

Exhibit No. __ (JSG-1T)
Docket No. UG-17____
Witness: J. Stephen Gaske

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

WASHINGTON UTILITIES AND
TRANSPORTATION
COMMISSION,
Complainant,

v.

CASCADE NATURAL GAS
CORPORATION,
Respondent.

DOCKET UG-17_____

**CASCADE NATURAL GAS CORPORATION
DIRECT TESTIMONY OF J. STEPHEN GASKE**

July 31, 2017

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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 Energy
3 Advisors, Inc., 1300 19th 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 major in
6 finance and investments from George Washington University. I also earned a Ph.D. degree
7 from Indiana University where my major field of study was public utilities and my
8 supporting fields were finance and economics. A copy of my résumé is included as Exhibit
9 No. __ (JSG-3) 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 in North
12 America. These submissions have included testimony on the cost of capital and capital
13 structure issues for electric and natural gas distribution and oil and natural gas pipeline
14 operations before more than a dozen federal, state, and provincial regulatory bodies in the
15 U.S., Canada, and Mexico, including the Washington Utilities and Transportation
16 Commission (“Commission”). In addition, I have testified or submitted testimony on
17 issues such as cost allocation, rate design, pricing, regulatory principles, market power and
18 generating plant economics before more than a dozen federal, state, and provincial
19 regulatory bodies in the U.S. and Canada. During the course of my consulting career, I
20 have conducted many studies on issues related to regulated industries and have served as
21 an advisor to numerous clients on economic, competitive, and financial matters. I also
22 have spoken and lectured before many professional groups including the American Gas
23 Association and the Edison Electric Institute Rate Fundamentals courses.

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I. INTRODUCTION

A. Scope and Overview

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

A. I have been asked by Cascade Natural Gas Corporation (“Cascade” or the “Company”) to estimate the cost of common equity capital for the Company’s natural gas distribution operations in the state of Washington. In this testimony, I calculate a range for the cost of common equity capital for Cascade’s Washington natural gas distribution operations based on a Discounted Cash Flow (“DCF”) analysis of a group of proxy companies that have risks similar to those of Cascade’s Washington gas distribution operations. I then place the Company within the range of reasonableness established by the DCF analyses by comparing the risks of Cascade’s Washington natural gas distribution operations to those of the proxy gas distribution companies and by considering several alternative benchmark analyses.

Q. What rate of return is Cascade requesting in this proceeding?

A. Based on its requested capital structure of 50 percent long-term debt and 50 percent common equity, Cascade is requesting the following rate of return:

Table 1: Requested Rate of Return – Washington Gas Distribution Operations

| Source | Percent | Cost | Overall Rate of Return |
|----------------|-----------------|-------------|-------------------------------|
| Long-Term Debt | 50.000% | 5.295% | 2.648% |
| Common Equity | 50.000% | 9.900% | 4.950% |
| TOTAL | 100.000% | | 7.598% |

As my testimony discusses, an overall allowed rate of return of 7.598 percent, with a 9.9 percent return on common equity, represents the cost of capital for Cascade at this time.

1 **Q. Please explain why your recommended return on common equity of 9.9 percent is**
2 **reasonable in light of the settlement agreement in the 2015 rate case.**

3 A. The settlement agreement that was approved by the Commission in July 2016 included an
4 authorized return on common equity for Cascade’s Washington natural gas distribution
5 operations of 9.40 percent. The settlement agreement was a package deal that resulted
6 from negotiations between Cascade and the various parties. The 9.40 percent authorized
7 return on common equity did not represent an agreement by Cascade that its proposed
8 return on equity was incorrect or unreasonable; rather, it was part of the overall resolution
9 of the contested issues in the 2015 rate case.

10 B. Company Background

11 **Q. Please describe Cascade’s operations and those of its parent company, MDU**
12 **Resources Group, Inc.**

13 A. Cascade is a wholly-owned division of MDU Resources Group, Inc. (“MDU Resources”)
14 that is engaged in natural gas distribution in the states of Washington and Oregon. Within
15 Washington, Cascade provides services to 210,395 residential, commercial and industrial
16 customers in several non-contiguous service territories in western and central Washington.
17 Cascade does not serve any large cities. Instead it serves approximately 50 communities
18 in Washington, the largest of which are Bellingham, Mt. Vernon, Bremerton, Tri-Cities,
19 and Yakima.

20 Through its division, Montana-Dakota Utilities Co. (“Montana-Dakota”), MDU
21 Resources is engaged in the generation, transmission, and distribution of electricity, and
22 the distribution of natural gas in the states of Montana, North Dakota, South Dakota, and
23 Wyoming. MDU Resources also owns Great Plains Natural Gas Company, which
24 distributes natural gas in the states of Minnesota and North Dakota, and Intermountain Gas
25 Company, which distributes natural gas in the state of Idaho. MDU Resources also is

1 engaged in utility infrastructure construction services, natural gas gathering and
2 transmission, and construction services and contracting.

3 Natural gas distribution assets comprised 33.4 percent¹ of MDU Resources' total
4 assets in 2016, and natural gas distribution revenues comprised 18.6 percent² of total
5 operating revenues. Washington accounted for 26.0 percent of the natural gas distribution
6 operating sales revenues, while Idaho (34.0 percent), North Dakota 13.0 percent), Montana
7 (8.0 percent), Oregon (8.0 percent), South Dakota (6.0 percent), Minnesota (3.0 percent)
8 and Wyoming (2.0 percent) accounted for the other 74.0 percent of retail gas distribution
9 operating sales revenues.³

10 **Q. Would you please describe Cascade's Washington natural gas distribution service**
11 **territory?**

12 A. Cascade provides natural gas distribution service in Washington. The customer base in
13 Washington is 87 percent residential customers and 13 percent commercial and industrial
14 customers. Cascade's service territory consists of towns and small cities dotted throughout
15 relatively sparsely populated areas. As such, the economy is heavily dependent on
16 providing retail and other services for surrounding agricultural areas, and several cities are
17 heavily dependent on military bases or government facilities.

