

Exhibit No. ___-T (DCP-1T)
Docket No. UG-060256
Witness: David C. Parcell

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

**CASCADE NATURAL GAS
CORPORATION,**

Respondent.

DOCKET NO. UG-060256

TESTIMONY OF
DAVID C. PARCELL
(REVISED EXHIBIT NUMBERS)
ON BEHALF OF
STAFF OF
WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION

August 22, 2006

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1 **I. INTRODUCTION**

2

3 **Q. Please state your name, occupation and business address.**

4 A. My name is David C. Parcell. I am the Executive Vice President and Senior
5 Economist of Technical Associates, Inc. My business address is Suite 601, 1051
6 East Cary Street, Richmond, Virginia 23219.

7

8 **Q. Please briefly describe your background and experience.**

9 A. I hold B.A. (1969) and M.A. (1970) degrees in economics from Virginia Polytechnic
10 Institute and State University (Virginia Tech) and an M.B.A. (1985) from Virginia
11 Commonwealth University. I have been a consulting economist with Technical
12 Associates since 1970. The large majority of my consulting experience has involved
13 the provision of cost of capital testimony in public utility ratemaking proceedings. I
14 have previously testified in about 375 utility proceedings before more than 30
15 regulatory agencies in the United States and Canada.

16

17 **Q. What is the purpose of your testimony in this proceeding?**

18 A. I have been retained by Commission Staff to evaluate the cost of capital aspects of
19 the current filing of Cascade Natural Gas Corporation ("Cascade" or "Company"). I
20 have performed independent studies and am making recommendations of the current
21 cost of capital for Cascade.

22

1 **Q. Have you prepared an exhibit in support of your testimony?**

2 A. Yes, I have prepared 14 exhibits, identified as Exhibit No. ____ (DCP-3) through
3 Exhibit No. ____ (DCP-16) (previously Schedule 2 through Schedule 15). These
4 exhibits were prepared either by me or under my direction. The information
5 contained in these exhibits is correct to the best of my knowledge and belief.

6

7

II. RECOMMENDATIONS

8

9 **Q. What are your recommendations in this proceeding?**

10 A. My overall cost of capital recommendation for Cascade is:

11

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	<u>Percent</u>	<u>Cost</u>	<u>Return</u>
Long-term Debt	54.78%	7.58%	4.15%
Short-term Debt	4.09%	6.59%	0.27%
Common Equity	41.13%	9.75%	4.01%
Total	100.00%		8.43%

15

16

17

This recommendation employs Cascade's December 31, 2005, capital structure, except for short-term debt, which uses a 12-month average value.

18

III. SUMMARY

19

20 **Q. Please summarize your analyses and conclusions.**

21

22

23

1 appropriate capital structure. Cascade's proposed capital structure is a hypothetical
2 capital structure comprised of 50 percent long-term debt and 50 percent common
3 equity. I have not used these capital structure ratios in my testimony but rather have
4 employed the Company's actual December 31, 2005, capital structure ratios.

5 The second step in a cost of capital calculation is a determination of the
6 embedded cost rates of debt. I have used the cost rate for long-term debt proposed
7 by Cascade. For the cost of short-term debt, I have used the Company's current cost
8 rate.

9 The third step in the cost of capital calculation is the estimation of the cost of
10 common equity. I have employed three recognized methodologies to estimate the
11 cost of equity for Cascade. Each of these methodologies is applied to three groups of
12 proxy electric and natural gas utilities. These three methodologies and my findings
13 are:

Methodology	Range
Discounted Cash Flow	9.0-10.0% (9.5% Mid-Point)
Capital Asset Pricing Model	10.1-10.3% (10.2% Mid-Point)
Comparable Earnings	10.0%

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17 Based upon these findings, it is my conclusion that the cost of common equity for
18 Cascade is 9.75 percent, which reflects greater weight to the DCF results. I
19 recommend a cost of common equity for the Company of 9.75 percent, in the
20 absence of the adoption of the Company's proposed decoupling mechanism. Should
21 this mechanism be approved, I recommend cost of equity of 25 bases points less, or
22 9.5 percent.

1 Combining these three steps into weighted costs of capital results in an
2 overall rate of return of 8.43 percent, which incorporates a cost of common equity of
3 9.75 percent.
4

5 **IV. ECONOMIC/LEGAL PRINCIPLES AND METHODOLOGIES**
6

7 **Q. What is your understanding of the economic and legal principles that underlie**
8 **the concept of a fair rate of return for a regulated utility?**

9 A. Cost of service rates for regulated public utilities have traditionally been primarily
10 established using the “rate base - rate of return” concept. Under this method, utilities
11 are allowed to recover a level of operating expenses, taxes and depreciation deemed
12 reasonable for rate-setting purposes, and are granted an opportunity to earn a fair rate
13 of return on the assets utilized (i.e., rate base) in providing service to their customers.
14 The rate base is derived from the asset side of the utility’s balance sheet as a dollar
15 amount, and the rate of return is developed from the liabilities/owners’ equity side of
16 the balance sheet as a percentage. The rate of return is developed from the cost of
17 capital, which is estimated by weighting the capital structure components (i.e., debt,
18 preferred stock and common equity) by their percentages in the capital structure and
19 multiplying these by their cost rates. This is also known as the weighted cost of
20 capital.

21 Technically, the fair rate of return is a legal and accounting concept that
22 refers to an ex post (after the fact) earned return on an asset base, while the cost of
23 capital is an economic and financial concept that refers to an ex ante (before the fact)

1 expected or required return on a liability base. In regulatory proceedings, however,
2 the two terms are often used interchangeably, as I have done in my testimony.

3 From an economic standpoint, a fair rate of return is normally interpreted to
4 incorporate the financial concepts of financial integrity, capital attraction and
5 comparable returns for similar risk investments. These concepts are derived from
6 economic and financial theory and are generally implemented using financial models
7 and economic concepts.

8 Although I am not a lawyer and I do not offer a legal opinion, my testimony
9 is based on my understanding that two U.S. Supreme Court decisions are universally
10 cited as providing the standards for a fair rate of return. The first is *Bluefield Water*
11 *Works and Improvement Co. v. Public Serv. Comm'n of West Virginia*, 262 U.S. 679
12 (1923). In this decision, the Court stated:

13 What annual rate will constitute **just compensation** depends upon
14 many circumstances and must be **determined by the exercise of a**
15 **fair and enlightened judgment**, having regard to all relevant facts.
16 A **public utility** is entitled to such rates as will permit it to **earn a**
17 **return** on the value of the property which it employs for the
18 convenience of the public equal to that **generally being made** at the
19 same time and in the same general part of the country on **investments**
20 **in other business undertakings** which are **attended by**
21 **corresponding risks and uncertainties**; but it has no **constitutional**
22 **right to profits** such as are realized or anticipated in **highly**
23 **profitable enterprises or speculative ventures**. The **return** should
24 be reasonably sufficient to assure confidence in the **financial**
25 **soundness** of the utility, and should be adequate, **under efficient and**
26 **economical management**, to maintain and **support its credit** and
27 **enable it to raise the money** necessary for the proper discharge of its
28 public duties. A rate of return may be reasonable at one time, and
29 become too high or too low by changes affecting opportunities for
30 investment, the money market, and business conditions generally.
31 **[Emphasis added.]**
32

1 Based on my understanding, this decision established the following standards for a
2 fair rate of return: comparable earnings, financial integrity, and capital attraction. It
3 also noted the changing level of required returns over time as well as an underlying
4 assumption that the utility be operated in an efficient manner.

