

BEFORE THE WASHINGTON UTILITIES & TRANSPORTATION COMMISSION

WUTC v. VERIZON

DOCKET NO. UT-040788

DIRECT TESTIMONY OF DAVID PARCELL (DP-1T)

ON BEHALF OF

PUBLIC COUNSEL

November 22, 2004

I. INTRODUCTION AND QUALIFICATIONS

**Q: Please state your name, address, and occupation.**

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

Since 1970, Technical Associates has performed a wide array of services to both governmental and private clients. A primary component of these services has involved various aspects of public utility regulation and ratemaking. In connection with these studies, members of the firm have testified in well over 700 utility ratemaking proceedings through the United States and Canada.

**Q: Please describe your background and experience.**

**A:** I hold B.A. (1969) and M.A. (1970) degrees in economics from Virginia Polytechnic Institute and State University (Virginia Tech) and a M.B.A. (1985) from Virginia Commonwealth University. I have been continuously employed by Technical Associates since 1970. The large majority of my consulting experience has involved the provision of cost of capital testimony in utility ratemaking proceedings. I have previously testified in about 350 utility proceedings before more than 30 regulatory agencies in the United States and Canada.

Exhibit No. \_\_\_, DP-2 provides a more complete description of my background and experience.

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

**A:** I have been retained by the Public Counsel to evaluate certain aspects of the current filing of Verizon Northwest Inc. ("Verizon NW" or "Company"). The primary focus of my testimony is to analyze the current cost of capital for Verizon NW. Since Verizon NW is

1 a subsidiary of Verizon Communications Inc. (“Verizon” or “Parent”), I have also  
2 evaluated this entity in my analyses.

3 **Q: Have you prepared exhibits in support of your testimony?**

4 **A:** Yes, I have prepared fourteen exhibits. These exhibits were prepared either by me or  
5 under my direction. The information in these exhibits is correct to the best of my  
6 knowledge and belief.

7 **Q: How is your direct testimony organized?**

8 **A:** My testimony is organized into twelve parts as follows:

- 9 I. Introduction
- 10 II. Recommendations and Summary
- 11 III. Economic/Legal Principles and Methodologies
- 12 IV. General Economic Conditions
- 13 V. Verizon NW’s Operations and Business Risks
- 14 VI. Capital Structure
- 15 VII. Discounted Cash Flow Analysis
- 16 VIII. Capital Asset Pricing Model Analysis
- 17 IX. Comparable Earnings Analysis
- 18 X. Return on Equity Recommendations
- 19 XI. Total Cost of Capital
- 20 XII. Comments on Company Testimony

21  
22 II. RECOMMENDATIONS AND SUMMARY

23 **Q: What are your recommendations in this proceeding?**

24 **A:** My overall cost of capital recommendation for Verizon NW is as follows:

25

	<u>Percent</u>	<u>Cost</u>	<u>Return</u>
26 Long-Term Debt	49.3%	6.99%	3.45%
27 Short-Term Debt	5.8%	1.75%	0.10%
28 Common Equity	<u>44.9%</u>	10.0-11.0%	<u>4.49-4.94%</u>
29 Total Cost of Capital	100.00%		8.04-8.49%

30  
31

32 I recommend that Verizon NW be awarded a total cost of capital that is no higher than  
33 the mid-point of this range, or 8.26 percent.

1 **Q: Please summarize your analyses and conclusions.**

2 **A:** This proceeding is concerned with the regulated local exchange operations of Verizon  
3 NW. My analyses are concerned with the Company's total cost of capital. The first step  
4 in performing these analyses is the development of the appropriate capital structure. I  
5 have employed the consolidated capital structure of Verizon in my cost of capital  
6 analyses.

7 The second step in a cost of capital calculation is a determination of the embedded  
8 cost rates of long-term and short-term debt. I have utilized the September 30, 2004 cost  
9 rate for long-term debt of Verizon NW and the current rate for commercial paper as the  
10 cost of short-term debt in my analyses.

11 The third step in the cost of capital calculation is the estimation of the cost of  
12 common equity. I have employed three recognized methodologies to estimate the cost of  
13 equity for Verizon NW. Each of these methodologies is applied to a group of  
14 telecommunications companies, as well as the natural gas distribution industry. These  
15 three methodologies and my findings for the telecommunications group and natural gas  
16 industry are:

	Telecommunications Group	Gas Distribution Group
Discounted Cash Flow	10.2 - 10.7%	8.1 - 8.4%
Capital Asset Pricing Model	11.8 - 12.9%	9.9 - 10.7%
Comparable Earnings	N/A	10 - 11%

17  
18 Based upon these findings, my recommendation of the fair cost of common equity for  
19 Verizon NW is a range of 10 percent to 11 percent, with a mid-point of 10.5 percent.  
20 This range reflects a risk-adjusted cost of equity for the telecommunications group. This  
21 range also reflects the current cost of capital for the gas distribution group.

1 Combining these three steps into a weighted cost of capital results in an overall rate of  
2 return of 8.04-8.49 percent, with a mid-point of 8.26 percent. I recommend the  
3 Commission adopt this capital structure and an overall return of 8.26.

4 III. ECONOMIC/LEGAL PRINCIPLES AND METHODOLOGIES

5 **Q: What is your understanding of the economic and legal principles which underlie the**  
6 **concept of a fair rate of return for a regulated utility?**

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

18 Technically, the fair rate of return is a legal and accounting concept which refers  
19 to an ex post (after the fact) earned return on an asset base, while the cost of capital is an  
20 economic and financial concept which refers to an ex ante (before the fact) expected or  
21 required return on a liability base. However, in regulatory proceedings, the two terms are  
22 often used interchangeably and are so used in my testimony.

23 From an economic standpoint, a fair rate of return is normally interpreted to  
24 incorporate the financial concepts of financial integrity, capital attraction, and

1 comparable returns for similar risk investments. These concepts are derived from  
2 economic and financial theory and are generally implemented using financial models and  
3 economic concepts such as discounted cash flow (DCF), capital asset pricing model  
4 (CAPM), and comparable earnings (CE).

5 From a legal standpoint, two U.S. Supreme Court decisions are universally cited  
6 as providing the legal standards for a fair rate of return. The first is Bluefield Water  
7 Works and Improvement Company v. Public Service Commission of the State of West  
8 Virginia, 262 U.S. 679 (1923). In this decision, the Court stated:

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

27  
28 This decision established the following standards for a fair rate of return: comparable  
29 earnings, financial integrity, and capital attraction. It also noted the changing level of  
30 required returns over time.

31 The second decision is Federal Power Commission v. Hope Natural Gas  
32

1        Company, 320 U.S. 591 (1942). In that decision, the court stated:

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

13  
14        This case affirmed the primary standards of the Bluefield case, as well as the public  
15        interest standard. The Hope case is also credited with the establishment of the "end  
16        result" doctrine, which maintains that the methods utilized to develop a fair return are not  
17        important as long as the end result is reasonable.