18 **Q. What is your understanding of the factors that are driving this rate case filing by**
19 **Cascade?**

20 A. Company witness Nicole A. Kivisto explains that the primary reasons for the filing are
21 increased investment to replace aging infrastructure in order to enhance reliability and meet
22 new federal safety standards, recovery of the amount in a deferral account for pipeline
23 improvements to maintain Cascade's maximum allowable operating pressures ("MAOP"),
24 and higher depreciation expense associated with the increased rate base additions. Ms.

¹ MDU Resources Group, 2016 SEC Form 10-K, at 81.

² *Ibid.*, at 80.

³ *Ibid.*, at 12.

1 Kivisto testifies that Cascade’s 2017 capital budget for Washington includes just over \$47
2 million for planned investments. Of the \$47 million in planned investments, \$11 million
3 will be used to replace segments of Cascade’s highest risk pipeline and is included in the
4 annual pipeline Cost Recovery Mechanism (“CRM”). The rate base included in this filing
5 includes only \$18 million of the remaining \$36 million of investment.

6 II. FINANCIAL MARKET STUDIES

7 A. Criteria for a Fair Rate of Return

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

10 A. The United States Supreme Court has provided general guidance regarding the level of
11 allowed rate of return that will meet constitutional requirements. In *Bluefield Water Works*
12 *& Improvement Company v. Public Service Commission of West Virginia* (262 U.S. 679,
13 693 (1923)), the Court indicated that:

14 The return should be reasonably sufficient to assure confidence in the
15 financial soundness of the utility, and should be adequate, under efficient
16 and economical management, to maintain and support its credit and
17 enable it to raise the money necessary for the proper discharge of its public
18 duties. A rate of return may be reasonable at one time and become too
19 high or too low by changes affecting opportunities for investment, the
20 money market, and business conditions generally.

21 The Court has further elaborated on this requirement in its decision in *Federal Power*
22 *Commission v. Hope Natural Gas Company* (320 U.S. 591, 603 (1944)). There the Court
23 described the relevant criteria as follows:

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

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

- 3 1. commensurate with returns on enterprises with corresponding risks;
- 4 2. sufficient to maintain the financial integrity of the regulated company; and
- 5 3. adequate to allow the company to attract capital on reasonable terms.

6 These legal criteria will be satisfied best by employing the economic concept of the “cost
7 of capital” or “opportunity cost” in establishing the allowed rate of return on common
8 equity. For every investment alternative, investors consider the risks attached to the
9 investment and attempt to evaluate whether the return they expect to earn is adequate
10 compensation for the risks undertaken. Investors also consider whether there might be
11 other investment opportunities that would provide a better return relative to the risk
12 involved. This weighing of alternatives and the highly competitive nature of capital
13 markets causes the prices of stocks and bonds to adjust in such a way that investors can
14 expect to earn a return that is just adequate for the risks involved. Thus, for any given level
15 of risk, there is a return that investors expect in order to induce them to voluntarily
16 undertake that risk and not invest their money elsewhere. That return is referred to as the
17 “opportunity cost” of capital or “investor required” return.

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

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

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

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

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

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

25 B. Interest Rates and the Economy

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

27 A. Companies attempting to attract common equity must compete with a variety of alternative

1 investments. Prevailing interest rates and other measures of economic trends influence
2 investors' perceptions of the economic outlook and its implications on both short- and long-
3 term capital markets. Page 1 of Schedule 1 of Exhibit No.__(JSG-2) shows various
4 general economic statistics. Real growth in Gross Domestic Product ("GDP") has averaged
5 2.6 percent annually during the past 30 years, 2.3 percent for the past 20 years, and 1.3
6 percent for the past 10 years. After increasing at an annual rate of 2.1 percent in the fourth
7 quarter of 2016, the Bureau of Economic Analysis reported that the "second" estimate for
8 the first quarter of 2017 was a real annual economic growth rate of 1.2 percent.⁴ According
9 to Blue Chip Economic Indicators, the consensus forecast for expected growth in real GDP
10 is 2.2 percent in 2017⁵ and 2.4 percent in 2018.⁶ Likewise, the U.S. unemployment rate
11 has improved in recent months to 4.3 percent for May 2017,⁷ but the labor force
12 participation rate for civilians 16 years and over was at 62.7 percent for May 2017,
13 remaining near the lowest rate since the late 1970s.⁸ Improvements in the U.S.
14 unemployment rate contributed to the Federal Reserve's decision in June 2017 to raise its
15 target range for the federal funds rate to a range between 1.00 – 1.25 percent for overnight
16 loans to banks.⁹

17 In October 2014, the Federal Open Market Committee ("FOMC") ended its
18 Quantitative Easing program, which provided extraordinary monetary stimulus for the U.S.
19 economy for several years through asset purchases of mortgage-backed securities and
20 Treasury bonds. However, the Federal Reserve's accommodative policy continues today.
21 Specifically, in May the FOMC recently noted, "[the FOMC's] policy, by keeping the
22 Committee's holdings of longer-term securities at sizable levels, should help maintain
23 accommodative financial conditions."¹⁰ But, in June, the FOMC announced a

⁴ U.S. Department of Commerce, Bureau of Economic Analysis, News Release, May 27, 2017.

⁵ Blue Chip Economic Indicators, Vol. 42, No. 6, June 10, 2017, at 2.

⁶ *Ibid.*, at 3.

⁷ U.S. Department of Labor, Bureau of Labor Statistics, News Release, June 2, 2017, at 1.

⁸ *Ibid.*, at 2.

⁹ Statement of the Federal Open Market Committee, June 14, 2017.

¹⁰ Statement of the Federal Open Market Committee, May 3, 2017.