5 The second decision is *Federal Power Comm'n v. Hope Natural Gas Co.*,
6 320 U.S. 591 (1942). In that decision, the Court stated:

7 The rate-making process under the [Natural Gas] Act, i.e., the fixing
8 of 'just and reasonable' rates, involves a **balancing** of the **investor**
9 and **consumer interests**. . . . From the investor or company point of
10 view it is important that there be enough revenue not only for
11 operating expenses but also for the capital costs of the business.
12 These include service on the debt and dividends on the stock. By that
13 standard the **return** to the equity **owner** should be **commensurate**
14 with **returns** on **investments** in **other enterprises having**
15 **corresponding risks**. That return, moreover, should be sufficient to
16 assure confidence in the **financial integrity** of the enterprise, so as to
17 **maintain its credit** and to **attract capital**. [Emphasis added.]
18

19 The *Hope* case is also frequently credited with establishing the "end result" doctrine,
20 which maintains that the methods utilized to develop a fair return are not important
21 as long as the end result is reasonable.

22 Three economic and financial parameters identified in the *Bluefield* and *Hope*
23 decisions – comparable earnings, financial integrity and capital attraction – reflect
24 the economic criteria encompassed in the "opportunity cost" principle of economics,
25 which holds that a utility and its investors should be afforded an opportunity (not a
26 guarantee) to earn a return commensurate with returns they could expect to achieve
27 on investments of similar risk. The opportunity cost principle is consistent with the

1 fundamental premise on which regulation rests, namely that it is intended to act as a
2 surrogate for competition.

3

4 **Q. How can these parameters be employed to estimate the cost of capital for a**
5 **utility?**

6 A. Neither the courts nor the economic/financial theory has developed exact and
7 mechanical procedures for precisely determining the cost of capital. This is the case
8 because the cost of capital is an opportunity cost and is prospective-looking, which
9 dictates that it must be estimated.

10 There are several useful models that can be employed to assist with
11 estimating the cost of equity capital, which is the capital structure item that is the
12 most difficult to determine. These include the discounted cash flow (“DCF”), capital
13 asset pricing model (“CAPM”), comparable earnings (“CE”) and risk premium
14 (“RP”) methods. Each of these methods (or models) differs from the others and
15 each, if properly employed, can be a useful tool in estimating the cost of common
16 equity for a regulated utility.

17

18 **Q. Which methods have you employed in your analyses of the cost of common**
19 **equity?**

20 A. I have utilized three methodologies to determine Cascade’s cost of common equity:
21 the DCF, CAPM and CE methods. The results of each of these methodologies will
22 be described in my testimony.

23

1 V. GENERAL ECONOMIC CONDITIONS

2
3 Q. What is the importance of economic and financial conditions in determining the
4 cost of capital?

5 A. The costs of capital, for both fixed-cost (debt and preferred stock) components and
6 common equity, are determined in part by economic and financial conditions. At
7 any given time, each of the following factors has a direct and significant influence on
8 the costs of capital: the level of economic activity, the stage of the business cycle,
9 the level of inflation, and expected economic conditions. My understanding is that
10 this position is consistent with the Supreme Court's *Bluefield* decision, which noted
11 that "[a] rate of return may be reasonable at one time, and become too high or too
12 low by changes affecting opportunities for investment, the money market, and
13 business conditions generally."

14
15 Q. What indicators of economic and financial activity have you evaluated in your
16 analyses?

17 A. I have examined several sets of economic statistics for the period 1975 to the present.
18 I chose this period because it permits the evaluation of economic conditions over
19 three full business cycles plus the current cycle to date and thus makes it possible to
20 assess changes in long-term trends. A business cycle is commonly defined as a
21 complete period of expansion (recovery and growth) and contraction (recession). A
22 full business cycle is a useful and convenient period over which to measure levels
23 and trends in long-term capital costs because it incorporates the cyclical (i.e., stage

1 of business cycle) influences and thus permits a comparison of structural, or long-
2 term, trends.

3
4 **Q. Please describe the three prior business cycles and the most current cycle.**

5 A. The most recent complete cycle began with an expansion in April 1991 and ended in
6 the fourth quarter of 2001, constituting a length of more than 10 ½ years. Following
7 that, the economy slowed considerably in late 2000 and 2001 and was in a recession
8 during three quarters of 2001, notwithstanding the Federal Reserve lowering interest
9 rates (i.e, Fed Funds rate) 11 times in 2001 (as well as twice in 2003) in an
10 aggressive effort to create a soft landing and avoid a recession. The events of
11 September 11, 2001, further damaged the U.S. economy.

12 This cycle and the two prior complete cycles cover the following periods:

13

<u>Business Cycle</u>	<u>Expansion Period</u>	<u>Contraction Period</u>
14 1975-1982	Mar. 1975-July 1981	Aug. 1981-Oct. 1982
15 1982-1991	Nov. 1982-July 1990	Aug. 1990-Mar. 1991
16 1991-2001	Apr. 1991-Mar. 2001	Apr. 2001-Nov. 2001

17 The expansion phase of the recent cycle well surpassed the average length of
18 expansions in the post-World War II era (i.e., about five years). The 1982 to 1990
19 expansion (seven years, eight months) was the previous longest, peacetime
20 expansion of this era.

1 **Q. Please describe recent and current economic and financial conditions and their**
2 **impact on the costs of capital.**

3 A. Exhibit No. ____ (DCP-3) shows several sets of economic data. Page 1 contains
4 general macroeconomic statistics while pages 2 and 3 contain financial market
5 statistics. Page 1 shows that growth in the initial stage of the current cycle was
6 somewhat slower than the typical initial recovery period. This is indicated by the
7 growth in real (i.e., adjusted for inflation) Gross Domestic Product, industrial
8 production and the unemployment rate.

9 The rate of inflation is also shown on page 1 of Exhibit No. ____ (DCP-3),
10 reflected in the Consumer Price Index (CPI). The CPI rose significantly during the
11 1975 to 1982 business cycle and reached double-digit levels in 1979 to 1980. The
12 rate of inflation declined substantially in 1981 and remained at or below 6.1 percent
13 during the 1983 to 1991 business cycle. Since 1991, the CPI has been 3.4 percent or
14 lower. The 3.3 percent rate of inflation in 2005, along with a similar level for 2004,
15 were slightly higher than the most recent years but were both well below the levels
16 of the past 30 years.

17

18 **Q. What have been the trends in interest rates?**

19 A. Page 2 of Exhibit No. ____ (DCP-3) shows several series of interest rates. Rates rose
20 sharply in 1975 to 1981, when the inflation rate was high and rising. Rates then fell
21 substantially throughout the remainder of the 1980s and into the 1990s. During the
22 recent business cycle, long-term rates remained relatively stable, in comparison to

1 the prior cycles. Rates have increased somewhat over the past year but, nevertheless,
2 currently are generally lower than at any time during the prior three cycles.

3 This low level of interest rates, in conjunction with the apparent
4 strengthening of the U.S. economy, may create an expectation that any near-term
5 movement of interest rates will be upward. In fact, the Federal Reserve has, since
6 the middle portion of 2004, increased short-term interest rates on 17 occasions,
7 although each by only a small 0.25 percent level, in an attempt to insure that any
8 perceived inflationary expectations will not stifle continued economic growth.
9 Nevertheless, the economic recovery to date has not resulted in a pronounced
10 increase in long-term rates. (In fact, the current level of Fed Funds is about the same
11 as the level in existence when the series of reductions began in 2000.) Even if rates
12 were to increase moderately, they would still remain well below historical levels.

13
14 **Q. What have been the trends in common share prices?**

15 A. Page 3 of Exhibit No. ____ (DCP-3) shows several series of common stock prices and
16 ratios. These indicate that share prices were basically stagnant during the high
17 inflation/interest rate environment of the late 1970s and early 1980s, as evidenced by
18 the fact that the Dow Jones Industrial average (DJI) remained in the 800 to 900 range
19 for eight years. On the other hand, the 1983 to 1991 business cycle and the most
20 recent cycle have witnessed a significant upward trend in stock prices, as the DJI
21 rose to over 11,000. Over the past five years, however, stock prices have been
22 volatile.

