Exhibit No. ____ (JHV-1T)
Docket No. UT-

BEFORE THE

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Petition of Verizon Northwest Inc. for an Order Approving Commencement of Bifurcated General Rate Case and Waiver of WAC 480-07-510(2)	**)**	**DOCKET NO. UT-**

DIRECT TESTIMONY OF

JAMES H. VANDER WEIDE, Ph.D.

ON BEHALF OF
VERIZON NORTHWEST INC.

APRIL 30, 2004

TABLE OF CONTENTS

I. INTRODUCTION

Q. WHAT IS YOUR NAME AND BUSINESS ADDRESS?

A. My name is James H. Vander Weide. I am Research Professor of Finance and Economics at the Fuqua School of Business of Duke University. I am also President of Financial Strategy Associates, a firm that provides strategic and financial consulting services to business clients. My business address is 3606 Stoneybrook Drive, Durham, North Carolina.

Q. WOULD YOU PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND PRIOR ACADEMIC EXPERIENCE?

A. I graduated from Cornell University in 1966 with a Bachelor's Degree in Economics. I then attended Northwestern University where I earned a Ph.D. in Finance. In January 1972, I joined the faculty of the School of Business at Duke University and was named Assistant Professor, Associate Professor, and then Professor.

Since joining the faculty, I have taught courses in corporate finance, investment management, and management of financial institutions. I have taught a graduate seminar on the theory of public utility pricing and lectured in executive development seminars on the cost of capital, financial analysis, capital budgeting, mergers and acquisitions, real options, cash management, short-run financial planning, and competitive strategy. I have also served as Program Director of several executive education programs at the Fuqua School of Business, including the Duke Advanced Management Program, the Duke Executive Program in Telecommunications, Competitive Strategies in

Telecommunications, and the Duke Program for Manager Development for managers from the former Soviet Union.

I have conducted seminars and training sessions on financial analysis, financial strategy, cost of capital, real options, cash management, depreciation policies, and short-run financial planning for a wide variety of U.S. and international companies, including ABB, Accenture, Allstate, Ameritech, AT&T, Bell Atlantic, BellSouth, Carolina Power & Light, Contel, Fisons, Glaxo Wellcome, GTE, Lafarge, MidAmerican Energy, New Century Energies, Norfolk Southern, Pacific Bell Telephone, The Rank Group, Siemens, Southern New England Telephone, TRW, and Wolseley PLC.

In addition to my teaching and executive education activities, I have written research papers on such topics as portfolio management, the cost of capital, capital budgeting, the effect of regulation on the performance of public utilities, and cash management. My articles have been published in *American Economic Review*, *Financial Management*, *International Journal of Industrial Organization*, *Journal of Finance*, *Journal of Financial and Quantitative Analysis*, *Journal of Bank Research*, *Journal of Accounting Research*, *Journal of Cash Management*, *Management Science*, *The Journal of Portfolio Management*, *Atlantic Economic Journal*, *Journal of Economics and Business*, and *Computers and Operations Research.* I have written a book titled *Managing Corporate Liquidity: an Introduction to Working Capital Management*, and a chapter for *The Handbook of Modern Finance*, "Financial Management in the Short Run".

Q. HAVE YOU PREVIOUSLY TESTIFIED ON FINANCIAL OR ECONOMIC ISSUES?

A. Yes. As an expert on financial and economic theory, I have testified on the cost of capital, competition, risk, incentive regulation, forward-looking economic cost, economic pricing guidelines, depreciation, accounting, valuation, and other financial and economic issues in approximately 350 cases before the U.S. Congress, the Canadian Radio-Television and Telecommunications Commission, the Federal Communications Commission, the National Telecommunications and Information Administration, the Federal Energy Regulatory Commission, the public service commissions of 40 states, the insurance commissions of five states, the Iowa State Board of Tax Review, and the National Association of Securities Dealers. In addition, I have testified as an expert witness in proceedings before the U.S. District Court, District of Nebraska; U.S. District Court, Eastern District of North Carolina; Superior Court, North Carolina; the U.S. Bankruptcy Court, Southern District of West Virginia, and the United States District Court for the Eastern District of Michigan. With respect to implementation of the Telecommunications Act of 1996, I have testified in 26 states and in Washington, D.C. on issues relating to the pricing of unbundled network elements and universal service cost studies. I have also consulted with Bell Canada, Deutsche Telekom, and Telefónica on similar issues.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. I have been asked to make an independent appraisal of the cost of equity capital for Verizon Northwest Inc. ("Verizon NW") and to recommend a rate of return on equity that