18                I believe the Bluefield and Hope decisions, as well as subsequent cases which cite  
19        these decisions, have identified three economic and financial parameters relevant to the  
20        determination of a fair rate of return:

- 21                1.        comparable earnings
- 22                2.        financial integrity and
- 23                3.        capital attraction.

24        It is apparent that these legal standards reflect the economic criteria encompassed in the  
25        "opportunity cost" principle of economics, which holds that a utility and its investors  
26        should be afforded an opportunity (not a guarantee) to earn a return commensurate with  
27        returns they could expect to achieve on investments of similar risk. The opportunity cost  
28        principle is consistent with the fundamental premise on which regulation rests, namely  
29        that it is intended to act as a surrogate for competition.

30        **Q:    How can these standards be employed to estimate the cost of capital for a utility?**

1 **A:** Neither the courts nor economic/financial theory have developed exact and mechanical  
2 procedures for precisely determining the cost of capital. This is the case since the cost of  
3 capital is an opportunity cost and is prospective, which indicates it must be estimated.

4 There are several useful models that can be employed to assist in estimating the  
5 cost of equity capital, which is the capital structure item that is the most difficult to  
6 determine. These include the discounted cash flow method (DCF), the capital asset  
7 pricing model (CAPM), the comparable earnings analysis (CE) and the risk premium  
8 (RP) method. Each of these methods (or models) differs from the others and each, if  
9 properly employed, can be a useful tool in estimating the cost of common equity for a  
10 regulated utility.

11 In performing analyses of the cost of common equity, it is customary and  
12 appropriate to consider the results of several alternative methods. At the very least,  
13 alternative methods should be used as a check on a primary or preferred method.

14 **Q: Which methods have you employed in your analyses of the cost of common equity?**

15 **A:** I have utilized three methodologies in my testimony. These are DCF, CAPM (version of  
16 RP) and CE.

17 IV. GENERAL ECONOMIC CONDITIONS

18 **Q: What is the importance of economic and financial conditions in determining the cost  
19 of capital?**

20 **A:** The costs of capital, for both fixed-cost (debt and preferred stock) components and  
21 common equity, are determined in part by economic and financial conditions. At any  
22 given time, each of the following factors has direct and significant influences on the costs  
23 of capital: the level of economic activity, the stage of the business cycle, the level of  
24 inflation, and expected economic conditions. My understanding is that this position is



1 consistent with the Supreme Court's Bluefield decision that noted that "[a] rate of return  
2 may be reasonable at one time, and become too high or too low by changes affecting  
3 opportunities for investment, the money market, and business conditions generally."  
4 Bluefield, 262 U.S. at 693.

5 **Q: What indicators of economic and financial activity have you evaluated in your**  
6 **analyses?**

7 **A:** I have examined several sets of economic statistics for the period 1975 to the present. I  
8 chose this period because it permits the evaluation of economic conditions over three full  
9 past business cycles plus the current cycle to date, and thus makes it possible to assess  
10 changes in long-term trends. A business cycle is commonly defined as a complete period  
11 of expansion (recovery and growth) and contraction (recession). A full business cycle is  
12 a useful and convenient period over which to measure levels and trends in long-term  
13 capital costs because it incorporates the cyclical (i.e., stage of the business cycle)  
14 influences and thus permits a comparison of structural (or long-term) trends.

15 **Q: Please describe the prior three business cycles and the most current cycle.**

16 **A:** The most recent complete cycle began with an expansion in April of 1991 and ended in  
17 the fourth quarter of 2001, constituting a length of more than ten and one-half years.  
18 Recently, the economy slowed considerably in late 2000 and 2001 and was in a recession  
19 during 2001, notwithstanding the Federal Reserve lowering interest rates eleven times in  
20 2001 (as well as twice in 2003) in an aggressive effort to create a soft landing and avoid a  
21 recession. The events of September 11, 2001 further damaged the U.S. economy.

22

1 This cycle and the two prior complete cycles covered the following periods:

<u>Business Cycle</u>	<u>Expansion Period</u>	<u>Contraction Period</u>
2 1975-1982	Mar. 1975-July 1981	Aug. 1981-Oct. 1982
3 1983-1991	Nov. 1982-July 1990	Aug. 1990-Mar. 1991
4 1991-2001	Apr. 1991- Mar. 2001	April 2001-Nov. 2001
5 Current	Dec. 2001-Present	

6  
7  
8 The expansion phase of the most recent complete cycle surpassed the average length of  
9 expansions in the post-World War II era (i.e., about five years). The 1982-1990  
10 expansion (seven years, eight months) was the previous longest peacetime expansion of  
11 this era.

12 **Q: Please describe recent and current economic and financial conditions and their**  
13 **impact on the costs of capital.**

14 **A:** Exhibit No. \_\_\_, DP-3 shows several sets of economic data. Page 1 contains general  
15 macroeconomic statistics while pages 2 and 3 contain financial market statistics. Page 1  
16 shows that the initial stage of the current cycle was somewhat slower than the typical  
17 initial recovery period, and growth has actually slowed in 2004. This is indicated by the  
18 growth in real (i.e., adjusted for inflation) Gross Domestic Product, industrial production,  
19 and the employment rates.

20 The rate of inflation is also shown on page 1. As indicated, the Consumer Price  
21 Index (CPI) rose significantly during the 1975-1982 business cycle and reached double  
22 digit levels in 1979-1980. The rate of inflation declined substantially in 1981 and  
23 remained at or below 6.1 percent during the 1983-1991 business cycle, as the CPI  
24 generally grew by about 4 percent annually from 1982-1989 (each year except one from  
25 1982-1989 had a CPI rate between 3.8% and 4.6%). Since 1991, the CPI has been 3.4  
26 percent or lower. The 1.6 percent rate of inflation in 2003 was among the lowest levels  
27 over the past twenty-nine years.

1 **Q: What have been the trends in interest rates?**

2 **A:** Page 2 shows several series of interest rates. Rates rose sharply in 1975-1981 when the  
3 inflation rate was high and rising. Rates then fell substantially throughout the remainder  
4 of the 1980's and into the 1990's. During the recent business cycle, long-term rates  
5 remained relatively stable, in comparison to the prior cycles, and currently are lower than  
6 at any time during the prior three cycles. Over the past three years, both long-term and  
7 short-term interest rates have declined significantly to the lowest levels since the 1950's.  
8 This very low level of interest rates, in conjunction with the apparent strengthening of the  
9 U.S. economy, may create an expectation that any near-term movement of interest rates  
10 will be upward. In fact, the Federal Reserve has recently increased short-term interest  
11 rates on four occasions, although by only a small 0.25 percent level on each occasion, in  
12 an attempt to insure that any perceived inflationary expectations will not stifle continued  
13 economic growth. Nevertheless, the economic recovery to date has not resulted in a  
14 pronounced increase in long-term rates and, even if rates were to increase moderately,  
15 they would still remain well below historical levels.

