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**BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION**

IN THE MATTER OF THE APPLICATION OF )  
INTERMOUNTAIN GAS COMPANY FOR )  
THE AUTHORITY TO CHANGE ITS RATES ) Case No. INT-G-16-02  
AND CHARGES FOR NATURAL GAS )  
SERVICE TO NATURAL GAS CUSTOMERS )  
IN THE STATE OF IDAHO )  
\_\_\_\_\_ )

DIRECT TESTIMONY OF STEPHEN GASKE

FOR INTERMOUNTAIN GAS COMPANY

August 12, 2016

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

2 A. 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, NW, Suite 620, Washington, DC 20036.

4 **Q. Would you please describe your educational and professional background?**

5 A. I hold a B.A. degree from the University of Virginia and an M.B.A. degree with a  
6 major in finance and investments from George Washington University. I also  
7 earned a Ph.D. degree from Indiana University where my major field of study was  
8 public utilities and my supporting fields were finance and economics. A copy of  
9 my résumé is included as Exhibit 04 to this testimony.

10 **Q. Have you presented expert testimony in other proceedings?**

11 A. Yes. I have filed testimony or testified in more than 100 regulatory proceedings  
12 in North America. These submissions have included testimony on the cost of  
13 capital and capital structure issues for electric and natural gas distribution and oil  
14 and natural gas pipeline operations before 11 state and provincial regulatory  
15 bodies. In addition, I have testified or submitted testimony on issues such as cost  
16 allocation, rate design, pricing, regulatory principles and generating plant  
17 economics before regulators in four Canadian provinces, and seven U.S. state  
18 public utility commissions. I also have testified or filed testimony or affidavits  
19 before various federal regulators, including the Federal Energy Regulatory  
20 Commission on more than thirty occasions, the National Energy Board of Canada,  
21 the U.S. Postal Rate Commission, and the Comisión Reguladora de Energía of  
22 México. Topics covered in these submissions have included rate of return, capital  
23 structure, cost allocation, rate design, revenue requirements, regulatory principles

1 and market power. During the course of my consulting career, I have conducted  
2 many studies on issues related to regulated industries and have served as an  
3 advisor to numerous clients on economic, competitive, and financial matters. I  
4 also have spoken and lectured before many professional groups including the  
5 American Gas Association and the Edison Electric Institute Rate Fundamentals  
6 courses.

7 **I. INTRODUCTION**

8 **A. Scope and Overview**

9 **Q. What is the scope of your testimony in this proceeding?**

10 A. I have been asked by Intermountain Gas Company (“Intermountain” or the  
11 “Company”) to estimate the cost of common equity capital for the Company’s  
12 natural gas distribution operations in the state of Idaho. In this testimony, I  
13 calculate a range for the cost of common equity capital for Intermountain’s Idaho  
14 natural gas distribution operations based on a Discounted Cash Flow (“DCF”)   
15 analysis of a group of proxy companies that have risks similar to those of  
16 Intermountain’s Idaho gas distribution operations. I then place Intermountain  
17 within the range established by the DCF analyses by comparing the risks of the  
18 Company to those of the proxy gas distribution companies and by considering  
19 several alternative benchmark analyses.

20 **Q. What rate of return is Intermountain requesting in this proceeding?**

21 A. Based on its test period capital structure, Intermountain is requesting the  
22 following rate of return:

1 **Table G.1: Requested Rate of Return – Idaho Gas Distribution Operations<sup>1</sup>**

Source	Percent	Cost	Overall Rate of Return
Long-Term Debt	50.000%	4.94%	2.47%
Common Equity	50.000%	9.90%	4.95%
TOTAL	100.000%		7.42%

2 As my testimony discusses, an overall allowed rate of return of 7.42 percent, with  
3 Intermountain at this time.

4 **B. Company Background**

5 **Q. Please describe Intermountain’s operations and those of its parent company,**  
6 **MDU Resources Group, Inc.**

7 A. Intermountain is a wholly-owned division of MDU Resources Group, Inc. (“MDU  
8 Resources”) that is engaged in natural gas distribution in the state of Idaho.  
9 Intermountain provides gas distribution service to approximately 320,000  
10 residential, commercial and industrial customers in approximately 75  
11 communities in southern Idaho, the largest of which are Boise, Nampa, Meridian,  
12 Pocatello, and Caldwell.

13 Through its division, Montana-Dakota Utilities Co. (“Montana-Dakota”),  
14 MDU Resources is engaged in the generation, transmission, and distribution of  
15 electricity, and the distribution of natural gas in the states of Montana, North  
16 Dakota, South Dakota, and Wyoming. MDU Resources also owns Cascade  
17 Natural Gas Corporation, which distributes natural gas in the states of Washington  
18 and Oregon, and Great Plains Natural Gas Company, which distributes natural gas  
19 in the states of Minnesota and North Dakota. MDU Resources is also engaged in

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<sup>1</sup> Projected average capital structure and rate of return for 2016.

1 utility infrastructure construction, natural gas gathering and transmission, and  
2 produces and markets aggregates and other construction materials.

3 Natural gas distribution assets comprised 30.8 percent<sup>2</sup> of MDU Resources' total  
4 assets in 2015, and natural gas distribution revenues comprised 19.5 percent<sup>3</sup> of  
5 total operating revenues. Idaho accounted for 32.0 percent of the natural gas  
6 distribution operating sales revenues for MDU Resources, while Washington  
7 (26.0 percent), North Dakota (15.0 percent), Montana (8.0 percent), Oregon (8.0  
8 percent), South Dakota (6.0 percent), Minnesota (3.0 percent) and Wyoming (2.0  
9 percent) accounted for the other 68.0 percent of retail gas distribution operating  
10 sales revenues.<sup>4</sup>

11 **Q. Would you please describe Intermountain's Idaho natural gas distribution**  
12 **service territory?**

13 A. Intermountain provides natural gas distribution service to approximately 320,000  
14 customers in 75 communities in Southern Idaho, operating 290 miles of  
15 transmission lines and 6,216 miles of distribution mains. As shown in the  
16 testimony of Company witness Scott Madison, the customer base in Idaho is  
17 approximately 90 percent residential customers and 10 percent commercial and  
18 industrial customers. Intermountain's service territory primarily consists of towns  
19 and small cities dotted throughout relatively sparsely populated areas. With the  
20 exception of Boise, the local economies served by Intermountain are heavily  
21 dependent on agriculture, light manufacturing, and providing retail and other  
22 services for surrounding agricultural areas.

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<sup>2</sup> MDU Resources, 2015 Form 10-K, at 83.

<sup>3</sup> *Ibid.*, at 82.