1 contemplated end to accommodative monetary policies later this year by gradually
2 reducing the Federal Reserve's securities holdings by decreasing reinvestment of principal
3 payments from those securities.¹¹ This new policy will begin to put upward pressure on
4 interest rates by reducing the funds available in the market. According to the July 2017
5 issue of Blue Chip Financial Forecasts, approximately 81 percent of economists surveyed
6 expect the Federal Reserve will begin to shrink the size of its balance sheet in the second
7 half of 2017.¹²

8 In addition to the stated expectations of the FOMC, leading economists and market
9 analysts are expecting additional increases in interest rates in the short and medium term.
10 The July 2017 issue of Blue Chip Financial Forecasts surveyed market participants
11 concerning their views regarding the magnitude and timing of future increases in short-
12 term rates by the Federal Reserve. In response to the question regarding how much more
13 the Federal Reserve will raise interest rates in 2017, 85 percent of those surveyed by Blue
14 Chip expect an additional increase of 25 basis points and 9 percent expect an additional
15 increase of 50 basis points.¹³ In response to the same question for 2018, 22 percent of
16 those surveyed expect a total increase of 50 basis points in 2018, 44 expect a total increase
17 of 75 basis points, and 30 percent expect a total increase of 100 basis points.¹⁴ The average
18 yield on the 30-year U.S. Treasury bond in June 2017 was 2.80 percent. By contrast, the
19 Blue-Chip consensus estimate projects that the average yield on the 30-year U.S. Treasury
20 bond will increase to 4.30 percent for the period from 2019 through 2023.¹⁵ Thus, the
21 consensus estimate from leading economists is for an increase of 150 basis points in U.S.
22 Treasury bond yields over the next several years.

23 As pages 2 and 3 of Schedule 1 of Exhibit No.__(JSG-2) show, interest rates on
24 longer-term U.S. Treasury bonds and A-rated and Baa-rated public utility bonds have

¹¹ Statement of the Federal Open Market Committee, June 14, 2017.
¹² Blue Chip Financial Forecasts, Vol. 36, No. 7, July 1, 2017, at 14.
¹³ Ibid.
¹⁴ Ibid.
¹⁵ Blue Chip Financial Forecasts, Vol. 36, No. 6, June 1, 2017, at 14.

1 increased substantially since July 2016. For example, between July 2016 and May 2017,
2 the average yield on 30-year US Treasury bonds increased from 2.22 percent to 2.96
3 percent, the average yield on A-rated public utility bonds increased from 3.57 percent to
4 4.12 percent, and the average yield on Baa-rated public utility bonds increased from 4.16
5 percent to 4.50 percent.

6 Investors also are influenced by both the historical and projected level of inflation.
7 As also shown on Page 1 of Schedule 1 of Exhibit No. ___ (JSG-2), during the past decade,
8 the Consumer Price Index has increased at an average annual rate of 1.8 percent and the
9 GDP Implicit Price Deflator, a measure of price changes for all goods produced in the
10 United States, has increased at an average rate of 1.6 percent. According to Blue Chip
11 Economic Indicators, the Consumer Price Index is forecasted to increase by 2.3 percent¹⁶
12 and 2.2 percent¹⁷ for 2017 and 2018, respectively.

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

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

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

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

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

¹⁶ Blue Chip Economic Indicators, Vol. 42, No. 6, June 10, 2017, at 2.

¹⁷ *Ibid.*, at 3.

1 estimating the long-term future growth rate in dividends that investors reasonably expect
2 from a 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 stock
5 reflects investors' assessments of risks and potential earnings as well as their assessments
6 of alternative opportunities in the competitive financial markets. By using the market price
7 to calculate the dividend yield, the DCF method implicitly recognizes investors' market
8 assessments and alternatives. However, the other component of the DCF formula,
9 investors' expectations regarding the future long-run growth rate of dividends, is not
10 readily apparent from stock market data and must be estimated using informed judgment.

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

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

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

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

25 $P =$ the current market price of the stock;

1 $D_0 =$ the current annual dividend rate; and

2 $g =$ the future annual growth rate that investors expect.

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

6 D. Flotation Cost Adjustment

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

9 A. Yes. There are significant costs associated with issuing new common equity capital, and
10 these costs must be considered in determining the cost of capital. Schedule 2 of Exhibit
11 No.__(JSG-2) shows a representative sample of flotation costs incurred with 34 new
12 common stock issues by natural gas distribution companies since January 2004. Flotation
13 costs associated with these new issues averaged 4.09 percent.

14 This indicates that in order to be able to issue new common stock on reasonable
15 terms, without diluting the value of the existing stockholders' investment, Cascade must
16 have an expected return that places a value on its equity that is approximately 4.0 percent
17 above book value. The cost of common equity capital is therefore the investor return
18 requirement multiplied by 1.04.

19 One purpose of a flotation cost adjustment is to compensate common equity
20 investors for past flotation costs by recognizing that their real investment in the company
21 exceeds the equity portion of the rate base by the amount of past flotation costs. For
22 example, the proxy companies generally have incurred flotation costs in the past and, thus,
23 the cost of capital invested in these companies is the investor return requirement plus an
24 adjustment for flotation costs. A more important purpose of a flotation cost adjustment is
25 to establish a return that is sufficient to enable a company to attract capital on reasonable
26 terms. This fundamental requirement of a fair rate of return is analogous to the well-
27 understood basic principle that a firm, or an individual, should maintain a good credit rating

1 even when they do not expect to be borrowing money in the near future. Regardless of
2 whether a company can confidently predict its need to issue new common stock several
3 years in advance, it should be in a position to do so on reasonable terms at all times without
4 dilution of the value of the existing investors' common equity. This requires that the
5 flotation cost adjustment be applied to the entire common equity investment and not just a
6 portion of it.