is fair, that allows Verizon NW to attract capital on reasonable terms, and that maintains Verizon NW's financial integrity. I have also been asked to recommend an appropriate capital structure for Verizon NW and an overall fair rate of return for the purpose of setting Verizon NW's rates in Washington.

Q. WHAT IS YOUR CONCLUSION ABOUT VERIZON NW'S COST OF EQUITY AND OVERALL COST OF CAPITAL FOR USE IN SETTING RATES IN THIS PROCEEDING?

A. I conclude that Verizon NW's cost of equity is 13.95% and its overall cost of capital is 12.03%.

Q. DO YOU HAVE EXHIBITS TO ACCOMPANY YOUR TESTIMONY?

A. Yes. Two schedules prepared by me or under my supervision accompany my testimony as Exhibits JVW-2 and JVW-3.

II. ECONOMIC PRINCIPLES

Q. HOW DO ECONOMISTS DEFINE THE REQUIRED RATE OF RETURN, OR COST OF CAPITAL, ASSOCIATED WITH PARTICULAR INVESTMENT DECISIONS, SUCH AS THE DECISION TO INVEST IN THE BUILDING OF TELECOMMUNICATIONS NETWORK FACILITIES?

A. Economists define the required rate of return on a particular investment as the return that investors forego by making that investment instead of an alternative investment of equal risk.

Q. HOW DOES THE COST OF CAPITAL AFFECT A FIRM'S INVESTMENT DECISIONS?

A. The goal of a firm is to maximize the value of the firm. This goal can be accomplished by accepting all investments in plant and equipment with an expected rate of return greater than or equal to the cost of capital. Thus, a firm should continue to invest in plant and equipment only so long as the return on its investment is greater than or equal to its cost of capital.

Q. HOW DOES THE COST OF CAPITAL AFFECT INVESTORS' WILLINGNESS TO INVEST IN A COMPANY?

A. The cost of capital measures the return investors can expect on investments of comparable risk. Rational investors will not invest in a particular investment opportunity if the expected return on that opportunity is less than the cost of capital. Thus, the expected rate of return on an investment in a company must exceed the cost of capital before investors will be willing to invest in that company.

Q. DO ALL INVESTORS HAVE THE SAME POSITION IN THE FIRM?

A. No. Debt investors have a fixed claim on a firm's assets and income that must be paid prior to any payment to the firm's equity investors. Since the firm's equity investors have a residual claim on the firm's assets and income, equity investments are riskier than debt investments. Thus, the cost of equity exceeds the cost of debt.

Q. WHAT IS THE OVERALL OR WEIGHTED AVERAGE COST OF CAPITAL?

A. The overall or weighted average cost of capital is a weighted average of the cost of debt and cost of equity, where the weights are the percentages of debt and equity in a firm's capital structure.

Q. CAN YOU ILLUSTRATE THE CALCULATION OF THE OVERALL OR WEIGHTED AVERAGE COST OF CAPITAL?

A. Yes. Assume that the cost of debt is 6%, the cost of equity is 14%, and the percentages of debt and equity in the firm's capital structure are 25% and 75%, respectively. Then the weighted average cost of capital is expressed by 0.25 times 6% plus 0.75 times 14%, or 12.0%.

Q. HOW DO ECONOMISTS DEFINE THE COST OF DEBT COMPONENT OF THE WEIGHTED AVERAGE COST OF CAPITAL?

A. Economists define the cost of debt as the market interest rate that a firm would have to pay on newly-issued debt obligations. In efficient markets, the market interest rate is also the best estimate of future interest rates. The correct economic definition of the cost of debt is thus forward-looking and market-oriented.