<sup>4</sup> *Ibid.*, at 11.

1 **Q. What is your understanding of the factors that are driving the rate case filing**  
2 **by Intermountain?**

3 A. As discussed in the testimony of Company witness Madison, Intermountain has  
4 not filed a rate case since 1985. The primary reasons for the filing are related to  
5 customer growth, which has resulted in increased investment in rate base, along  
6 with concurrent increases in operating costs necessary to serve this growing  
7 customer base. In addition, Intermountain has needed to replace customer-service  
8 related information and technology systems, has experienced increased operating  
9 expenses related to the regulatory demands associated with pipeline safety  
10 regulations and compliance, and has higher right of way costs. Company witness  
11 Nicole Kivisto testifies that Intermountain has spent approximately \$551 million  
12 in capital additions since the last general rate case. The Company's rate base has  
13 increased to about \$237 million, as filed in this proceeding, from approximately  
14 \$66.4 million as filed in the last rate proceeding in 1985.

15 **II. CAPITAL STRUCTURE**

16 **Q. What capital structure is Intermountain filing in this proceeding?**

17 A. As discussed in the testimony of Intermountain witness Mark Chiles,  
18 Intermountain is using a capital structure consisting of 50 percent debt and 50  
19 percent equity. Although Intermountain's common equity ratio has fluctuated  
20 around the 50 percent level in recent years, this is the target capital structure that  
21 Intermountain seeks to maintain in its operations.

22 **Q. What effect does the capital structure have on the costs of doing business?**

1 A. Most large companies are financed using a mix of debt and equity capital.  
2 Including a reasonably small amount of debt in the capital structure can provide a  
3 low-cost source of funds because the common equity holders shield lenders from  
4 a portion of the risks of the company. However, the requirement to pay a fixed  
5 level of interest and repay principal as scheduled, causes the possibility of  
6 bankruptcy or other financial distress to increase as the firm takes on more debt.  
7 Financial “leverage” provided by fixed debt payments also tends to translate  
8 relatively small fluctuations in a company’s operating income into much larger  
9 variations in the net income available to common stockholders. When the  
10 proportion of debt is increased beyond some level, both the lenders and the  
11 stockholders require greater rates of return on their investments to compensate for  
12 the greater risks involved. In financial theory, there is an optimal range of equity  
13 ratios that minimizes the overall cost of capital of a company.

14 **Q. What factors are important for determining the appropriate capital  
15 structure for a company?**

16 A. The amount of debt that is economical for a firm depends on its business risks and  
17 the perceived probability that it could experience unexpected difficulties that  
18 would render it unable to meet its debt obligations. Although firms in the same  
19 industry generally tend to have similar business risks, there is often a general,  
20 very broad range of equity ratios associated with companies in particular  
21 industries. Firms in the same industry have different capital structures for many  
22 reasons. For example, within a given industry, there may be wide differences in  
23 the vintages of capital and operating strategies of individual companies. Another

1 important factor is the quality of a firm's earnings in terms of cash flow and  
2 continuing operations. When all factors are considered the managers of a  
3 company are usually in the best position to evaluate the prospective risks and  
4 operating needs of their company and determine the most appropriate capital  
5 structure.

6 **Q. In your opinion, is the capital structure used by Intermountain in this rate**  
7 **filing reasonable?**

8 A. Yes. Intermountain's equity ratio is comfortably within the range of equity ratios  
9 of the proxy companies. As shown in my Direct Testimony Exhibit 05, Schedule  
10 8, the proxy company common equity ratios are in a range between 47 percent  
11 and 58 percent, with a median of 54.3 percent. Six of the seven proxy companies  
12 have higher common equity ratios than Intermountain, which indicates that its  
13 common equity ratio is neither unusual nor extreme.

### 14 **III. FINANCIAL MARKET STUDIES**

#### 15 **A. Criteria for a Fair Rate of Return**

16 **Q. Please describe the criteria which should be applied in determining a fair**  
17 **rate of return for a regulated company.**

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

22 The return should be reasonably sufficient to assure confidence in  
23 the financial soundness of the utility, and should be adequate,  
24 under efficient and economical management, to maintain and  
25 support its credit and enable it to raise the money necessary for the



1 proper discharge of its public duties. A rate of return may be  
2 reasonable at one time and become too high or too low by changes  
3 affecting opportunities for investment, the money market, and  
4 business conditions generally.

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

7 There the Court described the relevant criteria as follows:

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

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

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

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

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

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

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

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

21 A. For purposes of setting regulated rates, the current embedded costs of preferred  
22 stock and long-term debt are used in order to ensure that the company receives a

1 return that is sufficient to pay the fixed dividend and interest obligations that are  
2 attached to these sources of capital.

3 **Q. How is the cost of common equity determined?**

4 A. The practice in setting a fair rate of return on common equity is to use the current  
5 market cost of common equity in order to ensure that the return is adequate to  
6 attract capital and is commensurate with returns available on other investments  
7 with similar levels of risk. However, determining the market cost of common  
8 equity is a relatively complicated task that requires analysis of many factors and  
9 some degree of judgment by an analyst. The current market cost of capital for  
10 securities that pay a fixed level of interest or dividends is relatively easy to  
11 determine. For example, the current market cost of debt for publicly-traded bonds  
12 can be calculated as the yield-to-maturity, adjusted for flotation costs, based on  
13 the current market price at which the bonds are selling. In contrast, because  
14 common stockholders receive only the residual earnings of the company, there are  
15 no fixed contractual payments which can be observed. This uncertainty  
16 associated with the dividends that eventually will be paid greatly complicates the  
17 task of estimating the cost of common equity capital. For purposes of this  
18 testimony, I have relied on several analytical approaches for estimating the cost of  
19 common equity. My primary approach relies on two DCF analyses. In addition, I  
20 have conducted two risk premium analyses, a market DCF analysis of the S&P  
21 500, and a Capital Asset Pricing Model (“CAPM”) analysis as benchmarks to  
22 assess the reasonableness of the DCF results. Each of these approaches is  
23 described later in this testimony.