23

1 **Q. What conclusions do you draw from this discussion of economic and financial**
2 **conditions?**

3 A. It is apparent that capital costs are currently low in comparison to the levels that have
4 prevailed over the past three decades. In addition, even a moderate increase in
5 interest rates, as well as other capital costs, would still result in capital costs that are
6 low by historic standards. Therefore, it can reasonably be expected that cost of
7 equity models, such as the DCF, currently produce returns that are lower than was
8 the case in prior years.

9
10 **VI. CASCADE'S OPERATIONS AND RISKS**

11
12 **Q. Please briefly describe Cascade Natural Gas.**

13 A. Cascade is a natural gas local distribution company (LDC) that serves approximately
14 227,000 customers, principally in northwestern Washington and eastern Oregon.
15 Approximately 75 percent of Cascade's customers are in Washington. Cascade also
16 has small non-regulated gas marketing and contract operations businesses, but these
17 operations are relatively small. Due to the relative lack of unregulated operations,
18 Cascade remains what can be described as a "pure play" utility. I am aware that
19 Cascade has recently announced its intention to merge with Montana-Dakota
20 Utilities. It is not apparent at this time how this may impact the Company's future
21 cost of capital.

22

1 **Q. What are the current bond ratings of Cascade?**

2 A. Cascade's senior unsecured debt is presently rated Baa1 by Moody's and BBB+ by
3 Standard & Poor's. As indicated in Exhibit No. ____ (DCP-4), these ratings have
4 been in effect for several years.

5
6 **Q. How have the rating agencies described Cascade from a credit rating
7 perspective?**

8 A. Standard & Poor's has provided the most detailed description as to how Cascade's
9 securities are rated. In a 2005 Corporate Ratings report on Cascade, S&P stated:

10 Rationale

11 The ratings on Cascade Natural Gas Corp. reflect the **solid financial**
12 **performance** and **excellent business profile** of the **company's regulated**
13 **gas distribution business. Cascade's business risk profile is excellent** ('2'
14 on a 10-point scale, where '1' represents the strongest) **on the basis of its**
15 **regulated gas distribution business.** Cascade also operates small
16 nonregulated gas marketing and contract operations businesses, but these
17 businesses have only a marginal effect on Cascade's credit quality.

18 ...
19 The business profile is characterized primarily by a growing retail customer
20 base, competitive rates, and constructive regulatory environments in
21 Washington and Oregon, which permit fuel cost recovery through annual
22 PGA mechanisms.

23 ...

24 Outlook

25 The stable outlook reflects Cascade's regulated gas operations, solid
26 customer growth, reliable PGA mechanism that insures recovery of gas
27 supply costs, and manageable capital program. The outlook also reflects
28 Standard & Poor's expectation that Cascade will maintain strong cash flow
29 coverage in light of its **elevated debt leverage** and will also prudently hedge
30 its expected load over the near term to avoid a recurring accumulation of gas
31 cost deferrals. **[Emphasis added]**

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1 These statements by S&P indicate that Cascade has very low business risk. They
2 also reflect the recognition by S&P of the relatively high leverage that the
3 Company's management has chosen to incur in recent years.

4

5 **Q. Is it apparent that Cascade's current cost-recovery mechanisms are positive**
6 **factors in its strong business risk profile?**

7 A. Yes, it is apparent. The above-cited S&P report noted "constructive regulatory
8 environments" and cited the Company's "reliable PGA mechanism" as a significant
9 factor in assigning an "excellent" risk profile to Cascade.

10

11 **Q. Has Standard & Poor's commented on Cascade's proposal to add further**
12 **ratemaking mechanisms?**

13 A. Yes, it has. In a February 15, 2006, Breaking News report on Cascade, S&P noted
14 that the Company has filed a general rate case and a "Conservation Alliance Plan"
15 with the WUTC. In this report, S&P cited the Company's proposed "implementation
16 of a 'decoupling' mechanism that would make operating cost recovery independent
17 of volume of natural gas sold to core customers and eliminate the penalty for
18 customer conservation inherent in volumetric-based rate-making." In addition, S&P
19 earlier noted, in a 2005 Corporate Ratings report on Cascade:

20 Cascade has begun discussions with both the Washington and Oregon
21 regulatory commissions regarding a decoupling mechanism that
22 insulates cost recovery from weather and conservation effects. The
23 company expects to conclude discussions with the Oregon
24 commission in January 2006 and has announced that it will include a
25 decoupling mechanism in its next Washington rate case, which it
26 expects to file during the first quarter of 2006.

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Q. Has Standard & Poor’s commented generally on the positive attributes of regulatory cost-recovery mechanisms?

A. Yes, it has. In a 2006 Commentary Report, titled “Prolonged High Natural Gas Prices May Increase Credit Risk For U.S. Gas Distribution Companies,” S&P made the following comments:

...in an environment of sustained elevated natural gas prices, will regulators continue to allow the LDCs the proper tools to capture costs and maintain credit quality? The answer to this question will be key in LDCs maintaining their credit quality as, historically, companies with stable recovery mechanisms have maintained strong ratings.

...
Regulatory Mechanisms

Most LDCs operate in jurisdictions where regulators provide a purchased-gas adjustment clause, which reduces a significant portion of the risk associated with operating with volatile gas price costs.

In today’s new cost paradigm, how quickly the purchased-gas adjustment is ‘trued up’ can have a bearing on an LDC’s credit quality.

...
Given today’s high and volatile natural gas prices, maintaining strong credit quality depends on ratepayers bearing the responsibility for commodity costs. Automatic pass-through mechanisms linked to gas price indices provide the strongest level of support.

Several points are apparent from this report. First and significantly, pass-through mechanisms have the effect of transferring a portion of an LDC’s risks from its stockholders to its ratepayers. Second, it is apparent that Cascade’s present cost-recovery mechanisms are the types that are the most risk-reducing. Third, the proposed additional regulatory mechanisms will have an impact, if approved, of further reducing Cascade’s risks.

1 **Q. Please summarize your understanding of the new and/or enhanced regulatory**
2 **mechanisms that Cascade is proposing in this proceeding.**

3 A. The so-called “Conservation Alliance Plan and decoupling mechanism” are the
4 foremost regulatory mechanisms being proposed. This proposal is intended to
5 insulate the Company from any reduced sales attributed to customer conservation.
6 This mechanism is especially risk-reducing.

7

8 **Q. What will be the impact on Cascade’s perceived risks if these regulatory**
9 **mechanisms are adopted?**

10 A. The impact will be to transfer a significant portion of Cascade’s business risks from
11 its stockholders to its ratepayers. This will, in turn, reduce the cost of equity capital
12 of Cascade.

13

14 **Q. How can this reduction in cost of capital be measured?**

15 A. One method to measure the impact of the reduction in cost of equity resulting from
16 the potential adoption of these regulatory mechanisms (in particular, the decoupling
17 mechanism) is to quantify the differential between the yields on bonds and preferred
18 stock for alternative bond ratings. I have done such a calculation in Exhibit No. ____
19 (DCP-5), which shows the differential over the 2001 to 2006 period in yields
20 between: 1) bonds with a Baa and an A rating; and 2) preferred stocks with a Baa
21 and an A rating. For both series of securities, the average differential is about 0.3
22 percent, or 30 basis points. It stands to reason that the differential in cost of equity
23 would be greater than 30 basis points, since common equity has a higher cost rate.

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Q. What differential do you believe is proper to reflect the impact of the potential approval of the proposed decoupling mechanism for Cascade?

A. I believe this mechanism, if approved, would have the impact of lowering Cascade's cost of common equity by 25 to 50 basis points. I specifically recommend a 25 basis points reduction in Cascade's cost of equity, if the decoupling mechanism is adopted.

