risks, or  
9           lesser risks, than the regulated company, that fact should not affect the allowed  
10          rate of return. Similarly, the risks and financial positions of the parent, affiliates,  
11          subsidiaries or other jurisdictions of the regulated company should not be  
12          considered in setting rates for a regulated company. Many regulators have  
13          adopted the stand-alone principle in part to insulate ratepayers from the higher  
14          risks associated with possibly higher risk activities of the non-jurisdictional  
15          operations of a holding company.

16          In this case, the equity capital used to finance MDU's regulated electric utility  
17          operations in North Dakota is obtained from the parent company, MDU Resources  
18          Group. However, the North Dakota electric operation must compete for equity  
19          capital with other divisions, subsidiaries and jurisdictions within the MDU  
20          organization, and therefore must offer a return on a stand-alone basis that is  
21          competitive with the return available to other investments. For these reasons,  
22          Montana-Dakota's North Dakota electric operation should be evaluated as a stand-  
23          alone entity.

1 **Q41. Do Montana-Dakota's North Dakota electric operations operate in a local**  
2 **economy that poses unusually high risks relative to the proxy companies?**

3 A41. Yes. The economy of western North Dakota experienced rapid growth earlier in  
4 this decade due to technological advances that led to a boom in shale oil  
5 production. However, a precipitous decline in oil prices has caused the local  
6 economy to contract during the past year. A prolonged period of low oil prices  
7 will adversely affect the local economy and Montana-Dakota's ability to recover  
8 its costs in the long run. Other utilities in the proxy group also face cost recovery  
9 risks, but Montana-Dakota's North Dakota operation is more exposed to a volatile  
10 "boom and bust" economy than any of the proxy companies.

11 **Q42. What are some of the other business risks faced by Montana-Dakota's North**  
12 **Dakota electric utility operations?**

13 A42. The Company's electric utility operations in North Dakota face many of the same  
14 business risks that are associated with other electric utilities. However, as shown  
15 on page 1 of Schedule 3 of Exhibit No.\_\_(JSG-2), Montana-Dakota's North  
16 Dakota electric utility operations are considerably smaller than the operations of  
17 any of the proxy companies and a small fraction of the size of the typical proxy  
18 company. For example, Montana-Dakota's North Dakota electric utility total  
19 assets are equal to only 3.1 percent of the assets of the median proxy company.  
20 Similarly, Montana-Dakota's North Dakota electric utility operating revenues and  
21 operating income are only 3.9 percent and 3.7 percent of the level for the median  
22 proxy company, respectively. Thus, depending upon the measure of size, the  
23 typical proxy company is somewhere between 26 and 32 times the size of

1 Montana-Dakota's North Dakota electric utility operations. The Company's  
2 smaller size has significant implications for business risks. As noted earlier,  
3 Ibbotson Associates has documented the significantly higher returns that have been  
4 associated with small companies. Considering only its smaller size, Montana-  
5 Dakota's North Dakota electric utility operations might require a return that is  
6 more than 100 basis points higher than the return required for the typical proxy  
7 company.

8 In addition, Montana-Dakota's generation portfolio is heavily reliant on coal. In  
9 2015, 88 percent of its generation was fueled by coal. Montana-Dakota has the  
10 highest proportion of coal-fired generation of my entire proxy group of electric  
11 companies. Utilities with generation that is heavily weighted toward one fuel  
12 source face greater risks that adverse circumstances will arise that render much of  
13 their generating capacity uneconomic. Montana-Dakota's customers have  
14 benefited greatly from the company's use of low-cost coal, but there is an element  
15 of risk associated with its current generating mix. In August, 2015 the  
16 Environmental Protection Agency issued final rules for the Clean Power Plan  
17 ("CPP"), which is a plan to cut carbon emissions from existing power plants.  
18 Then in February, 2016, the Supreme Court granted a stay to the CPP halting its  
19 implementation. Arguments at the U.S. Court of Appeals are under way.  
20 Nonetheless, complying with this regulation poses additional business risk as  
21 sizable future capital expenditures may be required and existing plants may be  
22 forced to close. This burden could weigh heavily on companies like Montana-  
23 Dakota that own a significant amount of coal-fired generation assets.

1 In addition, as natural gas prices remain at historically low levels, coal-fired  
2 generation faces an increased risk of becoming uneconomic. In fact, most new  
3 generation constructed in recent years has been fueled with natural gas as a result  
4 of low natural gas prices and new generating technologies, or wind power due to  
5 various subsidies and mandates for renewable generating technologies.

6 **Q43. How do these risks affect the cost of capital?**

7 A43. The effect of size on required returns is well-established in the finance literature.  
8 For example, Fama and French found that firm size (with smaller companies  
9 requiring higher returns) and market-to-book ratio are the two variables that best  
10 explain the returns for common stocks.<sup>32</sup> The higher rate of return required by  
11 smaller utility operations also has been demonstrated empirically.<sup>33</sup>

12 In addition, Moody's Investors Service ("Moody's") has described how it  
13 considers the size and diversity of utility operations, as well as the local economy,  
14 in its evaluation of risks. Specifically, in "Rating Methodology for Regulated  
15 Electric and Gas Utilities" Moody's stated:

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<sup>32</sup> Fama and French, "The Cross-Section of Expected Stock Returns," *Journal of Finance*, Vol. XLVII, No. 2, June 1992, 427-465.

<sup>33</sup> Michael Annin, *Equity and the Small-Stock Effect*, Public Utilities Fortnightly, October 15, 1995.

1 We also consider the diversity of utility operations (e.g., regulated  
 2 electric, gas, water, steam) when there are material operations in  
 3 more than one area. Economic diversity is a typically a function of  
 4 the population, size and breadth of the territory and the businesses  
 5 that drive its GDP and employment. For the size of the territory,  
 6 we typically consider the number of customers and the  
 7 volumes of generation and/or throughput. For breadth, we  
 8 consider the number of sizeable metropolitan areas served, the  
 9 economic diversity and vitality in those metropolitan areas,  
 10 and any concentration in a particular area or industry.<sup>34</sup>

11 Montana-Dakota's North Dakota electric service territory is characterized by the  
 12 small size and the undiversified local economy described by Moody's. In fact, the  
 13 heavy dependence on the "boom and bust" oil production industry places  
 14 Montana-Dakota's North Dakota operation at the high end of this risk described by  
 15 Moody's.

16 **Q44. What are the regulatory risks faced by Montana-Dakota's North Dakota**  
 17 **electric utility operations?**

18 A44. Regulatory risk is closely related to business risk and might be considered just  
 19 another aspect of business risk. To the extent that the market demand for an  
 20 electric utility's services is sufficiently strong that the company could conceivably  
 21 recover all of its costs, regulators may nevertheless set the rates at a level that will  
 22 not allow for full cost recovery. In effect, the binding constraint on electric  
 23 utilities is often posed by regulation rather than by the working of market forces.  
 24 One purpose of regulation is to provide a substitute for competition where  
 25 markets are not workably competitive. As such, regulation often attempts to

<sup>34</sup> Moody's Investors Service, "Rating Methodology: Regulated Electric and Gas Utilities,"  
 December 23, 2013, p. 19, emphasis added.

1 replicate the type of cost discipline and risks that might typically be found in  
2 highly competitive industries.

3 Moreover, there is the perceived risk that regulators may set allowed returns so  
4 low as to effectively undermine investor confidence and jeopardize the ability of  
5 electric utilities to finance their operations. Thus, in some instances, regulation  
6 may substitute for competition and in other instances it may limit the potential  
7 returns available to successful competitors. In either case, regulatory risk is an  
8 important consideration for investors and has a significant effect on the cost of  
9 capital for all firms in the electric utility industry.

10 The regulatory environment can significantly affect both the access to, and cost of  
11 capital in several ways. As noted by Moody's, "the predictability and  
12 supportiveness of the regulatory framework in which it [a regulated utility]  
13 operates is a key credit consideration and the one that differentiates the industry  
14 from most other corporate sectors."<sup>35</sup> Moody's further noted that:

15 Utility rates are set in a political/regulatory process rather than a  
16 competitive or free-market process; thus, the Regulatory  
17 Framework is a key determinant of the success of a utility. The  
18 Regulatory Framework has many components: the governing body  
19 and the utility legislation or decrees it enacts, the manner in which  
20 regulators are appointed or elected, the rules and procedures  
21 promulgated by those regulators, the judiciary that interprets the  
22 laws and rules and that arbitrates disagreements, and the manner in  
23 which the utility manages the political and regulatory process. In  
24 many cases, utilities have experienced credit stress or default  
25 primarily or at least secondarily because of a break-down or  
26 obstacle in the Regulatory Framework – for instance, laws that  
27 prohibited regulators from including investments in uncompleted  
28 power plants or plants not deemed "used and useful" in rates, or a

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<sup>35</sup> Moody's Investors Service, *Regulated Electric and Gas Utilities*, December 23, 2013, at 9.

1 disagreement about rate-making that could not be resolved until  
2 after the utility had defaulted on its debts.<sup>36</sup>

3 Regulatory Research Associates assigns a rating of Average / 1 to the North  
4 Dakota Public Service Commission. This rating suggests average regulatory risk  
5 for Montana-Dakota's North Dakota electric utility operations.

6 **Q45. Would you please describe Montana-Dakota's relative financial risks?**

7 A45. Financial risk exists to the extent that a company incurs fixed obligations in  
8 financing its operations. These fixed obligations increase the level of income  
9 which must be generated before common stockholders receive any return and  
10 serve to magnify the effects of business and regulatory risks. Fixed financial  
11 obligations also increase the probability of bankruptcy by reducing the company's  
12 financial flexibility and ability to respond to adverse circumstances. One possible  
13 indicator of investors' perceptions of relative financial risk in this case might be  
14 obtained from credit ratings. Because Montana-Dakota, as a division of MDU  
15 Resources, does not have its own bonds outstanding, it is difficult to make direct  
16 comparisons between the ratings of Montana-Dakota and the proxy group.  
17 However, page 2 of Schedule 3 of Exhibit No.\_\_\_\_(JSG-2) shows the credit ratings  
18 assigned by S&P and Moody's to each of the companies in the comparison group  
19 and MDU Resources.

20 The median S&P credit rating for companies in the proxy group is BBB+. By  
21 comparison, MDU Resources' senior unsecured debt also carries an S&P rating of

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<sup>36</sup> *Ibid.*

1 BBB+. This suggests that the perceived business and financial risk of MDU  
2 Resources' bonds is equal to that of the typical company in the comparison group.

3 The capital structure data on Schedule 8 of Exhibit No. \_\_\_(JSG-2) show that  
4 Montana-Dakota's filed common equity ratio of 50.23 percent is slightly greater  
5 than, but close to, the 47.54 percent median for the proxy companies as of July  
6 31, 2016. This approximately average common equity ratio, suggests average  
7 financial risk for Montana-Dakota's North Dakota electric utility operations.

8 **Q46. Would you please describe Montana-Dakota's market risks?**

9 A46. Market risk is associated with the changing value of all investments because of  
10 business cycles, inflation, and fluctuations in the general cost of capital  
11 throughout the economy. Different companies are subject to different degrees of  
12 market risk largely as a result of differences in their business and financial risks.  
13 Overall, the market risk of Montana-Dakota's North Dakota electric utility  
14 business is comparable to that of the companies in the electric utility comparison  
15 group.

16 **Q47. How do the overall risks of the proxy companies compare with the risks  
17 faced by Montana-Dakota's North Dakota electric utility operations?**

18 A47. Montana-Dakota's North Dakota electric utility operations face overall risks that  
19 are near the top of the range relative to those of the proxy companies. Although it  
20 has financial and regulatory risks that are average relative to the proxy companies,  
21 Montana-Dakota's North Dakota electric utility operations have business risks  
22 that are well above average due to its exceptionally small size, the heavy

1 concentration of volatile oil and gas production operations in its service territory,  
 2 and its greater reliance on coal-fired generation than all of the proxy companies.  
 3 These considerations lead me to conclude that investors appraise the overall risks  
 4 of Montana-Dakota's North Dakota electric utility operations to be well above  
 5 average relative to those of the proxy companies. Consequently, Montana-  
 6 Dakota's North Dakota electric utility business requires an allowed rate of return  
 7 that is in the upper portion of the range for the companies in the proxy group  
 8 indicated by my DCF analyses.

### 9 III. SUMMARY AND CONCLUSIONS

10 **Q48. Please summarize the results of your cost of capital study.**

11 A48. I conducted two DCF analyses on a group of electric utilities that have a range of  
 12 risks that is roughly comparable to those of Montana-Dakota's North Dakota  
 13 electric utility operations. These results are summarized as follows:

14 **Table 3: Summary of DCF Results**

	Basic DCF Analysis	Blended Growth Rate DCF Analysis
High	11.33%	9.97%
3 <sup>rd</sup> Quartile	10.18%	9.60%
Median	<b>9.42%</b>	<b>8.70%</b>
1 <sup>st</sup> Quartile	9.11%	8.52%
Low	7.97%	7.68%

15  
 16 In addition, I conducted three risk premium analyses and a market DCF analysis  
 17 of the S&P 500 to test the reasonableness of my DCF analyses. Those results are  
 18 summarized as follows:

**Table 4: Benchmark Risk Premium and Market DCF Analyses**

	Return
Risk Premium (Long-Term Corporate Bonds)	
vs. Large Company Stocks	10.02
vs. Small Company Stocks	14.10
Electric Utility Risk Premium	9.94
Market DCF (S&P 500)	11.94
Forward Looking CAPM	10.48

Because the Federal Reserve policies have created an artificially low interest rate environment, the results of DCF and risk premium based analyses are artificially low at this time. This is another reason why the return should be set at or near the top of the range of reasonableness indicated by the DCF analysis at this time.

My risk premium, market DCF, and CAPM analyses suggest that the DCF results generally are low relative to current market benchmarks. In particular, all of the DCF return estimates are considerably below the 14.10 percent risk premium return benchmark for companies in Montana-Dakota's relative size range. Similarly, the DCF estimates for the electric utility proxy companies are well below the 11.94 percent market DCF estimate for the S&P 500 companies, and are generally below the 10.48 percent CAPM estimate of the cost of equity for the proxy companies.

**Q49. What rate of return on common equity do you recommend for Montana-Dakota's North Dakota electric utility operations in this proceeding?**

**A49.** My analyses indicate that an appropriate rate of return on common equity for Montana-Dakota's North Dakota electric utility operations at this time is 10.0

1 percent, which is above the median, but below the third quartile of the range for  
2 my Basic DCF analysis. It is also equal to the top of the range for my Blended  
3 DCF analysis. This recommended return reflects my assessment that the overall  
4 risks of Montana-Dakota's North Dakota electric utility operations are near the  
5 top of the range relative to those of the proxy companies. Although the Company  
6 has average financial risks relative to the proxy companies, it has business risks  
7 that are well above average. In addition to its exceptionally small size relative to  
8 the proxy companies, its service territory is heavily dependent on the oil and gas  
9 production industry, and Montana-Dakota's North Dakota electric utility  
10 operations are more heavily reliant on coal-fired generation than all but one of the  
11 proxy companies and the economics of coal-fired generation is threatened by  
12 proposed environmental regulations and other federal initiatives. Thus, my  
13 recommended return of 10 percent is appropriately positioned to reflect the  
14 current risks faced by Montana-Dakota's North Dakota electric utility operations  
15 relative to the risks faced by the proxy companies.

16 **Q50. Does this conclude your Prepared Direct Testimony?**

17 A50. Yes.

**J. Stephen Gaske, Ph.D.**  
**Senior Vice President**

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Steve Gaske has more than 30 years of experience as an economic consultant, researcher, and professor in the fields of public utility economics, finance, and regulation. Dr. Gaske has provided consulting services in more than 300 regulatory, antitrust, tax, and civil proceedings. In addition, he has presented expert testimony in more than 100 state, provincial, and federal regulatory commission hearings in Canada, the U.S. and Mexico.

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**AREAS OF EXPERTISE**

His specialty is the application to regulated industries of inter-related principles from economics, finance and regulatory theory. His areas of expertise include:

- Finance, cost of capital, and risk analysis;
- Rate design, cost allocation, cost of service, and pricing of services;
- Energy markets and the economics of public utilities and energy infrastructure;
- Competition and antitrust principles; and
- Regulatory economics, rules, and policies.

**INDUSTRY EXPERTISE**

His work has involved:

- Most of the major natural gas pipelines in North America;
- Many electric utilities;
- Many natural gas distribution companies;
- Several major oil pipelines;
- Railroads;
- Postal Service;
- Telephone and satellite telecommunications companies; and
- Sewer and water companies.