7 E. DCF Study of Natural Gas Distribution Companies

8 **Q. Would you please describe the overall approach used in your DCF analysis of**
9 **Cascade's cost of common equity for its Washington natural gas distribution**
10 **operations?**

11 A. Because Cascade's Washington natural gas distribution operations must compete for
12 capital with many other potential projects and investments, it is essential that the Company
13 have an allowed return that matches returns potentially available from other similarly risky
14 investments. The DCF method provides a good measure of the returns required by
15 investors in the financial markets. However, the DCF method requires a market price of
16 common stock to compute the dividend yield component. Since Cascade is a subsidiary of
17 MDU Resources and does not have publicly-traded common stock, a direct, market-based
18 DCF analysis of Cascade's Washington natural gas distribution operations as a stand-alone
19 company is not possible. As an alternative, I have used a group of natural gas distribution
20 companies that have publicly-traded common stock as a proxy group for purposes of
21 estimating the cost of common equity for Cascade's Washington natural gas distribution
22 operations.

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

24 A. I started with the eleven companies that The Value Line Investment Survey ("Value Line")
25 classifies as Natural Gas Utilities to ensure that the company is considered to be primarily
26 engaged in the natural gas distribution business and that retention growth rate projections
27 are available. From that group, I eliminated any companies that did not have investment-

1 grade credit ratings from either Standard & Poor's ("S&P") or Moody's Investors Service
2 ("Moody's") because such companies are not sufficiently comparable in terms of business
3 and financial risk to Cascade. In addition, I excluded any companies that did not pay
4 dividends, or that did not have future growth rate estimates provided by either Zacks or
5 Thomson First Call, or that were currently engaged in significant mergers or acquisitions.
6 In order to ensure that the companies are primarily engaged in the natural gas distribution
7 business, I eliminated any companies that did not derive at least 65 percent of their
8 operating income from regulated natural gas distribution operations in 2016, or that did not
9 have at least 65 percent of their total assets devoted to the provision of natural gas
10 distribution service in 2016. As shown on page 1 of Schedule 3 of Exhibit No.__(JSG-
11 2), seven companies met these criteria for inclusion in the proxy group.

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

13 A. These calculations are shown on page 1 of Schedule 4 of Exhibit No.__(JSG-2). For the
14 price component of the calculation, I used the average of the high and low stock prices for
15 each month during the six-month period from November 2016 through April 2017. The
16 average monthly dividend yields were calculated for each proxy group company by
17 dividing the prevailing annualized dividend for the period by the average of the stock prices
18 for each month. These dividend yields were then multiplied by the quarterly DCF model
19 factor $(1 + 0.625g)$ to arrive at the projected dividend yield component of the DCF model.

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

22 A. There are many methods that reasonably can be employed in formulating a growth rate
23 estimate, but an analyst must attempt to ensure that the end result is an estimate that fairly
24 reflects the forward-looking growth rate that investors expect. I developed two different
25 DCF analyses of the proxy companies. In the first approach, I conducted a Basic DCF
26 analysis that relied on analysts' earnings forecasts for the growth rate component of the
27 model. My second approach used a combination of the analysts' earnings growth

1 projections and “sustainable growth” rate forecasts calculated from Value Line data (based
2 on growth from earnings retention and stock issuances) to produce a Blended Growth Rate
3 Analysis.

4 F. Basic DCF Analysis

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

6 A. In my Basic DCF analysis, I have estimated expected future growth based on long-term
7 earnings per share growth rate forecasts of investment analysts, which are an important
8 source of information regarding investors’ growth rate expectations. This Basic DCF
9 analysis assumes that the analysts’ earnings growth forecasts incorporate all information
10 required to estimate a long-term expected growth rate for a company. I have used the
11 consensus estimates of earnings growth forecasts published by Zacks Investment Research
12 and Thomson First Call (as reported on Yahoo! Finance) as the primary sources for
13 analysts’ forecasts in my calculations. As shown on page 2 of Schedule 4 of Exhibit
14 No.__(JSG-2), the average of the analysts’ long-term earnings growth rate estimates for
15 the natural gas distribution proxy companies is 5.86 percent, and the median is 6.00
16 percent.

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

18 A. These calculations are shown on page 5 of Schedule 4 of Exhibit No.__(JSG-2). Again,
19 the annual dividend yield is multiplied by the quarterly dividend adjustment factor ($1 +$
20 $0.625g$), and this product is added to the growth rate estimate to arrive at the investor-
21 required return. Then, the investor return requirement is multiplied by the flotation cost
22 adjustment factor, 1.04, to arrive at the Basic DCF estimate of the cost of common equity
23 capital for the proxy companies. The Basic DCF analysis indicates a cost of common
24 equity for the proxy companies in a range from 7.11 percent to 11.84 percent. In this
25 analysis, the median for the group is 9.22 percent and the third quartile is 10.22 percent.

1 G. Blended Growth Rate Analysis

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

4 A. The Blended Growth Rate approach combines: (i) Sustainable growth rates based on Value
5 Line retention growth rate forecasts ($B \cdot R$), plus earnings accretion from new shares ($S \cdot V$);
6 and (ii) consensus estimates of long-term earnings growth for each company from various
7 investment analysts, as published by Zacks and Thomson First Call

8 **Q. What approach did you use in calculating the expected long-term retention growth**
9 **rate?**

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

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

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

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

24 A. Retention of earnings causes an increase in the book value per share and, other factors
25 being equal, increases the amount of income that is generated per share of common stock.
26 The retention growth rate can be estimated by multiplying the expected retention rate (B)
27 by the rate of return on common equity (R) that a company is expected to earn in the future.