1 **B. Interest Rates and the Economy**

2 **Q. What are the general economic factors that affect the cost of capital?**

3 A. 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 05 shows various general economic statistics. Real growth in Gross  
8 Domestic Product ("GDP") has averaged 2.6 percent annually during the past 30  
9 years, 2.4 percent for the past 20 years, and 1.4 percent for the past 10 years.  
10 After increasing at an annual rate of 2.4 percent in 2015, the Bureau of Economic  
11 Analysis reported that GDP for the first quarter of 2016 grew at a real annual rate  
12 of 0.8 percent.<sup>5</sup> According to Blue Chip Economic Indicators, the consensus  
13 forecast for expected growth in real GDP is 1.9 percent in 2016<sup>6</sup> and 2.3 percent  
14 in 2017.<sup>7</sup> Likewise, the U.S. unemployment rate has improved in recent months  
15 to 4.7 percent,<sup>8</sup> but the labor force participation rate for civilians 16 years and  
16 over remained at 62.6 percent for May 2016, near the lowest rate since the late  
17 1970s.<sup>9</sup> Improvements in the U.S. unemployment rate are partly attributed to the  
18 reduced U.S. labor force and are not fully explained by job growth. In light of  
19 these weak economic conditions, the Federal Reserve has maintained its federal

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<sup>5</sup> U.S. Department of Commerce, Bureau of Economic Analysis, News Release, May 27, 2016.

<sup>6</sup> Blue Chip Economic Indicators, Vol. 41, No. 6, June 10, 2016, at 2.

<sup>7</sup> *Ibid.*, at 3.

<sup>8</sup> U.S. Department of Labor, Bureau of Labor Statistics, News Release, June 3, 2016, at 1.

<sup>9</sup> *Ibid.*, at 2.

1 funds rate of 0.25 percent to 0.50 percent for overnight loans to banks in order to  
2 provide continued liquidity to the U.S. financial markets.<sup>10</sup>

3 In October 2014, the Federal Open Market Committee (“FOMC”) ended  
4 its Quantitative Easing program, which provided extraordinary monetary stimulus  
5 for the U.S. economy for several years through asset purchases of mortgage-  
6 backed securities and Treasury bonds. However, the Federal Reserve’s  
7 accommodative policy continues today. Specifically, the FOMC recently noted,  
8 “[the FOMC’s] policy, by keeping the Committee’s holdings of longer-term  
9 securities at sizable levels, should help maintain accommodative financial  
10 conditions.”<sup>11</sup>

11 In June 2016, the FOMC noted that, “with gradual adjustments in the  
12 stance of monetary policy, economic activity will expand at a moderate pace and  
13 labor market indicators will strengthen.”<sup>12</sup> The FOMC further noted that  
14 “inflation is expected to remain low in the near term, in part due to earlier  
15 declines in energy prices,” but is expected to rise over the medium term.

16 In addition to the stated expectations of the FOMC, market analysts are  
17 expecting increases in interest rates in the short and medium term. The May 2016  
18 issue of Blue Chip Financial Forecasts surveyed leading economists and market  
19 participants concerning their views regarding the timing of possible future  
20 increases in short-term rates by the Federal Reserve. Blue Chip reports that  
21 approximately 87 percent of those surveyed expect that the FOMC will gradually

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<sup>10</sup> Statement of the Federal Open Market Committee, June 15, 2016.

<sup>11</sup> *Ibid.*

<sup>12</sup> *Ibid.*

1 increase its overnight policy rate by no later than September 2016.<sup>13</sup> The average  
2 yield on the 30-year U.S. Treasury bond in May 2016 was 2.63 percent. By  
3 contrast, the Blue Chip consensus estimate projects that the average yield on the  
4 30-year U.S. Treasury bond will increase to 4.30 percent for the period from 2018  
5 through 2022.<sup>14</sup> Thus, the consensus estimate from leading economists is for an  
6 increase of 167 basis points in U.S. Treasury bond yields over the next several  
7 years.

8 As pages 2-4 of Schedule 1 of Exhibit 05 show, interest rates on longer-  
9 term A-rated and Baa-rated public utility bonds have increased since the  
10 beginning of 2015. Between January 2015 and May 2016, the average yield on  
11 A-rated public utility bonds increased from 3.58 percent to 3.93 percent, and the  
12 average yield on Baa-rated public utility bonds increased from 4.39 percent to  
13 4.60 percent. Credit spreads, which measure the incremental cost of corporate  
14 debt relative to U.S. Treasury bonds, are flat compared to one year ago, with the  
15 average spread of Baa-rated utility bonds over 30-year U.S. Treasury bonds at  
16 2.01 percent in June 2015 and 1.97 percent in May 2016.

17 Investors also are influenced by both the historical and projected level of  
18 inflation. As shown on Page 1 of Schedule 1 of Exhibit 05, during the past  
19 decade, the Consumer Price Index has increased at an average annual rate of 2.0  
20 percent and the GDP Implicit Price Deflator, a measure of price changes for all  
21 goods produced in the United States, has increased at an average rate of 1.8  
22 percent. According to Blue Chip Economic Indicators, the Consumer Price Index

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<sup>13</sup> Blue Chip Financial Forecasts, Vol. 35, No. 5, May 1, 2016, at 14.

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

1 is forecasted to increase by 1.3 percent<sup>15</sup> and 2.3 percent<sup>16</sup> for 2016 and 2017,  
2 respectively. Over the intermediate and longer-term, however, investors can  
3 expect higher inflation rates as the Federal Reserve’s accommodative monetary  
4 policy, which began in 2008, places upward pressure on consumer and producer  
5 prices once economic growth returns to historical levels.

6 **Q. How are current economic conditions reflected in the equity markets?**

7 A. The equity markets have recovered from the large stock market decline in 2008  
8 and 2009, but the Federal Reserve’s massive purchases of federal debt and  
9 mortgage-backed securities have created artificially low interest rates on  
10 government bonds and a potential stock market valuation bubble that increases  
11 the risks in the equity market.

12 **C. Discounted Cash Flow (“DCF”) Method**

13 **Q. Please describe the DCF method of estimating the cost of common equity**  
14 **capital.**

15 A. The DCF method reflects the assumption that the market price of a share of  
16 common stock represents the discounted present value of the stream of all future  
17 dividends that investors expect the firm to pay. The DCF method suggests that  
18 investors in common stocks expect to realize returns from two sources: a current  
19 dividend yield plus expected growth in the value of their shares as a result of  
20 future dividend increases. Estimating the cost of capital with the DCF method,  
21 therefore, is a matter of calculating the current dividend yield and estimating the

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<sup>15</sup> Blue Chip Economic Indicators, Vol. 41, No. 6, June 10, 2016, at 2.

<sup>16</sup> *Ibid.*, at 3.

1 long-term future growth rate in dividends that investors reasonably expect from a  
2 company.

3 The dividend yield portion of the DCF method utilizes readily-available  
4 information regarding stock prices and dividends. The market price of a firm's  
5 stock reflects investors' assessments of risks and potential earnings as well as  
6 their assessments of alternative opportunities in the competitive financial markets.  
7 By using the market price to calculate the dividend yield, the DCF method  
8 implicitly recognizes investors' market assessments and alternatives. However,  
9 the other component of the DCF formula, investors' expectations regarding the  
10 future long-run growth rate of dividends, is not readily apparent from stock  
11 market data and must be estimated using informed judgment.