**REPRESENTATIVE PROJECT EXPERIENCE**

Some of the projects on which Dr. Gaske has worked include:

- Advisor to numerous U.S. and Canadian pipelines on economics, pricing strategies and regulatory matters;
- Development of computerized cost of service models for calculating both traditional and levelized rates for gas and oil pipelines, and rates for electric utilities;
- On behalf of a new, greenfield pipeline designed to carry Canadian gas to U.S. New England markets he served as the rate and financial advisor during the development, permitting and financing stages.
- A variety of White Papers on technical aspects of calculating the allowed rate of return for regulated companies, including white papers submitted in proceedings involving FERC

**ATTACHMENT A  
RÉSUMÉ OF J. STEPHEN GASKE**

- generic rate of return for electric utilities, FERC rate of return for gas and oil pipelines, Canadian rate of return for pipelines and utilities;
- An analysis of the applicability of various finance theories to telephone ratemaking by the U. S. Federal Communications Commission;
- A study of the economic structure, risks and cost of capital of the satellite telecommunications industry;
- Author of several issues of the H. Zinder & Associates Summary of Natural Gas Pipeline Rates;
- Several studies of regional natural gas market competition, market power, pricing and capacity needs;
- An evaluation of Federal Energy Regulatory Commission policies designed to promote liquidity in the natural gas commodity markets;
- Numerous studies of electric rate, regulatory and market issues such as canceled plant treatment, time-differentiated rates, non-utility generation, competitive bidding, and open-access transmission;
- Author of two updates of the Edison Electric Institute Glossary of Electric Utility Terms;
- Several studies of pricing, contract provisions, competitive bidding programs, and transmission practices for independent electric generation; and,
- Several reports and projects on incentive regulation and the application of price cap regulation to both electric and natural gas companies.

**LITIGATION SUPPORT AND EXPERT TESTIMONY**

Dr. Gaske has testified or filed testimony or affidavits in more than 100 regulatory proceedings on the following topics:

	<b>Commission</b>	<b>Topic</b>
Design	Alaska Regulatory Commission	Oil Pipeline Rate of Return/Rate Base
	Alberta Energy and Utilities Board	Gas Pipeline Cost Allocation/Rate
	Alberta Utilities Commission	Utility Cost of Capital; Gas Pipeline Contracts and Market Power
	Colorado Board of Assessment Appeals	Property Tax Discount Rate
	U.S. Economic Regulatory Administration	Gas Distribution Rate Design
	U. S. Federal Energy Regulatory Commission	Electric Transmission Rate of Return; Gas Pipeline Cost Allocation and Rate Design, Rate of Return and Capital Structure, Competition, Revenue Requirements; Oil Pipeline Rate of Return, Pricing and Tariff Provision
	Idaho Public Service Commission	Gas Distribution Rate of Return

**ATTACHMENT A**  
**RÉSUMÉ OF J. STEPHEN GASKE**

Indiana Utilities Regulatory Commission	Electric Cost Allocation/Rate Design
Iowa Utilities Board	Electric Avoided Costs/Externalities
Maine Public Utilities Commission	Electric Rate Design/Demand Management
Comision Reguladora de Energia de México	Gas Pipeline Rate of Return
Montana Public Service Commission	Electric/Gas Distribution Rate of Return; Cost Allocation and Rate Design
Electric	Gas Distribution Rate of Return
Minnesota Public Utilities Commission	Gas Pipeline Cost Allocation and Rate Design; Oil Pipeline Service Structure and Rates
National Energy Board of Canada	Electric Rate of Return
New Mexico Regulatory Commission	Gas Pipeline Capital Structure
New York Public Service Commission	Gas Distribution Ratemaking
New Brunswick Energy and Utilities Board	Electric/Gas Distribution Rate of Return; Natural Gas Market Pricing; Electric Cost Allocation and Rate Design
North Dakota Public Service Commission	Cost Allocation and Pricing of Bridge Access
Nova Scotia Utility and Review Board	Rate of Return; Access to and Pricing of Gas Pipeline Expansions; LNG Regulation
Ontario Energy Board	Postal Pricing/Rate Design
U.S. Postal Rate Commission	Rate of Return/Regulatory Principles
Régie de l'énergie du Québec	Gas Distribution Rate of Return
South Dakota Public Utilities Commission	Electric Cost Allocation and Rate Design
Texas Public Utilities Commission	Gas Pipeline Cost Allocation/Rate Design
Texas Railroad Commission	Gas Distribution Rate of Return
Washington Utilities and Transportation Comm.	Electric Generation Economics
Wisconsin Public Service Commission	Electric/Gas Distribution Rate of Return
Wyoming Public Service Commission	Property Tax Discount Rate
Wyoming Board of Equalization	

## TEACHING/SPEAKING ENGAGEMENTS

Dr. Gaske has spoken on utility finance and economic issues before numerous professional groups. From 1983-1986, he served as Coordinator of the Edison Electric Institute Electric Rate Fundamentals Course. He has lectured on marginal cost estimation for electric utilities at the EEI rate course, and on both low-income rates and natural gas pipeline cost allocation and rate design before the American Gas Association Gas Rate Fundamentals Course. In addition, Dr. Gaske has taught college courses in Public Utility Economics, Transportation, Physical Distribution, Financial Management, Investments, Corporate Finance, and Corporate Financial Theory.

## PROFESSIONAL HISTORY

### CONSULTING

**Concentric Energy Advisors, Inc. (2008 – present)**  
Senior Vice President

**H. Zinder & Associates (1988 – 2008)**  
President/Senior Vice-President/Consultant

**Independent Consulting on Public Utility Issues (1982 - 1988)**

**Olson & Company, Inc. (1980 – 1981)**  
Public Utility Consultant

**H. Zinder & Associates (1977 – 1980)**  
Research Assistant and Supervisor of Regulatory Research

### ACADEMIC/TEACHING

**Trinity University (1986 – 1988)**  
Assistant Professor of Finance

**Indiana University School of Business (1982 - 1986)**  
Associate Instructor of Public Utilities and Transportation

**Northern Virginia Community College (1978)**  
Lecturer in Accounting

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## EDUCATION

Ph.D., Indiana University School of Business, 1987  
M.B.A., George Washington University, 1977  
B.A., University of Virginia, 1975

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## PROFESSIONAL ASSOCIATIONS

American Economic Association  
American Finance Association

**ATTACHMENT A**  
**RÉSUMÉ OF J. STEPHEN GASKE**

American Gas Association Rate Committee (1989-2001)  
Energy Bar Association  
Financial Management Association

Montana-Dakota Utilities Co.

General Economic Statistics

1984-2015

Year	[1]	[2]	[3]	[4]	[5]
	Percentage Price Changes		Real GDP Growth	Nominal GDP (\$ billions)	Nominal GDP Growth
	Consumer Price Index	GDP Implicit Price Deflator			
1984	4.3%	3.5%	7.3%	4,040.7	
1985	3.6%	3.2%	4.2%	4,346.7	7.6%
1986	1.9%	2.0%	3.5%	4,590.2	5.6%
1987	3.6%	2.6%	3.5%	4,870.2	6.1%
1988	4.1%	3.5%	4.2%	5,252.6	7.9%
1989	4.8%	3.9%	3.7%	5,657.7	7.7%
1990	5.4%	3.7%	1.9%	5,979.6	5.7%
1991	4.2%	3.3%	-0.1%	6,174.0	3.3%
1992	3.0%	2.3%	3.6%	6,539.3	5.9%
1993	3.0%	2.4%	2.7%	6,878.7	5.2%
1994	2.6%	2.1%	4.0%	7,308.8	6.3%
1995	2.8%	2.1%	2.7%	7,664.1	4.9%
1996	3.0%	1.8%	3.8%	8,100.2	5.7%
1997	2.3%	1.7%	4.5%	8,608.5	6.3%
1998	1.6%	1.1%	4.5%	9,089.2	5.6%
1999	2.2%	1.5%	4.7%	9,660.6	6.3%
2000	3.4%	2.3%	4.1%	10,284.8	6.5%
2001	2.8%	2.3%	1.0%	10,621.8	3.3%
2002	1.6%	1.5%	1.8%	10,977.5	3.3%
2003	2.3%	2.0%	2.8%	11,510.7	4.9%
2004	2.7%	2.7%	3.8%	12,274.9	6.6%
2005	3.4%	3.2%	3.3%	13,093.7	6.7%
2006	3.2%	3.1%	2.7%	13,855.9	5.8%
2007	2.8%	2.7%	1.8%	14,477.6	4.5%
2008	3.8%	2.0%	-0.3%	14,718.6	1.7%
2009	-0.4%	0.8%	-2.8%	14,418.7	-2.0%
2010	1.6%	1.2%	2.5%	14,964.4	3.8%
2011	3.2%	2.1%	1.6%	15,517.9	3.7%
2012	2.1%	1.8%	2.2%	16,155.3	4.1%
2013	1.5%	1.6%	1.7%	16,691.5	3.3%
2014	1.6%	1.8%	2.4%	17,393.1	4.2%
2015	0.1%	1.1%	2.6%	18,036.6	3.7%
Average Rate of Change [6]:					
1984-2015	2.7%	2.2%	2.7%	5.1%	5.0%
1994-2015	2.3%	1.9%	2.4%	4.6%	4.4%
2004-2015	2.1%	1.9%	1.6%	3.9%	3.6%

Notes:

- [1] U.S. Department of Labor, Bureau of Labor Statistics;
- [1] U.S. city average, all urban consumers, all items, not seasonally adjusted
- [2] U.S. Department of Commerce, Bureau of Economic Analysis,
- [2] National Income and Product Accounts Tables, Table 1.1.9, Revised on July 29, 2016
- [3] U.S. Department of Commerce, Bureau of Economic Analysis,
- [3] National Income and Product Accounts Tables, Table 1.1.1, Revised on July 29, 2016
- [4] U.S. Department of Commerce, Bureau of Economic Analysis,
- [4] National Income and Product Accounts Tables, Table 1.1.5, Revised on July 29, 2016
- [5] Equals annual percent change of Column [4]
- [6] Nominal GDP growth rates based on geometric average rate of change

**Montana-Dakota Utilities Co.**

**Bond Yield Averages**  
*January 2007 - July 2016*

		[1]	[2]	[3]	[4]	[5]	[6]
		30-year U.S. Treasury Bond	Average Corporate	Public Utility Bonds		Credit Spreads	
				A-Rated	Baa-Rated	A-Rated	Baa-Rated
2007	JAN	4.85	5.92	5.96	6.16	1.10	1.31
	FEB	4.82	5.88	5.90	6.10	1.08	1.28
	MAR	4.72	5.84	5.85	6.10	1.13	1.38
	APR	4.87	5.99	5.97	6.24	1.10	1.37
	MAY	4.90	6.00	5.99	6.23	1.08	1.33
	JUN	5.20	6.32	6.30	6.54	1.10	1.34
	JUL	5.11	6.26	6.25	6.49	1.14	1.38
	AUG	4.93	6.26	6.24	6.51	1.30	1.58
	SEP	4.79	6.21	6.18	6.45	1.39	1.66
	OCT	4.77	6.12	6.11	6.36	1.34	1.59
	NOV	4.52	5.97	5.97	6.27	1.45	1.75
	DEC	4.53	6.15	6.16	6.51	1.63	1.98
2008	JAN	4.33	6.02	6.02	6.35	1.68	2.01
	FEB	4.51	6.24	6.21	6.60	1.70	2.08
	MAR	4.38	6.23	6.21	6.68	1.83	2.30
	APR	4.44	6.29	6.29	6.81	1.85	2.37
	MAY	4.60	6.31	6.28	6.79	1.68	2.20
	JUN	4.68	6.43	6.38	6.93	1.70	2.24
	JUL	4.56	6.44	6.40	6.97	1.84	2.41
	AUG	4.50	6.42	6.37	6.98	1.87	2.48
	SEP	4.27	6.50	6.49	7.15	2.22	2.88
	OCT	4.16	7.56	7.56	8.58	3.40	4.42
	NOV	3.98	7.65	7.60	8.98	3.62	5.00
	DEC	2.85	6.71	6.52	8.11	3.68	5.27
2009	JAN	3.10	6.59	6.39	7.90	3.29	4.80
	FEB	3.59	6.64	6.30	7.74	2.71	4.15
	MAR	3.64	6.84	6.42	8.00	2.79	4.36
	APR	3.76	6.85	6.48	8.03	2.73	4.27
	MAY	4.24	6.79	6.49	7.76	2.25	3.52
	JUN	4.51	6.52	6.20	7.30	1.69	2.79
	JUL	4.40	6.17	5.97	6.87	1.56	2.47
	AUG	4.37	5.83	5.71	6.36	1.34	1.99
	SEP	4.19	5.61	5.53	6.12	1.34	1.93
	OCT	4.19	5.63	5.55	6.14	1.36	1.95
	NOV	4.31	5.68	5.63	6.17	1.32	1.86
	DEC	4.50	5.78	5.79	6.26	1.29	1.76
2010	JAN	4.60	5.76	5.77	6.16	1.17	1.55
	FEB	4.62	5.86	5.87	6.25	1.25	1.63
	MAR	4.65	5.81	5.84	6.22	1.20	1.58
	APR	4.69	5.80	5.81	6.19	1.12	1.50
	MAY	4.28	5.52	5.50	5.97	1.22	1.69
	JUN	4.12	5.52	5.46	6.18	1.34	2.06
	JUL	3.99	5.32	5.26	5.98	1.27	1.99
	AUG	3.80	5.05	5.01	5.55	1.21	1.75
	SEP	3.77	5.05	5.01	5.53	1.23	1.76
	OCT	3.87	5.15	5.10	5.62	1.24	1.75
	NOV	4.19	5.37	5.37	5.85	1.18	1.66
	DEC	4.42	5.55	5.56	6.04	1.14	1.62

**Montana-Dakota Utilities Co.**

**Bond Yield Averages**  
*January 2007 - July 2016*

		[1]	[2]	[3]	[4]	[5]	[6]
		30-year U.S. Treasury Bond	Average Corporate	Public Utility Bonds		Credit Spreads	
				A-Rated	Baa-Rated	A-Rated	Baa-Rated
2011	JAN	4.52	5.56	5.57	6.06	1.05	1.54
	FEB	4.65	5.66	5.68	6.10	1.03	1.45
	MAR	4.51	5.55	5.56	5.97	1.05	1.46
	APR	4.50	5.56	5.55	5.98	1.05	1.48
	MAY	4.29	5.33	5.32	5.74	1.03	1.45
	JUN	4.23	5.30	5.26	5.67	1.03	1.44
	JUL	4.28	5.30	5.27	5.70	0.99	1.42
	AUG	3.65	4.79	4.69	5.22	1.04	1.57
	SEP	3.18	4.60	4.48	5.11	1.30	1.93
	OCT	3.12	4.60	4.52	5.24	1.39	2.12
	NOV	3.01	4.39	4.25	4.93	1.24	1.92
	DEC	2.99	4.47	4.33	5.07	1.35	2.08
2012	JAN	3.01	4.45	4.34	5.06	1.32	2.05
	FEB	3.11	4.42	4.36	5.02	1.25	1.91
	MAR	3.28	4.54	4.48	5.13	1.20	1.85
	APR	3.18	4.49	4.40	5.11	1.21	1.93
	MAY	2.92	4.33	4.20	4.97	1.28	2.04
	JUN	2.70	4.22	4.08	4.91	1.39	2.21
	JUL	2.60	4.03	3.93	4.85	1.33	2.25
	AUG	2.77	4.09	4.00	4.88	1.23	2.11
	SEP	2.87	4.09	4.02	4.81	1.16	1.94
	OCT	2.91	3.97	3.91	4.54	1.01	1.64
	NOV	2.80	3.92	3.84	4.42	1.04	1.61
	DEC	2.89	4.05	4.00	4.56	1.11	1.67
2013	JAN	3.07	4.19	4.15	4.66	1.07	1.59
	FEB	3.16	4.27	4.18	4.74	1.02	1.58
	MAR	3.16	4.29	4.20	4.72	1.04	1.56
	APR	2.93	4.07	4.00	4.49	1.07	1.56
	MAY	3.11	4.23	4.17	4.65	1.05	1.54
	JUN	3.40	4.63	4.53	5.08	1.13	1.68
	JUL	3.60	4.76	4.68	5.21	1.08	1.61
	AUG	3.76	4.89	4.73	5.28	0.97	1.52
	SEP	3.78	4.95	4.80	5.31	1.02	1.52
	OCT	3.68	4.82	4.70	5.17	1.02	1.49
	NOV	3.80	4.91	4.77	5.24	0.97	1.44
	DEC	3.89	4.92	4.81	5.25	0.92	1.36
2014	JAN	3.77	4.76	4.63	5.09	0.86	1.32
	FEB	3.66	4.68	4.53	5.01	0.87	1.35
	MAR	3.62	4.65	4.51	5.00	0.89	1.37
	APR	3.52	4.52	4.41	4.85	0.89	1.33
	MAY	3.39	4.38	4.26	4.69	0.87	1.30
	JUN	3.42	4.44	4.29	4.73	0.87	1.31
	JUL	3.33	4.37	4.23	4.66	0.89	1.33
	AUG	3.20	4.29	4.13	4.65	0.93	1.45
	SEP	3.26	4.39	4.24	4.79	0.98	1.53
	OCT	3.04	4.22	4.06	4.67	1.02	1.63
	NOV	3.04	4.28	4.09	4.75	1.05	1.71
	DEC	2.83	4.17	3.95	4.70	1.11	1.86