1 For example, a company that is expected to earn a return of 12 percent and retain 75 percent
2 of its earnings might be expected to have a growth rate of 9 percent, computed as follows:

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

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

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

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

10 **Q. How can a company increase its earnings per share and future dividends by issuing
11 new common stock?**

12 A. Firms can grow through external financing by issuing new shares to investors and investing
13 the proceeds to earn a return. If the new equity funds are invested to earn the same rate of
14 return as the existing equity, this source of financing can increase earnings per share if the
15 market price per share (M) is greater than the book value per share (B) so that the earnings
16 of existing shareholders is increased. The amount of growth from external share issuances
17 is represented as:

$$\text{Growth from new issuances} = S \cdot V$$

19 Where:

20 S = the annual percentage increase in common equity from stock issuances;

21 V = the portion of the stock issuance that increases the book value of existing
22 shareholders;

$$= 1 - (B/M).$$

24 **Q. How did you calculate the expected future sustainable growth rates of the proxy
25 companies?**

26 A. For most companies, Value Line publishes forecasts of data that can be used to estimate

1 the retention rates that its analysts expect individual companies to have three to five years
2 in the future. Since these retention rates are projected to occur several years in the future,
3 they should be indicative of a normal expectation for a primary underlying determinant of
4 growth that would be sustainable indefinitely beyond the period covered by analysts'
5 forecasts. While companies may have either accelerating or decelerating growth rates for
6 extended periods of time, the retention growth rates expected to be in effect three to five
7 years in the future generally represent a minimum "cruising speed" that companies can be
8 expected to maintain indefinitely. The derivation of Value Line's retention growth rate
9 forecasts for each of the proxy companies is shown on page 3 of Schedule 4 of Exhibit
10 No.__(JSG-2). The projected earnings per share and projected dividends per share can
11 be used to calculate the percentage of earnings per share that is being retained and
12 reinvested in the company. This earnings retention rate is multiplied by the projected return
13 on common equity to arrive at the B*R portion of the projected sustainable growth rate. It
14 is also necessary to account for projected earnings growth derived from issuing new shares
15 by the proxy group companies. This is calculated by multiplying growth in equity from
16 issuing new shares (S) times the portion of new equity that accrues to existing shareholders
17 (V). The S*V portion of the projected sustainable growth rates for each of the proxy
18 companies are also shown on page 3 of Schedule 4 of Exhibit No.__(JSG-2). The average
19 sustainable growth rate, (B*R) + (S*V), for the proxy companies is 5.38 percent, and the
20 median is 5.08 percent.

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

24 A. As shown on page 4 of Schedule 4 of Exhibit No.__(JSG-2), I calculated a weighted
25 average of the analysts' projected earnings growth rates and the sustainable growth rates
26 to derive long-term growth rate estimates for each of the proxy companies. In these
27 calculations, I gave two-thirds weighting to the analysts' earnings growth rate projections

1 and one-third weighting to the projected sustainable growth rates. The average of the
2 blended growth rates for the proxy companies is 5.70 percent, and the median is 5.92
3 percent.

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

6 A. These calculations are shown on page 6 of Schedule 4 of Exhibit No.__(JSG-2). Again,
7 the annual dividend yield for each company is multiplied by the quarterly dividend
8 adjustment factor ($1 + 0.625g$), and this product is added to the growth rate estimate to
9 arrive at the investor-required return. Finally, the investor return requirement is multiplied
10 by the flotation cost adjustment factor, 1.04, to arrive at the cost of common equity capital
11 for the proxy companies. This Blended Growth Rate Analysis indicates that the cost of
12 common equity capital for the natural gas distribution proxy companies is in a range
13 between 7.85 percent and 10.75 percent. In this analysis, the median for the group is 9.13
14 percent and the third quartile is 9.64 percent.

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

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

23 Rising interest rates historically have had a negative effect on stock prices,
24 especially for dividend paying stocks such as utilities. As interest rates increase, the return
25 on gas utility equities may be less attractive to investors as compared with other
26 investments of comparable risk. The market's expectation for rising interest rates suggests
27 that the calculated cost of equity for the proxy companies using current market data is likely

1 to be an artificially depressed estimate of investors' required return at this time. For
2 example, in two recent decisions, the FERC expressed concern that Federal Reserve actions
3 may have artificially reduced current dividend yields for utilities and the results of the DCF
4 model may not be representative of the true cost of capital at this time.¹⁸

5 H. Risk Premium Analysis

6 **Q. Have you conducted additional analysis in determining the cost of equity capital for**
7 **Cascade?**

8 A. Yes. The risk premium approach provides a general guideline for determining the level of
9 returns that investors expect from an investment in common stocks. Investments in the
10 common stocks of companies carry considerably greater risk than investments in bonds of
11 those companies since common stockholders receive only the residual income that is left
12 after the bondholders have been paid. In addition, in the event of bankruptcy or liquidation
13 of the company, the stockholders' claims on the assets of a company are subordinate to the
14 claims of bondholders. This priority standing provides bondholders with greater
15 assurances that they will receive the return on investment that they expect and that they
16 will receive a return of their investment when the bonds mature. Accompanying the greater
17 risk associated with common stocks is a requirement by investors that they can expect to
18 earn, on average, a return that is greater than the return they could earn by investing in less
19 risky bonds. Thus, the risk premium approach estimates the return investors require from
20 common stocks by utilizing current market data that is readily available in bond yields and
21 adding to those yields a premium for the added risk of investing in common stocks.

22 Investors' expectations for the future are influenced to a large extent by their
23 knowledge of past results. Duff & Phelps annually publishes extensive data regarding the
24 returns that have been earned on stocks, bonds and U.S. Treasury bills since 1926.
25 Historically, the annual return on large company common stocks has exceeded the return

¹⁸ Opinion No. 531, 147 FERC ¶ 61,234 (2014); aff'd in Opinion No. 531-B, 150 FERC ¶ 61,165 (March 3, 2015); and Opinion No. 551, 156 FERC, ¶ 61,234 (Sept. 28, 2016), para. 120-122.