12 **Q. What is the appropriate DCF formula to use in this proceeding?**

13 A. There can be many different versions of the basic DCF formula, depending on the  
14 assumptions that are most reasonable regarding the timing of future dividend  
15 payments. In my opinion, it is most appropriate to use a model that is based on  
16 the assumptions that dividends are paid quarterly and that the next annual  
17 dividend increase is a half year away. One version of this quarterly model  
18 assumes that the next dividend payment will be received in three months, or one  
19 quarter. This model multiplies the dividend yield by  $(1 + 0.75g)$ . Another  
20 version assumes that the next dividend payment will be received today. This  
21 model multiplies the dividend yield by  $(1 + 0.5g)$ . Since, on average, the next  
22 dividend payment is a half quarter away, the average of the results of these two  
23 models is a reasonable approximation of the average timing of dividends and



1 dividend increases that investors can expect from companies that pay dividends  
2 quarterly. The average of these two quarterly dividend models is:

$$3 \quad K = \frac{D_0(1 + 0.625g)}{P} + g$$

4  
5 Where:  $K$  = the cost of capital, or total return that investors expect to  
6 receive;

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

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

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

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

#### 13 **D. Flotation Cost Adjustment**

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

16 A. Yes. There are significant costs associated with issuing new common equity  
17 capital, and these costs must be considered in determining the cost of capital.  
18 Schedule 2 of Exhibit 05 shows a representative sample of flotation costs incurred  
19 with 32 new common stock issues by natural gas distribution companies since  
20 January 2004. Flotation costs associated with these new issues averaged 4.10  
21 percent.

22 This indicates that in order to be able to issue new common stock on  
23 reasonable terms, without diluting the value of the existing stockholders'  
24 investment, Intermountain must have an expected return that places a value on its

1 equity that is approximately 4.0 percent above book value. The cost of common  
2 equity capital is therefore the investor return requirement multiplied by 1.04.

3 One purpose of a flotation cost adjustment is to compensate common  
4 equity investors for past flotation costs by recognizing that their real investment in  
5 the company exceeds the equity portion of the rate base by the amount of past  
6 flotation costs. For example, the proxy companies generally have incurred  
7 flotation costs in the past and, thus, the cost of capital invested in these companies  
8 is the investor return requirement plus an adjustment for flotation costs. A more  
9 important purpose of a flotation cost adjustment is to establish a return that is  
10 sufficient to enable a company to attract capital on reasonable terms. This  
11 fundamental requirement of a fair rate of return is analogous to the well-  
12 understood basic principle that a firm, or an individual, should maintain a good  
13 credit rating even when they do not expect to be borrowing money in the near  
14 future. Regardless of whether a company can confidently predict its need to issue  
15 new common stock several years in advance, it should be in a position to do so on  
16 reasonable terms at all times without dilution of the book value of the existing  
17 investors' common equity. This requires that the flotation cost adjustment be  
18 applied to the entire common equity investment and not just a portion of it.

19 **E. DCF Study of Natural Gas Distribution Companies**

20 **Q. Would you please describe the overall approach used in your DCF analysis**  
21 **of Intermountain's cost of common equity for its Idaho natural gas**  
22 **distribution operations?**

23 **A.** Because Intermountain's Idaho natural gas distribution operations must compete

1 for capital with many other potential projects and investments, it is essential that  
2 the Company have an allowed return that matches returns potentially available  
3 from other similarly risky investments. The DCF method provides a good  
4 measure of the returns required by investors in the financial markets. However,  
5 the DCF method requires a market price of common stock to compute the  
6 dividend yield component. Since Intermountain is a subsidiary of MDU  
7 Resources and does not have publicly-traded common stock, a direct, market-  
8 based DCF analysis of Intermountain's Idaho natural gas distribution operations  
9 as a stand-alone company is not possible. As an alternative, I have used a group  
10 of natural gas distribution companies that have publicly-traded common stock as a  
11 proxy group for purposes of estimating the cost of common equity for  
12 Intermountain's Idaho natural gas distribution operations.

13 **Q. How did you select a group of natural gas distribution proxy companies?**

14 A. I started with the twelve companies that The Value Line Investment Survey  
15 ("Value Line") classifies as Natural Gas Utilities to ensure that the company is  
16 considered to be primarily engaged in the natural gas distribution business and  
17 that retention growth rate projections are available. From that group, I eliminated  
18 any companies that did not have investment-grade credit ratings from either  
19 Standard & Poor's ("S&P") or Moody's Investors Service ("Moody's") because  
20 such companies are not sufficiently comparable in terms of business and financial  
21 risk to Intermountain. In addition, I excluded any companies that did not pay  
22 dividends, or that did not have future growth rate estimates provided by either  
23 Zacks or Thomson First Call, or that were currently engaged in significant

1 mergers or acquisitions. In order to ensure that the companies are primarily  
2 engaged in the natural gas distribution business, I eliminated any companies that  
3 did not derive at least 70 percent of their operating income from regulated natural  
4 gas distribution operations in 2015, or that did not have at least 70 percent of their  
5 total assets devoted to the provision of natural gas distribution service in 2015.

6 As shown on page 1 of Schedule 3 of Exhibit 05, seven companies met these  
7 criteria for inclusion in the proxy group.

8 **Q. How did you calculate the dividend yields for the companies in your proxy**  
9 **group?**

10 A. These calculations are shown on pages 1-2 of Schedule 4 of Exhibit 05. For the  
11 price component of the calculation, I used the average of the high and low stock  
12 prices for each month during the six-month period from December 2015 through  
13 May 2016. The average monthly dividend yields were calculated for each proxy  
14 group company by dividing the prevailing annualized dividend for the period by  
15 the average of the stock prices for each month. These dividend yields were then  
16 multiplied by the quarterly DCF model factor ( $1 + 0.625g$ ) to arrive at the  
17 projected dividend yield component of the DCF model.

18 **Q. Please describe the method you used to estimate the future growth rate that**  
19 **investors expect from this group of companies.**

20 A. There are many methods that reasonably can be employed in formulating a  
21 growth rate estimate, but an analyst must attempt to ensure that the end result is  
22 an estimate that fairly reflects the forward-looking growth rate that investors  
23 expect. I developed two different DCF analyses of the proxy companies. In the

1 first approach, I conducted a Basic DCF analysis that relied on analysts' earnings  
2 forecasts for the growth rate component of the model. My second approach used  
3 a combination of the analysts' earnings growth projections and retention growth  
4 (also known as "sustainable growth") forecasts from Value Line (based on  
5 forecasts of dividends, earnings, and returns on equity) to produce a Blended  
6 Growth Rate Analysis.