**Montana-Dakota Utilities Co.**

**Bond Yield Averages**  
*January 2007 - July 2016*

		[1]	[2]	[3]	[4]	[5]	[6]
		30-year U.S. Treasury Bond	Average Corporate	Public Utility Bonds		Credit Spreads	
				A-Rated	Baa-Rated	A-Rated	Baa-Rated
2015	JAN	2.46	3.84	3.58	4.39	1.13	1.94
	FEB	2.57	3.93	3.67	4.44	1.11	1.87
	MAR	2.63	3.98	3.74	4.51	1.12	1.88
	APR	2.59	3.93	3.75	4.51	1.16	1.92
	MAY	2.96	4.35	4.17	4.91	1.22	1.95
	JUN	3.11	4.56	4.39	5.13	1.28	2.01
	JUL	3.07	4.57	4.40	5.22	1.33	2.16
	AUG	2.86	4.48	4.25	5.23	1.39	2.37
	SEP	2.95	4.59	4.39	5.42	1.43	2.47
	OCT	2.89	4.52	4.29	5.47	1.40	2.58
	NOV	3.03	4.62	4.40	5.57	1.37	2.54
	DEC	2.97	4.58	4.35	5.55	1.38	2.58
2016	JAN	2.86	4.56	4.27	5.49	1.41	2.63
	FEB	2.62	4.44	4.11	5.28	1.49	2.66
	MAR	2.68	4.33	4.16	5.12	1.47	2.44
	APR	2.62	4.09	4.00	4.75	1.37	2.12
	MAY	2.63	4.04	3.93	4.60	1.30	1.97
	JUN	2.45	3.91	3.78	4.47	1.32	2.01
	JUL	2.23	3.67	3.57	4.16	1.35	1.93
2016	AVG	2.59	4.15	3.97	4.84	1.39	2.25

**Notes:**

- [1] Bloomberg Finance L.P., 30-Year U.S. Treasury Bond
- [2] Bloomberg Finance L.P., Moody's Average Corporate Bond Index
- [3] Bloomberg Finance L.P., Moody's A-Rated Utility Bond Index
- [4] Bloomberg Finance L.P., Moody's Baa-Rated Utility Bond Index
- [5] Equals Column [3] - Column [1]
- [6] Equals Column [4] - Column [1]

**Montana-Dakota Utilities Co.**

**Common Equity Flotation Costs of  
 Electric Distribution Companies  
 2006-2016**

Issuer	Date of Offering	Number of Shares	Issue Price	Gross Spread	Financing Costs as a	
					Net Proceeds Per Share	Percent of Net Proceeds
Consolidated Edison, Inc.	5/10/2016	10,120,000	71.5000	2.15	\$69.355	3.09%
Duke Energy Corporation	3/1/2016	10,637,500	72.0000	2.16	\$69.840	3.09%
Black Hills Corporation	11/17/2015	6,325,000	40.2500	1.41	\$38.841	3.63%
NorthWestern Corporation	11/4/2014	7,766,990	51.5000	1.80	\$49.698	3.63%
Exelon Corporation	6/11/2014	57,500,000	35.0000	1.05	\$33.950	3.09%
ALLETE, Inc.	2/26/2014	3,220,000	49.7500	1.74	\$48.009	3.63%
Westar Energy, Inc.	9/24/2013	8,916,000	31.1500	1.09	\$30.060	3.63%
Portland General Electric Company	6/11/2013	12,765,000	29.5000	0.96	\$28.541	3.36%
Hawaiian Electric Industries, Inc.	3/19/2013	7,000,000	26.7500	1.00	\$25.747	3.90%
PG&E Corporation	2/27/2013	7,200,000	41.7100	0.05	\$41.660	0.12%
PG&E Corporation	3/15/2012	5,900,000	43.0900	0.08	\$43.010	0.19%
PPL Corporation	4/11/2011	92,000,000	25.3000	0.76	\$24.541	3.09%
Black Hills Corporation	11/10/2010	4,413,519	29.7500	1.04	\$28.709	3.63%
Westar Energy, Inc.	11/4/2010	8,625,000	25.5400	0.89	\$24.646	3.63%
Xcel Energy Inc.	8/3/2010	21,850,000	21.5000	0.65	\$20.855	3.09%
PPL Corporation	6/22/2010	103,500,000	24.0000	0.72	\$23.280	3.09%
CenterPoint Energy, Inc.	6/9/2010	25,300,000	12.9000	0.45	\$12.449	3.63%
SCANA Corporation	5/11/2010	8,222,500	37.0000	1.30	\$35.705	3.63%
Pinnacle West Capital Corporation	4/8/2010	6,900,000	38.0000	1.33	\$36.670	3.63%
CenterPoint Energy, Inc.	9/10/2009	24,150,000	12.0000	0.42	\$11.580	3.63%
Ameren Corporation	9/9/2009	21,850,000	25.2500	0.76	\$24.493	3.09%
Great Plains Energy Inc.	5/12/2009	11,500,000	14.0000	0.49	\$13.510	3.63%
American Electric Power Company, Inc.	4/1/2009	69,000,000	24.5000	0.74	\$23.765	3.09%
Eversource Energy	3/16/2009	18,975,000	20.2000	0.66	\$19.544	3.36%
Portland General Electric Company	3/5/2009	12,477,500	14.1000	0.49	\$13.607	3.63%
SCANA Corporation	12/31/2008	2,875,000	35.5000	0.53	\$34.968	1.52%
Hawaiian Electric Industries, Inc.	12/2/2008	5,000,000	23.0000	0.86	\$22.138	3.90%
Otter Tail Corporation	9/18/2008	5,175,000	30.0000	1.09	\$28.913	3.76%
Westar Energy, Inc.	5/29/2008	6,000,000	24.2800	0.85	\$23.430	3.63%
ITC Holdings Corp.	1/18/2008	6,420,737	50.1500	2.13	\$48.019	4.44%
Empire District Electric Company	12/6/2007	3,000,000	23.0000	0.98	\$22.023	4.44%
Westar Energy, Inc.	11/15/2007	8,215,000	25.2500	0.88	\$24.366	3.63%
Portland General Electric Company	6/12/2007	23,658,106	26.0000	0.78	\$25.220	3.09%
Consolidated Edison, Inc.	5/10/2007	11,000,000	50.7800	0.05	\$50.730	0.10%
Vectren Corporation	2/22/2007	4,600,000	28.3300	0.99	\$27.340	3.62%
Avista Corporation	12/12/2006	3,162,500	25.0500	0.48	\$24.570	1.95%
PNM Resources, Inc.	12/6/2006	5,750,000	30.7900	1.08	\$29.712	3.63%
ITC Holdings Corp.	10/4/2006	12,937,500	31.9100	1.44	\$30.474	4.71%
Consolidated Edison, Inc.	9/20/2006	9,715,000	46.1000	0.14	\$45.960	0.30%
Empire District Electric Company	6/15/2006	3,795,000	20.2500	0.86	\$19.390	4.44%
Great Plains Energy Inc.	5/18/2006	7,002,450	27.5000	0.89	\$26.606	3.36%
<b>Average 2006-2016:</b>						<b>3.16%</b>
<b>Selected Flotation Costs for Cost of Equity:</b>						<b>3.20%</b>

**Montana-Dakota Utilities Co.**

**Selected Electric Distribution Companies  
 Fiscal Year 2015 Operating Data**

Company	Ticker	Total Assets (\$million)	Operating Revenues (\$million)	Operating Income (\$million)
ALLETE, Inc.	ALE	\$4,895	\$1,486	\$211 1/
Alliant Energy Corporation	LNT	\$12,495	\$3,254	\$577 1/
Ameren Corporation	AEE	\$23,640	\$6,098	\$1,259 1/
American Electric Power Company, Inc.	AEP	\$61,683	\$16,453	\$3,334 1/
DTE Energy Company	DTE	\$28,662	\$10,337	\$1,239 1/
Otter Tail Corporation	OTTR	\$1,818	\$780	\$109 1/
PNM Resources, Inc.	PNM	\$6,009	\$1,439	\$124 1/
Xcel Energy Inc.	XEL	\$38,962	\$11,024	\$2,001 1/
High		\$61,683	\$16,453	\$3,334
Average		\$22,271	\$6,359	\$1,107
Median		\$18,068	\$4,676	\$908
Low		\$1,818	\$780	\$109
Montana-Dakota Utilities Co.				
- North Dakota Electric Operation		\$557 2/	\$181 3/	\$33 3/
MDU Resources Group, Inc.		\$6,622 1/	\$4,192 1/	\$254 1/
Montana-Dakota North Dakota Electric % of:				
- Proxy Company Median		3.08%	3.87%	3.66%
- MDU Resources Group, Inc.		8.41%	4.32%	13.06%

**Notes:**

1/ Source: 2015 10K

2/ Montana-Dakota Utilities Co. Index of Statements, page 42

3/ 2015 Montana-Dakota Utilities, Annual Report, State of North Dakota, Electric Operations, 2015

**Montana-Dakota Utilities Co.**

**Selected Electric Distribution Companies  
 Credit Ratings**

Company	Ticker	Standard & Poor's	Moody's
ALLETE, Inc.	ALE	BBB+	A3
Alliant Energy Corporation	LNT	A-	Baa1
Ameren Corporation	AEE	BBB+	Baa1
American Electric Power Company, Inc.	AEP	BBB	Baa1
DTE Energy Company	DTE	BBB+	A3
Otter Tail Corporation	OTTR	BBB	Baa2
PNM Resources, Inc.	PNM	BBB+	Baa3
Xcel Energy Inc.	XEL	A-	A3
<b>Average</b>		<b>BBB+</b>	<b>Baa1</b>
<b>Median</b>		<b>BBB+</b>	<b>Baa1</b>
MDU Resources Group, Inc.		BBB+	-

Notes:

Source: SNL Financial as of July 31, 2016.





**Montana-Dakota Utilities Co.**

**Selected Electric Distribution Companies  
 Dividend Yields**

*February 2016 - July 2016*

Company	Ticker	Average Dividend Yield
ALLETE, Inc.	ALE	3.64%
Alliant Energy Corporation	LNT	3.22%
Ameren Corporation	AEE	3.47%
American Electric Power Company, Inc.	AEP	3.44%
DTE Energy Company	DTE	3.24%
Otter Tail Corporation	OTTR	4.19%
PNM Resources, Inc.	PNM	2.66%
Xcel Energy Inc.	XEL	3.22%
<b>Average</b>		<b>3.39%</b>
<b>Median</b>		<b>3.34%</b>

			Price			Annualized Dividend	Dividend Yield
			Low	High	Average		
PNM Resources, Inc.	PNM	Feb-16	\$ 31.24	\$ 33.34	\$ 32.29	\$ 0.88	2.73%
		Mar-16	31.30	34.07	32.69	0.88	2.69%
		Apr-16	30.62	33.93	32.28	0.88	2.73%
		May-16	31.20	33.49	32.35	0.88	2.72%
		Jun-16	32.79	35.46	34.13	0.88	2.58%
		Jul-16	33.61	36.15	34.88	0.88	2.52%
Xcel Energy Inc.	XEL	Feb-16	\$ 36.25	\$ 40.43	\$ 38.34	\$ 1.28	3.34%
		Mar-16	38.26	41.85	40.06	1.28	3.20%
		Apr-16	38.43	42.04	40.24	1.28	3.18%
		May-16	39.69	41.98	40.84	1.36	3.33%
		Jun-16	40.99	44.78	42.88	1.36	3.17%
		Jul-16	43.10	45.42	44.26	1.36	3.07%

Source: Bloomberg Finance

**Montana-Dakota Utilities Co.**

**Selected Electric Distribution Companies  
 Projected Earnings Retention Growth Rates**

Company	Ticker	Value Line Forecast 2019-2021			Retention Rate	Retention Growth
		EPS	DPS	ROE		
ALLETE, Inc.	ALE	\$3.75	\$2.40	8.50%	36.00%	3.06%
Alliant Energy Corporation	LNT	\$2.45	\$1.50	12.50%	38.78%	4.85%
Ameren Corporation	AEE	\$3.25	\$2.05	9.50%	36.92%	3.51%
American Electric Power Company, Inc.	AEP	\$4.25	\$2.75	9.50%	35.29%	3.35%
DTE Energy Company	DTE	\$6.00	\$3.70	10.00%	38.33%	3.83%
Otter Tail Corporation	OTTR	\$2.10	\$1.33	10.50%	36.67%	3.85%
PNM Resources, Inc.	PNM	\$2.35	\$1.30	9.50%	44.68%	4.24%
Xcel Energy Inc.	XEL	\$2.75	\$1.70	11.00%	38.18%	4.20%
<b>Average</b>						<b>3.86%</b>
<b>Median</b>						<b>3.84%</b>

Source: Value Line, as of June 17, 2016 and July 29, 2016.

**Montana-Dakota Utilities Co.**

**Selected Electric Distribution Companies  
 Blended Growth Rate Estimates**

Company	Ticker	1/2	1/2	67%	33%	Weighted Average
		Zacks 5-Yr Earnings Growth Est.	Yahoo! Finance Earnings Growth	Average Analysts' Earnings Growth	Retention Growth	
ALLETE, Inc.	ALE	5.50%	5.00%	5.25%	3.06%	4.53%
Alliant Energy Corporation	LNT	6.10%	6.60%	6.35%	4.85%	5.85%
Ameren Corporation	AEE	6.10%	5.20%	5.65%	3.51%	4.94%
American Electric Power Company, Inc.	AEP	4.70%	3.67%	4.19%	3.35%	3.91%
DTE Energy Company	DTE	5.80%	5.35%	5.58%	3.83%	5.00%
Otter Tail Corporation	OTTR	n/a	6.00%	6.00%	3.85%	5.29%
PNM Resources, Inc.	PNM	7.60%	8.76%	8.18%	4.24%	6.88%
Xcel Energy Inc.	XEL	5.20%	5.26%	5.23%	4.20%	4.89%
<b>Average</b>		<b>5.86%</b>	<b>5.73%</b>	<b>5.80%</b>	<b>3.86%</b>	<b>5.16%</b>
<b>Median</b>		<b>5.80%</b>	<b>5.31%</b>	<b>5.61%</b>	<b>3.84%</b>	<b>4.97%</b>

Source: Zacks.com and Yahoo Finance, as of July 29, 2016

**Montana-Dakota Utilities Co.**

**Selected Electric Distribution Companies  
 Basic DCF Calculation**

Company	Ticker	Dividend Yield	Dividend Yield x (1 + 0.625g)	Expected Growth Rate (g)	Secondary Market:		Primary Market:
					Investor Required Return	Flotation Cost Adjustment	
ALLETE, Inc.	ALE	3.64%	3.76%	5.25%	9.01%	1.0320	9.30%
Alliant Energy Corporation	LNT	3.22%	3.35%	6.35%	9.70%	1.0320	10.01%
Ameren Corporation	AEE	3.47%	3.59%	5.65%	9.24%	1.0320	9.54%
American Electric Power Company, Inc.	AEP	3.44%	3.53%	4.19%	7.72%	1.0320	7.97%
DTE Energy Company	DTE	3.24%	3.35%	5.58%	8.93%	1.0320	9.21%
Otter Tail Corporation	OTTR	4.19%	4.35%	6.00%	10.35%	1.0320	10.68%
PNM Resources, Inc.	PNM	2.66%	2.80%	8.18%	10.98%	1.0320	11.33%
Xcel Energy Inc.	XEL	3.22%	3.32%	5.23%	8.55%	1.0320	8.82%
High					10.98%		11.33%
3 <sup>rd</sup> Quartile					9.86%		10.18%
2 <sup>nd</sup> Quartile (Median)					9.13%		9.42%
1 <sup>st</sup> Quartile					8.83%		9.11%
Low					7.72%		7.97%

**Montana-Dakota Utilities Co.**

**Selected Electric Distribution Companies  
 Blended Growth Rate DCF Calculation**

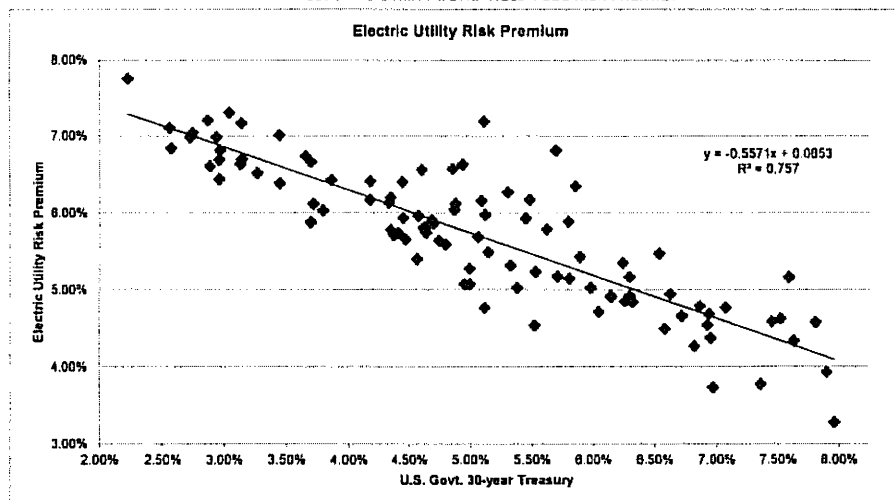
Company	Ticker	Dividend Yield	Dividend Yield x (1 + 0.625g)	Expected Growth Rate (g)	Secondary Market:		Primary Market:
					Investor Required Return	Flotation Cost Adjustment	
ALLETE, Inc.	ALE	3.64%	3.75%	4.53%	8.27%	1.0320	8.54%
Alliant Energy Corporation	LNT	3.22%	3.34%	5.85%	9.19%	1.0320	9.49%
Ameren Corporation	AEE	3.47%	3.58%	4.94%	8.52%	1.0320	8.79%
American Electric Power Company, Inc.	AEP	3.44%	3.53%	3.91%	7.44%	1.0320	7.68%
DTE Energy Company	DTE	3.24%	3.34%	5.00%	8.34%	1.0320	8.61%
Otter Tail Corporation	OTTR	4.19%	4.33%	5.29%	9.62%	1.0320	9.93%
PNM Resources, Inc.	PNM	2.66%	2.78%	6.88%	9.66%	1.0320	9.97%
Xcel Energy Inc.	XEL	3.22%	3.31%	4.89%	8.20%	1.0320	8.47%
High					9.66%		9.97%
3 <sup>rd</sup> Quartile					9.30%		9.60%
<b>2<sup>nd</sup> Quartile (Median)</b>					<b>8.43%</b>		<b>8.70%</b>
1 <sup>st</sup> Quartile					8.26%		8.52%
Low					7.44%		7.68%