1 on long-term corporate bonds by a premium of 570 basis points (5.7 percent) per year from
2 1926-2016.¹⁹ When this premium is added to the average yield on Moody's corporate
3 bonds in recent months of approximately 4.2 percent²⁰, the result is an investor return
4 requirement for large company stocks of approximately 9.9 percent. However, investors
5 in smaller companies expect higher returns over the long term, due to the additional
6 business and financial risks that smaller companies face. According to Duff & Phelps,
7 companies in the same size range as Cascade's Washington natural gas distribution
8 operations have had a premium of 1,400 basis points (14.0 percent) over the average return
9 on long-term corporate bonds.²¹ When added to the recent average corporate bond yield,
10 this size-related premium suggests an expected return of 18.2 percent. This analysis
11 indicates that the rate of return that I am proposing in this proceeding would be low relative
12 to the historic risk premiums earned by similarly-sized unregulated companies.

13 **Q. Did you also perform a risk premium analysis that is specific to the natural gas**
14 **distribution industry?**

15 A. Yes, I did. Research studies provide empirical support for the proposition that equity risk
16 premia generally increase as interest rates decrease, and vice versa. In fact, the data
17 provided in Schedule 5, Exhibit No.__(JSG-2) produce statistical results that are
18 consistent with existing research in this area. Using this data, I performed a linear
19 regression to estimate the relationship between 30-year U.S. Treasury bonds and the risk
20 premium required for regulated gas distribution companies. The resulting equation is
21 presented in Schedule 5, Exhibit No.__(JSG-2) and re-created below:

¹⁹ Duff & Phelps Valuation Handbook, 2017 U.S. Guide to Cost of Capital, Exhibit 2.3. Calculation: (12.0 percent – 6.3 percent = 5.7 percent)

²⁰ Exhibit No.__(JSG-2), Schedule 1, at 3. The average yield on Moody's corporate bonds from November 2016 through April 2017 has been 4.24 percent.

²¹ Duff & Phelps Valuation handbook, 2017 U.S. Guide to Cost of Capital, Exhibit 4.1. Duff & Phelps defines size ranges based on market capitalization. I calculated the implied market capitalization for Cascade's Washington natural gas distribution operations based on the Company's pro forma rate base (approximately \$290 million) and the test year equity ratio (50.00 percent), which is based on the average equity ratio for Cascade for the last five years. This places Cascade's Washington natural gas distribution operations in Duff & Phelps' tenth decile. Calculation: 20.3 percent – 6.3 percent = 14.0 percent.

1 Intercept + Coefficient x Bond Yield = Risk Premium

2 0.08410 + (- 0.5560 x Bond Yield) = Risk Premium

3 The regression statistics indicate that this equation is statistically significant and the
4 R-square reveals that approximately 80 percent of the variation in the risk premium is
5 explained by the bond yield. The negative coefficient in the above equation demonstrates
6 the inverse relationship between bond yields and the risk premium. For every change of
7 100 basis points in the bond yield, the risk premium changes by approximately 55 basis
8 points in the opposite direction.

9 This Risk Premium analysis was conducted using three different risk-free rates: (1)
10 the current average yield on 30-year Treasury bonds; (2) the near-term projected yields on
11 30-year Treasury bonds in 2017 and 2018; and (3) the longer-term projected yields on 30-
12 year Treasury bonds from 2019-2023. Based on these three interest rates, the regression
13 equation produces an average ROE estimate of 9.96 percent.

14 I. Market DCF Analysis

15 **Q. What other analysis did you conduct in determining the cost of equity capital for**
16 **Cascade?**

17 A. For an additional benchmark of the reasonableness of my DCF results, I calculated the
18 current required return for the companies contained in the S&P 500 Index. Using data
19 provided by the Bloomberg Professional service, I performed a market capitalization-
20 weighted DCF calculation on the S&P 500 companies based on the current dividend yields
21 and long-term growth rate estimates as of April 28, 2017. These calculations are shown in
22 Schedule 6 of Exhibit No.__(JSG-2). The current secondary market required ROE for the
23 S&P 500 is 12.54 percent. This analysis demonstrates that the rate of return that I am
24 proposing in this proceeding is low relative to the return required by investors who invest
25 in the S&P 500.

1 J. Forward-Looking CAPM

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

5 A. No. The DCF required return for the S&P 500 is significantly greater than the return
6 required for the natural gas distribution company proxy group, and the large magnitude of
7 this difference is an indicator that the proxy company DCF results may be on the low side.
8 Some analysts use the CAPM to adjust for differences in risk between the market average
9 and a particular group of proxy companies. While I do not consider the CAPM to be a
10 reliable measure of the cost of capital, one could use it to adjust the S&P 500 results to
11 achieve a risk-adjusted benchmark for the natural gas distribution company proxy group.
12 For example, Beta is frequently used as the measure of relative risk in the CAPM. As shown
13 on Schedule 7 of Exhibit No.__(JSG-2), the average beta reported by Value Line for the
14 proxy companies is 0.73.

15 Duff & Phelps recommends making a size adjustment to the CAPM results to
16 reflect the differential in investors' return requirements for smaller and larger companies,
17 as measured by market capitalization. On Schedule 8, page 2 of 2, of Exhibit No.__(JSG-
18 2), I calculated the CAPM size premium for the proxy companies using the Duff & Phelps
19 size premium data. The average size adjustment for my proxy group companies is 128
20 basis points. As shown on Schedule 8, page 1 of 2, of Exhibit No.__(JSG-2), using the
21 Value Line beta estimates and the Duff & Phelps adjustments for CAPM size bias for my
22 proxy companies, the median unbiased CAPM result for my proxy companies is 11.26
23 percent.