7 **F. Basic DCF Analysis**

8 **Q. How did you estimate the expected future growth rate in your Basic DCF**  
9 **analysis?**

10 A. In my Basic DCF analysis, I have estimated expected future growth based on  
11 long-term earnings per share growth rate forecasts of investment analysts, which  
12 are an important source of information regarding investors' growth rate  
13 expectations. This Basic DCF analysis assumes that the analysts' earnings growth  
14 forecasts incorporate all information required to estimate a long-term expected  
15 growth rate for a company. I have used the consensus estimates of earnings  
16 growth forecasts published by Zacks Investment Research and Thomson First Call  
17 (as reported on Yahoo! Finance) as the primary sources for analysts' forecasts in  
18 my calculations. As shown on page 4 of Schedule 4 of Exhibit 05, the average of  
19 the analysts' long-term earnings growth rate estimates for the natural gas  
20 distribution proxy companies is 5.67 percent, and the median is 6.00 percent.

21 **Q. How did you calculate the cost of capital using the Basic DCF analysis?**

22 A. These calculations are shown on page 6 of Schedule 4 of Exhibit 05. The annual  
23 dividend yield is multiplied by the quarterly dividend adjustment factor ( $I +$

1 0.625g), and this product is added to the growth rate estimate to arrive at the  
2 investor-required return. Then, the investor return requirement is multiplied by  
3 the flotation cost adjustment factor, 1.04, to arrive at the Basic DCF estimate of  
4 the cost of common equity capital for the proxy companies. The Basic DCF  
5 analysis indicates a cost of common equity for the proxy companies in a range  
6 from 7.59 percent to 11.06 percent. In this analysis, the median for the group is  
7 9.40 percent and the third quartile is 10.24 percent.

8 **G. Blended Growth Rate Analysis**

9 **Q. How did you use your Blended Growth Rate Analysis to estimate investors’**  
10 **long-term growth rate expectations for the proxy companies?**

11 A. The Blended Growth Rate approach combines: (i) Value Line retention growth  
12 forecasts; and (ii) consensus estimates of long-term earnings growth for each  
13 company from various investment analysts, as published by Zacks and Thomson  
14 First Call.

15 **Q. What approach did you use in calculating the long-term growth retention**  
16 **Growth rate?**

17 A. The long-term retention growth rate component is based on the calculation of  
18 retention growth rates using Value Line forecasts for each company.

19 **Q. Please describe the retention growth rate component of your analysis.**

20 A. I have relied upon Value Line projections of the retention growth rates that the  
21 proxy companies are expected to begin maintaining three to five years in the  
22 future. Although companies may experience extended periods of growth for other  
23 reasons, in the long-run, growth in earnings and dividends per share depends in

1 part on the amount of earnings that is being retained and reinvested in a company.  
2 Thus, the primary determinants of growth for the proxy companies will be (i) their  
3 ability to find and develop profitable opportunities; (ii) their ability to generate  
4 profits that can be reinvested in order to sustain growth; and, (iii) their willingness  
5 and inclination to reinvest available profits. Expected future retention rates  
6 provide a general measure of these determinants of expected growth, particularly  
7 items (ii) and (iii).

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

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

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

17 On the other hand, another company that is also expected to earn 12 percent but  
18 only retains 25 percent of its earnings might be expected to have a growth rate of  
19 3 percent, computed as follows:

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

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

1 **Q. How did you calculate the expected future retention rates of the proxy**  
2 **companies?**

3 A. For most companies, Value Line publishes forecasts of data that can be used to  
4 estimate the retention rates that its analysts expect individual companies to have  
5 three to five years in the future. Since these retention rates are projected to occur  
6 several years in the future, they should be indicative of a normal expectation for a  
7 primary underlying determinant of growth that would be sustainable indefinitely  
8 beyond the period covered by analysts' forecasts. While companies may have  
9 either accelerating or decelerating growth rates for extended periods of time, the  
10 retention growth rates expected to be in effect three to five years in the future  
11 generally represent a minimum "cruising speed" that companies can be expected  
12 to maintain indefinitely. The derivation of Value Line's retention growth rate  
13 forecasts for each of the proxy companies is shown on page 3 of Schedule 4 of  
14 Exhibit 05. The projected earnings per share and projected dividends per share  
15 can be used to calculate the percentage of earnings per share that is being retained  
16 and reinvested in the company. This earnings retention rate is multiplied by the  
17 projected return on common equity to arrive at the projected retention growth  
18 rate. The average retention growth rate for the proxy companies is 4.44 percent,  
19 and the median is 4.71 percent.

20 **Q. How did you utilize the analysts' projected earnings growth rates and the**  
21 **projected earnings retention growth rates in estimating expected growth for**  
22 **the proxy companies in the Blended Growth Rate Analysis?**

23 A. As shown on page 5 of Schedule 4 of Exhibit 05, I calculated a weighted average



1 of the analysts' projected earnings growth rates and the projected retention growth  
2 rates to derive long-term growth rate estimates for each of the proxy companies.  
3 In these calculations, I gave one-half weighting to the analysts' earnings growth  
4 rate projections and one-half weighting to the projected retention growth rates.  
5 The average of the blended growth rates for the proxy companies is 5.06 percent,  
6 and the median is 5.17 percent.

7 **Q. How did you utilize these Blended Growth Rate estimates in estimating the**  
8 **return on common equity capital that investors require from the proxy**  
9 **companies?**

10 A. These calculations are shown on page 7 of Schedule 4 of Exhibit 05. Again, the  
11 annual dividend yield for each company is multiplied by the quarterly dividend  
12 adjustment factor ( $1 + 0.625g$ ), and this product is added to the growth rate  
13 estimate to arrive at the investor-required return. Finally, the investor return  
14 requirement is multiplied by the flotation cost adjustment factor, 1.04, to arrive at  
15 the cost of common equity capital for the proxy companies. This Blended Growth  
16 Rate Analysis indicates that the cost of common equity capital for the natural gas  
17 distribution proxy companies is in a range between 7.66 percent and 9.50 percent.  
18 In this analysis, the median for the group is 8.61 percent and the third quartile is  
19 8.95 percent.