ELECTRIC UTILITY BOND YIELD PLUS RISK PREMIUM

	[1]	[2]	[3]	
	Average Authorized Electric ROE	U.S. Govt. 30-year Treasury	Electric Utility Risk Premium	
1992.1	12.38%	7.80%	4.58%	10
1992.2	11.83%	7.89%	3.93%	12
1992.3	12.03%	7.45%	4.59%	8
1992.4	12.14%	7.52%	4.62%	15
1993.1	11.84%	7.07%	4.77%	7
1993.2	11.64%	6.86%	4.79%	9
1993.3	11.15%	6.31%	4.84%	6
1993.4	11.04%	6.14%	4.90%	6
1994.1	11.07%	6.57%	4.49%	10
1994.2	11.13%	7.35%	3.78%	5
1994.3	12.75%	7.58%	5.17%	1
1994.4	11.24%	7.96%	3.28%	12
1995.1	11.96%	7.63%	4.34%	8
1995.2	11.32%	6.94%	4.37%	8
1995.3	11.37%	6.71%	4.66%	5
1995.4	11.58%	6.23%	5.35%	7
1996.1	11.46%	6.29%	5.17%	2
1996.2	11.46%	6.92%	4.54%	9
1996.3	10.70%	6.96%	3.74%	2
1996.4	11.56%	6.62%	4.94%	5
1997.1	11.08%	6.81%	4.27%	4
1997.2	11.62%	6.93%	4.68%	3
1997.3	12.00%	6.53%	5.47%	1
1997.4	11.06%	6.14%	4.92%	2
1998.1	11.31%	5.88%	5.43%	4
1998.2	12.20%	5.85%	6.35%	1
1998.3	11.65%	5.47%	6.18%	2
1998.4	12.30%	5.10%	7.20%	3
1999.1	10.40%	5.37%	5.03%	2
1999.2	10.94%	5.79%	5.15%	1
1999.3	10.75%	6.04%	4.71%	2
1999.4	11.10%	6.25%	4.85%	1
2000.1	11.21%	6.29%	4.92%	4
2000.2	11.00%	5.97%	5.03%	1
2000.3	11.68%	5.79%	5.89%	2
2000.4	12.50%	5.69%	6.81%	2
2001.1	11.38%	5.44%	5.93%	2
2001.2	10.88%	5.70%	5.18%	2
2001.3	10.76%	5.52%	5.23%	7
2001.4	11.57%	5.30%	6.27%	4
2002.1	10.05%	5.51%	4.54%	2
2002.2	11.41%	5.61%	5.79%	6
2002.3	11.25%	5.08%	6.17%	3
2002.4	11.57%	4.93%	6.64%	3
2003.1	11.43%	4.85%	6.58%	6
2003.2	11.16%	4.60%	6.56%	4
2003.3	9.88%	5.11%	4.76%	4
2003.4	11.09%	5.11%	5.98%	6
2004.1	11.00%	4.88%	6.12%	3
2004.2	10.64%	5.32%	5.32%	7
2004.3	10.75%	5.06%	5.69%	3
2004.4	10.91%	4.86%	6.04%	8
2005.1	10.56%	4.69%	5.87%	5
2005.2	10.13%	4.47%	5.66%	6
2005.3	10.85%	4.44%	6.41%	4
2005.4	10.59%	4.68%	5.91%	9
2006.1	10.38%	4.63%	5.75%	3
2006.2	10.63%	5.14%	5.49%	5

2006.3	10.06%	4.99%	5.07%	7
2006.4	10.39%	4.74%	5.65%	10
2007.1	10.39%	4.80%	5.59%	9
2007.2	10.27%	4.99%	5.28%	11
2007.3	10.02%	4.95%	5.07%	4
2007.4	10.43%	4.61%	5.81%	12
2008.1	10.15%	4.41%	5.75%	8
2008.2	10.54%	4.57%	5.97%	8
2008.3	10.38%	4.44%	5.94%	11
2008.4	10.39%	3.65%	6.74%	8
2009.1	10.45%	3.44%	7.01%	9
2009.2	10.58%	4.17%	6.42%	9
2009.3	10.46%	4.32%	6.14%	3
2009.4	10.54%	4.34%	6.21%	17
2010.1	10.45%	4.62%	5.82%	15
2010.2	10.08%	4.36%	5.71%	14
2010.3	10.29%	3.86%	6.43%	12
2010.4	10.34%	4.17%	6.17%	17
2011.1	9.96%	4.56%	5.40%	11
2011.2	10.12%	4.34%	5.78%	10
2011.3	10.36%	3.69%	6.67%	8
2011.4	10.34%	3.04%	7.31%	11
2012.1	10.30%	3.14%	7.17%	7
2012.2	9.92%	2.93%	6.98%	13
2012.3	9.78%	2.74%	7.04%	8
2012.4	10.07%	2.86%	7.21%	23
2013.1	9.77%	3.13%	6.64%	8
2013.2	9.84%	3.14%	6.70%	7
2013.3	9.83%	3.71%	6.12%	6
2013.4	9.82%	3.79%	6.04%	19
2014.1	9.57%	3.69%	5.88%	5
2014.2	9.83%	3.44%	6.39%	5
2014.3	9.79%	3.26%	6.52%	9
2014.4	9.78%	2.96%	6.81%	13
2015.1	9.66%	2.55%	7.11%	5
2015.2	9.50%	2.88%	6.61%	5
2015.3	9.40%	2.96%	6.44%	2
2015.4	9.65%	2.96%	6.69%	11
2016.1	9.70%	2.72%	6.98%	3
2016.2	9.41%	2.57%	6.84%	5
2016.3	9.98%	2.22%	7.76%	1
AVERAGE	10.77%	5.05%	5.71%	663
MEDIAN	10.64%	4.99%	5.79%	

ELECTRIC UTILITY BOND YIELD PLUS RISK PREMIUM



SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.869985031
R Square	0.756873954
Adjusted R Square	0.7543675
Standard Error	0.004576374
Observations	99

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.006324217	0.006324217	301.970005	1.5113E-31
Residual	97	0.00203149	2.09432E-05		
Total	98	0.008355707			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.085265739	0.00168395	50.63436596	1.4466E-71	0.081923564	0.088607914	0.081923564	0.088607914
U.S. Govt. 30-year Treasury	-0.55691261	0.032048311	-17.3772842	1.5113E-31	-0.620519633	-0.49330558	-0.62051963	-0.49330558

	[7]	[8]	[9]
	U.S. Govt. 30-year Treasury	Risk Premium	ROE
Current 30-day average of 30-year U.S. Treasury bond yield [4]	2.29%	7.25%	9.54%
Near-term projected 30-year U.S. Treasury bond yield (Q3 2016 - Q4 2017) [5]	3.00%	6.86%	9.86%
Projected 30-year U.S. Treasury bond yield (2018 - 2022) [6]	4.30%	6.13%	10.43%
MEAN			9.94%

Notes:

- [1] Source: Regulatory Research Associates
- [2] Source: Bloomberg Professional, quarterly bond yields are the average of the last price of each trading day in the quarter
- [3] Equals Column [1] - Column [2]
- [4] Source: Bloomberg Professional
- [5] Source: Blue Chip Financial Forecasts, Vol. 35, No. 7, July 1, 2016, at 2
- [6] Source: Blue Chip Financial Forecasts, Vol. 35, No. 6, June 1, 2016, at 14
- [7] See notes [4], [5] & [6]
- [8] Equals  $0.085266 + (-0.55691 \times \text{Column [7]})$
- [9] Equals Column [7] + Column [8]

Montana-Dakota Utilities Co.

Market DCF Calculation

	[1]	[2]	[3]	[4]								
	Dividend Yield	Dividend Yield x (1 + 0.625g)	Expected Growth Rate (g)	Secondary Market Investor Required Return								
S&P 500 As of 7/29/2016	2.48%	2.63%	9.31%	11.94%								
	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]				
Company	Ticker	Shares Outstanding (million)	Price	Market Capitalization (\$million)	Percent of Total Market Capitalization	Current Dividend Yield	BEST Long-Term Growth Estimate	Market Capitalization-Weighted Dividend Yield	Market Capitalization-Weighted Best Long-Term Growth Estimate			
Alcoa Inc	AA	1315.375	10.62	13,969	0.09%	1.13%	5.00%	0.0967%	0.4278%			
LyondellBasell Industries NV	LYB	415.722	75.260	31,287	0.19%	4.52%	4.20%	0.8656%	0.8048%			
American Express Co	AXP	923.781	64.460	59,547	0.36%	1.80%	8.67%	0.6563%	3.1607%			
Verizon Communications Inc	VZ	4,076.302	55.410	225,868	1.38%	4.08%	5.24%	5.6420%	7.2484%			
Broadcom Ltd	AVGO	395.519	161.980	64,066	0.39%	1.23%	15.70%	0.4844%	6.1593%			
Boeing Co/The	BA	623.826	133.660	83,381	0.51%	3.26%	12.70%	1.6657%	6.4852%			
Caterpillar Inc	CAT	583.892	82.760	48,323	0.30%	3.72%	7.23%	1.1014%	2.1382%			
JPMorgan Chase & Co	JPM	3,656.659	63.970	233,916	1.43%	3.00%	4.38%	4.2997%	6.2675%			
Chevron Corp	CVX	1,884.702	102.480	193,144	1.18%	4.18%	7.53%	4.9402%	8.9070%			
Coca-Cola Co/The	KO	4,316.029	43.630	188,308	1.15%	3.21%	5.41%	3.7006%	6.2334%			
AbbVie Inc	ABBV	1,617.359	66.230	107,118	0.66%	3.44%	11.25%	2.2584%	7.3822%			
Walt Disney Co/The	DIS	1,622.441	95.950	155,673	0.95%	1.48%	9.92%	1.4109%	9.4595%			
Extra Space Storage Inc	EXR	125.208	86.020	10,770	0.07%	3.63%	7.58%	0.2392%	0.4998%			
El du Pont de Nemours & Co	DD	874.325	69.170	60,477	0.37%	2.20%	7.85%	0.8139%	2.9075%			
Exxon Mobil Corp	XOM	4,146.611	88.950	368,841	2.26%	3.37%	13.40%	7.6186%	30.2692%			
Phillips 66	PSX	522.849	76.060	39,768	0.24%	3.31%	7.76%	0.8069%	1.8887%			
General Electric Co	GE	9,195.657	31.140	286,353	1.75%	2.95%	9.98%	5.1812%	17.5020%			
HP Inc	HPQ	1,710.607	14.010	23,966	0.15%	3.54%	2.83%	0.5196%	0.4151%			
Home Depot Inc/The	HD	1,244.007	138.240	171,972	1.05%	2.00%	13.47%	2.1027%	14.1856%			
International Business Machines Corp	IBM	955.844	160.620	153,528	0.94%	3.49%	3.66%	3.2782%	3.4385%			
Concho Resources Inc	CXO	131.551	124.200	16,339	0.00%	n/a	25.00%	n/a	0.0000%			
Johnson & Johnson	JNJ	2,750.644	125.230	344,463	2.11%	2.56%	6.45%	5.3907%	13.6069%			
McDonald's Corp	MCD	877.858	117.650	103,280	0.63%	3.03%	9.99%	1.9139%	6.3163%			
Merck & Co Inc	MRK	2,768.025	58.660	162,372	0.99%	3.14%	5.71%	3.1192%	5.6821%			
3M Co	MMM	606.515	178.360	108,178	0.66%	2.49%	8.88%	1.6492%	5.8831%			
American Water Works Co Inc	AWK	177.714	82.580	14,676	0.09%	1.82%	7.34%	0.1633%	0.6597%			
Bank of America Corp	BAC	10,271.916	14.490	148,840	0.91%	2.07%	8.25%	1.8873%	7.5202%			
CSRA Inc	CSRA	163.424	26.920	4,399	0.03%	1.49%	10.00%	0.0400%	0.2694%			
Pfizer Inc	PFE	6,064.849	36.890	223,732	1.37%	3.25%	6.26%	4.4571%	8.5734%			
Procter & Gamble Co/The	PG	2,661.852	85.590	227,828	1.40%	3.13%	6.05%	4.3657%	8.4387%			
AT&T Inc	T	6,156.000	43.290	266,493	1.63%	4.44%	4.40%	7.2386%	7.1812%			
Travelers Cos Inc/The	TRV	288.281	116.220	33,504	0.21%	2.31%	8.33%	0.4732%	1.7098%			
United Technologies Corp	UTX	836.927	107.650	90,095	0.55%	2.45%	9.54%	1.3532%	5.2617%			
Analog Devices Inc	ADI	307.350	63.830	19,618	0.12%	2.63%	8.92%	0.3162%	1.0717%			
Wal-Mart Stores Inc	WMT	3,116.647	72.970	227,422	1.39%	2.74%	2.87%	3.8175%	3.9973%			
Cisco Systems Inc	CSCO	5,029.712	30.530	153,557	0.94%	3.41%	8.77%	3.2036%	8.2448%			
Intel Corp	INTC	4,722.000	34.860	164,609	1.01%	2.98%	8.48%	3.0076%	8.5518%			
General Motors Co	GM	1,561.922	31.540	49,263	0.30%	4.82%	9.41%	1.4540%	2.8399%			
Microsoft Corp	MSFT	7,792.516	56.680	441,680	2.70%	2.54%	7.52%	6.8723%	20.3523%			
Dollar General Corp	DG	283.778	94.740	26,885	0.16%	1.06%	14.14%	0.1738%	2.3274%			
Kinder Morgan Inc/DE	KMI	2,232.323	20.330	45,383	0.28%	2.46%	14.65%	0.6836%	4.0718%			
Citigroup Inc	C	2,934.929	43.810	128,579	0.79%	1.46%	6.47%	1.1504%	5.0972%			
American International Group Inc	AIG	1,119.032	54.440	60,920	0.37%	2.35%	9.50%	0.8772%	3.5444%			
Honeywell International Inc	HON	760.875	116.330	88,513	0.54%	2.05%	9.30%	1.1090%	5.0413%			
Altria Group Inc	MO	1,953.855	67.700	132,276	0.81%	3.34%	7.61%	2.7044%	6.1616%			
HCA Holdings Inc	HCA	391.054	77.130	30,162	0.00%	n/a	11.00%	n/a	0.0000%			
Under Armour Inc	UA	183.141	39.460	7,227	0.00%	n/a	23.97%	n/a	0.0000%			
International Paper Co	IP	411.174	45.810	18,836	0.12%	3.84%	6.18%	0.4432%	0.7129%			
Hewlett Packard Enterprise Co	HPE	1,661.715	21.020	34,929	0.21%	1.05%	6.42%	0.2239%	1.3727%			
Abbott Laboratories	ABT	1,469.152	44.750	65,745	0.40%	2.32%	11.15%	0.9357%	4.4894%			
Aflac Inc	AFL	413.987	72.280	29,923	0.00%	2.27%	n/a	0.0000%	n/a			
Air Products & Chemicals Inc	APD	216.550	149.420	32,357	0.20%	2.30%	8.79%	0.4562%	1.7413%			
Royal Caribbean Cruises Ltd	RCL	215.241	72.440	15,592	0.10%	2.07%	18.42%	0.1977%	1.7589%			
American Electric Power Co Inc	AEP	491.709	69.300	34,075	0.21%	3.23%	4.88%	0.6745%	1.0188%			
Hess Corp	HES	316.719	53.650	16,992	0.00%	1.86%	-19.88%	0.0000%	0.0000%			

Montana-Dakota Utilities Co.