16 **Q: What have been the trends in common share prices?**

17 **A:** Page 3 shows several series of common stock prices and ratios. These generally indicate  
18 that share prices were basically stagnant during the high inflation/interest rate  
19 environment of the late 1970's and early 1980's. On the other hand, the 1983-1991  
20 business cycle and the 1991-2001 cycle witnessed a significant upward trend in stock  
21 prices. Over the past three years, however, stock prices have been volatile and have  
22 declined substantially from their highs reached in 1999 and early 2000. Share prices  
23 increased somewhat in 2003 but have slightly declined in 2004.

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 interest  
5 rates, as well as other capital costs, would still result in capital costs that are low by  
6 historic standards.

7 V. VERIZON NORTHWEST’S OPERATIONS AND BUSINESS RISKS

8 **Q: Please describe Verizon NW and its operations.**

9 **A:** Verizon NW is a subsidiary of Verizon Communications, Inc. Verizon NW was formerly  
10 named GTE Northwest. This company operates in the states of California, Idaho, Oregon  
11 and Washington.

12 **Q: Please briefly describe Verizon and its operations.**

13 **A:** Verizon was formed in 1999 by the merger between Bell Atlantic and GTE. The 2003  
14 operations of Verizon are shown on Exhibit No. \_\_\_, DP-4 and can be summarized as  
15 follows:

	<u>Operating Revenues</u>	<u>Operating Income</u>	<u>Capital Expenditures</u>	<u>Assets</u>
Domestic Telecom	\$39.6 billion 58%	\$7.2 billion 53%	\$6.8 billion 58%	\$82.1 billion 51%
Domestic Wireless	\$22.5 billion 33%	\$4.1 billion 30%	\$4.6 billion 39%	\$65.2 billion 40%
Information Services	\$4.1 billion 6%	\$2.0 billion 15%	\$0.08 billion 1%	\$2.4 billion 2%
International	\$1.9 billion 3%	\$0.3 billion 2%	\$0.4 billion 3%	\$11.9 billion 7%
Verizon Consolidated	\$68.2 billion	\$13.6 billion	\$11.9 billion	\$161.6 billion

1 Note: Percentages may not add up to 100% due to inter-company eliminations and other  
2 factors.

3  
4 Source: Verizon Communications 2003 Form 10-K.

5  
6 **Q: What does this indicate concerning the contribution of domestic telecom to the  
7 Verizon system?**

8 **A:** This indicates that Domestic Telecom (which includes Verizon NW) accounts for about  
9 one-half of the operations of Verizon. This correspondingly indicates that about one-half  
10 of Verizon's operations are unregulated businesses.

11 **Q: What are the current bond ratings of Verizon?**

12 **A:** This is shown on Exhibit \_\_\_\_, DP-5. As this indicates, Moody's (the only major rating  
13 agency that still provides independent ratings for each subsidiary and/or entity of a  
14 corporate structure) rates Verizon NW with similar (i.e., A1) ratings to most of the other  
15 telephone subsidiaries of Verizon, and higher ratings than the non-telephone operations  
16 (i.e., Verizon Global Funding) of Verizon. This reflects the perceived similar risks of  
17 Verizon NW, in comparison to other domestic telephone operations of Verizon, and  
18 lower risks than the non-regulated operations.

19 **Q: What are your conclusions concerning the risks of Verizon NW and its business  
20 position within Verizon?**

21 **A:** It is apparent that Verizon NW is less risky than the unregulated operations of Verizon.  
22 It is also apparent that Verizon NW has similar risk to that of the other domestic  
23 telephone operations of Verizon.

24 **Q: How should the lower risk of Verizon NW's local exchange operations be reflected  
25 in the cost of capital?**

1 **A:** As I will describe more fully in later sections of my testimony, the relatively lower risk of  
2 local exchange operations requires that a downward adjustment be made to the market  
3 costs of common equity (e.g. DCF and CAPM) for the telecommunications industry.  
4 This follows since the market-based results for the publicly-traded telecommunications  
5 group reflects the impact of the higher-risk and resulting higher required returns for non-  
6 local exchange operations such as long distance and cellular.

7 VI. CAPITAL STRUCTURE AND COST OF DEBT

8 **Q: What is the importance of determining a proper capital structure in a regulatory**  
9 **framework?**

10 **A:** A regulated company's capital structure is important since the concept of rate base - rate  
11 of return regulation requires that a company's capital structure be determined and utilized  
12 in estimating the total cost of capital. Within this framework, it is proper to ascertain  
13 whether the regulated company's capital structure is appropriate relative to its level of  
14 business risk and relative to other regulated companies.

15 As noted in Section III, the purpose of determining the proper capital structure for  
16 a regulated company is to help ascertain the capital costs of the company. The rate base -  
17 rate of return concept recognizes the assets which are employed in providing services and  
18 provides for a return on these assets by identifying the liabilities and common equity (and  
19 their cost rates) which are used to finance the assets. In this process, the rate base is  
20 derived from the asset side of the balance sheet and the cost of capital is derived from the  
21 liabilities/owners' equity side of the balance sheet. The inherent assumption in this  
22 procedure is that the capital structure and the rate base are approximately equal and the  
23 former is utilized to finance the latter.

1           The common equity ratio is the percentage of common equity in the capital  
2 structure. This is the capital structure item which normally receives the most attention,  
3 since common equity: (1) usually commands the highest cost rate; (2) generates  
4 associated income tax liabilities; and (3) causes the most controversy since its cost cannot  
5 be precisely determined.

6 **Q: How have you evaluated the capital structure of Verizon NW?**

7 **A:** I first examined the five-year historic capital structure ratios for Verizon NW and  
8 Verizon. These ratios are shown on Exhibit No. \_\_\_, DP-6.

9           Page 1 indicates the capital structure ratios of Verizon NW. I have summarized  
10 below the common equity ratios for Verizon NW on two bases:

	<u>Including S-T Debt</u>	<u>Excluding S-T Debt</u>
11           1999	58.4%	60.1%
12           2000	57.0%	61.4%
13           2001	58.9%	68.7%
14           2002	62.8%	68.9%
15           2003	57.3%	65.4%
16		
17		

18           Page 2 shows the capital structure ratios of Verizon. The consolidated common equity  
19 ratios of Verizon have been:

	<u>Including S-T Debt</u>	<u>Excluding S-T Debt</u>
20           1999	35.7%	40.7%
21           2000	37.6%	43.8%
22           2001	33.6%	38.7%
23           2002	37.6%	38.6%
24           2003	42.4%	42.9%
25           6/30/04	44.9%	47.7%
26		
27		

28           The common equity ratios of Verizon (consolidated) are seen to exhibit somewhat lower  
29 common equity ratios than Verizon NW.