20 **Q. Earlier you discussed the fact that the Federal Reserve Board has been**  
21 **setting interest rates and monetary policy in a way that artificially depresses**  
22 **yields on U.S. Treasury debt. What does this mean for the cost of common**  
23 **equity for gas distribution companies?**

1 A. The DCF cost of equity results for regulated gas distribution companies are being  
2 affected by artificial factors in the current and projected capital markets, including  
3 the following two key factors: (1) the Federal Reserve's ongoing accommodative  
4 monetary policy; (2) and the market's expectation for substantially higher interest  
5 rates.

6 Rising interest rates historically have had a negative effect on stock prices,  
7 especially for dividend paying stocks such as utilities. When interest rates begin  
8 to rise, the return on gas utility equities may be less attractive to investors as  
9 compared with other investments of comparable risk. The market's expectation  
10 for rising interest rates suggests that the calculated cost of equity for the proxy  
11 companies using current market data is likely to be an artificially depressed  
12 estimate of investors' required return at this time.

13 **H. Risk Premium Analysis**

14 **Q. Have you conducted additional analyses in determining the cost of equity  
15 capital for Intermountain?**

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

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

9 Investors' expectations for the future are influenced to a large extent by  
10 their knowledge of past experience. Ibbotson Associates annually publishes  
11 extensive data regarding the returns that have been earned on stocks, bonds and  
12 U.S. Treasury bills since 1926. Historically, the annual return on large company  
13 common stocks has exceeded the return on long-term corporate bonds by a  
14 premium of 570 basis points (5.7 percent) per year from 1926-2015.<sup>17</sup> When this  
15 premium is added to the average yield on Moody's corporate bonds in recent  
16 months of approximately 4.3 percent<sup>18</sup>, the result is an investor return requirement  
17 for large company stocks of approximately 10.0 percent. However, investors in  
18 smaller companies expect higher returns over the long term, due to the additional  
19 business and financial risks that smaller companies face. According to Ibbotson  
20 Associates, companies in the same size range as Intermountain's Idaho natural gas  
21 distribution operations have had a premium of 1,420 basis points (14.2 percent)

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<sup>17</sup> Morningstar SBBI Presentation, 1926-2015, Slide 6. Calculation: (12.0 percent – 6.3 percent = 5.7 percent).

<sup>18</sup> Exhibit 05, Schedule 1, at 3. The average yield on Moody's corporate bonds from December 2015 through May 2016 has been 4.34 percent.

1 over the average return on long-term corporate bonds.<sup>19</sup> When added to the recent  
2 average corporate bond yield, this size-related premium suggests an expected  
3 return of 18.6 percent. This analysis indicates that the rate of return that I am  
4 proposing in this proceeding would be low relative to the historic risk premiums  
5 earned by similarly-sized unregulated companies.

6 **Q. Did you also perform another risk premium analysis?**

7 A. Yes, I did. Research studies provide empirical support for the proposition that  
8 equity risk premia generally increase as interest rates decrease, and vice versa. In  
9 fact, the data provided in Schedule 5, Exhibit 05 produce statistical results that are  
10 consistent with existing research in this area. Using this data, I performed a linear  
11 regression to estimate the relationship between 30-year U.S. Treasury bonds and  
12 the risk premium required for regulated gas distribution companies. The resulting  
13 equation is presented in Schedule 5, Exhibit 05 and re-created below:

14 
$$\text{Intercept} + \text{Coefficient} \times \text{Bond Yield} = \text{Risk Premium}$$

15 
$$0.08465 + (- 0.5653 \times \text{Bond Yield}) = \text{Risk Premium}$$

16 The regression statistics indicate that this equation is statistically significant and  
17 the R-square reveals that approximately 79 percent of the variation in the risk  
18 premium is explained by the bond yield. The negative coefficient in the above  
19 equation demonstrates the inverse relationship between bond yields and the risk

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<sup>19</sup> Ibbotson SBBI 2015 Classic Yearbook, at 108-109. Ibbotson Associates defines size ranges based on market capitalization. I calculated the implied market capitalization for Intermountain Gas' Idaho natural gas distribution operations based on the Company's pro forma rate base (\$236.926 million) and the projected average equity ratio for 2016 (50.00 percent). This places Intermountain's Idaho natural gas distribution operations in Ibbotson Associates' tenth decile. Calculation: 20.6 percent – 6.4 percent = 14.2 percent.

1 premium. For every change of 100 basis points in the bond yield, the risk  
2 premium changes by approximately 57 basis points in the opposite direction.

3 This Risk Premium analysis was conducted using three different risk-free  
4 rates: (1) the current average yield on 30-year Treasury bonds; (2) the near-term  
5 projected yields on 30-year Treasury bonds in 2016 and 2017; and (3) the longer-  
6 term projected yields on 30-year Treasury bonds from 2018-2022. Based on these  
7 three interest rates, the regression equation produces an average ROE estimate is  
8 9.92 percent.

9 **I. Market DCF Analysis**

10 **Q. What other analysis did you conduct in determining the cost of equity capital**  
11 **for Intermountain?**

12 A. For an additional benchmark of the reasonableness of my DCF results, I  
13 calculated the current required return for the companies in the S&P 500 Index.  
14 Using data provided by the Bloomberg Professional service, I performed a market  
15 capitalization-weighted DCF calculation on the S&P 500 companies based on the  
16 current dividend yields and long-term growth rate estimates as of May 31, 2016.  
17 These calculations are shown in Schedule 6, pages 1-9 of Exhibit 05. The current  
18 secondary market required ROE for the S&P 500 is 12.13 percent. This analysis  
19 indicates that the rate of return that I am proposing in this proceeding is low  
20 relative to the return required by investors who invest in the S&P 500.

21 **J. Forward-Looking CAPM**

1 **Q. Many analysts would argue that gas distribution companies are less risky**  
2 **than the S&P 500 companies. Does this make the S&P 500 a poor**  
3 **benchmark for evaluating the DCF results?**

4 A. No. The DCF required return for the S&P 500 is significantly greater than the  
5 return required for the natural gas distribution company proxy group, and the  
6 large magnitude of this difference is an indicator that the proxy company DCF  
7 results may be on the low side. Some analysts use the CAPM to adjust for  
8 differences in risk between the market average and a particular group of proxy  
9 companies. While I do not consider the CAPM to be a reliable measure of the  
10 cost of capital, one could use it to adjust the S&P 500 results to achieve a risk-  
11 adjusted benchmark for the natural gas distribution company proxy group. For  
12 example, Beta is frequently used as the measure of relative risk in the CAPM. As  
13 shown on Schedule 6, page 11 of Exhibit 05, the average beta estimated by Value  
14 Line for the proxy companies is 0.74. Using this beta estimate would produce the  
15 following CAPM results:

16 **Table G.2: CAPM Results**

S&P Current Required Return	12.13%
Less: May '16 T-Bond	2.63%
Market Risk Premium	9.50%
x Proxy Company VL Beta	0.74
LDC Risk Premium	7.06%
Plus: May '16 T-Bond	2.63%
<b>LDC CAPM Cost of Eq.</b>	<b>9.69%</b>

1 Thus, if one were to use the CAPM as a benchmark of a reasonable return, this  
2 benchmark generally supports the recommended ROE of 9.9 percent in this  
3 proceeding.<sup>20</sup>

4 **K. Relative Risk Analysis**

5 **Q. Have you compared the risks faced by Intermountain's Idaho natural gas**  
6 **distribution operations with the risks faced by the proxy group of**  
7 **companies?**

8 A. 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 **Q. Please describe the business risks inherent in the natural gas distribution**  
15 **industry.**

16 A. Business risk refers to the ability of the firm to generate revenues that exceed its  
17 cost of operations. Business risk exists because forecasts of both demand and  
18 costs are inherently uncertain. Markets change and the level of demand for the  
19 firm's output may be sufficient to cover its costs at one time and later become  
20 insufficient. Sunk investments in long-lived natural gas distribution assets, for

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<sup>20</sup> This CAPM calculation is identical to the one adopted by the U.S. Federal Energy Regulatory Commission earlier this year. *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). Note that FERC used the CAPM only as a benchmark, but set the allowed rate of return above the median indicated by a DCF analysis of proxy companies because of the current abnormal financial market conditions.

1 which cost recovery occurs over a period of thirty years or more, are subject to  
2 enormous uncertainties and risks that demand, costs, supply, and competition may  
3 change in ways that adversely affect the value of the investment.

4 **Q. What are some of the business risks faced by Intermountain's Idaho natural**  
5 **gas distribution operations?**

6 A. The Company's natural gas distribution operations in Idaho face many of the  
7 same business risks that are associated with other natural gas distribution  
8 companies. However, Intermountain's Idaho natural gas distribution operations  
9 face some particular risks that distinguish the Company from the proxy group of  
10 distribution companies, including its smaller size and generally less diversified  
11 economies in the cities and towns that it serves.

12 As shown on page 1 of Schedule 3 of Exhibit 05, Intermountain's Idaho  
13 natural gas distribution operations are significantly smaller than the operations of  
14 any of the proxy companies and a fraction of the size of the typical proxy  
15 company. For example, the proposed 2016 rate base of Intermountain's Idaho  
16 natural gas distribution operations is equal to only 4.5 percent of the year-end  
17 2015 total assets of the median proxy company. Similarly, Intermountain's Idaho  
18 natural gas distribution test year requested operating revenues and operating  
19 income are only 10.8 percent and 9.3 percent of the year-end 2015 level for the  
20 median proxy company, respectively. Thus, depending upon the measure of size,  
21 the typical proxy company is somewhere between 9 and 22 times the size of  
22 Intermountain's Idaho natural gas distribution operations. The Company's  
23 smaller size has significant implications for business risks. Ibbotson Associates



1 has documented the significantly higher returns that generally have been  
2 associated with small companies.

3 With its small revenue base relative to the proxy group companies,  
4 Intermountain's Idaho natural gas distribution operations are subject to greater  
5 risk that a major employer or industry, such as a manufacturing facility,  
6 agricultural processing facility or government facility, might downsize or close.  
7 For example, Intermountain has witnessed the downsizing, and even closure, of  
8 large potato processing plants as technology has replaced line workers. Events  
9 such as these could significantly affect overall employment and income in the  
10 towns served. Factors that negatively influence the local economy can reduce  
11 demand for Intermountain's Idaho natural gas distribution service and adversely  
12 impact investments in facilities used to provide those services.

13 Another risk faced by Intermountain is the fact that it currently recovers a  
14 substantial portion of its fixed costs in the volumetric component of its rates and  
15 has experienced declining average use per customer, due in part, to the relatively  
16 new housing stock of its customer base, more energy efficient appliances, and  
17 stricter building codes. As discussed in the testimony of Company witness Lori  
18 Blattner, Intermountain is proposing to raise the monthly customer charge for its  
19 Idaho natural gas distribution operations for residential and commercial  
20 customers. For example, Intermountain is proposing to raise the monthly  
21 customer charge for residential customers from \$2.50 (summer)/\$6.50 (winter) to  
22 \$10.00 regardless of the time of year. Company witness Mike McGrath explains  
23 in his testimony that Intermountain is also proposing to implement a Fixed Cost

1 Collection Mechanism (“FCCM”) that will break the link between  
2 Intermountain's (a) margin from its residential and commercial customers and, (b)  
3 the natural gas deliveries to these same core market customers.

4 **Q. Would the implementation of Intermountain’s proposed customer charge**  
5 **reduce the Company’s risk profile relative to the proxy group?**

6 A. No. Because the ROE recommendation is established for a company based on its  
7 risk profile relative to the proxy group, it is necessary to consider how the  
8 implementation of a higher customer charge would affect the Company’s risk  
9 profile relative to the proxy companies. Schedule 7 of Exhibit 05 shows that the  
10 average monthly customer charge for the operating utilities held by the proxy  
11 group companies ranges from \$5.00 to \$23.00, with an average of \$12.47.  
12 Schedule 7 shows that 66.67 percent of the operating utilities held by the proxy  
13 group have monthly customer charges for residential customers that are higher  
14 than the \$10.00 customer charge being proposed by Intermountain in Idaho.

15 Similarly, Schedule 7 also shows the operating utilities with some form of  
16 volumetric protection (e.g., revenue decoupling mechanisms, straight fixed-  
17 variable rate design, formula rate plans) similar to the FCCM proposed by  
18 Intermountain. As shown on Schedule 7, 66.67 percent of the operating utilities  
19 held by the proxy group have protection against volumetric risk similar to the  
20 decoupling mechanism that is being proposed by Intermountain.

21 If Intermountain’s requests to increase the customer charge and implement  
22 revenue decoupling in Idaho are approved, all else being equal, the Company will  
23 be comparable in risk to the proxy group companies on those factors, and no

1 upward adjustment to the required rate of return on common equity would be  
2 necessary. However, if the PUC were to reject Intermountain's proposed  
3 customer charge increase or decoupling mechanism, the Company's Idaho natural  
4 gas distribution operations would have generally higher risk than the proxy  
5 companies in those characteristics.