Market DCF Calculation

	[1]	[2]	[3]	[4]						
	Dividend Yield	Dividend Yield x (1 + 0.625g)	Expected Growth Rate (g)	Secondary Market Investor Required Return						
S&P 500 As of 7/29/2016	2.48%	2.63%	9.31%	11.94%						
	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]		
Company	Ticker	Shares Outstanding (million)	Price	Market Capitalization (\$million)	Percent of Total Market Capitalization	Current Dividend Yield	BEst Long-Term Growth Estimate	Market Capitalization-Weighted Dividend Yield	Market Capitalization-Weighted BEst Long-Term Growth Estimate	
Anadarko Petroleum Corp	APC	510.457	54.530	27,835	0.17%	0.37%	8.33%	0.0625%	1.4205%	
Aon PLC	AON	265.600	107.070	28,438	0.17%	1.23%	11.31%	0.2147%	1.9698%	
Apache Corp	APA	378.534	52.500	19,873	0.12%	1.90%	8.50%	0.2318%	1.0345%	
Archer-Daniels-Midland Co	ADM	587.582	45.080	26,488	0.16%	2.66%	7.15%	0.4318%	1.1599%	
Automatic Data Processing Inc	ADP	455.535	88.950	40,520	0.25%	2.38%	10.57%	0.5915%	2.6233%	
Verisk Analytics Inc	VRSK	168.166	85.280	14,341	0.00%	n/a	12.67%	n/a	0.0000%	
AutoZone Inc	AZO	29.232	813.970	23,794	0.00%	n/a	12.72%	n/a	0.0000%	
Avery Dennison Corp	AVY	89.176	77.890	6,946	0.04%	2.11%	8.50%	0.0896%	0.3616%	
Baker Hughes Inc	BHI	427.901	47.830	20,467	0.13%	1.42%	32.00%	0.1782%	4.0110%	
Ball Corp	BLL	174.062	70.670	12,301	0.08%	0.74%	4.60%	0.0554%	0.3465%	
Bank of New York Mellon Corp/The	BK	1,077.083	39.400	42,437	0.26%	1.93%	14.98%	0.5013%	3.8933%	
CR Bard Inc	BCR	73.455	223.730	16,434	0.10%	0.46%	21.62%	0.0468%	2.1760%	
Baxter International Inc	BAX	552.263	48.020	26,520	0.16%	1.08%	12.03%	0.1759%	1.9543%	
Becton Dickinson and Co	BDX	212.202	176.000	37,348	0.23%	1.50%	11.20%	0.3431%	2.5617%	
Berkshire Hathaway Inc	BRK/B	1,255.599	144.270	181,145	0.00%	n/a	7.10%	n/a	0.0000%	
Best Buy Co Inc	BBY	322.753	33.600	10,845	0.07%	3.33%	10.51%	0.2214%	0.6980%	
H&R Block Inc	HRB	221.082	23.790	5,260	0.03%	3.70%	11.00%	0.1191%	0.3543%	
Boston Scientific Corp	BSX	1,356.867	24.280	32,945	0.00%	n/a	12.40%	n/a	0.0000%	
Bristol-Myers Squibb Co	BMJ	1,670.859	74.810	124,997	0.77%	2.03%	23.17%	1.5554%	17.7348%	
Fortune Brands Home & Security Inc	FBHS	153.376	63.270	9,704	0.06%	1.01%	18.63%	0.0601%	1.1074%	
Brown-Forman Corp	BF/B	112.418	98.190	11,038	0.07%	1.39%	11.50%	0.0936%	0.7774%	
Cabot Oil & Gas Corp	COG	465.148	24.670	11,475	0.07%	0.32%	38.64%	0.0228%	2.7152%	
Campbell Soup Co	CPB	308.647	62.270	19,219	0.12%	2.00%	7.01%	0.2359%	0.8255%	
Kansas City Southern	KSU	107.983	96.110	10,378	0.06%	1.37%	9.22%	0.0873%	0.5860%	
Carnival Corp	CCL	550.891	46.720	25,738	0.16%	3.00%	16.75%	0.4723%	2.6402%	
Qorvo Inc	QRVO	127.808	63.230	8,081	0.00%	n/a	14.70%	n/a	0.0000%	
CenturyLink Inc	CTL	546.052	31.440	17,168	0.00%	6.87%	-1.52%	0.0000%	0.0000%	
Cigna Corp	CI	256.570	128.960	33,087	0.20%	9.05%	9.05%	0.0063%	1.8339%	
UDR Inc	UDR	267.058	37.230	9,943	0.06%	3.17%	6.53%	0.1930%	0.3976%	
Frontier Communications Corp	FTR	1,173.076	5.200	6,100	0.04%	8.08%	11.55%	0.3017%	0.4315%	
Clorex Co/The	CLX	129.340	131.070	16,953	0.10%	2.44%	6.47%	0.2535%	0.6712%	
CMS Energy Corp	CMS	279.829	45.180	12,643	0.08%	2.74%	6.03%	0.2125%	0.4665%	
Colgate-Palmolive Co	CL	891.493	74.430	66,354	0.41%	2.10%	8.41%	0.8517%	3.4168%	
Comerica Inc	CMA	175.134	45.240	7,923	0.05%	2.03%	0.80%	0.0987%	0.0388%	
CA Inc	CA	418.949	34.650	14,517	0.09%	2.94%	7.60%	0.2617%	0.6757%	
ConAgra Foods Inc	CAG	438.720	46.760	20,515	0.13%	2.14%	8.00%	0.2687%	1.0051%	
Consolidated Edison Inc	ED	304.160	80.080	24,357	0.15%	3.35%	3.07%	0.4992%	0.4575%	
SL Green Realty Corp	SLG	100.237	117.820	11,810	0.07%	2.44%	4.81%	0.1768%	0.3479%	
Corning Inc	GLW	1,036.877	22.220	23,039	0.14%	2.43%	12.70%	0.3429%	1.7920%	
Cummins Inc	CMJ	170.360	122.770	20,915	0.13%	3.34%	4.26%	0.4278%	0.5457%	
Danaher Corp	DHR	690.538	81.440	56,237	0.34%	0.79%	8.53%	0.2707%	2.9379%	
Target Corp	TGT	589.275	75.330	44,390	0.27%	3.19%	10.35%	0.8661%	2.8143%	
Deere & Co	DE	314.259	77.710	24,421	0.15%	3.09%	7.76%	0.4619%	1.1606%	
Dominion Resources Inc/VA	D	616.218	78.020	48,077	0.29%	3.59%	6.25%	1.0567%	1.8403%	
Dover Corp	DOV	155.216	71.430	11,087	0.07%	2.35%	10.85%	0.1597%	0.7367%	
Dow Chemical Co/The	DOW	1,126.830	53.670	60,477	0.37%	3.43%	6.00%	1.2698%	2.2223%	
Duke Energy Corp	DUK	688.793	85.590	58,954	0.36%	4.00%	4.71%	1.4427%	1.7005%	
Entan Corp PLC	ETN	458.000	63.410	29,042	0.18%	3.60%	8.50%	0.6395%	1.5118%	
Ecolab Inc	ECL	293.305	118.380	34,721	0.21%	1.18%	12.36%	0.2515%	2.6276%	
PerkinElmer Inc	PKI	109.030	56.920	6,206	0.04%	0.49%	19.67%	0.0187%	0.7477%	
EMC Corp	EMC	1,954.667	28.280	55,278	0.34%	1.63%	10.58%	0.5507%	3.5817%	
Emerson Electric Co	EMR	643.351	55.900	35,963	0.22%	3.40%	7.33%	0.7486%	1.6133%	
EOG Resources Inc	EOG	550.277	81.700	44,958	0.28%	0.82%	10.50%	0.2258%	2.8910%	
Entergy Corp	ETR	178.741	81.390	14,548	0.09%	4.18%	1.56%	0.3722%	0.1390%	
Equifax Inc	EFX	119.335	132.460	15,807	0.10%	1.00%	9.21%	0.0965%	0.8911%	

Montana-Dakota Utilities Co.

Market DCF Calculation

	[1]	[2]	[3]	[4]										
	Dividend Yield	Dividend Yield x (1 + 0.625g)	Expected Growth Rate (g)	Secondary Market Investor Required Return	Company	Ticker	Shares Outstanding (million)	Price	Market Capitalization (\$million)	Percent of Total Market Capitalization	Current Dividend Yield	BEST Long-Term Growth Estimate	Market Capitalization-Weighted Dividend Yield	Market Capitalization-Weighted Long-Term Growth Estimate
S&P 500 As of 7/29/2016	2.48%	2.63%	9.31%	11.94%										
	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]						
EQT Corp	EQT	172.747	72.860	12,586	0.08%	0.16%	25.00%	0.0127%	1.9271%					
XL Group Ltd	XL	283.369	34.610	9,807	0.06%	2.31%	12.50%	0.1388%	0.7508%					
FedEx Corp	FDX	265.524	161.900	42,988	0.26%	0.99%	12.00%	0.2602%	3.1593%					
Macy's Inc	M	308.395	35.830	11,050	0.07%	4.21%	9.67%	0.2852%	0.6542%					
FMC Corp	FMC	133.752	47.540	6,359	0.04%	1.39%	9.53%	0.0541%	0.3712%					
Ford Motor Co	F	3,902.389	12.660	49,404	0.30%	4.74%	4.58%	1.4340%	1.3867%					
NextEra Energy Inc	NEE	461.973	128.290	59,267	0.36%	2.71%	6.28%	0.9846%	2.2776%					
Franklin Resources Inc	BEN	576.121	36.190	20,850	0.13%	1.99%	5.44%	0.2540%	0.6950%					
Freeport-McMoRan Inc	FCX	1,317.877	12.960	17,080	0.00%	n/a	n/a	n/a	n/a					
TEGNA Inc	TGNA	217.588	21.900	4,765	0.03%	2.56%	6.28%	0.0746%	0.1831%					
Gap Inc/The	GPS	397.964	25.790	10,263	0.06%	3.57%	5.63%	0.2242%	0.3538%					
General Dynamics Corp	GD	305.279	146.890	44,842	0.27%	2.07%	7.59%	0.5684%	2.0844%					
General Mills Inc	GIS	597.021	71.890	42,920	0.26%	2.67%	7.96%	0.7020%	2.0923%					
Genuine Parts Co	GPC	148.914	102.240	15,225	0.09%	2.57%	6.19%	0.2399%	0.5770%					
WW Grainger Inc	GWV	60.423	218.850	13,224	0.08%	2.23%	12.33%	0.1806%	0.9981%					
Halliburton Co	HAL	859.265	43.660	37,516	0.23%	1.65%	12.53%	0.3789%	2.8779%					
Harley-Davidson Inc	HOG	181.090	52.920	9,583	0.06%	2.65%	10.33%	0.1553%	0.6060%					
Harman International Industries Inc	HAR	70.555	82.640	5,831	0.04%	1.69%	20.00%	0.0605%	0.7142%					
Harris Corp	HRS	124.726	86.620	10,804	0.00%	2.31%	n/a	0.0000%	n/a					
HCP Inc	HCP	467.088	39.230	18,324	0.11%	5.86%	2.81%	0.6579%	0.3153%					
Helmerich & Payne Inc	HP	108.039	61.970	6,695	0.00%	4.52%	-11.46%	0.0000%	0.0000%					
Fortive Corp	FTV	345.238	48.210	16,644	0.00%	n/a	8.10%	n/a	0.0000%					
Hershey Co/The	HSY	152.570	110.760	16,899	0.10%	2.23%	9.18%	0.2110%	0.9495%					
Synchrony Financial	SYF	833.925	27.880	23,250	0.14%	1.87%	6.48%	0.2656%	0.9223%					
Hormel Foods Corp	HRL	529.860	37.350	19,790	0.12%	1.55%	5.90%	0.1882%	0.7151%					
Arthur J Gallagher & Co	AJG	177.031	49.190	8,708	0.05%	3.09%	9.16%	0.1648%	0.4887%					
Starwood Hotels & Resorts Worldwide Inc	HOT	169.550	78.060	13,235	0.08%	1.92%	7.02%	0.1558%	0.5690%					
Mondelez International Inc	MDLZ	1,555.535	43.980	68,412	0.42%	1.73%	12.72%	0.7240%	5.3294%					
CenterPoint Energy Inc	CNP	430.619	23.920	10,300	0.06%	4.31%	5.67%	0.2716%	0.3575%					
Humana Inc	HUM	149.037	172.550	25,716	0.16%	0.67%	13.14%	0.1059%	2.0692%					
Willis Towers Watson PLC	WLTW	138.441	123.620	17,114	0.10%	1.55%	21.47%	0.1628%	2.2500%					
Illinois Tool Works Inc	ITW	359.370	115.400	41,471	0.25%	1.91%	7.37%	0.4842%	1.8711%					
Ingersoll-Rand PLC	IR	257.998	66.260	17,095	0.10%	1.93%	11.26%	0.2022%	1.1787%					
Foot Locker Inc	FL	135.309	59.620	8,067	0.05%	1.85%	9.69%	0.0912%	0.4786%					
Interpublic Group of Cos Inc/The	IPG	400.708	23.060	9,240	0.06%	2.60%	7.25%	0.1472%	0.4103%					
International Flavors & Fragrances Inc	IFF	79.714	133.250	10,622	0.07%	1.68%	10.25%	0.1094%	0.6668%					
Jacobs Engineering Group Inc	JEC	121.925	53.520	6,525	0.00%	n/a	8.78%	n/a	0.0000%					
Johnson Controls Inc	JCI	637.746	45.920	29,285	0.18%	2.53%	9.25%	0.4531%	1.6590%					
Hanesbrands Inc	HBI	377.517	26.660	10,065	0.06%	1.65%	12.03%	0.1017%	0.7417%					
Kellogg Co	K	350.048	82.710	28,952	0.18%	2.51%	5.76%	0.4459%	1.0210%					
Perrigo Co PLC	PRGO	143.223	91.390	13,089	0.08%	0.63%	8.53%	0.0509%	0.6839%					
Kimberly-Clark Corp	KMB	359.636	129.550	46,591	0.29%	2.84%	7.08%	0.8105%	2.0202%					
Kimco Realty Corp	KIM	420.052	32.100	13,484	0.08%	3.18%	5.49%	0.2624%	0.4531%					
Kohl's Corp	KSS	183.709	41.590	7,640	0.05%	4.81%	3.25%	0.2250%	0.1521%					
Oracle Corp	ORCL	4,122.730	41.040	169,197	1.04%	1.46%	8.25%	1.5149%	8.5488%					
Kroger Co/The	KR	948.992	34.190	32,446	0.20%	1.40%	8.93%	0.2790%	1.7737%					
Legg Mason Inc	LM	105.111	34.140	3,588	0.02%	2.58%	15.96%	0.0566%	0.3508%					
Leggett & Platt Inc	LEG	134.326	52.570	7,062	0.04%	2.59%	10.00%	0.1119%	0.4325%					
Lennar Corp	LEN	183.406	46.800	8,583	0.05%	0.34%	11.78%	0.0180%	0.6190%					
Leucadia National Corp	LUK	362.330	18.260	6,616	0.04%	1.37%	18.00%	0.0555%	0.7293%					
Eli Lilly & Co	LLY	1,103.843	82.890	91,498	0.56%	2.46%	12.93%	1.3791%	7.2449%					
L Brands Inc	LB	287.502	73.900	21,246	0.13%	3.25%	10.58%	0.4226%	1.3764%					
Lincoln National Corp	LNC	239.007	43.670	10,437	0.06%	2.29%	11.80%	0.1464%	0.7543%					
Loews Corp	L	339.016	41.330	14,012	0.00%	0.60%	n/a	0.0000%	n/a					
Lowe's Cos Inc	LOW	886.105	82.280	72,909	0.45%	1.70%	16.39%	0.7597%	7.3193%					

Montana-Dakota Utilities Co.