1 **Q: Have you compared the capital structure ratios of Verizon with other publicly-**  
2 **traded telephone companies?**

3 **A:** Yes, I have. Exhibit No. \_\_\_\_, DP-7 shows the June 30, 2004 capital structure ratios for  
4 the group of telephone companies identified in the following section. This indicates the  
5 following common equity ratios:

	<u>Including S-T Debt</u>	<u>Excluding S-T Debt</u>
6 Telecommunications Group	53.5%	55.9%

7  
8  
9 These equity ratios are slightly above those of Verizon. However, as Exhibit \_\_\_\_, DP-13  
10 shows, Verizon has generally superior “risk indicators” to the other companies making up  
11 the telecommunications group. This indicates lower risk for Verizon, notwithstanding its  
12 lower equity ratio.

13 **Q: What factors have you considered in determining the proper capital structure to use**  
14 **in this proceeding?**

15 **A:** I first gave consideration to the capital structure utilized by this Commission in Verizon  
16 NW’s last rate proceeding (i.e., Cause No. U-81-61 in 1982 involving GTE NW). In that  
17 decision, the Commission employed a capital structure containing 40 percent common  
18 equity. This capital structure reflected a hypothetical capital structure.

19 Second, I considered the capital structure of Verizon NW. However, I gave little  
20 weight to this capital structure for several reasons:

- 21 • The Verizon NW capitalization has not been stable in recent years, both from a  
22 percentage basis and a dollar basis.
- 23 • The subsidiary capital structure can be controlled by the parent company.



- 1           • Even though Verizon NW does issue its own debt, the subsidiary capital structure is  
2           not reflective of a capital structure that is characterized by a market-driven ration of  
3           debt and equity.

4           Third, I considered the consolidated capital structure of Verizon, since this  
5           reflects the actual financing of the entire entity. This capital structure, unlike the Verizon  
6           NW capital structure, reflects a market-driven ration of debt and equity.

7   **Q: What capital structure do you recommend for use in this proceeding?**

8   **A:** I propose that the consolidated capital structure of Verizon be utilized for the purpose of  
9           estimating the total cost of capital for Verizon NW. As noted above, this reflects the  
10          actual financing of all of the operations of Verizon.

11 **Q: What is the cost of long-term debt and short-term debt for Verizon NW?**

12 **A:** For the cost of long-term debt, I used the September 30, 2004 embedded cost rate of  
13          long-term debt for Verizon NW, as was provided in response to Data Request No. 490.  
14          For the cost of short-term debt, I used the September, 2004 yield on 90-day commercial  
15          paper.

16 **Q: Can the cost of common equity be determined with the same degree of precision as  
17          the costs of debt?**

18 **A:** No. The cost rate of debt is largely determined by interest payments, issue prices, and  
19          related expenses. Even though alternative methodologies exist for determining the  
20          embedded cost rate, the cost rate for debt is generally agreed to, at least within a  
21          relatively small range.

22          The cost of common equity, on the other hand, is not susceptible to specific  
23          measurement, primarily because this cost is an opportunity cost. There are, however,  
24          several models which can be employed to estimate the cost of common equity. Three of

1 the primary methods - DCF, CAPM, and comparable earnings - are developed in the  
2 following sections of my testimony.

3 VII. DISCOUNTED CASH FLOW ANALYSIS

4 **Q: What is the theory and methodological basis of the discounted cash flow model?**

5 **A:** The discounted cash flow (DCF) model is one of the oldest, as well as the most  
6 commonly-used models for estimating the cost of common equity for public utilities.  
7 The DCF model is based on the "dividend discount model" of financial theory, which  
8 maintains that the value (price) of any security or commodity is the discounted present  
9 value of all future cash flows. When applied to common stocks, the dividend discount  
10 model describes the value of a stock as follows:

11 
$$P = \frac{D_1}{(1 + K_1)} + \frac{D_2}{(1 + K_2)^2} + \dots + \frac{D_n}{(1 + K_n)^n} = \sum_{i=1}^n \frac{D_t}{(1 + K)^t}$$

12 where: P = current price

13  $D_1$  = dividends paid in period 1, etc.

14  $K_1$  = discount rate in period 1, etc.

15 n = infinity

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

19 
$$P = \frac{D}{(K - g)}$$

20 where: P = current price

21 D = current dividend rate

22 K = discount rate (cost of equity)



1 comprised of the following companies:

- 2 AGL Resources
- 3 KeySpan Corp.
- 4 Laclede Group
- 5 Northwest Natural Gas
- 6 People's Energy
- 7 WGL Holdings
- 8

9 **Q: How did you derive the dividend yield component of the DCF equation?**

10 **A:** There are several methods which can be used for calculating the yield component. These  
11 methods generally differ in the manner in which the dividend rate is employed, i.e.,  
12 current versus future dividends or annual versus quarterly compounding of dividends. I  
13 believe the most appropriate yield component is a quarterly compounding variant which  
14 is expressed as follows:

$$15 \text{Yield} = \frac{D_o(1+0.5g)}{P_o}$$

16 This yield component recognizes the timing of dividend payments and dividend  
17 increases.

18 The  $P_o$  in my yield calculation is the average (of high and low) stock price for  
19 each company for the most recent three month period (July-September 2004). The  $D_o$  is  
20 the current annualized dividend rate for each company.

21 **Q: How have you estimated the growth component of the DCF equation?**

22 **A:** The growth rate component of the DCF model is usually the most crucial and  
23 controversial element involved in using this methodology. The objective of estimating  
24 the growth component is to reflect the growth expected by investors that is embodied in  
25 the price (and yield) of a company's stock. As such, it is important to recognize that  
26 individual investors have different expectations and consider alternative indicators in

1 deriving their expected yield. A wide array of techniques exists for estimating the growth  
2 expectations of investors. As a result, it is evident that no single indicator of growth is  
3 always used by all investors. It therefore is necessary to consider alternative indicators of  
4 growth in deriving the growth component of the DCF model.

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

- 6 1. 1999-2003 (5 year average) earnings retention, or fundamental growth;
- 7 2. 5 year average of historic growth in earnings per share (EPS), dividends  
8 per share (DPS), and book value per share (BVPS);
- 9 3. 2007-09 projections of earnings retention growth;
- 10 4. 2002-2008 projections of EPS, DPS, and BVPS; and
- 11 5. 5 year projections of EPS growth as reported in FirstCall.

12 I believe this combination of growth indicators reflects a representative and appropriate  
13 set with which to estimate investor expectations of growth for the groups of comparison  
14 companies.

15 **Q: Please describe your DCF calculations.**

16 **A:** Exhibit \_\_\_, DP-8 presents my DCF analysis for the telecommunications and natural gas  
17 groups. Page 1 of each schedule shows the calculation of the "raw" (i.e., prior to  
18 adjustment for growth) dividend yield. Pages 2-3 show the growth rate for the groups of  
19 companies. Page 4 shows the DCF calculations. These results can be summarized as  
20 follows:

	<u>Mid-Point</u>	<u>Average</u>	<u>Median</u>	<u>Range</u>
21 Telecommunications Group	10.7%	10.3%	10.2%	9.3-12.1%
22				
23 Gas Distribution Group	8.4%	8.3%	8.1%	7.5-9.2%
24				
25				
26				

1 **Q: What do you conclude from your DCF analyses?**

2 **A:** Based upon my analyses, I believe a range of 10.2-10.7 percent represents the DCF cost  
3 of equity for the group of telecommunications companies, relative to their consolidated  
4 operations. The cost of equity for the gas distribution group is much lower, at 8.1-8.4  
5 percent.