Q. HOW DO ECONOMISTS DEFINE THE COST OF EQUITY COMPONENT OF THE WEIGHTED AVERAGE COST OF CAPITAL?

A. Economists define the cost of equity as the return investors expect to receive on alternative equity investments of comparable risk. Since the return on an equity

investment of comparable risk is not a contractual return, the cost of equity is more difficult to measure than the cost of debt. There is agreement, however, as I have already noted, that the cost of equity is greater than the cost of debt. There is also agreement among economists that the cost of equity, unlike the cost of debt, is both forward-looking and market-based.

Q. WHAT APPROACHES DO ECONOMISTS EMPLOY TO OBTAIN NUMERICAL ESTIMATES OF THE COST OF EQUITY?

A. Economists generally use market models such as the Discounted Cash Flow ("DCF") model to estimate a firm's cost of equity. The DCF model is based on the assumption that the market price of a firm's stock is equal to the present value of the stream of cash flows that investors expect to receive from owning the stock. The cost of equity in the DCF model is that discount rate which equates the firm's stock price to the present value of the future stream of cash flows investors expect from owning the stock.

Q. HOW DO ECONOMISTS MEASURE THE PERCENTAGES OF DEBT AND EQUITY IN A FIRM'S CAPITAL STRUCTURE?

A. Economists measure the percentages of debt and equity in a firm's capital structure by first calculating the market value of the firm's debt and the market value of its equity. Economists then calculate the percentage of debt by the ratio of the market value of debt to the combined market value of debt and equity, and the percentage of equity by the ratio of the market value of equity to the combined market values of debt and equity. For example, if a firm's debt has a market value of $25 million and its equity has a market

value of $75 million, then its total market capitalization is $100 million, and its capital structure contains 25% debt and 75% equity.

Q. WHY DO ECONOMISTS MEASURE A FIRM'S CAPITAL STRUCTURE IN TERMS OF THE MARKET VALUES OF ITS DEBT AND EQUITY?

A. Economists measure a firm's capital structure in terms of the market values of its debt and equity because that is the best measure of the amounts of debt and equity that investors have invested in the company on a going-forward basis. Furthermore, investors measure the return and the risk of their security portfolios in terms of market values. Thus, to attract investment capital, firms must offer an expected return on the market value of their securities that is commensurate with expected returns on the market value of other securities of equal risk.

Q. IS THE ECONOMIC DEFINITION OF THE COST OF CAPITAL, WHICH FOCUSES ON THE MARKET VALUES OF DEBT AND EQUITY, WIDELY ACCEPTED IN OTHER CONTEXTS BY CAPITAL MARKET PARTICIPANTS?

A. Yes. Homeowners measure the value of their homes in terms of market values, not historical cost or book values. Investors measure the return and risk on their portfolios in terms of market values, not book values. Companies use a market value definition of the cost of capital to make entry, investment, and innovation decisions.

Q. IS THE ECONOMIC DEFINITION OF THE WEIGHTED AVERAGE COST OF CAPITAL CONSISTENT WITH THE WAY FIRMS DETERMINE THE REQUIRED RATE OF RETURN ON THEIR INVESTMENT DECISIONS?

A. Yes. Managers also use a market value definition of the weighted average cost of capital in making investment decisions. From the manager's perspective, the firm's cost of capital is equal to the return investors can earn on the market value of other investments of the same risk. Rational managers, like rational investors, will not commit resources to investments in new markets or technologies unless the expected return on the market value of these investments in new markets or technologies is greater than or equal to the firm's cost of capital, measured on a market value basis, for projects with the same degree of risk.

Q. WHY DO INVESTORS MEASURE THE RETURN ON THEIR INVESTMENT PORTFOLIOS USING MARKET VALUE WEIGHTS RATHER THAN BOOK VALUE WEIGHTS?