Market DCF Calculation

		[1]	[2]	[3]	[4]				
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S&P 500 As of 7/29/2016		2.48%	2.63%	9.31%	11.94%				
		[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Company	Ticker	Shares Outstanding (million)	Price	Market Capitalization (\$million)	Percent of Total Market Capitalization	Current Dividend Yield	BEst Long-Term Growth Estimate	Market Capitalization-Weighted Dividend Yield	Market Capitalization-Weighted BEst Long-Term Growth Estimate
Host Hotels & Resorts Inc	HST	742.482	17.740	13,172	0.08%	4.51%	5.00%	0.3638%	0.4033%
Marsh & McLennan Cos Inc	MMC	521.233	65.750	34,271	0.21%	2.07%	11.43%	0.4341%	2.3982%
Masco Corp	MAS	330.215	36.480	12,046	0.07%	1.04%	15.59%	0.0769%	1.1503%
Mattel Inc	MAT	340.619	33.380	11,370	0.07%	4.55%	10.40%	0.3171%	0.7242%
S&P Global Inc	SPGI	264.000	122.200	32,261	0.20%	1.18%	10.00%	0.2328%	1.9757%
Medtronic PLC	MDT	1,393.525	87.630	122,115	0.75%	1.96%	8.31%	1.4679%	6.2125%
CVS Health Corp	CVS	1,074.022	92.720	99,583	0.61%	1.83%	13.59%	1.1182%	8.2907%
Micron Technology Inc	MU	1,038.391	13.740	14,267	0.00%	n/a	4.00%	n/a	0.0000%
Motorola Solutions Inc	MSI	174.604	69.380	12,114	0.07%	2.36%	5.28%	0.1754%	0.3914%
Murphy Oil Corp	MUR	172.195	27.430	4,723	0.00%	5.10%	n/a	0.0000%	n/a
Mylan NV	MYL	508.368	46.790	23,787	0.00%	n/a	9.42%	n/a	0.0000%
Laboratory Corp of America Holdings	LH	102.300	139.560	14,277	0.00%	n/a	11.33%	n/a	0.0000%
Newell Brands Inc	NWL	477.952	52.460	25,073	0.15%	1.45%	13.92%	0.2225%	2.1375%
Newmont Mining Corp	NEM	530.595	44.000	23,346	0.14%	0.23%	5.17%	0.0325%	0.7388%
Twenty-First Century Fox Inc	FOXA	1,095.726	26.640	29,190	0.18%	1.13%	11.57%	0.2013%	2.0684%
NIKE Inc	NKE	1,348.661	55.500	74,851	0.46%	1.15%	12.97%	0.5286%	5.9446%
NiSource Inc	NI	321.544	25.660	8,251	0.05%	2.57%	4.00%	0.1300%	0.2021%
Noble Energy Inc	NBL	429.592	35.720	15,345	0.09%	1.12%	10.00%	0.1052%	0.9398%
Norfolk Southern Corp	NSC	293.550	89.780	26,355	0.16%	2.63%	12.56%	0.4243%	2.0268%
Eversource Energy	ES	317.207	58.490	18,553	0.11%	3.04%	7.00%	0.3458%	0.7954%
Northrop Grumman Corp	NOC	178.575	216.630	38,685	0.24%	1.66%	6.95%	0.3937%	1.6466%
Wells Fargo & Co	WFC	5,077.048	47.970	243,546	1.49%	11.47%	4.7261%	17.1081%	17.1081%
Nucor Corp	NUE	317.929	53.640	17,054	0.10%	2.80%	8.17%	0.2921%	0.8530%
PVH Corp	PVH	80.856	101.060	8,171	0.05%	0.15%	6.36%	0.0074%	0.3180%
Occidental Petroleum Corp	OXY	763.742	74.730	57,074	0.35%	4.07%	8.00%	1.4219%	2.7963%
Omnicom Group Inc	OMC	236.538	82.290	19,465	0.12%	2.67%	5.96%	0.3187%	0.7105%
ONEOK Inc	OKE	210.105	44.790	9,411	0.06%	5.49%	7.30%	0.3165%	0.4207%
Owens-Illinois Inc	OI	162.082	18.790	3,046	0.00%	n/a	7.37%	n/a	0.0000%
PG&E Corp	PCG	498.506	63.940	31,874	0.20%	3.07%	5.56%	0.5984%	1.0861%
Parker-Hannifin Corp	PH	134.681	114.190	15,379	0.09%	2.21%	8.21%	0.2079%	0.7735%
PPL Corp	PPL	676.945	37.710	25,528	0.16%	4.03%	4.78%	0.6302%	0.7465%
PepsiCo Inc	PEP	1,439.158	108.920	156,753	0.96%	2.76%	6.59%	2.6530%	6.3226%
Exelon Corp	EXC	921.695	37.280	34,361	0.21%	3.41%	4.00%	0.7180%	0.8409%
ConocoPhillips	COP	1,238.387	40.820	50,551	0.31%	2.45%	6.67%	0.7584%	2.0640%
PulteGroup Inc	PHM	343.620	21.180	7,278	0.04%	1.70%	25.01%	0.0758%	1.1147%
Pinnacle West Capital Corp	PNW	111.140	78.870	8,766	0.05%	3.17%	4.64%	0.1702%	0.2490%
Pitney Bowes Inc	PBI	188.620	19.310	3,642	0.02%	3.88%	14.00%	0.0866%	0.3123%
PNC Financial Services Group Inc/The	PNC	499.324	82.650	41,269	0.25%	2.66%	3.72%	0.6728%	0.9402%
PPG Industries Inc	PPG	266.282	104.710	27,882	0.17%	1.53%	8.43%	0.2609%	1.4387%
Praxair Inc	PX	285.232	116.540	33,241	0.20%	2.57%	7.11%	0.5240%	1.4474%
Progressive Corp/The	PGR	582.997	32.510	18,953	0.12%	2.73%	8.95%	0.3171%	1.0389%
Public Service Enterprise Group Inc	PEG	505.917	46.010	23,277	0.14%	3.56%	3.11%	0.5081%	0.4426%
Raytheon Co	RTN	295.095	139.530	41,175	0.25%	2.10%	7.69%	0.5295%	1.9392%
Robert Half International Inc	RHI	131.319	36.540	4,798	0.03%	2.41%	10.86%	0.0708%	0.3191%
Ryder System Inc	R	53.478	65.900	3,524	0.02%	2.67%	11.70%	0.0576%	0.2525%
SCANA Corp	SCG	142.917	74.940	10,710	0.07%	3.07%	5.55%	0.2013%	0.3640%
Edison International	EIX	325.811	77.380	25,211	0.15%	2.48%	5.77%	0.3831%	0.8904%
Schlumberger Ltd	SLB	1,390.693	80.520	111,979	0.69%	2.48%	7.48%	1.7034%	5.1318%
Charles Schwab Corp/The	SCHW	1,321.691	28.420	37,562	0.23%	0.99%	16.43%	0.2266%	3.7796%
Sherwin-Williams Co/The	SHW	92.222	299.730	27,642	0.17%	1.12%	15.77%	0.1898%	2.6691%
JM Smucker Co/The	SJM	116.426	154.160	17,948	0.11%	1.95%	8.30%	0.2139%	0.9123%
Snap-on Inc	SNA	58.087	157.170	9,130	0.06%	1.55%	4.90%	0.0868%	0.2740%
AMETEK Inc	AME	233.410	47.030	10,977	0.07%	0.77%	10.30%	0.0515%	0.6927%
Southern Co/The	SO	938.552	53.500	50,213	0.31%	4.19%	3.80%	1.2875%	1.1686%
BB&T Corp	BBT	814.500	36.870	30,031	0.18%	3.25%	4.65%	0.5986%	0.8548%

Montana-Dakota Utilities Co.

Market DCF Calculation

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S&P 500 As of 7/29/2016	2.48%	2.63%	9.31%	11.94%							
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Company	Ticker	Shares Outstanding (million)	Price	Market Capitalization (\$million)	Percent of Total Market Capitalization	Current Dividend Yield	BEst Long-Term Growth Estimate	Market Capitalization-Weighted Dividend Yield	Market Capitalization-Weighted BEst Long-Term Growth Estimate		
Southwest Airlines Co	LUV	620,233	37.010	22,955	0.14%	1.08%	9.29%	0.1519%	1.3060%		
Southwestern Energy Co	SWN	493,456	14.580	7,195	0.00%	n/a	-11.66%	n/a	0.0000%		
Stanley Black & Decker Inc	SWK	150,426	121.700	18,307	0.11%	1.91%	10.50%	0.2137%	1.1772%		
Public Storage	PSA	173,382	238.920	41,424	0.25%	3.01%	5.53%	0.7645%	1.4037%		
SunTrust Banks Inc	STI	501,128	42.290	21,193	0.13%	2.27%	4.66%	0.2946%	0.6051%		
Sysco Corp	SYX	563,516	51.790	29,184	0.18%	2.39%	9.80%	0.4279%	1.7511%		
Tesoro Corp	TSO	119,976	76.150	9,136	0.00%	2.63%	-2.69%	0.0000%	0.0000%		
Texas Instruments Inc	TXN	1,004,227	69.750	70,045	0.43%	2.18%	10.00%	0.9348%	4.2898%		
Textron Inc	TXT	269,464	39.000	10,509	0.06%	0.21%	7.31%	0.0132%	0.4705%		
Thermo Fisher Scientific Inc	TMO	393,512	158.840	62,505	0.38%	0.38%	11.93%	0.1446%	4.5649%		
Tiffany & Co	TIF	126,018	64.520	8,131	0.05%	2.79%	8.32%	0.1389%	0.4141%		
TJX Cos Inc/The	TJX	661,083	81.720	54,024	0.33%	1.27%	11.67%	0.4210%	3.8601%		
Torchmark Corp	TMK	120,651	61.870	7,465	0.05%	0.91%	7.63%	0.0414%	0.3488%		
Total System Services Inc	TSS	183,612	50.920	9,350	0.06%	0.79%	11.00%	0.0450%	0.6299%		
Tyco International Plc	TYC	426,224	45.570	19,423	0.12%	2.02%	10.03%	0.2402%	1.1935%		
Ulta Salon Cosmetics & Fragrance Inc	ULTA	62,455	261.210	16,314	0.00%	n/a	22.17%	n/a	0.0000%		
Union Pacific Corp	UNP	832,914	93.050	77,503	0.47%	2.36%	12.58%	1.1222%	5.9692%		
UnitedHealth Group Inc	UNH	950,804	143.200	136,155	0.83%	1.75%	13.18%	1.4557%	10.9894%		
Unum Group	UNM	234,643	33.410	7,839	0.05%	2.39%	7.60%	0.1150%	0.3649%		
Marathon Oil Corp	MRO	847,648	13.640	11,562	0.07%	1.47%	6.50%	0.1038%	0.4603%		
Varian Medical Systems Inc	VAR	95,215	94.740	9,021	0.00%	n/a	11.37%	n/a	0.0000%		
Ventas Inc	VTR	351,350	76.160	26,759	0.16%	3.83%	5.83%	0.6283%	0.9551%		
VF Corp	VFC	417,018	62.430	26,034	0.16%	2.37%	11.38%	0.3780%	1.8145%		
Vornado Realty Trust	VNO	188,771	107.400	20,274	0.12%	2.35%	4.94%	0.2913%	0.6127%		
Vulcan Materials Co	VMC	133,188	123.980	16,513	0.10%	0.65%	23.26%	0.0653%	2.3527%		
Weyerhaeuser Co	WY	747,074	32.720	24,444	0.15%	3.79%	5.50%	0.5673%	0.8234%		
Whirlpool Corp	WHR	75,444	192.360	14,512	0.09%	2.08%	16.53%	0.1848%	1.4692%		
Williams Cos Inc/The	WMB	750,570	23.970	17,991	0.00%	n/a	5.50%	n/a	0.0000%		
WEC Energy Group Inc	WEC	315,647	64.910	20,489	0.13%	3.05%	5.50%	0.3828%	0.6901%		
Xerox Corp	XRX	1,013,002	10.300	10,434	0.06%	3.01%	11.60%	0.1923%	0.7412%		
Adobe Systems Inc	ADBE	498,291	97.860	48,763	0.00%	n/a	17.36%	n/a	0.0000%		
AES Corp/VA	AES	659,001	12.350	8,139	0.05%	3.56%	7.33%	0.1776%	0.3656%		
Amgen Inc	AMGN	748,361	172.030	128,741	0.79%	2.33%	7.98%	1.8333%	6.2918%		
Apple Inc	AAPL	5,388,443	104.210	561,530	3.44%	2.19%	10.22%	7.5241%	35.1532%		
Autodesk Inc	ADSK	224,656	59.450	13,356	0.00%	n/a	20.96%	n/a	0.0000%		
Cintas Corp	CTAS	104,207	107.270	11,178	0.07%	0.98%	10.76%	0.0670%	0.7366%		
Comcast Corp	CMCSA	2,402,381	67.250	161,560	0.99%	1.64%	11.28%	1.6184%	11.1589%		
Molson Coors Brewing Co	TAP	193,806	102.160	19,799	0.12%	1.61%	22.00%	0.1947%	2.6676%		
KLA-Tencor Corp	KLAC	155,708	75.710	11,789	0.07%	2.75%	3.10%	0.1983%	0.2238%		
Marriott International Inc/MD	MAR	254,400	71.700	18,240	0.11%	1.67%	11.38%	0.1870%	1.2713%		
McCormick & Co Inc/MD	MKC	115,044	102.250	11,763	0.07%	1.68%	9.00%	0.1212%	0.6484%		
Nordstrom Inc	JWN	173,435	44.230	7,671	0.05%	3.35%	8.23%	0.1572%	0.3868%		
PACCAR Inc	PCAR	350,463	58.970	20,667	0.13%	1.63%	7.83%	0.2060%	0.9914%		
Costco Wholesale Corp	COST	438,066	167.220	73,253	0.45%	1.08%	10.66%	0.4829%	4.7815%		
St Jude Medical Inc	STJ	284,277	83.040	23,606	0.14%	1.49%	10.57%	0.2159%	1.5283%		
Stryker Corp	SYK	374,302	116.280	43,524	0.27%	1.31%	8.76%	0.3484%	2.3339%		
Tyson Foods Inc	TSN	300,537	73.600	22,120	0.14%	0.82%	12.30%	0.1104%	1.6662%		
Applied Materials Inc	AMAT	1,089,144	26.290	28,634	0.18%	1.52%	15.43%	0.2668%	2.7063%		
Time Warner Inc	TWX	786,394	76.650	60,277	0.37%	2.10%	13.90%	0.7754%	5.1324%		
Bed Bath & Beyond Inc	BBBY	154,462	44.950	6,943	0.04%	1.11%	7.06%	0.0473%	0.3003%		
American Airlines Group Inc	AAL	529,913	35.500	18,812	0.00%	1.13%	-18.24%	0.0000%	0.0000%		
Cardinal Health Inc	CAH	325,815	83.600	27,238	0.17%	2.15%	11.90%	0.3583%	1.9856%		
Celgene Corp	CELG	775,115	112.190	86,960	0.00%	n/a	22.44%	n/a	0.0000%		
Cerner Corp	CERN	338,082	62.390	21,093	0.00%	n/a	16.13%	n/a	0.0000%		
Cincinnati Financial Corp	CINF	164,576	74.700	12,294	0.00%	2.57%	n/a	0.0000%	n/a		

Montana-Dakota Utilities Co.

Market DCF Calculation

	[1]	[2]	[3]	[4]						
	Dividend Yield	Dividend Yield x (1 + 0.625g)	Expected Growth Rate (g)	Secondary Market Investor Required Return						
S&P 500 As of 7/29/2016	2.48%	2.63%	9.31%	11.94%						
	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]		
Company	Ticker	Shares Outstanding (million)	Price	Market Capitalization (\$million)	Percent of Total Market Capitalization	Current Dividend Yield	BEST Long-Term Growth Estimate	Market Capitalization-Weighted Dividend Yield	Market Capitalization-Weighted Long-Term Growth Estimate	
DR Horton Inc	DHI	372.286	32.880	12,241	0.07%	0.97%	13.85%	0.0730%	1.0379%	
Flowserve Corp	FLS	130.380	47.850	6,239	0.04%	1.59%	8.56%	0.0607%	0.3270%	
Electronic Arts Inc	EA	301.383	76.320	23,002	0.00%	n/a	11.27%	n/a	0.0000%	
Express Scripts Holding Co	ESRX	630.219	76.070	47,941	0.00%	n/a	11.59%	n/a	0.0000%	
Expeditors International of Washington Inc	EXPD	182.059	49.430	8,999	0.06%	1.62%	9.10%	0.0892%	0.5015%	
Fastenal Co	FAST	288.966	42.750	12,353	0.08%	2.81%	15.53%	0.2124%	1.1745%	
M&T Bank Corp	MTB	158.999	114.560	18,215	0.11%	2.44%	3.21%	0.2726%	0.3578%	
Fiserv Inc	FISV	222.330	110.360	24,536	0.00%	n/a	13.00%	n/a	0.0000%	
Fifth Third Bancorp	FITB	767.718	18.980	14,571	0.09%	2.74%	3.03%	0.2445%	0.2699%	
Gilead Sciences Inc	GILD	1,331.822	79.470	105,840	0.65%	2.37%	2.26%	1.5334%	1.4656%	
Hasbro Inc	HAS	125.408	81.230	10,187	0.06%	2.51%	10.15%	0.1567%	0.6332%	
Huntington Bancshares Inc/OH	HBAN	799.154	9.500	7,592	0.05%	2.95%	5.17%	0.1370%	0.2401%	
Welltower Inc	HCN	356.995	79.330	28,320	0.17%	4.34%	4.67%	0.7521%	0.8100%	
Biogen Inc	BIIB	219.121	289.930	63,530	0.00%	n/a	8.85%	n/a	0.0000%	
Linear Technology Corp	LLTC	239.098	59.990	14,343	0.09%	2.13%	7.39%	0.1874%	0.6490%	
Range Resources Corp	RRC	170.090	40.310	6,856	0.00%	0.20%	-23.49%	0.0000%	0.0000%	
Northern Trust Corp	NTRS	226.591	67.590	15,315	0.09%	2.25%	10.53%	0.2109%	0.9879%	
Paychex Inc	PAYX	360.532	59.280	21,372	0.13%	3.10%	9.00%	0.4063%	1.1780%	
People's United Financial Inc	PBCT	310.861	15.160	4,713	0.00%	4.49%	n/a	0.0000%	n/a	
Patterson Cos Inc	PDCO	99.195	49.360	4,896	0.03%	1.94%	9.03%	0.0583%	0.2709%	
QUALCOMM Inc	QCOM	1,473.648	62.580	92,221	0.56%	3.39%	10.42%	1.9133%	5.8834%	
Roper Technologies Inc	ROP	101.201	170.360	17,241	0.11%	0.70%	11.37%	0.0744%	1.2002%	
Ross Stores Inc	ROST	399.510	61.830	24,702	0.15%	0.87%	12.46%	0.1321%	1.8845%	
AutoNation Inc	AN	102.089	53.350	5,446	0.00%	n/a	7.71%	n/a	0.0000%	
Starbucks Corp	SBUX	1,466.600	58.050	85,136	0.52%	1.38%	19.57%	0.7185%	10.2043%	
KeyCorp	KEY	842.373	11.700	9,856	0.06%	2.91%	5.15%	0.1754%	0.3109%	
Staples Inc	SPLS	646.287	9.290	6,004	0.04%	5.17%	4.20%	0.1900%	0.1545%	
State Street Corp	STT	395.940	65.780	26,045	0.16%	2.07%	10.22%	0.3298%	1.6302%	
US Bancorp	USB	1,726.403	42.170	72,802	0.45%	2.42%	5.52%	1.0785%	2.4612%	
Symantec Corp	SYMC	612.292	20.430	12,509	0.08%	1.47%	8.69%	0.1125%	0.6654%	
T Rowe Price Group Inc	TROW	248.552	70.690	17,570	0.11%	3.06%	10.28%	0.3288%	1.1060%	
Waste Management Inc	WM	442.289	66.120	29,244	0.18%	2.48%	8.63%	0.4442%	1.5447%	
CBS Corp	CBS	406.875	52.220	21,247	0.13%	1.38%	14.21%	0.1794%	1.8490%	
Allergan plc	AGN	395.557	252.950	100,056	0.00%	n/a	12.31%	n/a	0.0000%	
Whole Foods Market Inc	WFM	321.027	30.480	9,785	0.06%	1.77%	7.43%	0.1062%	0.4452%	
Constellation Brands Inc	STZ	177.154	164.630	29,165	0.18%	0.97%	14.80%	0.1736%	2.6440%	
Xilinx Inc	XLNX	253.482	51.080	12,948	0.08%	2.58%	7.98%	0.2049%	0.6328%	
DENTSPLY SIRONA Inc	XRAY	234.231	64.040	15,000	0.09%	0.48%	9.77%	0.0445%	0.8972%	
Zions Bancorporation	ZION	204.624	27.880	5,705	0.03%	1.15%	12.67%	0.0401%	0.4426%	
Alaska Air Group Inc	ALK	123.253	67.220	8,285	0.05%	1.64%	2.20%	0.0830%	0.1116%	
Invesco Ltd	IVZ	409.916	29.180	11,961	0.07%	3.84%	9.76%	0.2812%	0.7150%	
Intuit Inc	INTU	255.871	110.990	28,399	0.17%	1.08%	17.96%	0.1880%	3.1240%	
Morgan Stanley	MS	1,937.024	28.730	55,651	0.34%	2.78%	10.03%	0.9490%	3.4184%	
Microchip Technology Inc	MCHP	215.025	55.640	11,964	0.07%	2.58%	11.22%	0.1894%	0.8217%	
Chubb Ltd	CB	464.478	125.260	58,181	0.36%	2.20%	6.68%	0.7851%	3.0910%	
Hologic Inc	HOLX	277.423	38.490	10,678	0.00%	n/a	9.97%	n/a	0.0000%	
Chesapeake Energy Corp	CHK	684.607	5.420	3,711	0.00%	n/a	-3.38%	n/a	0.0000%	
Citizens Financial Group Inc	CFG	528.980	22.330	11,812	0.07%	2.15%	16.50%	0.1555%	1.1936%	
O'Reilly Automotive Inc	ORLY	96.456	290.630	28,033	0.00%	n/a	15.60%	n/a	0.0000%	
Allstate Corp/The	ALL	374.367	68.330	25,580	0.16%	1.93%	9.00%	0.3026%	1.4100%	
FLIR Systems Inc	FLIR	137.632	32.580	4,484	0.03%	1.47%	15.00%	0.0405%	0.4119%	
Equity Residential	EQR	365.502	67.990	24,850	0.15%	2.96%	5.75%	0.4511%	0.8746%	
BorgWarner Inc	BWA	214.266	33.180	7,109	0.04%	1.57%	13.00%	0.0682%	0.5659%	
Newfield Exploration Co	NFX	198.485	43.300	8,594	0.00%	n/a	30.44%	n/a	0.0000%	
Urban Outfitters Inc	URBN	117.137	29.900	3,502	0.00%	n/a	13.09%	n/a	0.0000%	