6 VIII. CAPITAL ASSET PRICING MODEL ANALYSIS

7 **Q: Please describe the theory and methodological basis of the capital asset pricing**  
8 **model.**

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

14 **Q: How is the CAPM derived?**

15 **A:** The general form of the CAPM is:

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

17 where: K = cost of equity

18  $R_f$  = risk free rate

19  $R_m$  = return on market

20  $\beta$  = beta

21  $R_m - R_f$  = market risk premium

22 As noted previously, the CAPM is a variant of the risk premium method. I believe the  
23 CAPM is generally superior to the simple risk premium method because the CAPM

1 specifically recognizes the risk of a particular company or industry, whereas the simple  
2 risk premium method does not.

3 **Q: What groups of companies have you utilized to perform your CAPM analyses?**

4 **A:** I have performed CAPM analyses for the same groups of publicly-traded  
5 telecommunications companies and natural gas distribution companies evaluated in my  
6 DCF analyses.

7 **Q: What rate did you use for the risk-free rate?**

8 **A:** The first term of the CAPM is the risk free rate ( $R_f$ ). The risk-free rate reflects the level  
9 of return which can be achieved without accepting any risk.

10 In reality, there is no such thing as a risk less asset. In CAPM filings, the risk-  
11 free rate is usually recognized by use of U.S. Treasury securities because Treasury  
12 securities are default-free owing to the government's ability to print money and/or raise  
13 taxes to pay its debts.

14 Two types of Treasury securities are often utilized as the  $R_f$  component - short-  
15 term U.S. Treasury bills and long-term U.S. Treasury bonds. I have performed CAPM  
16 calculations using the three month average yield (July-September, 2004) for 20 year U.S.  
17 Treasury bonds. Over this three month period, these bonds had an average yield of 5.07  
18 percent.

19 **Q: What betas did you employ in your CAPM?**

20 **A:** I utilized the most current Value Line betas for each company. These are shown on  
21 Exhibit \_\_\_, DP-10 and are seen to be within a range of 1.00 to 1.10 for the  
22 telecommunications group and 0.65 to 0.80 for the gas distribution industry (the beta for  
23 the entire market is 1.00).

24 **Q: How did you estimate the market return component?**

1 **A:** The market return component ( $R_m$ ) represents the expected return from holding the entire  
2 market portfolio. In the CAPM, this term technically reflects the return from holding the  
3 weighted combination of all assets (i.e., stocks, bonds, real estate, collectibles, etc.).  
4 However, the traditional use of CAPM in utility rate proceedings focuses on  $R_m$  as the  
5 return on common stocks.

6 Alternative methods have been prepared with which to estimate  $R_m$ . As was the case in  
7 the DCF analysis concerning investors' expectations of growth, investors do not  
8 universally share the same expectations of the return on the overall market. My analysis  
9 of the  $R_m$  focuses on various returns for the Standard & Poor's 500 composite group  
10 which is a well-recognized index of the overall stock market. Two measures of return for  
11 the S&P 500 group have been performed.

12 Exhibit \_\_\_, DP-9 shows the return on equity for the S&P 500 group for the  
13 period 1978-2002 (all available years reported by S&P). The average return on equity for  
14 the S&P 500 group over the 1978-2002 period is 13.85 percent. Based upon these  
15 returns, I conclude that the expected return on equity is 13.85 percent for the S&P 500  
16 group.

17 I have also considered the total return for the S&P 500 group, as tabulated by  
18 Ibbotson Associates, using both arithmetic and geometric means. I have considered the  
19 total returns for the entire 1926-2003 period, which are as follows:

20	Arithmetic	12.4%
21	Geometric	10.4%

22 I conclude from this that the expected total return for the S&P 500 group is about 11.4  
23 percent (i.e., average of arithmetic and geometric means). I combine the results of the



1 return on common equity (13.8 percent) and the total return (11.4 percent) and conclude  
2 that 12.6 percent is the expected  $R_m$ .

3 **Q: Please describe the results of your CAPM analyses.**

4 **A:** Page 1 of Exhibit \_\_\_, DP-10 shows my first set of CAPM results. The results are as  
5 follows:

	<u>Mean</u>	<u>Median</u>
6 Telecommunications Group	12.9%	12.8%
7		
8 Gas Distribution Group	10.6%	10.7%
9		
10		
11		

12 **Q: Have you performed an alternative set of CAPM calculations?**

13 **A:** Yes I have performed an additional set of CAPM calculations in order to consider an  
14 alternative method of measuring the risk premium component. In this alternative CAPM,  
15 I did not use individual values of  $R_m$  and  $R_f$  to calculate the risk premium but rather used  
16 the historic risk premium from Ibbotson & Associates. I have developed such a risk  
17 premium by comparing the 1926-2003 total returns for:

18 Large Company Stocks	12.4%
19 Long-term Government Bonds	5.8%
20 Risk Premium	6.6%

21 Page 2 of Exhibit \_\_\_, DP-10 shows my CAPM calculations using this risk premium.

22 The results are:

	<u>Mean</u>	<u>Median</u>
23 Telecommunications Group	11.8%	11.8%
24		
25 Gas Distribution Group	9.9%	10.0%
26		

26 **Q: What is your conclusion concerning the CAPM cost of equity?**

1 **A:** The CAPM results collectively indicate costs of approximately 11.8-12.9 percent for the  
2 group of telecommunication companies, relative to their consolidated operations. The  
3 CAPM results for the regulated gas distribution industry is much lower, at 9.9-10.7  
4 percent.

5 IX. COMPARABLE EARNINGS ANALYSIS

6 **Q: Please describe the basis of the comparable earnings methodology.**

7 **A:** The comparable earnings method is derived from the "corresponding risk" standard of the  
8 Bluefield and Hope cases. This method is based upon the economic concept of  
9 opportunity cost. As previously noted the cost of capital is an opportunity cost - the  
10 prospective return available to investors from alternative investments of similar risk.

11 The comparable earnings method is designed to measure the returns expected to  
12 be earned on the original cost book value of similar risk enterprises. Thus, this method  
13 provides a direct measure of the fair return, because it translates into practice the  
14 competitive principle upon which regulation rests.

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

22 **Q: How have you employed the comparable earnings methodology in your analysis of**  
23 **the cost of common equity?**

1 **A:** I conducted the comparable earnings methodology by examining realized returns on  
2 equity for several groups of companies and evaluating the investor acceptance of these  
3 returns by reference to the resulting market-to-book ratios. In this manner it is possible to  
4 assess the degree to which a given level of return equates to the cost of capital. It is  
5 generally recognized for utilities that market-to-book ratios of greater than one (i.e.,  
6 100%) reflect a situation where a company is able to attract new equity capital without  
7 dilution (i.e., above book value). As a result, one objective of a fair cost of equity is the  
8 maintenance of stock prices above book value.