Q. How does this compare to Cascade's view of the cost of equity differential associated with the decoupling mechanism?

A. It appears that Cascade shares this view. Dr. Morin, Cascade's costs of equity witness, indicates that Cascade's cost of equity would be 25 to 50 basis points higher in the absence of the requested regulatory mechanisms.

VII. CAPITAL STRUCTURE AND COSTS OF DEBT AND PREFERRED EQUITY

Q. What is the importance of determining a proper capital structure in a regulatory framework?

A. A utility's capital structure is important since the concept of rate base – rate of return regulation – requires that a utility's capital structure be determined and utilized in estimating the total cost of capital. Within this framework, it is proper to ascertain whether the utility's capital structure is appropriately relative to its level of business risk and to other utilities.

1 As discussed in Section III, the purpose of determining the proper capital
2 structure for a utility is to help ascertain the capital costs of the company. The rate
3 base – rate of return concept – recognizes the assets that are employed in providing
4 utility services and provides for a return on these assets by identifying the liabilities
5 and common equity (and their cost rates), which are used to finance the assets. In
6 this process, the rate base is derived from the asset side of the balance sheet, and the
7 cost of capital is derived from the liabilities/owners' equity side of the balance sheet.
8 The inherent assumption in this procedure is that the dollar values of the capital
9 structure and the rate base are approximately equal, and the former is utilized to
10 finance the latter.

11 The common equity ratio (i.e., the percentage of common equity in the
12 capital structure) is the capital structure item that normally receives the most
13 attention. This is the case since common equity: 1) usually commands the highest
14 cost rate; 2) generates associated income tax liabilities; and 3) causes the most
15 controversy, since its cost cannot be precisely determined.

16
17 **Q. How have you evaluated the capital structure of Cascade?**

18 A. I have first examined the five-year historic (2001 to 2005) capital structure ratios of
19 Cascade. These are shown in Exhibit No. ____ (DCP-6). I have summarized below
20 the common equity ratios for Cascade:

21
22
23

Year <u>1/</u>	<u>Including S-T Debt</u>	<u>Excluding S-T Debt</u>
2001	42.4%	49.3%
2002	40.8%	40.8%
2003	39.8%	40.4%
2004	40.0%	45.1%
2005	38.9%	40.6%

1/ As of September 30 fiscal year.

5

6 This indicates a level of common equity over the last four years of the five-year
7 period that generally focused on about 40 percent.

8

9 **Q. How do Cascade's common equity ratios compare with those of other gas
10 distribution companies?**

11 A. Exhibit No. ____ (DCP-7) shows this comparison. This indicates that Cascade's
12 common equity ratios have been slightly lower than those of gas distribution
13 companies in general.

14

15 **Q. Has this slightly higher leverage position had any impact on the Company's
16 security ratings in recent years?**

17 A. Apparently not. Cascade's debt ratings have consistently been high (Triple B) for at
18 least the past decade, as shown in Exhibit No. ____ (DCP-4). It is evident that
19 Cascade's low business risk position – as described in the previous section – has
20 been sufficient to offset any perceived higher financial risk associated with the
21 higher leverage the Company has maintained.

22

1 **Q. What capital structure ratios has Cascade requested in this proceeding?**

2 A. The Company requests use of a hypothetical capital structure comprised of 50
3 percent common equity and 50 percent long-term debt. This capital structure, which
4 has a much higher common equity component than the actual capital structure of the
5 Company is apparently recommended by Dr. Morin in order to offset the
6 “company’s small size relative to other natural gas utilities” (page 54, line 18).

7
8 **Q. Do you agree with this proposed capital structure?**

9 A. No, I do not. Cascade has not had a common equity ratio as high as 50 percent at
10 any time during the past five years, as shown in Exhibit No. ____ (DCP-6). It is
11 further evident (per Value Line’s report on Cascade) that the Company has not had
12 an equity ratio as high as 50 percent since 1997 (note that Value Line’s common
13 equity ratio calculations do not include short-term debt).

14
15 **Q. Do you agree with Dr. Morin’s recommendation that Cascade be entitled to a**
16 **small size premium, in terms of using a higher common equity ratio than it**
17 **actually has maintained?**

18 A. No, I do not. Clearly, Cascade is regarded as a low-risk utility, as evidenced by its
19 S&P business position of “2.” This business position reflects all of the Company’s
20 business risks, including any potentially related to the Company’s size. As a result,
21 there is no need to provide any size adjustment for the Company.

22

1 **Q. What capital structure do you propose to use in this proceeding?**

2 A. I propose to use the actual capital structure of Cascade, as of December 31, 2005.

3 This capital structure is comprised of the following items and percentages:

4	Long-term Debt	54.78%
5	Short-term Debt	4.09% ¹
6	Common Equity	41.13%

7
8

9 **Q. Why do you include short-term debt in the capital structure?**

10 A. Exhibit No. ____ (DCP-5) indicates that Cascade has consistently had balances of
11 short-term debt in its capital structure. This is also verified from Cascade's response
12 to WUTC Staff Data Request No. 27, which indicates that Cascade had short-term
13 debt outstanding during every month of 2005 and all but two months of 2004. In
14 addition, the 4.09 percent ratio of short-term debt is not an excessive level of short-
15 term debt, in terms of the ratios maintained by Cascade over the past five years (see
16 Exhibit No. ____ (DCP-6)). I believe it is proper to include short-term debt in the
17 ratemaking capital structure when it is apparent that the Company consistently
18 maintains outstanding balances of short-term debt and/or is financing part of rate
19 base.

20

21 **Q. Do you believe your proposed capital structure balances safety and economy?**

22 A. Yes, it does. This capital structure is safe, in that it is the actual year-end 2005
23 capital structure of Cascade, and it is consistent with the actual capital structure used

¹ 12 month average balance of short-term debt, as derived from the response to
WUTC Data Request No. 27.

1 by the Company in recent years, a period in which the Company has maintained its
2 investment grade bond ratings and has maintained a solid “2” business position by
3 S&P. This capital structure is also economical, since it does not contain excessive
4 amounts of common equity, unlike the proposed 50 percent common equity ratio
5 contained in the Company’s proposed hypothetical capital structure. This is also
6 evidenced by the similarity of Cascade’s actual capital structure to the average
7 capital structure ratios of the LDCs in the proxy group I use for the purpose of
8 estimating the cost of common equity.
9

10 **Q. What is the cost rate of long-term debt in the Company's application?**

11 A. The Company's filing cites an embedded cost rate of long term debt of 7.58 percent.
12 I use the company-proposed rate for long-term debt in my cost of capital analyses.
13 In accepting this rate, I note that the Company represents that the calculation is
14 consistent with the manner in which long-term debt was calculated in Cascade’s last
15 rate proceeding (see response to WUTC Staff Data Request No. 26).
16

17 **Q. What is the cost of short-term debt?**

18 A. For the cost of short-term debt, I used a rate of 6.59 percent. This reflects the
19 average of the various short-term rates provided in the response to WUTC Staff Data
20 Request No. 177.
21

1 **Q. Can the cost of common equity be determined with the same degree of precision**
2 **as the cost of debt?**

3 A. No. The cost rate of debt is largely determined by interest payments, issue prices
4 and related expenses. The cost of common equity, on the other hand, cannot be
5 precisely quantified, primarily because this cost is an opportunity cost. There are,
6 however, several models that can be employed to estimate the cost of common
7 equity. Three of the primary methods – DCF, CAPM and CE – are developed in the
8 following sections of my testimony.