Montana-Dakota Utilities Co.

Market DCF Calculation

	[1]	[2]	[3]	[4]						
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S&P 500 As of 7/29/2016	2.48%	2.63%	9.31%	11.94%						
	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]		
Company	Ticker	Shares Outstanding (million)	Price	Market Capitalization (\$million)	Percent of Total Market Capitalization	Current Dividend Yield	BEST Long-Term Growth Estimate	Market Capitalization-Weighted Dividend Yield	Market Capitalization-Weighted Long-Term Growth Estimate	
Simon Property Group Inc	SPG	309.409	227.040	70,248	0.43%	2.91%	7.83%	1.2507%	3.3686%	
Eastman Chemical Co	EMN	147.837	65.230	9,643	0.06%	2.82%	5.47%	0.1666%	0.3229%	
AvalonBay Communities Inc	AVB	137.163	185.650	25,464	0.16%	2.91%	6.98%	0.4536%	1.0878%	
Prudential Financial Inc	PRU	442.000	75.290	33,278	0.20%	3.72%	7.90%	0.7580%	1.6101%	
United Parcel Service Inc	UPS	690.451	108.100	74,638	0.46%	2.89%	10.23%	1.3193%	4.6739%	
Apartment Investment & Management Co	AIV	156.613	45.970	7,199	0.04%	2.87%	6.88%	0.1266%	0.3031%	
Walgreens Boots Alliance Inc	WBA	1,082.318	79.250	85,774	0.53%	1.89%	12.67%	0.9942%	6.6556%	
McKesson Corp	MCK	225.702	194.560	43,913	0.27%	0.58%	10.68%	0.1548%	2.8717%	
Lockheed Martin Corp	LMT	302.906	252.730	76,553	0.47%	2.61%	7.16%	1.2244%	3.3545%	
AmerisourceBergen Corp	ABC	215.855	85.190	18,389	0.11%	1.60%	11.20%	0.1798%	1.2610%	
Capital One Financial Corp	COF	512.099	67.080	34,352	0.21%	2.39%	6.02%	0.5018%	1.2673%	
Waters Corp	WAT	80.941	158.930	12,864	0.00%	n/a	9.26%	n/a	0.0000%	
Dollar Tree Inc	DLTR	235.666	96.290	22,692	0.00%	n/a	17.67%	n/a	0.0000%	
Darden Restaurants Inc	DRI	126.216	61.560	7,770	0.05%	3.64%	11.74%	0.1731%	0.5586%	
Diamond Offshore Drilling Inc	DO	137.170	22.720	3,117	0.00%	n/a	n/a	n/a	n/a	
NetApp Inc	NTAP	280.080	26.350	7,380	0.05%	2.88%	8.97%	0.1304%	0.4053%	
Citrix Systems Inc	CTXS	155.102	89.130	13,824	0.00%	n/a	16.95%	n/a	0.0000%	
Goodyear Tire & Rubber Co/The	GT	262.448	28.670	7,524	0.05%	0.98%	7.00%	0.0450%	0.3226%	
DeVita HealthCare Partners Inc	DVA	206.500	77.540	16,012	0.00%	n/a	10.11%	n/a	0.0000%	
Hartford Financial Services Group Inc/The	HIG	385.968	39.850	15,381	0.09%	2.11%	9.33%	0.1986%	0.8791%	
Iron Mountain Inc	IRM	262.643	41.210	10,824	0.00%	4.71%	n/a	0.0000%	n/a	
Estee Lauder Cos Inc/The	EL	222.579	92.900	20,678	0.13%	1.29%	11.64%	0.1636%	1.4734%	
Yahoo! Inc	YHOO	949.919	38.190	36,277	0.00%	n/a	4.00%	n/a	0.0000%	
Principal Financial Group Inc	PFGE	289.853	46.630	13,516	0.08%	3.52%	6.53%	0.2911%	0.5405%	
Recycle Inc	SRCL	84.913	90.270	7,665	0.00%	n/a	12.37%	n/a	0.0000%	
Universal Health Services Inc	UHS	89.764	129.530	11,627	0.07%	0.31%	9.24%	0.0220%	0.6580%	
E*TRADE Financial Corp	ETFC	278.729	25.080	6,991	0.00%	n/a	17.76%	n/a	0.0000%	
Skyworks Solutions Inc	SWKS	190.238	66.020	12,560	0.08%	1.70%	17.56%	0.1305%	1.3507%	
National Oilwell Varco Inc	NOV	377.061	32.350	12,198	0.00%	0.62%	-11.91%	0.0000%	0.0000%	
Quest Diagnostics Inc	DGX	139.017	86.360	12,006	0.07%	1.85%	8.97%	0.1362%	0.6597%	
Activision Blizzard Inc	ATVI	739.838	40.160	29,712	0.18%	0.65%	14.22%	0.1178%	2.5875%	
Rockwell Automation Inc	ROK	130.264	114.400	14,902	0.09%	2.54%	5.86%	0.2314%	0.5345%	
Kraft Heinz Co/The	KHC	1,215.955	86.390	105,046	0.64%	2.66%	20.35%	1.7128%	13.0938%	
American Tower Corp	AMT	425.489	115.770	49,259	0.30%	1.83%	15.73%	0.5524%	4.7454%	
Regeneron Pharmaceuticals Inc	REGN	103.165	425.120	43,858	0.00%	n/a	23.94%	n/a	0.0000%	
Amazon.com Inc	AMZN	474.074	758.810	359,732	0.00%	n/a	42.43%	n/a	0.0000%	
Ralph Lauren Corp	RL	57.260	98.090	5,617	0.03%	2.04%	7.46%	0.0701%	0.2565%	
Boston Properties Inc	BXP	153.611	142.130	21,833	0.13%	1.83%	6.59%	0.2446%	0.8816%	
Amphenol Corp	APH	307.927	59.520	18,328	0.11%	0.94%	9.66%	0.1056%	1.0843%	
Pioneer Natural Resources Co	PXD	169.608	162.570	27,573	0.17%	0.05%	20.00%	0.0083%	3.3773%	
Valero Energy Corp	VLO	469.803	52.280	24,561	0.15%	4.59%	2.55%	0.6905%	0.3833%	
L-3 Communications Holdings Inc	LLL	77.240	151.630	11,712	0.07%	1.85%	7.87%	0.1325%	0.5645%	
Western Union Co/The	WU	491.137	20.000	9,823	0.06%	3.20%	6.72%	0.1925%	0.4044%	
CH Robinson Worldwide Inc	CHRW	142.767	69.620	9,939	0.06%	2.47%	10.28%	0.1504%	0.6255%	
Accenture PLC	ACN	622.542	112.810	70,229	0.43%	1.95%	9.82%	0.8388%	4.2236%	
TransDigm Group Inc	TDG	52.979	279.520	14,809	0.00%	n/a	13.88%	n/a	0.0000%	
Yum! Brands Inc	YUM	389.887	89.420	34,864	0.21%	2.06%	11.87%	0.4394%	2.5338%	
Prologis Inc	PLD	525.081	54.490	28,612	0.18%	3.08%	4.89%	0.5402%	0.8569%	
FirstEnergy Corp	FE	425.198	34.920	14,848	0.00%	4.12%	-1.55%	0.0000%	0.0000%	
VeriSign Inc	VRSN	106.767	86.610	9,247	0.00%	n/a	10.20%	n/a	0.0000%	
Quanta Services Inc	PWR	144.160	25.600	3,690	0.00%	n/a	8.00%	n/a	0.0000%	
Henry Schein Inc	HSIC	82.066	180.980	14,852	0.00%	n/a	11.10%	n/a	0.0000%	
Ameren Corp	AEE	242.635	52.440	12,724	0.08%	3.24%	4.43%	0.2526%	0.3448%	
Scripps Networks Interactive Inc	SNI	95.105	66.060	6,283	0.04%	1.51%	11.95%	0.0582%	0.4598%	
NVIDIA Corp	NVDA	534.000	57.100	30,491	0.19%	0.81%	9.67%	0.1504%	1.8052%	

Montana-Dakota Utilities Co.

Market DCF Calculation

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Company	Ticker	Shares Outstanding (million)	Price	Market Capitalization (\$million)	Percent of Total Market Capitalization	Current Dividend Yield	BEst Long-Term Growth Estimate	Market Capitalization-Weighted Dividend Yield	Market Capitalization-Weighted Long-Term Growth Estimate	
Sealed Air Corp	SEE	197.143	47.180	9,301	0.06%	1.36%	4.31%	0.0773%	0.2457%	
Cognizant Technology Solutions Corp	CTSH	605.870	57.490	34,831	0.00%	n/a	13.52%	n/a	0.0000%	
Intuitive Surgical Inc	ISRG	38.493	695.760	26,782	0.00%	n/a	13.98%	n/a	0.0000%	
Affiliated Managers Group Inc	AMG	56.687	146.780	8,321	0.00%	n/a	13.73%	n/a	0.0000%	
Aetna Inc	AET	350.600	115.210	40,393	0.25%	0.87%	10.40%	0.2147%	2.5725%	
Republic Services Inc	RSG	342.845	51.260	17,574	0.11%	2.50%	8.22%	0.2688%	0.8845%	
eBay Inc	EBAY	1,129.019	31.160	35,180	0.00%	n/a	9.71%	n/a	0.0000%	
Goldman Sachs Group Inc/The	GS	415.394	158.810	65,969	0.40%	1.64%	8.22%	0.6614%	3.3222%	
Sempra Energy	SRE	249.497	111.880	27,914	0.17%	2.70%	6.99%	0.4615%	1.1946%	
Moody's Corp	MCO	192.300	106.010	20,386	0.12%	1.40%	11.00%	0.1743%	1.3733%	
Priceline Group Inc/The	PCLN	49.639	1,350.810	67,053	0.00%	n/a	17.35%	n/a	0.0000%	
F5 Networks Inc	FFIV	66.205	123.420	8,171	0.00%	n/a	13.21%	n/a	0.0000%	
Akamai Technologies Inc	AKAM	175.592	50.530	8,873	0.00%	n/a	15.00%	n/a	0.0000%	
Reynolds American Inc	RAI	1,427.341	50.060	71,453	0.44%	3.68%	9.32%	1.6084%	4.0784%	
Devon Energy Corp	DVN	524.000	38.280	20,059	0.12%	0.63%	8.15%	0.0770%	1.0012%	
Alphabet Inc	GOOGL	293.675	791.340	232,397	0.00%	n/a	16.24%	n/a	0.0000%	
Red Hat Inc	RHT	181.096	75.290	13,635	0.00%	n/a	16.67%	n/a	0.0000%	
Alliegon PLC	ALLE	95.898	72.390	6,942	0.04%	0.66%	13.10%	0.0282%	0.5569%	
Netflix Inc	NFLX	428.725	91.250	39,121	0.00%	n/a	33.74%	n/a	0.0000%	
Agilent Technologies Inc	A	325.522	48.110	15,661	0.10%	0.96%	10.13%	0.0917%	0.9719%	
Anthem Inc	ANTM	263.171	131.340	34,565	0.21%	1.98%	8.10%	0.4191%	1.7136%	
CME Group Inc	CME	338.640	102.240	34,623	0.21%	2.35%	11.24%	0.4977%	2.3833%	
Juniper Networks Inc	JNPR	383.945	22.690	8,712	0.05%	1.76%	9.13%	0.0941%	0.4871%	
BlackRock Inc	BLK	163.367	366.250	59,833	0.37%	2.50%	11.95%	0.9165%	4.3782%	
DTE Energy Co	DTE	179.435	97.520	17,499	0.11%	3.16%	5.54%	0.3385%	0.5937%	
Nasdaq Inc	NDAQ	164.515	70.760	11,641	0.07%	1.81%	8.30%	0.1290%	0.5917%	
Philip Morris International Inc	PM	1,551.327	100.260	155,536	0.95%	4.07%	8.30%	3.8763%	7.9090%	
salesforce.com Inc	CRM	677.500	81.800	55,420	0.00%	n/a	25.17%	n/a	0.0000%	
MetLife Inc	MET	1,098.667	42.740	46,957	0.29%	3.74%	5.10%	1.0766%	1.4667%	
Under Armour Inc	UA/C	219.117	35.700	7,822	0.00%	n/a	22.80%	n/a	0.0000%	
Monsanto Co	MON	437.576	106.770	46,720	0.29%	2.02%	7.85%	0.5788%	2.2461%	
Coach Inc	COH	278.030	41.110	11,986	0.07%	3.13%	14.90%	0.2299%	1.0937%	
Fluor Corp	FLR	139.230	53.520	7,452	0.05%	1.57%	5.07%	0.0716%	0.2315%	
CSX Corp	CSX	945.991	28.330	26,800	0.16%	2.54%	7.58%	0.4171%	1.2446%	
Dun & Bradstreet Corp/The	DNB	36.258	129.250	4,686	0.03%	1.49%	11.75%	0.0429%	0.3372%	
Edwards Lifesciences Corp	EW	212.879	114.520	24,379	0.00%	n/a	17.73%	n/a	0.0000%	
Ameriprise Financial Inc	AMP	165.813	95.840	15,892	0.10%	3.13%	4.10%	0.3046%	0.3990%	
Xcel Energy Inc	XEL	507.953	43.980	22,340	0.14%	3.09%	5.00%	0.4231%	0.6841%	
Rockwell Collins Inc	COL	129.931	84.620	10,995	0.07%	1.56%	7.99%	0.1050%	0.5380%	
FMC Technologies Inc	FTI	225.627	25.380	5,726	0.00%	n/a	-9.90%	n/a	0.0000%	
Zimmer Biomet Holdings Inc	ZBH	199.679	131.140	26,186	0.16%	0.73%	10.72%	0.1174%	1.7190%	
CBRE Group Inc	CBG	335.436	28.450	9,543	0.00%	n/a	12.50%	n/a	0.0000%	
MasterCard Inc	MA	1,077.451	95.240	102,616	0.63%	0.80%	15.40%	0.5015%	9.6782%	
Signet Jewelers Ltd	SIG	78.006	87.910	6,858	0.04%	1.18%	14.40%	0.0497%	0.6048%	
CarMax Inc	KMX	191.475	58.260	11,155	0.00%	n/a	12.92%	n/a	0.0000%	
Intercontinental Exchange Inc	ICE	119.046	264.200	31,452	0.19%	1.29%	14.24%	0.2479%	2.7420%	
Fidelity National Information Services Inc	FIS	326.454	79.530	25,963	0.16%	1.31%	12.17%	0.2079%	1.9346%	
Chipotle Mexican Grill Inc	CMG	29.116	423.990	12,345	0.00%	n/a	13.63%	n/a	0.0000%	
Wynn Resorts Ltd	WYNN	101.791	97.950	9,970	0.06%	2.04%	10.00%	0.1247%	0.6106%	
Assurant Inc	AIZ	61.937	83.010	5,141	0.03%	2.41%	11.91%	0.0759%	0.3750%	
NRG Energy Inc	NRG	314.908	13.840	4,358	0.00%	0.87%	n/a	0.0000%	n/a	
Regions Financial Corp	RF	1,266.713	9.170	11,616	0.07%	2.84%	5.88%	0.2017%	0.4181%	
Monster Beverage Corp	MNST	203.043	160.630	32,615	0.00%	n/a	18.96%	n/a	0.0000%	
Teradata Corp	TDC	130.000	28.380	3,689	0.00%	n/a	9.26%	n/a	0.0000%	
Mosaic Co/The	MOS	349.816	27.000	9,445	0.06%	4.07%	0.85%	0.2357%	0.0492%	

Montana-Dakota Utilities Co.