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

15 **Q: What time periods have you examined in your comparable earnings analysis?**

16 **A:** My comparable earnings analysis considers the experienced equity returns of the  
17 telecommunications groups and natural gas industry for the period 1992-2003 (i.e., last  
18 12 years), as well as prospective returns. The comparable earnings analysis requires that  
19 I examine a relatively long period of time in order to determine trends in earnings over at  
20 least a full business cycle. Further, in estimating a fair level of return for a future period,  
21 it is important to examine earnings over a diverse period of time in order to avoid any  
22 undue influence by unusual or abnormal conditions that may occur in a single year or  
23 shorter period. Therefore, in forming my judgment of the current cost of equity I have

1 focused on two periods: 1999-2003 (last five years), and 1992-2001 (most complete  
2 recent business cycle).

3 **Q: Please describe your comparable earnings analysis.**

4 **A:** Exhibit \_\_\_, DP-11 and Exhibit \_\_\_, DP-12 contain summaries of experienced returns on  
5 equity for several groups of companies, while Exhibit \_\_\_, DP-13 presents a risk  
6 comparison of telecommunications and natural gas companies versus unregulated firms.

7 Exhibit \_\_\_, DP-11 shows the earned returns on average common equity and market-to-  
8 book ratios for the groups of telecommunication and natural gas distribution companies.

9 These can be summarized as follows:

	<u>Historic</u>		<u>Prospective</u>
	<u>ROE</u>	<u>M/B</u>	<u>ROE</u>
10 Telecommunications Group	16.3-18.6%	359-368%	12.6-14.5%
11 Gas Distribution Group	11.0-11.1%	160-167%	11.0-11.4%

12  
13  
14  
15  
16  
17 These results indicate that historic returns of 16.3-18.6 percent have been adequate to  
18 produce market-to-book ratios of 359-368 percent for the telecommunications group.

19 Furthermore, projected returns on equity for 2004, 2005 and 2007-2009 are within  
20 a range of 12.6-14.5 percent for the telecommunications group. These relate to 2003  
21 market-to-book ratios of 219 percent.

22 The results for the gas distribution industry are much lower, as historic returns on  
23 equity of 11.0-11.1 percent have resulted in market-to-book ratios of 160-167 percent.  
24 Projected returns of 11.0-11.4 percent relate to 2003 market-to-book ratios of 166  
25 percent.

26 **Q: Have you also reviewed earnings of unregulated firms?**

1 **A:** Yes. As an alternative, I also examined a group of largely unregulated firms. I have  
2 examined the Standard & Poor's 500 Composite group, since this is a well recognized  
3 group of firms that is widely utilized in the investment community and represents an  
4 indication of the competitive sector of the economy. Exhibit \_\_\_, DP-12 presents the  
5 earned returns on equity and market-to-book ratios for the S&P 500 group over the past  
6 eleven years (i.e., 1992-2002). As this exhibit indicates, over the two periods this group's  
7 average earned returns ranged from 12.7-14.5 percent and with average market-to-book  
8 ratios ranging between 334-399 percent. Over the past eleven years, earnings levels have  
9 not increased, while market-to-book ratios have increased; reflecting a decline in the  
10 return levels required by investors. Since 1992, market-to-book ratios have been over  
11 240 percent; they exceeded 300 percent in 1997-2002.

12 **Q: How can the above information be used to estimate the cost of equity for**  
13 **telecommunications companies?**

14 **A:** The recent earnings of the telecommunications, natural gas and S&P 500 groups can be  
15 utilized as an indication of the level of return realized and expected in the regulated and  
16 competitive sectors of the economy. In order to apply these returns to Verizon NW,  
17 however, it is necessary to compare the risk levels of the telecommunications and natural  
18 gas industries with those of the competitive sector. I have done this in Exhibit \_\_\_, DP-  
19 13 which compares several risk indicators for the S&P 500 group, the  
20 telecommunications and natural gas groups, and several other groups.

21 The information in this exhibit indicates that the S&P 500 group is more risky  
22 than the telecommunications group. This exhibit also indicates that the non-telephone  
23 (i.e., non local exchange service) operations of the telecommunications groups are  
24 viewed as much more risky than the overall telecommunications groups. This implies

1 that the provision of local exchange service is much less risky than the other operations  
2 of the telecommunications groups. This exhibit also clearly indicates that the regulated  
3 natural gas distribution industry is much less risky than the other groups.

4 **Q: What return on equity is indicated by the comparable earnings analysis?**

5 **A:** Based on the recent earnings and market-to-book ratios, I believe the comparable  
6 earnings analysis indicates that the cost of equity for local exchange operations is 10-11  
7 percent. In reaching this conclusion, I relied primarily on the returns and market to book  
8 ratios of the natural gas distribution industry. The extremely high market to book ratios  
9 of the telecommunications group and S&P 500 group make it very difficult to evaluate  
10 past and projected return levels. Recent returns for the natural gas distribution industry  
11 of 11.0-11.1 percent have resulted in market-to-book ratios of 160 or over. Prospective  
12 returns of 11.0-11.4 percent have been accompanied by market-to-book ratios of 166  
13 percent. As a result, it is apparent that returns below this level would result in market-to-  
14 book ratios of well above 100 percent. An earned return of 10-11 percent or less should  
15 thus result in a market-to-book ratio of at least 100 percent.

16 X. RETURN ON EQUITY RECOMMENDATION

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

18 **A:** My three methodologies and findings are summarized below:

	<u>Telecommunications</u> <u>Group</u>	<u>Gas Distribution</u> <u>Industry</u>
19 Discounted Cash Flow	10.2-10.7%	8.1-8.4%
20 Capital Asset Pricing Model	11.8-12.9%	9.9-10.7%
21 Comparable Earnings	N/A	10-11%

22  
23  
24  
25  
26 I note that the DCF and CAPM cost rates for the telecommunications group reflect the  
27 consolidated operations and risks of these companies. Most of their non-local exchange

1 operations involve more risky operations, such as long-distance, cellular & paging,  
2 telecommunications equipment, and foreign telecommunications. The higher risk of  
3 these operations carry a correspondingly higher cost of capital. In order to estimate the  
4 cost of equity differentials between local exchange operations and these non-telephone  
5 operations, I performed DCF and CAPM analyses for several sets of publicly traded  
6 companies who are engaged in the types of operations in which many of the  
7 telecommunications groups' companies are diversified into. These calculations are  
8 shown on Exhibit \_\_\_, DP-14.