1 Thus, if one were to use the CAPM as a benchmark of a reasonable return, this
2 benchmark suggests that my recommended ROE of 9.9 percent in this proceeding is a
3 reasonable estimate of the cost of equity for Cascade at this time.²²

4 K. Relative Risk Analysis

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

7 A. Yes. There are four broad categories of risk that concern investors. These include:

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

12 **Q. Please describe the business risks inherent in the natural gas distribution industry.**

13 A. Business risk refers to the ability of the firm to generate revenues that exceed its cost of
14 operations. Business risk exists because forecasts of both demand and costs are inherently
15 uncertain. Markets change and the level of demand for the firm's output may be sufficient
16 to cover its costs at one time and later become insufficient. Sunk investments in long-lived
17 natural gas distribution assets, for which cost recovery occurs over a period of thirty years
18 or more, are subject to enormous uncertainties and risks that demand, costs, supply, and
19 competition may change in ways that adversely affect the value of the investment.

20 **Q. What are some of the business risks faced by Cascade's Washington natural gas**
21 **distribution operations?**

22 A. The Company's natural gas distribution operations in Washington face many of the same

²² This CAPM calculation is identical to the one adopted by the U.S. Federal Energy Regulatory Commission. *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); and *ABATE, et al. v. MISO, et al.*, Opinion No. 551, 156 FERC, ¶ 61,234 (Sept. 28, 2016), para. 120-122. 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. While Opinion No. 531 was recently remanded to the FERC by the D.C. Circuit Court, the Court's decision did not question the finding by the FERC that capital market conditions were anomalous.

1 business risks that are associated with other natural gas distribution companies. However,
2 Cascade's Washington natural gas distribution operations face some particular risks that
3 distinguish the Company from the proxy group of distribution companies, including its
4 smaller size, generally lower incomes in the cities and towns that it serves, and the
5 undiversified nature of the local economies in the Company's service territory.

6 As shown on page 1 of Schedule 3 of Exhibit No.__(JSG-2), Cascade's
7 Washington natural gas distribution operations are significantly smaller than the operations
8 of any of the proxy companies and a fraction of the size of the typical proxy company. For
9 example, the 2017 test year adjusted rate base of Cascade's Washington natural gas
10 distribution operations is equal to only 5.2 percent of the fiscal year-end 2016 total assets
11 of the median proxy company. Similarly, Cascade's Washington natural gas distribution
12 2017 test year requested operating revenues and operating income are only 11.8 percent
13 and 7.9 percent of the year-end 2016 level for the median proxy company, respectively.
14 Thus, depending upon the measure of size, the typical proxy company is somewhere
15 between 8 and 19 times the size of Cascade's Washington natural gas distribution
16 operations. The Company's smaller size has significant implications for business risks.
17 Duff & Phelps has documented the significantly higher returns that generally have been
18 associated with small companies.

19 With its relatively small revenue base, Cascade's Washington natural gas
20 distribution operations are subject to greater risk that a major employer or industry, such
21 as a government facility or refinery, might downsize or close. Events such as these could
22 significantly affect overall employment and income in the towns served. Factors that
23 negatively influence the local economy can reduce demand for Cascade's Washington
24 natural gas distribution service and adversely impact investments in facilities used to
25 provide those services.

1 **Q. In July 2016, Cascade was allowed to implement a full revenue-per-customer**
2 **decoupling mechanism. Does this decoupling mechanism reduce the Company's risk**
3 **profile relative to the proxy group?**

4 A. No. Because the ROE recommendation is established for a company based on its risk
5 profile relative to the proxy group, it is necessary to consider whether the companies in the
6 proxy group also have revenue decoupling mechanisms or another comparable form of
7 volumetric risk protection. Schedule 9 of Exhibit No.__(JSG-2) shows that 66.7 percent
8 of the operating utilities held by the proxy companies have some form of volumetric
9 protection (e.g., revenue decoupling mechanisms, straight fixed-variable rate design,
10 formula rate plans). On that basis, Cascade has similar volumetric risk as the proxy group
11 companies, and no adjustment to the authorized return on equity capital is necessary.

12 Considering only its smaller size, Cascade's Washington natural gas distribution
13 operations might require a return that is approximately 100 basis points higher than the
14 return required for the typical proxy company. In addition, the Company's operations are
15 concentrated in smaller towns and cities with local economies that are generally less
16 diversified than those of the proxy companies. In summary, Cascade's Washington natural
17 gas distribution operations are riskier than the operations of the proxy companies.

18 **Q. What are the regulatory risks faced by Cascade's Washington natural gas utility**
19 **operations?**

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

1 risks that might typically be found in highly competitive industries.

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

9 The regulatory environment can significantly affect both the access to, and cost of
10 capital in several ways. As noted by Moody's, "[f]or rate-regulated utilities, which
11 typically operate as a monopoly, the regulatory environment and how the utility adapts to
12 that environment are the most important credit considerations."²³ Moody's further noted
13 that:

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

28 Regulatory Research Associates (“RRA”) recently lowered its rating for the WUTC
29 to Average / 3, which is one notch below average on the nine-point scale.²⁵ RRA notes
30 that the “regulatory environment in Washington is, on balance, somewhat more restrictive

²³ Moody's Investors Service, *Regulated Electric and Gas Utilities*, December 23, 2013, at 9.

²⁴ *Ibid.*

²⁵ Regulatory Research Associates, Washington Commission Profile, accessed May 31, 2017.

1 than average from an investor viewpoint.”²⁶ In particular, RRA notes that “authorized
2 equity returns, some of which were approved following settlements, have been below
3 prevailing industry averages when established.”²⁷ This RRA rating suggests that
4 Cascade’s Washington natural gas distribution operations should be considered to have
5 slightly above average regulatory risk.

6 **Q. Would you please describe Cascade’s relative financial risks?**

7 A. Financial risk exists to the extent that a company incurs fixed obligations in financing its
8 operations. These fixed obligations increase the level of income which must be generated
9 before common stockholders receive any return and serve to magnify the effects of
10 business and regulatory risks. Fixed financial obligations also increase the probability of
11 bankruptcy by reducing the company’s financial flexibility and ability to respond to
12 adverse circumstances. One possible indicator of investors’ perceptions of relative
13 financial risk in this case might be obtained from credit ratings.