A. Investors measure the return on their investment portfolios using market value weights because market value weights are the best measure of the amounts the investors currently have invested in each security in the portfolio. From the point of view of investors, the historical cost or book value of their investment is entirely irrelevant to the current risk and return on their portfolios because if they were to sell their investments, they would receive market value and not historical cost. Thus, the return can only be measured in terms of market values.

Q. DOES THE REQUIRED RATE OF RETURN ON AN INVESTMENT VARY WITH THE RISK OF THAT INVESTMENT?

A. Yes. Since investors are averse to risk, they require a higher rate of return on investments with greater risk.

Q. DO ECONOMISTS AND INVESTORS CONSIDER FUTURE INDUSTRY CHANGES WHEN THEY ESTIMATE THE RISK OF A PARTICULAR INVESTMENT?

A. Yes. Economists and investors consider all the risks that a firm might incur over the future life of the company.

Q. WHAT PRACTICAL DIFFICULTIES ARISE WHEN ONE ATTEMPTS TO APPLY THESE PRINCIPLES?

A. The application of the above principles to the debt component of the firm's capital structure is straightforward. Several problems arise, however, when the above principles are applied to common equity. These problems stem from the fact that cash flows to equity investors, over any period of time, are not fixed by contract, and thus are not known with certainty. To induce equity investors to part with their money, the firm must offer them an expected return that is commensurate with expected returns on equity investments of similar risk. The need to measure investor expected returns increases the skill and judgment required to apply the above principles to the equity component of the firm's capital structure. The need for skill and judgment is especially pronounced today for a firm like Verizon NW, which is part of an industry that is undergoing dramatic

structural change caused by increased competition, uncertain regulation, and technological change.

Q. HOW DID YOU ADDRESS THESE DIFFICULTIES IN YOUR TESTIMONY?

A. I addressed these difficulties by applying the DCF model to two groups of risk comparable companies.

III. TELECOMMUNICATIONS RISK

Q. WHAT ARE THE MAJOR FACTORS THAT AFFECT THE RISK OF INVESTING IN LECS SUCH AS VERIZON NW?

A. The risk of investing in local exchange telecommunications companies such as Verizon NW depends on operating leverage, competition, rapidly changing technology, and the regulatory environment.

Q. WHAT IS OPERATING LEVERAGE?

A. Operating leverage refers to the relationship between the company's revenues, on the one hand, and the company's fixed and variable costs on the other. The provision of facilities-based telecommunications services is a business that requires a large commitment to fixed costs in relation to variable costs, a situation called high operating leverage. The relatively high degree of fixed costs in the provision of facilities-based telecommunications service exists because of the average LEC's large investment in fixed assets such as central office, transport, and loop facilities. High operating leverage causes Verizon NW's net income to be highly sensitive to fluctuations in revenues.

There is a positive correlation between operating leverage and risk: as operating leverage rises, so does the risk of operation.

Q. WHAT IS THE CURRENT STATUS OF COMPETITION IN VERIZON NW'S LOCAL EXCHANGE MARKET IN WASHINGTON?

A. Local exchange competition is extensive throughout Verizon NW's local exchange market in Washington. In the Seattle-Bellevue-Everett market, Verizon NW faces strong competition from AT&T, MCI, Sprint, Level 3, MFN, Global Crossing, ELI, 360, ATG, Focal, XO, Comcast, Qwest, and Vonage.

In the Wenatchee-Richland area, Verizon NW faces competition from Northwest Telephone, Qwest, ELI, and several public utility districts who are interested in the business and government customers located in this area.

Verizon NW also faces competition from Comcast, the nation's largest cable provider, who is already offering local and long-distance bundled plans to customers in Verizon NW's territory.[1] Since its acquisition of AT&T's cable business, Comcast has reported that it plans to begin offering Voice Over Internet Protocol (VoIP) phone service over its cable network. It expects to substantially complete the upgrade and rebuilding of its newly acquired systems by the end of 2004, at a total cost of $2.2 billion to $2.5 billion.[2] In addition, Vonage, a broadband company, has just introduced VoIP service that gives