Market DCF Calculation

	[1]	[2]	[3]	[4]
	Dividend Yield	Dividend Yield x (1 + 0.625g)	Expected Growth Rate (g)	Secondary Market Investor Required Return
S&P 500 As of 7/29/2016	2.48%	2.63%	9.31%	11.94%

	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	
Company	Ticker	Shares Outstanding (million)	Price	Market Capitalization (\$million)	Percent of Total Market Capitalization	Current Dividend Yield	BEst Long-Term Growth Estimate	Market Capitalization-Weighted Dividend Yield	Market Capitalization-Weighted Long-Term Growth Estimate
Expedia Inc	EXPE	136.916	116.650	15,971	0.10%	0.89%	20.75%	0.0872%	2.0296%
Discovery Communications Inc	DISCA	150.481	25.090	3,776	0.00%	n/a	16.95%	n/a	0.0000%
CF Industries Holdings Inc	CF	233.094	24.680	5,753	0.04%	4.86%	18.43%	0.1713%	0.6491%
Viacom Inc	VIAB	346.609	45.470	15,760	0.10%	3.52%	3.71%	0.3396%	0.3581%
Wyndham Worldwide Corp	WYN	109.875	71.020	7,803	0.05%	2.82%	7.65%	0.1346%	0.3656%
Alphabet Inc	GOOG	343.440	768.790	264,033	0.00%	n/a	16.24%	n/a	0.0000%
Spectra Energy Corp	SE	700.910	35.970	25,212	0.15%	4.50%	8.90%	0.6954%	1.3742%
First Solar Inc	FSLR	102.245	46.680	4,773	0.00%	n/a	10.00%	n/a	0.0000%
Mead Johnson Nutrition Co	MJN	184.659	89.200	16,472	0.10%	1.85%	9.24%	0.1866%	0.9321%
TE Connectivity Ltd	TEL	355.550	60.280	21,433	0.13%	2.46%	11.85%	0.3223%	1.5554%
Discover Financial Services	DFS	412.225	56.840	23,431	0.14%	2.11%	8.13%	0.3030%	1.1669%
TripAdvisor Inc	TRIP	132.906	69.970	9,299	0.00%	n/a	12.09%	n/a	0.0000%
Dr Pepper Snapple Group Inc	DPS	185.405	98.510	18,264	0.11%	2.15%	13.24%	0.2407%	1.4813%
Visa Inc	V	1,886.434	78.050	147,236	0.90%	0.72%	16.40%	0.6470%	14.7873%
Xylem Inc/NY	XYL	178.897	47.810	8,553	0.05%	1.30%	15.00%	0.0679%	0.7857%
Marathon Petroleum Corp	MPC	529.835	39.390	20,870	0.13%	1.66%	5.01%	0.4673%	0.6407%
Level 3 Communications Inc	LVL3	357.933	50.600	18,111	0.00%	n/a	-5.25%	n/a	0.0000%
Tractor Supply Co	TSCO	133.427	91.650	12,229	0.07%	1.05%	15.63%	0.0784%	1.1705%
Albermarle Corp	ALB	112.297	84.170	9,452	0.06%	1.45%	8.30%	0.0839%	0.4805%
Transocean Ltd	RIG	365.202	10.990	4,014	0.00%	n/a	-6.20%	n/a	0.0000%
Essex Property Trust Inc	ESS	65.430	233.880	15,303	0.09%	2.74%	6.83%	0.2565%	0.6404%
General Growth Properties Inc	GGP	883.197	31.950	28,218	0.17%	2.38%	6.73%	0.4111%	1.1622%
Realty Income Corp	O	258.569	71.470	18,480	0.11%	3.38%	5.12%	0.3829%	0.5795%
Seagate Technology PLC	STX	298.484	32.030	9,560	0.06%	7.87%	8.50%	0.4607%	0.4977%
WestRock Co	WRK	252.610	42.910	10,839	0.07%	3.50%	2.85%	0.2321%	0.1892%
Western Digital Corp	WDC	281.437	47.510	13,371	0.08%	4.21%	5.32%	0.3447%	0.4354%
Church & Dwight Co Inc	CHD	128.330	98.240	12,607	0.08%	1.45%	9.29%	0.1116%	0.7171%
Federal Realty Investment Trust	FRT	70.904	169.700	12,032	0.07%	2.22%	6.26%	0.1633%	0.4609%
Twenty-First Century Fox Inc	FOX	798.521	27.030	21,584	0.13%	1.11%	11.57%	0.1467%	1.5294%
Alliant Energy Corp	LNT	227.125	40.250	9,142	0.06%	2.92%	7.15%	0.1634%	0.4003%
JB Hunt Transport Services Inc	JBHT	112.680	83.130	9,367	0.06%	1.06%	13.75%	0.0607%	0.7888%
Lam Research Corp	LRCX	159.598	89.770	14,327	0.09%	1.34%	6.85%	0.1173%	0.6010%
Mohawk Industries Inc	MHK	74.091	208.940	15,481	0.00%	n/a	n/a	n/a	n/a
Pentair PLC	PNR	181.093	63.820	11,557	0.07%	2.13%	8.47%	0.1508%	0.5997%
Vertex Pharmaceuticals Inc	VRTX	247.350	97.000	23,993	0.00%	n/a	52.59%	n/a	0.0000%
Facebook Inc	FB	2,322.959	123.940	287,908	0.00%	n/a	33.02%	n/a	0.0000%
United Rentals Inc	URI	86.161	79.670	6,864	0.00%	n/a	14.13%	n/a	0.0000%
United Continental Holdings Inc	UAL	335.700	46.890	15,741	0.00%	n/a	-9.37%	n/a	0.0000%
Delta Air Lines Inc	DAL	748.908	38.750	29,020	0.18%	2.09%	15.54%	0.3715%	2.7610%
Navient Corp	NAVI	317.033	14.200	4,502	0.00%	4.51%	n/a	0.0000%	n/a
Mallinckrodt PLC	MNK	109.326	67.340	7,362	0.00%	n/a	9.35%	n/a	0.0000%
News Corp	NWS	199.630	13.440	2,683	0.02%	1.49%	10.05%	0.0245%	0.1651%
Centene Corp	CNC	170.737	70.550	12,045	0.00%	n/a	16.55%	n/a	0.0000%
Macerich Co/The	MAC	148.493	89.240	13,252	0.08%	3.05%	7.12%	0.2474%	0.5778%
Martin Marietta Materials Inc	MLM	63.527	202.650	12,874	0.08%	0.79%	22.20%	0.0622%	1.7505%
PayPal Holdings Inc	PYPL	1,206.918	37.240	44,946	0.00%	n/a	15.14%	n/a	0.0000%
Alexion Pharmaceuticals Inc	ALXN	224.248	128.600	28,838	0.00%	n/a	28.06%	n/a	0.0000%
Endo International PLC	ENDP	222.661	17.360	3,865	0.00%	n/a	4.70%	n/a	0.0000%
News Corp	NWSA	380.354	12.970	4,933	0.03%	1.54%	10.05%	0.0466%	0.3035%
Global Payments Inc	GP	153.630	74.660	11,470	0.07%	0.05%	15.42%	0.0038%	1.0832%
Crown Castle International Corp	CCI	337.560	97.030	32,753	0.20%	3.65%	8.90%	0.7318%	1.7853%
Delphi Automotive PLC	DLPH	272.977	67.820	18,513	0.11%	1.71%	9.78%	0.1939%	1.1089%
Advance Auto Parts Inc	AAP	73.556	169.860	12,494	0.08%	0.14%	12.01%	0.0108%	0.9188%
Michael Kors Holdings Ltd	KORS	176.449	51.720	9,126	0.00%	n/a	5.35%	n/a	0.0000%
Illumina Inc	ILMN	147.200	166.350	24,487	0.00%	n/a	13.73%	n/a	0.0000%

Montana-Dakota Utilities Co.

Market DCF Calculation

	[1]	[2]	[3]	[4]				
	Dividend Yield	Dividend Yield x (1 + 0.625g)	Expected Growth Rate (g)	Secondary Market Investor Required Return				
S&P 500 As of 7/29/2016	2.48%	2.63%	9.31%	11.94%				
	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]

Company	Ticker	Shares Outstanding (million)	Price	Market Capitalization (\$million)	Percent of Total Market Capitalization	Current Dividend Yield	BEst Long-Term Growth Estimate	Market Capitalization-Weighted Dividend Yield	Market Capitalization-Weighted BEst Long-Term Growth Estimate
Acuity Brands Inc	AYI	43,887	262.430	11,517	0.07%	0.20%	17.00%	0.0140%	1.1991%
Alliance Data Systems Corp	ADS	58,940	231.620	13,652	0.00%	n/a	14.20%	n/a	0.0000%
LKQ Corp	LKQ	306,679	34.390	10,547	0.00%	n/a	16.23%	n/a	0.0000%
Nielsen Holdings PLC	NLSN	357,346	53.860	19,247	0.12%	2.30%	12.33%	0.2714%	1.4537%
Garmin Ltd	GRMN	188,877	54.330	10,262	0.06%	3.75%	3.10%	0.2360%	0.1948%
Cimarex Energy Co	XEC	94,815	120.020	11,380	0.00%	0.27%	-3.27%	0.0000%	0.0000%
Zoetis Inc	ZTS	496,202	50.47	25,043	0.15%	0.75%	11.67%	0.1155%	1.7894%
Digital Realty Trust Inc	DLR	159,326	104.46			3.37%	5.94%		
Equinix Inc	EQIX	69,429	372.87	25,888	0.16%	1.88%	22.05%	0.2976%	3.4959%
Discovery Communications Inc	DISCK	248,724	24.54	6,104	0.00%	n/a	16.95%	n/a	0.0000%

Average for Companies Paying Dividends with Positive BEst Long-Term Growth Estimates

2.29% 9.61%

Notes:

- [1] Equals sum of Column [11]/100
- [2] Equals Column [1] x (1 + 0.625 x Column [3])
- [3] Equals sum of Column [12]/100
- [4] Equals Column [2] + Column [3]
- [5] Source: Bloomberg Finance L.P.
- [6] Source: Bloomberg Finance L.P.
- [7] Equals Column [5] x Column [6]
- [8] Equals percent of sum of Column [7] if Current Dividend Yield does not equal "n/a" and BEst Long-Term Growth Estimate does not equal "n/a" and is greater than 0%
- [9] Source: Bloomberg Finance L.P.
- [10] Source: Bloomberg Finance L.P.
- [11] Equals Column [8] x Column [9]
- [12] Equals Column [8] x Column [10]

**Montana-Dakota Utilities Co.  
 Adjusted CAPM Return  
 As of July 29, 2016**

	S&P Current Market DCF Return	Less: Near- term projected T-Bond Yield	Market Risk Premium	Value Line Beta	B*RP	Plus: Projected T- Bond Yield	Biased CAPM Return	Ibbotson CAPM Adjustment	Unbiased CAPM
ALLETE, Inc.	11.94%	3.00%	8.94%	0.75	6.71%	3.00%	9.71%	1.60%	11.31%
Alliant Energy Corporation	11.94%	3.00%	8.94%	0.75	6.71%	3.00%	9.71%	0.91%	10.62%
Ameren Corporation	11.94%	3.00%	8.94%	0.75	6.71%	3.00%	9.71%	0.63%	10.34%
American Electric Power Company, Inc.	11.94%	3.00%	8.94%	0.70	6.26%	3.00%	9.26%	-0.36%	8.90%
DTE Energy Company	11.94%	3.00%	8.94%	0.70	6.26%	3.00%	9.26%	0.63%	9.89%
Otter Tail Corporation	11.94%	3.00%	8.94%	0.80	7.15%	3.00%	10.15%	1.71%	11.86%
PNM Resources, Inc.	11.94%	3.00%	8.94%	0.80	7.15%	3.00%	10.15%	1.60%	11.75%
Xcel Energy Inc.	11.94%	3.00%	8.94%	0.65	5.81%	3.00%	8.81%	0.63%	9.44%

**High**  
**Median**  
**Low**

**10.15%**  
**9.71%**  
**8.81%**

**11.86%**  
**10.48%**  
**8.90%**

Beta Source: Value Line; dated June 17, 2016 and July 29, 2016  
 Ibbotson Adjustment from: Morningstar, 2015 S&P Classic Yearbook, Table 7-6.

**Montana-Dakota Utilities Co.**  
**Adjusted CAPM Return**  
**As of July 29, 2016**

(a)	(b)	(c)	(d)	(e)	(f)	(g)
		Shares	Price/Sh.	Market Capitalization	Size Decile	Ibbotson CAPM Size Adjustment
ALLETE, Inc.	ALE	49,256,265	\$ 59.82	\$ 2,946,509,772	5	1.60%
Alliant Energy Corporation	LNT	227,125,302	\$ 38.52	\$ 8,748,866,633	3	0.91%
Ameren Corporation	AEE	242,634,798	\$ 49.48	\$ 12,005,569,805	2	0.63%
American Electric Power Company, Inc.	AEP	491,313,380	\$ 65.84	\$ 32,348,072,939	1	-0.36%
DTE Energy Company	DTE	179,435,404	\$ 92.70	\$ 16,633,661,951	2	0.63%
Otter Tail Corporation	OTTR	38,116,348	\$ 30.59	\$ 1,165,979,085	7	1.71%
PNM Resources, Inc.	PNM	79,653,624	\$ 34.11	\$ 2,716,985,115	5	1.60%
Xcel Energy Inc.	XEL	507,952,795	\$ 43.79	\$ 22,243,252,893	2	0.63%

Source: Value Line and Morningstar, 2015 Ibbotson SBBI Classic Yearbook, page 109.

**Montana-Dakota Utilities Co.**

**Selected Electric Distribution Companies  
 Capital Structures as of December 31, 2015**  
*\$ thousands*

Company	Ticker	Short-Term		Long-Term Debt	Preferred Stock	Common Equity	Total Capital
		Debt	%				
ALLETE, Inc.	ALE	\$ 1,600	0.05%	\$ 1,592,400	\$ -	\$ 1,820,200	\$ 3,414,200 1/
Alliant Energy Corporation	LNT	\$ 159,800	2.05%	\$ 3,926,600	\$ -	\$ 3,724,100	\$ 7,810,500 1/
Ameren Corporation	AEE	\$ 301,000	2.07%	\$ 7,275,000	\$ -	\$ 6,946,000	\$ 14,522,000 1/
American Electric Power Company, Inc.	AEP	\$ 800,000	2.07%	\$ 19,916,200	\$ -	\$ 17,891,700	\$ 38,607,900 1/
DTE Energy Company	DTE	\$ 499,000	2.70%	\$ 9,233,000	\$ -	\$ 8,772,000	\$ 18,504,000 1/
Otter Tail Corporation	OTTR	\$ 80,672	6.83%	\$ 496,268	\$ -	\$ 605,023	\$ 1,181,963 1/
PNM Resources, Inc.	PNM	\$ 250,600	6.27%	\$ 2,091,948	\$ -	\$ 1,654,813	\$ 3,997,361 1/
Xcel Energy Inc.	XEL	\$ 846,000	3.45%	\$ 13,055,901	\$ -	\$ 10,600,920	\$ 24,502,821 1/
<b>Median</b>			<b>2.38%</b>				<b>47.54%</b>
Montana-Dakota Utilities Co.							
- North Dakota Electric Dist. Operations		\$ 108,737	7.42%	\$ 605,441	15,159	\$ 736,149	\$ 1,465,485 2/

1/ Source: SNL Financial LC; data as of December 31, 2015

2/ Source: Montana-Dakota Utilities Co.; Capital Structure Pro Forma 2016