9
10 **VIII. SELECTION OF COMPARISON GROUPS**

11
12 **Q. How have you estimated the cost of common equity for Cascade?**

13 A. Cascade is presently a publicly-traded company.² Consequently, it is possible to
14 directly apply cost of equity models to Cascade. However, it is customary to analyze
15 groups of comparison or “proxy” companies to determine the cost of common equity
16 for public utilities.

17 I have examined three such groups for comparison to Cascade. The first
18 group of proxy companies is the group of gas distribution companies followed by
19 Value Line, except for those companies that have not paid cash dividends. This
20 group, which reflects a representative sample of LDCs, is a proper proxy for
21 Cascade.

² As noted previously, Cascade has announced its intention to merge with Montana-Dakota Utilities.

1 The second proxy group is the group of 20 electricity distribution utilities that
2 Cascade witness Morin used in his analyses. The third proxy group is the group of
3 12 natural gas utilities Dr. Morin utilized in his testimony.

4 I note that, by developing my own group of proxy companies used in
5 conjunction with the groups of proxy companies utilized by Cascade witness Morin,
6 I have given consideration to the Company's view as to the composition of the
7 proper proxy companies for Cascade. On the other hand, I do not believe that the
8 cost of equity results for electric companies should be given as much weight as the
9 corresponding results for LDCs.

10
11 **IX. DISCOUNTED CASH FLOW ANALYSIS**

12
13 **Q. What is the theory and methodological basis of the discounted cash flow model?**

14 A. The discounted cash flow (DCF) model is one of the oldest, as well as the most
15 commonly-used, models for estimating the cost of common equity for public
16 utilities. It is my understanding that this Commission has traditionally placed
17 primary reliance on DCF results in setting the cost of capital for the utilities it
18 regulates. The DCF model is based on the "dividend discount model" of financial
19 theory, which maintains that the value (price) of any security or commodity is the
20 discounted present value of all future cash flows. When applied to common stocks,
21 the dividend discount model describes the value of a stock as follows:

22
$$P = \frac{D_1}{(1 + K_1)} + \frac{D_2}{(1 + K_2)^2} + \dots + \frac{D_n}{(1 + K_n)^n} = \sum_{i=1}^n \frac{D_i}{(1 + K)^i}$$

1 where: P = current price
2 D₁ = dividends paid in period 1, etc.
3 K₁ = discount rate in period 1, etc.
4 n = infinity
5

6 This relationship can be simplified if dividends are assumed to grow at a constant
7 rate of *g*. This variant of the dividend discount model is known as the constant
8 growth or Gordon DCF model. In this framework, the price of a stock is determined
9 as follows:

$$10 \qquad P = \frac{D}{(K - g)}$$

11 where: P = current price
12 D = current dividend rate
13 K = discount rate (cost of capital)
14 g = constant rate of expected growth
15

16 This equation can be solved for *K* (i.e, the cost of capital) to yield the following
17 formula:

$$18 \qquad K = \frac{D}{P} + g$$

19 This formula essentially states that the return expected or required by investors is
20 comprised of two factors: the dividend yield (current income) and expected growth
21 in dividends (future income).
22

23 **Q. Please explain how you have employed the DCF model.**

24 A. I have utilized the constant growth DCF model. In doing so, I have combined the
25 current dividend yield for each group of comparison utility stocks described in the
26 previous section with several indicators of expected dividend growth.

1

2 **Q. How did you derive the dividend yield component of the DCF equation?**

3 A. There are several methods which can be used for calculating the dividend yield
4 component. These methods generally differ in the manner in which the dividend rate
5 is employed (i.e., current versus future dividends or annual versus quarterly
6 compounding of dividends). I believe the most appropriate dividend yield
7 component is a quarterly compounding variant, which is expressed as follows:

$$Yield = \frac{D_o(1 + 0.5g)}{P_o}$$

8

9 This dividend yield component recognizes the timing of dividend payments and
10 dividend increases. This formula essentially recognizes that, on average, each proxy
11 company is expected to increase its dividend by the expected growth rate at the
12 middle of the next year, which is a reasonable assumption given that individual
13 companies will increase dividends at various times throughout the year. As such,
14 this yield calculation provides for a proper mechanism for estimating the expected
15 dividend yield in the next year.

16 The P_o in my yield calculation is the average (of high and low) stock price for
17 each company for the most recent three month period (April to June, 2006). The D_o
18 is the current annualized dividend rate for each company.

19

20 **Q. How have you estimated the dividend growth component of the DCF equation?**

21 A. The dividend growth rate component of the DCF model is usually the most crucial
22 and controversial element involved in using this methodology. The objective of

1 estimating the dividend growth component is to reflect the growth expected by
2 investors, which is embodied in the price (and yield) of a company's stock. As such,
3 it is important to recognize that individual investors have different expectations and
4 consider alternative indicators in deriving their expectations. A wide array of
5 techniques exists for estimating the growth expectations of investors. As a result, it
6 is evident that no single indicator of growth is always used by all investors. It,
7 therefore, is necessary to consider alternative indicators of dividend growth in
8 deriving the growth component of the DCF model.

9 I have considered five indicators of growth in my DCF analyses. These are:

- 10 1. 2001 to 2005 (five-year average) earnings retention or fundamental
11 growth;³
- 12 2. five-year average of historic growth in earnings per share (EPS),
13 dividends per share (DPS) and book value per share (BVPS);
- 14 3. 2006 to 2010 projections of earnings retention growth;
- 15 4. 2004 to 2010 projections of EPS, DPS and BVPS; and
- 16 5. five-year projections of EPS growth as reported in First Call
17 (formerly I/B/E/S).

18 This combination of growth indicators is a representative and appropriate set
19 with which to estimate investor expectations of dividend growth for the groups of
20 comparison companies.
21
22

23 **Q. Please describe your DCF calculations.**

24 A. Exhibit No. ____ (DCP-8) presents my DCF analysis. Page 1 shows the calculation
25 of the "raw" (i.e., prior to adjustment for growth) dividend yield. Pages 2 to 3 show
26 the growth rate for the groups of comparison companies. Page 4 shows the DCF

³ This is also known as the internal growth, or BxR.

1 calculations, which are presented on several bases: mean, median and high values.

2 These results can be summarized as follows:

3

	<u>Mean</u>	<u>Median</u>	<u>High Value</u>
4 Comparison Group	9.0%	8.4%	9.5%
Morin Electric Group	9.3%	8.5%	10.8%
Morin Gas Group	9.0%	8.7%	10.1%

5 I note that these calculations should not be interpreted as my DCF conclusions but
6 rather as numeric values that form the basis of quantitative and qualitative analyses
7 of the cost of capital at the current time. I also note that the high value for the Morin
8 Electric Group may indicate a higher DCF cost of equity than is required for LDCs.

9
10 **Q. What do you conclude from your DCF analyses?**

11 A. Based upon my analyses, I believe a range of nine percent to 10 percent (9.5 percent
12 mid-point) represents the current DCF cost of equity for the comparison groups.

13 This is approximated by the upper portion of the range of DCF calculations for the
14 natural gas groups examined in the previous analysis. The nine-percent rate reflects
15 the upper portion of the mean/median results, while the 10-percent rate approximates
16 the "high value" DCF results.

17 I have focused on the upper portion of the DCF calculations, since current
18 financial conditions (low interest rates and high market-to-book ratios for utilities)
19 have the effect of driving DCF results to low levels by historic standards.

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X. CAPITAL ASSET PRICING MODEL ANALYSIS

Q. Please describe the theory and methodological basis of the capital asset pricing model.

A. The Capital Asset Pricing Model (CAPM) is a version of the risk premium method. The CAPM describes and measures the relationship between a security's investment risk and its market rate of return. The CAPM was developed in the 1960s and 1970s as an extension of modern portfolio theory (MPT), which studies the relationships among risk, diversification and expected returns.