[1] Comcast, My Membership, http://www.comcast.com/Products/Telephony/Packages.ashxLocResults&Zip=98201, Mar. 8, 2004.
[2] Comcast 2002 Form 10K at http://www.cmcsk.com/phoenix.zhtml?c=118591&p=irol-sec&secCat01v1_rs=106&secCat01v1_rc=15.

customers unlimited calling to the 206, 253, and 425 area codes at a monthly rate of $24.99, plus 500 domestic long distance minutes.[3]

Q. DO YOU HAVE ANY EVIDENCE THAT VERIZON NW HAS EXPERIENCED ACTUAL LINE LOSSES IN ITS SERVICE TERRITORIES IN WASHINGTON?

A. Yes. Verizon NW has suffered significant line losses as a result of competition. From the 4th quarter 2002 to the 4th quarter 2003, Verizon NW has lost nearly 4% of its total access lines. During the same period, there has been nearly a 42% increase in the number of total UNE-P lines sold to competitors.

Q. IN ADDITION TO THE CLECS, ARE THERE ANY OTHER SOURCES OF LOCAL EXCHANGE COMPETITION IN WASHINGTON?

A. Yes. Verizon NW's local exchange territory in Washington is served by several wireless carriers that provide local and long distance telecommunications services at prices that are very competitive to the prices charged by Verizon NW. Recent wireless plans offer as many as 1,000 anytime minutes with no long distance charges for as little as $39 per month. Even for customers with modest monthly toll usage, these rates are highly competitive with a package of Verizon NW's local exchange service and toll service. Wireless carriers in Verizon NW's markets include AT&T Wireless, Cingular, T-Mobile, and Sprint PCS.

[3] Vonage - The Broadband Phone Company, http:www.vonage.com/rate.php, Mar. 8, 2004.

Q. HOW DOES RAPIDLY CHANGING TECHNOLOGY AFFECT THE RISK OF INVESTING IN INCUMBENT LOCAL EXCHANGE COMPANIES SUCH AS VERIZON NW?

A. Rapidly changing technology increases Verizon NW's risk in two ways. First, it threatens Verizon NW's ability to recover the investment cost of its new telecommunications plant. Second, it reduces the cost of entry for competitors. Rapid advances in fiber optics, wireless, and multimedia transmission technologies, for example, have shortened the economic lives of the incumbent LECs' current investments in copper-based facilities and allowed cable TV, interexchange, and wireless companies to compete efficiently to offer local exchange service. Advances in these technologies further threaten the incumbent LECs' heavy investment in landline telecommunications service.

Q. WHAT IS REGULATORY RISK?

A. Regulatory risk is the risk that regulators will set rates for regulated services that provide no opportunity for the company to earn a fair rate of return on its investment.

Q. HAS THE COMMISSION TAKEN ANY ACTIONS THAT REFLECT THE REGULATORY RISK VERIZON NW FACES IN WASHINGTON STATE?

A. Yes. In its Eleventh Supplemental Order in Docket No. UT-020406, the Commission reduced Verizon NW's intrastate access revenues by $29.7 million without considering whether Verizon NW is earning a fair rate of return on its investment in Washington State and without raising rates for local services to compensate Verizon NW for the lost

revenue. The Commission took this action even though it maintains a rate of return regulatory framework that is supposed to provide Verizon NW a reasonable opportunity to earn a fair rate of return on its investment in Washington State.

Q. DID THE COMPANY PROVIDE ANY EVIDENCE TO THE COMMISSION THAT, PRIOR TO THE REDUCTION IN ACCESS REVENUES, IT WAS ALREADY EARNING A RATE OF RETURN THAT WAS SIGNIFICANTLY LESS THAN ITS ALLOWED RATE OF RETURN?

A. Yes. In testimony filed in Docket No. UT-020406, Company Witness Heuring provided strong evidence that the Company was already earning significantly less than its allowed rate of return before the Commission-ordered the $29.7 million reduction in access revenues.

Q. DID THE COMMISSION CONSIDER THIS EVIDENCE WHEN IT REDUCED VERIZON NW'S INTRASTATE ACCESS REVENUES BY $29.7 MILLION?

A. No. The Commission refused to consider any evidence that Verizon NW was earning less than its allowed rate of return or less than its cost of capital when it ordered Verizon NW to reduce its intrastate access revenues by $29.7 million. Instead, the Commission suggested that Verizon NW's only alternative was to file a rate case to try to recover the revenues.