14 Page 2 of Schedule 3 of Exhibit No.__(JSG-2) shows the credit ratings assigned
15 by S&P and Moody’s to each of the companies in the comparison group and Cascade. The
16 median S&P credit rating for companies in the proxy group is A-. By comparison,
17 Cascade’s long-term rating from S&P is BBB+. This suggests that the perceived business
18 and financial risk of Cascade’s bonds is slightly higher than that of the typical company in
19 the comparison group.

20 The capital structure data on Schedule 10 of Exhibit No.__(JSG-2) show that
21 Cascade’s filed common equity ratio of 50.00 percent is very close to the 49.84 percent
22 median for the proxy companies as of March 31, 2017, suggesting average financial risk.
23 However, the Company’s below-average credit rating suggests that a higher common
24 equity ratio would be required to offset Cascade’s above-average business risks.

²⁶ *Ibid.*

²⁷ *Ibid.*

1 **Q. Would you please describe Cascade’s market risks?**

2 A. Market risk is associated with the changing value of all investments because of business
3 cycles, inflation, and fluctuations in the general cost of capital throughout the economy.
4 Different companies are subject to different degrees of market risk largely as a result of
5 differences in their business and financial risks. Overall, the market risk of Cascade’s
6 Washington natural gas distribution business is comparable to that of the companies in the
7 natural gas distribution comparison group.

8 **Q. How do the overall risks of the proxy companies compare with the risks faced by
9 Cascade’s Washington natural gas distribution operations?**

10 A. Cascade’s Washington natural gas distribution operations face overall risks that are above
11 the median relative to those of the proxy companies. Cascade has above-average business
12 risks due primarily to its small size relative to the proxy companies and its exposure to a
13 relatively undiversified local economy and slightly above-average regulatory risks.
14 Standard & Poor’s comments: “Somewhat offsetting [the strong business risk profile for
15 regulated U.S. utilities] are the company’s small customer base in its lightly populated two-
16 state service territory and per capita income in its service territories that is slightly weaker
17 than the national average.”²⁸

18 The greater business and regulatory risk lead me to conclude that investors appraise
19 the overall risks of Cascade’s Washington natural gas distribution operations to be above
20 average relative to the risks of the proxy companies. Consequently, Cascade’s Washington
21 natural gas distribution business requires an allowed rate of return that is significantly
22 above the median of the range for the companies in the proxy group indicated by my DCF
23 analyses.

²⁸ Standard and Poor’s Global Ratings, *Cascade Natural Gas Corp.*, Research Update, December 18, 2014, at 4.

1 **III. SUMMARY AND CONCLUSIONS**

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

3 A. I conducted two DCF analyses on a group of natural gas distribution companies that have
4 a range of risks that is roughly comparable to those of Cascade’s Washington natural gas
5 distribution operations. These results are summarized as follows:

6 **Table 2: Summary of DCF Results**

| | Basic DCF Analysis | Blended Growth Rate DCF Analysis |
|--------------------------|--------------------|----------------------------------|
| High | 11.84% | 10.75% |
| 3 rd Quartile | 10.22% | 9.64% |
| Median | 9.22% | 9.13% |
| 1 st Quartile | 7.82% | 8.01% |
| Low | 7.11% | 7.85% |

7
8 In addition, I conducted two risk premium analyses, a market DCF analysis of the S&P
9 500, and a size-adjusted CAPM analysis to test the reasonableness of my DCF analyses.
10 Those results are summarized as follows:

11
12 **Table 3: Benchmark Risk Premium and Market DCF Analyses**

| | Return |
|--|--------|
| Risk Premium (Long-Term Corporate Bonds) | |
| vs. Large Company Stocks | 9.9% |
| vs. Small Company Stocks | 18.2% |
| Gas Utility Risk Premium (Regression of Authorized ROEs against 30-yr Treasury yields) | 10.0% |
| Market DCF (S&P att0) | 12.5% |
| Forward-Looking CAPM | 11.3% |

13
14 My risk premium, market DCF and CAPM analyses suggest that the median DCF
15 results generally are low relative to current market benchmarks. In particular, the median

1 DCF return estimates are below the 10.0 percent risk premium return, but the top of those
2 DCF ranges are considerably above 10.0 percent. Similarly, the median DCF estimates for
3 the natural gas distribution proxy companies are well below the 12.5 percent market DCF
4 estimate for the S&P 500 companies and the 11.3 percent size-adjusted CAPM estimate
5 for the natural gas distribution proxy companies.

6 **Q. What rate of return on common equity do you recommend for Cascade's Washington**
7 **natural gas distribution operations in this proceeding?**

8 A. My analyses indicate that an appropriate rate of return on common equity for Cascade's
9 Washington natural gas distribution operations at this time is 9.9 percent, which is between
10 the median and third quartile of the range for my Basic DCF analysis and consistent with
11 the Risk Premium analyses. This recommended return reflects my assessment that the
12 overall risks of Cascade's Washington natural gas distribution operations are above
13 average relative to those of the proxy companies, and the fact that the DCF results appear
14 to be low relative to the other benchmarks at this time. Although the Company has average
15 financial risk relative to the proxy companies, it has above average business risks and
16 slightly above average regulatory risk. In addition to its small size relative to the proxy
17 companies, Cascade's Washington natural gas distribution operations are exposed to risks
18 associated with relatively undiversified local economies. Thus, an allowed rate of return
19 approximately equal to the average utility risk premium (10.0 percent) in my study is
20 appropriately positioned to reflect the risks faced by Cascade's Washington natural gas
21 distribution operations relative to the risks faced by the proxy companies, and also to reflect
22 current conditions in the financial market.

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

24 A. Yes.