Q. How is the CAPM derived?

A. The general form of the CAPM is:

$$K = R_f + \beta(R_m - R_f)$$

where: K = cost of equity
R_f = risk free rate
R_m = return on market
β = beta
R_m-R_f = market risk premium

As noted previously, the CAPM is a variant of the risk premium method. I believe the CAPM is generally superior to the simple risk premium method because the CAPM specifically recognizes the risk of a particular company or industry, whereas the simple risk premium method does not.

1 **Q. What groups of companies have you utilized to perform your CAPM analyses?**

2 A. I have performed CAPM analyses for the same groups of utilities evaluated in my
3 DCF analyses.

4
5 **Q. What rate did you use for the risk-free rate?**

6 A. The first term of the CAPM is the risk free rate (R_f). The risk-free rate reflects the
7 level of return that can be achieved without accepting any risk.

8 In reality, there is no such thing as a truly riskless asset. In CAPM
9 applications, the risk-free rate is generally recognized by use of U.S. Treasury
10 securities. This follows, since Treasury securities are default-free, owing to the
11 government's ability to print money and/or raise taxes to pay its debts.

12 Two types of Treasury securities are often utilized as the R_f component -
13 short-term U.S. Treasury bills and long-term U.S. Treasury bonds. I have performed
14 CAPM calculations using the three month average yield (April to June, 2006) for 20
15 year U.S. Treasury bonds. Over this three month period, these bonds had an average
16 yield of 5.29 percent.

17
18 **Q. What betas did you employ in your CAPM?**

19 A. I utilized the most recent Value Line betas for each company in the groups of
20 comparison utilities.

21

1 **Q. How did you estimate the market risk premium component?**

2 A. The market risk premium component ($R_m - R_f$) represents the investor-expected
3 premium of common stocks over the risk-free rate or government bonds. For the
4 purpose of estimating the market risk premium, I considered returns of the S&P 500
5 (a broad-based group of large U.S. companies) and 20-year U.S. Treasury bonds.

6 Exhibit No. ____ (DCP-9) shows the return on equity for the S&P 500 group
7 for the period 1978 to 2004 (all available years reported by S&P). The average
8 return on equity for the S&P 500 group over the 1978 to 2004 period is 14.02
9 percent. This Exhibit also indicates the annual yields on 20-year U.S. Treasury
10 bonds as well as the annual differentials (i.e., risk premiums) between the S&P 500
11 and U.S. Treasury 20-year bonds. Based upon these returns, I conclude that the risk
12 premium is about six percent.

13 I have also considered the total returns for the S&P 500 group as well as for
14 long-term government bonds, as tabulated by Ibbotson Associates, using both
15 arithmetic and geometric means. I have considered the total returns for the entire
16 1926 to 2005 period, which are as follows:

	<u>S&P 500</u>	<u>L-T Gov't Bonds</u>	<u>Risk Premium</u>
Arithmetic	12.3%	5.8%	6.5%
Geometric	10.4%	5.5%	4.9%

17

18 I conclude from this that the expected risk premium is about 5.8 percent (i.e.,
19 average of all three risk premiums). I believe that a combination of arithmetic and
20 geometric means is appropriate, since investors have access to both types of means,

1 and, presumably, both types are reflected in investment decisions and thus stock
2 prices and cost of capital.

3

4 **Q. Please describe the results of your CAPM analysis.**

5 A. Exhibit No. ____ (DCP-10) shows my CAPM results. The results are as follows:

	<u>Mean</u>	<u>Median</u>
6 Comparison Group	10.3%	10.2%
7 Morin Electric Group	10.5%	10.2%
8 Morin Gas Group	10.1%	10.2%
9		
10		

11 **Q. What is your conclusion concerning the CAPM cost of equity?**

12 A. The CAPM results collectively indicate a cost of about 10.1 percent to 10.5 percent
13 for the three groups of comparison utilities findings. I note, as was the case for the
14 DCF, that the Morin Electric Group has higher indicated results than the LDCs. As a
15 result, I do not give much consideration to the CAPM results of the electric group
16 but instead focus on the 10.1 percent to 10.3 percent CAPM findings for the LDC
17 proxy groups.

18

19 **XI. COMPARABLE EARNINGS ANALYSIS**

20

21 **Q. Please describe the basis of the CE methodology.**

22 A. The CE method is derived from the “corresponding risk” standard of the *Bluefield*
23 and *Hope* cases. This method is based upon the economic concept of opportunity
24 cost. As previously noted, the cost of capital is an opportunity cost: the prospective
25 return available to investors from alternative investments of similar risk. If, in the

1 opinion of those who save and commit capital, the prospective return from a given
2 investment is not equal to that available from other investments of similar risk, the
3 available capital will tend to be shifted to the alternative investments. Through this
4 mechanism, opportunity-cost-driven pricing signals direct capital to its most
5 productive uses; thus, a free enterprise system promotes an efficient allocation of
6 scarce resources.

7 The CE method is designed to measure the returns expected to be earned on
8 the original cost book value of similar risk enterprises. Thus, this method provides a
9 direct measure of the fair return, since it translates into practice the competitive
10 principle upon which regulation rests.

11 The CE method normally examines the experienced and/or projected returns
12 on book common equity. The logic for returns on book equity follows from the use
13 of original cost rate base regulation for public utilities that uses a utility's book
14 common equity to determine the cost of capital. This cost of capital is, in turn, used
15 as the fair rate of return, which is then applied (multiplied) to the book value of rate
16 base to establish the dollar level of capital costs to be recovered by the utility. This
17 technique is thus consistent with the rate base methodology used to set utility rates.

18
19 **Q. How have you employed the CE methodology in your analysis of Cascade's**
20 **common equity cost?**

21 A. I conducted my CE analysis by examining realized returns on equity for several
22 groups of companies and evaluating the investor acceptance of these returns by
23 reference to the resulting market-to-book ratios. In this manner it is possible to

1 assess the degree to which a given level of return equates to the cost of capital. It is
2 generally recognized for utilities that market-to-book ratios of greater than one (i.e.,
3 100 percent) reflect a situation where a company is able to attract new equity capital
4 without dilution (i.e., above book value). As a result, one objective of a fair cost of
5 equity is the maintenance of stock prices above book value.

6 I would further note that the CE analysis, as I have employed it, is based
7 upon market data (through the use of market-to-book ratios) and is essentially a
8 market test. As a result, my comparable earnings analysis is not subject to the
9 criticisms occasionally made by some who maintain that past earned returns do not
10 represent the cost of capital. In addition, my comparable earnings analysis uses
11 prospective returns and thus is not strictly backward looking.

12

13 **Q. What time periods have you examined in your CE analysis?**

14 A. My CE analysis considers the experienced equity returns of the comparison groups
15 of utilities for the period 1992 to 2005 (i.e., last 14 years). The comparable earnings
16 analysis requires that I examine a relatively long period of time in order to determine
17 trends in earnings over at least a full business cycle. Further, in estimating a fair
18 level of return for a future period, it is important to examine earnings over a diverse
19 period of time in order to avoid any undue influence by unusual or abnormal
20 conditions that may occur in a single year or shorter period. Therefore, in forming
21 my judgment of the current cost of equity I have focused on two periods: 2001 to
22 2005 (the last five years) and 1992 to 2001 (the most recently completed business
23 cycle).

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Q. Please describe your CE analysis.

A. Exhibit No. ____ (DCP-11) and Exhibit No. ____ (DCP-12) contain summaries of experienced returns on equity for several groups of companies, while Exhibit No. ____ (DCP-13) presents a risk comparison of utilities versus unregulated firms.