9 The average DCF and CAPM cost rates for these groups of companies are:

<u>Group</u>	<u>DCF <sup>1/</sup></u>	<u>CAPM</u>	<u>Average</u>
Wireless Group	16.4%	15.7%	16.1%
Wireless Networking Group	12.5%	17.6%	15.1%
Telecommunications Equipment	13.2%	16.9%	15.1%
Foreign Telecommunications	10.7%	13.6%	12.2%
Publishing	14.2%	11.6%	12.9%
Average			<b>14.3%</b>

17  
18 <sup>1/</sup> The DCF results for these groups employ only forward-looking growth  
19 rates since many of these groups' companies do not have meaningful  
20 historical results.  
21

22 These indicate a 14.3 percent average DCF/CAPM result for these non-regulated  
23 companies. This compares to the 11.4 percent average (i.e., average of 10.2-10.7% DCF  
24 results and 11.8-12.9% CAPM results) for the consolidated telecommunications group, or  
25 some 2.9 percentage points below the required returns for the non-regulated groups.

26 Given the much higher than average returns for unregulated operations, clearly,  
27 the required cost of capital for the local exchange operations of the telecommunications  
28 groups is well below the 11.4 percent average DCF and CAPM cost rates. I believe the  
29 cost of equity for the regulated local exchange operations should be at least 100 basis

1 points (1 percent) below the 11.4 percent consolidated cost of equity for these groups.  
2 This is a reasonable adjustment given that equity costs for unregulated companies are  
3 almost 3 percent higher than the consolidated cost of equity. As a result, I believe that  
4 10.5 percent represents the upper limit of the cost of equity for the local exchange  
5 operations of Verizon NW

6 **Q: What cost of equity do you recommend for Verizon NW?**

7 **A:** I recommend a return on equity range of 10 percent to 11 percent for Verizon NW's local  
8 exchange operations. This range reflects the DCF (10.2-10.7%) and CAPM (11.8-12.9%)  
9 results of the telecommunications group, adjusted downward by 100 basis points to  
10 reflect the much lower risk which the local exchange operations face relative to the more  
11 risky operations of the consolidated telecommunications groups. The bottom end of this  
12 range also reflects the current cost of equity of the natural gas distribution industry, based  
13 upon the results of my DCF (8.1-8.4%), CAPM (9.9-10.7%), and comparable earnings  
14 (10.0-11.0%) analyses.

15 XI. TOTAL COST OF CAPITAL

16 **Q: What is the total cost of capital for Verizon NW?**

17 **A:** This is shown on Exhibit \_\_\_, DP-15 which reflects the total cost of capital for the  
18 Company using the capital structure, cost of debt, and my cost of common equity  
19 recommendation. The resulting total cost of capital is a range of 8.04-8.49 percent (8.26  
20 percent mid-point). I recommend a cost of capital for Verizon NW of no greater than  
21 8.26 percent.

22 XII. COMMENTS ON COMPANY TESTIMONY

23 **Q: Have you reviewed the testimony of Verizon Northwest witness Vander Weide?**

24 **A:** Yes, I have.



1 **Q: What is your understanding of Dr. Vander Weide's cost of capital**  
2 **recommendation?**

3 **A:** Dr. Vander Weide recommends a total cost of capital for Verizon Northwest of 11.64  
4 percent. This incorporates a cost of equity of 13.46 percent that he derives by applying a  
5 DCF analysis to a group of S&P Industrial companies and a group of Value Line  
6 companies. He applies this 13.46 percent cost of equity to a market-based capital  
7 structure comprised of 75 percent equity and 25 percent debt.

8 **Q: What parts of Dr. Vander Weide's analyses do you disagree with?**

9 **A:** I disagree with the following aspects of Dr. Vander Weide's cost of capital analyses:

- 10 ● Use of quarterly DCF model;
- 11 ● Exclusive reliance of earnings per share (EPS) forecasts as growth component;
- 12 ● Use of S&P Industrials and Value Line as proxy groups; and,
- 13 ● Use of market-based capital structure.

14 **Q. Please explain why it is improper to use the quarterly version of the DCF model.**

15 **A.** Dr. Vander Weide claims that it is necessary to use a quarterly DCF model since most  
16 firms pay dividends quarterly and since "Investors can expect to earn a higher annual  
17 effective return on an investment in a firm that pays quarterly dividends than in one  
18 which pays the same amount of dollar dividends once at the end of each year (pages 27-  
19 28)."

20 The quote of Dr. Vander Weide may be correct but this does not justify use of a  
21 quarterly DCF model. As investors receive dividends on a quarterly basis, they can either  
22 spend them, save them, or reinvest them. Each of these options essentially increases the  
23 return on their investment. If they spend the dividends, they enjoy the benefits (utility)  
24 sooner; if they save or reinvest the dividends they already get a higher return due to the

1 compounding effects. As a result, there is no need to use a quarterly DCF model, since  
2 this had the effect of double counting the impact of compounding.

3 **Q. Why is it improper for Dr. Vander Weide to rely exclusively on 5-year EPS**  
4 **projections?**

5 A. It is clear that investors rely on a number of factors when making investment decisions.  
6 It is naïve to believe that all investors rely exclusively on a single statistic in all  
7 circumstances. Yet this is what Dr. Vander Weide is proposing.

8 Dr. Vander Weide claims (page 29) that “There is considerable empirical  
9 evidence that analysts’ forecasts are more highly correlated with stock prices than are  
10 firm’s historical growth rates, and thus, that investors actually use these forecasts.” Dr.  
11 Vander Weide has not addressed the proper question, which should be – Do investors all  
12 rely exclusively on a single estimator of growth? I believe it is naïve to believe this is the  
13 case. Investors are provided with many types of information, presumably for the purpose  
14 of assisting them in making investment decisions – projected earnings per share is merely  
15 one of many types of information.

16 I also note that Dr. Vander Weide’s own “study” (page 30) does not address the  
17 “exclusive” indicator question, but rather focuses on the “best” indicator question. Unlike  
18 Dr. Vander Weide’s 1998 study, which merely asked if analysts’ forecasts are a better  
19 predictor (at that time) of stock prices than historical growth rates, other studies have  
20 asked a more relevant question: do investors rely on estimates of growth other than  
21 analysts’ forecasts? Not surprisingly, the answer is “Yes.”

22 One such example is a 1987 study by Conroy and Harris (in Management  
23 Science, Vol. 33, No. 6, June 1987, 725-738) that directly compared IBES projections vs.  
24 historic growth in EPS as indicators of stock price performance. They found that

1 analysts' forecasts were better than historic EPS over the short-term, but the advantage  
2 declined over time. They also found that a combination of forecasts and historic EPS is  
3 better than just forecasts of EPS.

4 A second study, also in 1987, by Newbolt, Zumwalk and Kannan (in International  
5 Journal of Forecasting, 3, 1987, 229-238) compared Value Line EPS projections with  
6 historic growth of DPS, EPS and retention growth as indicators of stock price  
7 performance. They found that analysts' forecasts of EPS are better than only historical  
8 data, but that a combination of forecasts and historic data is best.