6 Considering only its smaller size, Intermountain's Idaho natural gas  
7 distribution operations might require a return that is approximately 100 basis  
8 points higher than the return required for the typical proxy company. In addition,  
9 with the exception of Boise, the Company's gas distribution operations are  
10 primarily concentrated in smaller cities and towns with local economies that are  
11 generally less diversified than those of the proxy companies. In summary,  
12 Intermountain's Idaho natural gas distribution operations are riskier than the  
13 operations of the proxy companies.

14 **Q. What are the regulatory risks faced by Intermountain's Idaho natural gas**  
15 **utility operations?**

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

1 As such, regulation often attempts to replicate the type of cost discipline and risks  
2 that might typically be found in highly competitive industries.

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

10 The regulatory environment can significantly affect both the access to, and  
11 cost of capital in several ways. As noted by Moody's, "[f]or rate-regulated  
12 utilities, which typically operate as a monopoly, the regulatory environment and  
13 how the utility adapts to that environment are the most important credit  
14 considerations."<sup>21</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 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>21</sup> Moody's Investors Service, *Regulated Electric and Gas Utilities*, December 23, 2013, at 9.



1 slightly higher than that of the typical company in the comparison group.

2 The capital structure data on Schedule 8 of Exhibit 05 show that  
3 Intermountain's proposed common equity ratio of 50.00 percent is almost four  
4 percent lower than the 53.88 percent median for the proxy companies as of March  
5 31, 2016, suggesting that Intermountain's financial risk is above average relative  
6 to the proxy group. In addition, the Company's below-average credit rating  
7 suggests that a higher common equity ratio would be required to offset  
8 Intermountain's above-average business risks.

9 **Q. Would you please describe Intermountain's market risks?**

10 A. Market risk is associated with the changing value of all investments because of  
11 business cycles, inflation, and fluctuations in the general cost of capital  
12 throughout the economy. Different companies are subject to different degrees of  
13 market risk largely as a result of differences in their business and financial risks.  
14 Overall, the market risk of Intermountain's Idaho natural gas distribution business  
15 is comparable to that of the companies in the comparison group.

16 **Q. How do the overall risks of the proxy companies compare with the risks  
17 faced by Intermountain's Idaho natural gas distribution operations?**

18 A. Intermountain's Idaho natural gas distribution operations face overall risks that  
19 are above the median relative to those of the proxy companies. Although it has  
20 average regulatory risk, Intermountain has above-average business risks due  
21 primarily to its small size relative to the proxy companies, its rate design risk (i.e.,  
22 very low customer charge) and volumetric risk due to the absence of a revenue  
23 decoupling mechanism despite declining average use per customer, and its

1 exposure to relatively undiversified local economies in most of its service  
2 territory. Intermountain also has above-average financial risks due to its proposed  
3 common equity ratio being lower than the proxy group median, and the credit  
4 rating for MDU Resources being lower than the proxy group median.

5 Although my analysis assumes approval of Intermountain's proposed  
6 monthly customer charge and FCCM, absent approval of those proposals, the  
7 Company would continue to face greater rate design risk than the typical company  
8 in the proxy group, the majority of which have fixed customer charges well above  
9 that of Intermountain's current customer charge in Idaho. The greater business  
10 risk leads me to conclude that investors appraise the overall risks of  
11 Intermountain's Idaho natural gas distribution operations to be above average  
12 relative to the risks of the proxy companies. Consequently, Intermountain's Idaho  
13 natural gas distribution business requires an allowed rate of return that is  
14 significantly above the median of the range for the companies in the proxy group  
15 indicated by my DCF analyses.

#### 16 **IV. SUMMARY AND CONCLUSIONS**

17 **Q. Please summarize the results of your cost of capital study.**

18 A. I conducted two DCF analyses on a group of natural gas distribution companies  
19 that have a range of risks that is roughly comparable to those of Intermountain's  
20 Idaho natural gas distribution operations. These results are summarized as  
21 follows:

1

**Table G.3: Summary of DCF Results**

	Basic DCF Analysis	Blended Growth Rate DCF Analysis
High	11.06%	9.50%
3 <sup>rd</sup> Quartile	10.24%	8.95%
Median	9.40%	8.61%
1 <sup>st</sup> Quartile	8.04%	8.17%
Low	7.59%	7.66%

2

In addition, I conducted two risk premium analyses, a market DCF analysis of the S&P 500, and a CAPM analysis to test the reasonableness of my DCF analyses.

3

4

Those results are summarized as follows:

5

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

	Return
Risk Premium (Long-Term Corporate Bonds)	
vs. Large Company Stocks	10.0%
vs. Small Company Stocks	18.6%
Risk Premium (Regression of Authorized ROEs against 30-yr Treasury yields)	9.9%
Market DCF (S&P 500)	12.1%
Forward-Looking CAPM	9.7%

6

My risk premium, market DCF and CAPM analyses suggest that the DCF results

7

generally are low relative to current market benchmarks. In particular, all of the

8

DCF return estimates are considerably below the 18.6 percent risk premium return

9

benchmark for companies in Intermountain’s relative size range. Similarly, the

10

DCF estimates for the natural gas distribution proxy companies are well below the

11

12.1 percent market DCF estimate for the S&P 500 companies, and supported by

12

the 9.7 percent CAPM estimate for the natural gas distribution proxy companies.



1 **Q. What rate of return on common equity do you recommend for**  
2 **Intermountain's Idaho natural gas distribution operations in this**  
3 **proceeding?**

4 A. My analyses indicate that an appropriate rate of return on common equity for  
5 Intermountain's Idaho natural gas distribution operations at this time is 9.90  
6 percent, which is approximately the midpoint between the median and the third  
7 quartile of the range for my Basic DCF analysis. This recommended return  
8 reflects my assessment that the overall risks of Intermountain's Idaho natural gas  
9 distribution operations are above average relative to those of the proxy  
10 companies, and the fact that the DCF results appear to be quite low relative to the  
11 other benchmarks at this time. Although the Company has average regulatory  
12 risk relative to the proxy companies, it has above average business and financial  
13 risks. In addition to its small size relative to the proxy companies,  
14 Intermountain's Idaho natural gas distribution operations are faced with  
15 significantly higher than average rate design risk as well as volumetric risk due to  
16 declining average use per customer. Furthermore, Intermountain has higher than  
17 average financial risks as demonstrated by its proposed equity ratio being lower  
18 than the proxy group median, and the credit rating for MDU Resources being  
19 below the proxy group median. Thus, my recommended return is appropriately  
20 positioned to reflect the risks faced by Intermountain's Idaho natural gas  
21 distribution operations relative to the risks faced by the proxy companies.

22 **Q. Does this conclude your Prepared Direct Testimony?**

23 A. Yes.