Exhibit No. ____ (DCP-11) shows the earned returns on average common equity and market-to-book ratios for the three groups of comparison utilities. These can be summarized as follows:

Group	Historic		Prospective ROE
	ROE	M/B	
Comparison Group	11.5-12.6%	177-189%	12.0-12.3%
Morin Electric Group	11.6-12.6%	155-169%	12.3-14.0%
Morin Gas Group	11.5-12.3%	175-184%	11.2-11.9%

These results indicate that historic returns of 11.5 to 12.6 percent have been adequate to produce market-to-book ratios of 156 to 186 percent for the groups of electric and gas utilities. Furthermore, projected returns on equity for 2006, 2007 and 2009 to 2011 are within a range of 11.2 percent to 14.0 percent for the electric and gas utility groups. These relate to 2005 market-to-book ratios of 195 percent or higher. It is apparent from these results that recent and prospective returns on equity for these utility groups have been in excess of required returns. It appears that these excessive returns and resulting market-to-book ratios reflect investor recognition of the excessive returns earned by these groups.

1 **Q. Have you also reviewed earnings of unregulated firms?**

2 A. Yes. As an alternative, I also examined a group of largely unregulated firms. I have
3 examined the Standard & Poor's 500 composite group, since this is a well
4 recognized group of firms that is widely utilized in the investment community and is
5 indicative of the competitive sector of the economy. Exhibit No. ____ (DCP-12)
6 presents the earned returns on equity and market-to-book ratios for the S&P 500
7 group over the past 13 years (i.e., 1992 to 2004). As this Exhibit indicates, over the
8 two periods this group's average earned returns ranged from 12.3 to 14.7 percent,
9 with market-to-book ratios ranging between 334 to 341 percent.

10

11 **Q. How can the above information be used to estimate the cost of equity for**
12 **Cascade?**

13 A. The recent earnings of the electric utility and S&P 500 groups can be utilized as an
14 indication of the level of return realized and expected in the regulated and
15 competitive sectors of the economy. In order to apply these returns to the cost of
16 equity for comparison utilities, however, it is necessary to compare the risk levels of
17 the electric and gas utility industries with those of the competitive sector. I have
18 done this in Exhibit No. ____ (DCP-13), which compares several risk indicators for
19 the S&P 500 group and the utility groups. The information in this schedule indicates
20 that the S&P 500 group is more risky than the utility comparison groups.

21

1 **Q. What return on equity is indicated by the CE analysis?**

2 A. Based on the recent earnings and market-to-book ratios, I believe the CE analysis
3 indicates that the cost of equity for comparison utilities is no more than 10 percent.
4 Recent returns of 11.5 to 12.6 percent have resulted in market-to-book ratios of 155
5 and greater. Prospective returns of 11.2 to 14.0 percent have been accompanied by
6 market-to-book ratios of over 195 percent. As a result, it is apparent that returns
7 below this level would result in market-to-book ratios of well above 100 percent. An
8 earned return of 10 percent or less should thus result in a market-to-book ratio of at
9 least 100 percent.

10

11 **XII. RETURN ON EQUITY RECOMMENDATION**

12

13 **Q. Please summarize the results of your three cost of equity analyses.**

14 A. My three methodologies produced the following:

15

<u>Methodology</u>	<u>Range</u>	
Discounted Cash Flow	9.0-10.0%	(9.5% Mid-Point)
Capital Asset Pricing Model	10.1-10.3%	(10.2% Mid-Point)
Comparable Earnings	10.0%	

17

18 **Q. What is your cost of equity recommendation for Cascade?**

19 A. It is my understanding that this Commission places the heaviest reliance on the DCF
20 method to determine the cost of equity for the utilities it regulates. I note that this is
21 not unusual among commissions throughout the U. S. Accordingly, my
22 recommendation places more emphasis on the DCF findings of nine percent to 10
23 percent. I note that the results of my CAPM analyses (10.1 percent to 10.3 percent)

1 and CE analyses (10 percent) corroborate my DCF findings. My specific
2 recommendation for Cascade is 9.75 percent, which gives primary consideration to
3 the 9.5 percent mid-point of my DCF findings, but also gives some weight to the
4 slightly-higher CAPM and CE results.

5 My recommendation for Cascade takes two forms. First, I recommend that
6 Cascade be awarded a cost of common equity of 9.75 percent, absent the adoption of
7 the requested decoupling mechanism. This represents the 9.75 percent cost of equity
8 for the LDC proxy groups described above. This is appropriate for the following
9 reasons. First, my 9.75 percent conclusion was developed using the high values of
10 the respective methodologies (i.e., high returns of DCF analysis, use of long-term
11 interest rate as risk-free rate in CAPM analysis). Second, Cascade can be regarded
12 as an average-risk LDC, as indicated in a previous section.

13 In addition, I recommend that, should Cascade be granted authority to
14 implement its proposed decoupling mechanism, it be awarded a cost of equity of 25
15 basis points less than the cost of equity absent the adoption of the decoupling
16 mechanism.

17
18 **XIII. TOTAL COST OF CAPITAL**

19
20 **Q. What is the total cost of capital for Cascade?**

21 A. Exhibit No. ____ (DCP-14) reflects the total cost of capital for the Company, using
22 the actual December 31, 2005, capital structure, the Company's proposed cost of

1 long-term debt and current cost of short-term debt, along with my common equity
2 cost recommendation. The resulting total cost of capital is 8.43 percent.

3

4 **Q. Does your cost of capital recommendation provide the company with a**
5 **sufficient level of earnings to maintain its financial integrity?**

6 A. Yes, it does. Exhibit No. ____ (DCP-15) shows the pre-tax coverage that would result
7 if Cascade earned my cost of capital recommendation. As the results indicate, the
8 mid-point of my recommended range would produce a coverage level that is within
9 the benchmark range for an A-rated utility. In addition, the debt ratio, which reflects
10 the capital structure as proposed by the Company, is within that benchmark for a
11 BBB-rated utility.

12

13 **XIV. COMMENTS ON COMPANY TESTIMONY**

14

15 **Q. Have you reviewed the testimony of Cascade witness Roger A. Morin?**

16 A. Yes, I have.

17

18 **Q. What is your understanding of Dr. Morin's cost of equity recommendation for**
19 **Cascade?**

20 A. Dr. Morin is recommending an 11.15 percent cost of common equity for Cascade.

21 This recommendation is based upon his implementation of the following cost of
22 equity models:

		<u>Morin Conclusions</u>
1		
2	CAPM	
3	Traditional	10.7-11.3%
4	Empirical	11.1-11.7%
5		
6	Risk Premium	
7	Historical Natural Gas	10.4-11.0%
8	Allowed R.P. Electric	10.7-10.9%
9		
10	DCF	
11	Natural Gas Distribution Zacks	9.6%
12	Natural Gas Distribution Value Line	11.2%
13	Electricity Distribution Zacks	10.4%
14	Electricity Distribution Value Line	9.7%
15		

16 Based upon these results, he concludes that 10.9 percent is the cost of equity for an
17 average natural gas distribution utility. He recommends an 11.15 percent return on
18 equity for Cascade, since he believes that the Company is more risky than the
19 average natural gas utility.

20 I believe each of Dr. Morin's methodologies over-states the cost of equity for
21 Cascade.

22

23 **Q. What is your understanding of Dr. Morin's CAPM analyses?**

24 A. Dr. Morin performs CAPM analyses for several groups of natural gas and electric
25 utilities. He combines a 0.80 beta with 4.7 percent and 5.3 percent costs of long-
26 term (30-year) Treasury bonds and a 7.5 percent risk premium range to get the
27 following CAPM results:

28 $K = RF + \beta(RP) = 4.7 + .80(7.5) = 11.0\%$

29 $K = RF + \beta(RP) = 5.3 + .80(7.5) = 11.5\%$

30

1 **Q. Do you agree with this CAPM analysis?**

2 A. No, I do not.

3

4 **Q. Which components of his CAPM analysis do you disagree with?**

5 A. I disagree with the risk premium component.

6

7 **Q. What is your disagreement with Dr. Morin's market risk premium component?**

8 A. Dr. Morin's 7.5 percent risk premium is derived from two studies: the 1926 to 2004
9 Ibbotson Associates study, showing a 7.2 percent differential between common
10 stocks and the "income component" of Treasury bonds; and a DCF analysis he
11 performed for Value Line's aggregate stock market index and growth forecasts
12 versus long-term Treasury bonds produced a 7.7 percent differential.