9 A third study was published in 1989 by Timme and Eisemann (in Financial  
10 Management, Winter 1989, 23-35). This study compared IBES and Value Line  
11 projections with historic growth of DPS. They concluded that analysts' forecasts of EPS  
12 are superior to exclusive use of historic data, but do not contain all relevant information  
13 utilized by investors. They further concluded that a combination of forecast and historic  
14 data is better than exclusive use of analysts' forecasts.

15 Further, more recent academic scholarship has even challenged the accuracy of  
16 analysts' EPS forecasts. A prominent example is a 1998 article (in the Financial Analysts  
17 Journal, Vol. 54, No. 6, Nov./Dec. 1998, 35-42) titled "Why So Much Error in Analysts'  
18 Earnings Forecasts?", by Vijay Kumar Chopra. In this article, the author concluded,  
19 "Analysts' forecasts of EPS and growth in EPS tend to be overly optimistic." He  
20 concluded that analysts' forecasts of EPS over the past 13 years have been more than  
21 twice the actual growth rate.

22 Another source is less academic and more directly in the financial mainstream.  
23 On March 26, 2002, Federal Reserve Chairman Alan Greenspan spoke to an audience at  
24 the Stern School of Business of New York University. In that speech, (available at the

1 FRB's website: <http://www.federalreserve.gov>), the Chairman addressed the historical  
2 relationships and roles of corporations, financial institutions and brokerage-based  
3 investment analysts:

4 "For the most part, despite providing limited incentives for board  
5 members to safeguard shareholder interest, this paradigm has  
6 worked well. We are fortunate for financial markets have had no  
7 realistic alternative other than to depend on the chief executive  
8 officer to ensure an objective evaluation of the prospects of the  
9 corporation. Apart from a relatively few large institutional  
10 investors, not many existing or potential shareholders have the  
11 research capability to analyze corporate reports and thus judge the  
12 investment value of a corporation. This vitally important service  
13 has become dominated by firms in the business of underwriting or  
14 selling securities."

15  
16 **"But, as we can see from recent history, long-term earnings**  
17 **forecasts of brokerage-based securities analysts, on average,**  
18 **had been persistently overly optimistic. Three-to five-years**  
19 **earnings forecasts for each of the S&P 500 corporations,**  
20 **compiled from projections of securities analysts by I/B/E/S,**  
21 **averaged almost 12 percent per year between 1985 and 2001.**  
22 **Actual earnings growth over the period averaged about 9**  
23 **percent."**

24  
25 "Perhaps the last sixteen years for which systematic data have been  
26 available are a historic aberration. But the persistence of the bias  
27 year after year suggests that it more likely results, at least in part,  
28 from the proclivity of firms that sell securities to retain and  
29 promote analysts with an optimistic inclination. Moreover, the  
30 bias apparently has been especially large when the brokerage firm  
31 issuing the forecast also serves as an underwriter for the  
32 company's securities."  
33

34 Still another source of new insight and perspective is, unfortunately, the well-publicized  
35 financial debacles of Enron and WorldCom. These sagas demonstrate dramatically how  
36 analysts are often either unwilling or incapable of discerning potentially disastrous  
37 impacts on a Company's projected EPS, and how even current earnings can be distorted  
38 by the complex financial machinations of large, aggressive corporations.

1           Finally during 2003, ten of the nation's largest securities firms agreed to pay a  
2 record \$1.4 billion in penalties to settle U.S. government charges involving investor  
3 abuses, many of which resulted from analysts' forecasts and recommendations that the  
4 government charged were biased and subject to conflicts-of-interests. This settlement  
5 largely grew out of a New York State investigation and reflects the national, and even  
6 international, scope of the negative perceptions of analysts' forecasts and  
7 recommendations. These and other, similar investigations and complaints have  
8 underscored a growing awareness that analysts' estimates cannot be considered an  
9 unbiased source of growth expectations by investors, and this has important implications  
10 for a DCF analysis that exclusively incorporates any such estimates.

11           In summary, investors are now very much aware of recent scandals involving  
12 security analysts, including the Enron and WorldCom debacles, conflicts of interest that  
13 have resulted in settlements, fines, and public admonishments, as well as other negative  
14 connotations related to the reliability of analysts' forecasts. If there ever was a tendency  
15 for investors to rely exclusively on analysts' forecasts, a dubious proposition, clearly the  
16 landscape has changed in recent years and investors have ample reasons to doubt the  
17 reliability of such forecasts at the present time.

18 **Q: What are your comments about Dr. Vander Weide's proxy groups?**

19 **A:** Dr. Vander Weide selected two proxy groups to which he applied his DCF analysis: 1) a  
20 subset of the S&P Industrials that have reported stock prices, pay dividends and have at  
21 least three analysts' growth estimates; and 2) a group of companies meeting certain Value  
22 Line criteria. Neither of these proxy groups is a suitable proxy group for Verizon NW.

23           The purpose of selecting a proxy group for a regulated company, such as Verizon  
24 NW, is to identify a set of companies that have similar risk and operating characteristics

1 to the subject company. It is obvious that Dr. Vander Weide's two proxy groups are  
2 much less similar to Verizon NW than are the telecommunications group and gas  
3 distribution group I utilize in my cost of capital analyses. For example, my  
4 telecommunications group is comprised of companies that have significant local  
5 exchange operations; Dr. Vander Weide's group does not. In addition, my groups  
6 provide essential services and are, to some extent, regulated; Dr. Vander Weide's groups  
7 are not.

8 **Q: Do you agree with Dr. Vander Weide's use of market-value capital structures?**

9 **A:** No, it is not proper to utilize the market-value capital structure framework as proposed by  
10 Dr. Vander Weide, whereby the number of shares of stock is multiplied by the stock price  
11 to derive the equity component of the capital structures without a demonstration that this  
12 is consistent with the manner in which either Verizon or Verizon NW would be expected  
13 to finance its local exchange operations. I say this because Dr. Vander Weide's proposed  
14 methodology does not reflect the actual dollars of capital which Verizon (or his S&P  
15 Industrials of Value Line groups) has available to invest in the facilities needed to  
16 provide local exchange operations. The fact that the current market value of the Telecom  
17 Companies common stock, for example, represents about 80% of its market-value of  
18 capital does not indicate that these firms would choose to finance their operations in this  
19 manner. Clearly, there is a financial incentive to employ leverage in financing a  
20 company, as long as the expected return exceeds the cost of debt. As a result, what is  
21 important and proper for the purposes of this proceeding is to estimate how a competitive  
22 firm would capitalize its investment in the facilities required to provide local exchange  
23 operations.

24 **Q: Is Verizon capitalized in the manner suggested by Dr. Vander Weide?**

1 A: Not at all. As I show in Section VI of my testimony above, Verizon has far less equity  
2 than Dr. Vander Weide would impute in his capital structure – over 45 percent less. Dr.  
3 Vander Weide’s proposed market-based capital structure has no foundation in how  
4 Verizon actually chooses to finance its operations, and should not be adopted by this  
5 commission.

6 **Q: Does that conclude your testimony?**

7 **A:** Yes.