13 I disagree with the first study, since Dr. Morin improperly used "income
14 returns" from the Ibbotson Associates study rather than "total returns." What Dr.
15 Morin did was compare the differential between total returns for common stocks
16 (i.e., dividends and capital gains) and income returns for Treasury bonds. As such,
17 he has ignored the capital gains component of the Treasury bonds return. As I
18 indicated in my earlier testimony, the differential between total returns of common
19 stocks and Treasury bonds is 5.8 percent.

20 Dr. Morin's second study relies upon his conclusion that the "expected return
21 on the aggregate equity market" is 12.6 percent, which he derives by performing
22 DCF analyses for the Value Line aggregate market. He combines a 2.1 percent
23 dividend yield with an average projected growth rate of 10.5 percent to arrive at a

1 12.6 percent return. He then adjusted the dividend yield by the growth rate to arrive
2 at his 13.0 percent DCF cost, which he in turn compared to the 5.3 percent, 30-year
3 Treasury bond yields to arrive at a 7.7 percent risk premium.

4 I do not believe this is an appropriate method by which to estimate the risk
5 premium. Dr. Morin has not attempted to verify that the Value Line group of some
6 5,000 stocks is an appropriate standard for the risk premium, which is normally
7 performed by using a smaller sample of large companies, such as the S&P 500.

8
9 **Q. Please describe Dr. Morin's "empirical" CAPM analysis.**

10 A. Dr. Morin also employs what he describes as an "empirical" CAPM analysis. In this,
11 he assumes that the appropriate beta in a CAPM analysis is a combination of the
12 actual industry beta with a 75-percent weight and a beta of one with a 25-percent
13 weight. This form of the CAPM thus assumes that beta for an industry understates
14 the industry's volatility and thus risk and it is necessary to substitute the overall
15 market's beta (i.e., 1.0) for one-fourth of the industry's actual beta.

16 The use of an empirical CAPM overstates the cost of equity for companies
17 with betas below that of the market. What the empirical CAPM actually does is
18 inflate the CAPM cost for the selected company or industry on one-fourth of its
19 equity and assumes that one-fourth of the company has the risk of the overall market.
20 This is not appropriate for Cascade or for other utilities.

21

1 **Q. Please describe your understanding of Dr. Morin's risk premium analysis.**

2 A. Dr. Morin performs two risk premium analyses. Each of these involved the
3 estimation of an equity risk premium over the 4.7 percent and 5.3 percent long-term
4 Treasury bond yields used as the risk-free rate in his CAPM analyses. The two risk
5 premiums he developed are:

6 Historic risk premium for gas distribution industry; and

7 Allowed risk premiums for electric industry.

8
9 **Q. Please describe Dr. Morin's historic risk premium for the natural gas industry.**

10 A. Dr. Morin's historic risk premium for the natural gas industry involves an
11 examination of the total returns of 20-year Treasury bonds (capital gains/losses plus
12 interest) and Moody's Natural Gas Distribution Index (capital gains/losses plus
13 dividend yield) over the period 1954 to 2001. The average historical difference
14 between the natural gas utility returns and the Treasury bond returns was 5.7 percent.
15 His historic risk premium for the natural gas distribution industry simply added the
16 4.7 percent and 5.3 percent current Treasury bond yield to the 5.7 percent historic
17 risk premium to get 10.4 percent and 11.0 percent results.

18
19 **Q. Do you agree with this methodology for estimating the cost of equity for
20 Cascade?**

21 A. No, I do not. Dr. Morin's historic risk premium of 5.7 percent is simply an
22 examination of historical events going back to 1954. He has made no demonstration
23 that economic and financial conditions in 2005 are similar to those in earlier years.

1 The use of such a methodology implicitly assumes that the events of each of these
2 years can have the same influences at the current time.

3 In addition, the risk premiums developed by Dr. Morin are generally
4 dominated by the influence of capital gains in many years. For example, the year
5 1958 stock return of 56.2 percent reflects a 50.2 percent capital gain component. I
6 do not believe it is proper to assign Cascade's cost of equity based upon a
7 methodology that is dominated by stock market changes and bond market changes.

8 It is also apparent that the risk premium level has been very volatile over the
9 period 1954 to 2001. The highest risk premium was 61.21 percent in 1958 and the
10 lowest was -27.69 percent in 1982. The averages by decade have also been quite
11 different, as is shown in Exhibit No. ____ (DCP-16). This indicates that the decade of
12 the 1950s dominates the risk premium averages with a 16.89 percent premium. The
13 decade of the 1990s, in contrast, showed a 0.79 percent risk premium. Dr. Morin's
14 methodology weights these equally. It is doubtful that investors place equal weight
15 on events in the 1950s and 1990s in making investment decisions, yet Dr. Morin's
16 risk premium analysis implicitly assumes this is the case. I also note that Dr. Morin
17 states, in his DCF analysis, that investors do not give historic data much weight.
18 Yet, his risk premium analysis assumes that investors consider historic data going
19 back to 1954.

20

1 **Q. Please describe Dr. Morin's analysis of allowed risk premiums for the natural**
2 **gas utility industry.**

3 A. In this phase of his risk premium testimony, Dr. Morin compares the differential
4 between allowed returns on equity for natural gas utilities and long-term Treasury
5 bonds over the period 1996 to 2005. The average spread over this period was 5.4
6 percent, but Dr. Morin does not utilize this differential as his risk premium. Instead,
7 he performs regression analyses to track the risk premium in terms of rising and
8 falling interest rates. He then concludes that a 6.0 percent risk premium is
9 appropriate in conjunction with a 4.7 percent Treasury bond yield and a 5.6 percent
10 risk premium applies to a 5.3 percent Treasury bond yield. This adjustment is not
11 consistent with Dr. Morin's historic risk premium analyses, where he simply took the
12 average risk premium over the entire 1954 to 2001 period and applied this to the
13 current level of Treasury bond yields

14
15 **Q. What is your understanding of Dr. Morin's DCF analyses?**

16 A. Dr. Morin performs several sets of DCF analyses for two groups of natural gas
17 distribution utilities and electric utilities. In these analyses, he uses "spot" dividend
18 yields for each company as of December 2005. For the growth rates, he used two
19 indicators of growth: Zacks five-year EPS growth projections and Value Line
20 projections of EPS growth.

21 The major problem with Dr. Morin's DCF analyses is the fact that he has
22 used only one indicator of growth – projections of EPS. As I indicated in my DCF
23 analysis, it is customary and proper to use alternative measures of growth.

1 Dr. Morin's DCF analyses implicitly assume that investors rely exclusively
2 on EPS projections when making investment decisions. This is a very dubious
3 assumption, and Dr. Morin has offered no evidence that it is correct. I note, for
4 example, that Value Line - one of the sources of his growth rate estimates - contains
5 many statistics, both of a historic and projected nature, for the benefit of investors
6 who subscribe to this publication and presumably make investment decisions based
7 at least in part from the information contained in Value Line. Yet, Dr. Morin would
8 have us believe that Value Line subscribers and investors focus exclusively on one
9 single number from this publication.

10 I note in this regard that the DCF model is a "cash flow" model. The cash
11 flow to investors in a DCF framework is dividends. Dr. Morin's DCF model, in
12 contrast, does not even consider dividend growth rates.

13
14 **Q. Does this complete your testimony?**

15 A. Yes, it does.