Q. WILL A RATE CASE ALLOW VERIZON NW TO RECOVER THE $29.7 MILLION REDUCTION IN INTRASTATE REVENUES ORDERED IN DOCKET NO. UT-020406?

A. No. Because of the inherent delay in resolving a rate case proceeding, Verizon NW will not be able to recover this shortfall, even if the Commission subsequently determines that it is appropriate for the access charge reductions to be recovered.

Q. IS IT UNUSUAL FOR COMMISSIONS IN RATE OF RETURN STATES TO REDUCE A COMPANY'S REVENUES WITHOUT CONSIDERING THE IMPACT OF THE REVENUE REDUCTIONS ON THE COMPANY'S ABILITY TO EARN ITS ALLOWED RATE OF RETURN?

A. Yes. In my thirty years of experience as a financial expert in the telecommunications industry, I cannot recall any other commission in a rate of return state that reduced a company's revenues without considering the impact on either the company's earnings or its ability to earn its allowed rate of return. Indeed, it has always been my understanding that, under rate of return regulation, commissions are required to set rates that provide the company a reasonable opportunity to earn a fair rate of return on the investment subject to the commission's jurisdiction. In my opinion, the Commission's Eleventh Supplemental Order fails this basic requirement of rate of return regulation.

Q. HOW DOES THE COMMISSION'S ELEVENTH SUPPLEMENTAL ORDER AFFECT VERIZON NW'S INCENTIVE TO MAKE DISCRETIONARY INVESTMENTS IN WASHINGTON STATE?

A. Because the Eleventh Supplemental Order significantly increases Verizon NW's regulatory risk, it discourages Verizon NW (and perhaps other firms in like circumstances) from making discretionary investments in Washington State. From an economic point of view, it simply makes no sense for Verizon NW to invest in a jurisdiction where it has little opportunity to earn a fair rate of return on its investment and where it is subject to the regulatory risk of confiscation.

Q. ARE ANY OTHER COMMISSION ACTIONS ASSOCIATED WITH THIS ORDER OF CONCERN FROM A REGULATORY RISK STANDPOINT?

A. Yes. I have been advised by counsel that the Commission has claimed publicly in court[4] that it can consider Verizon NW's *interstate* earnings when setting Verizon NW's *intrastate* rates and revenue requirement. In my experience, I have never encountered a state commission that would consider revenues from beyond its jurisdiction when setting intrastate rates. The Commission's claim suggests that it believes it would be justified in ignoring the FCC's Separations Rules and that it might arbitrarily reduce intrastate rates if Verizon NW has solid interstate financial revenues. Such a potential regulatory action is another signal that there is significant risk in investing in telecommunications facilities in Washington State.

[4] Declaration of Betty A. Erdahl, at 4, para. 8, filed by the Commission in *Verizon Northwest v. WUTC*, Case No. 03-2-1022708 (Snohomish County Superior Court).

Q. DOES YOUR PROPOSED RETURN ON CAPITAL REFLECT THIS INCREASED RISK?

A. No. Since there is no publicly traded stock for Verizon NW's operations in Washington State, as described in my testimony, I have estimated Verizon NW's cost of capital from market data on a group of proxy companies. While these companies are comparable to Verizon NW in regard to business and financial risk, they do not face the regulatory risks that Verizon NW faces in Washington State. Thus, my proposed return on equity is conservative because it does not reflect the increased regulatory risk of Verizon NW's operations in Washington State.

Q. HOW DOES THE RISK OF INVESTING IN VERIZON NW'S LOCAL EXCHANGE OPERATIONS IN WASHINGTON COMPARE TO THE RISK OF INVESTING IN THE S&P INDUSTRIALS?

A. The risk of investing in Verizon NW's local exchange operations in Washington is at least as great as the risk of investing in the S&P Industrials. As I noted above, the risk of investing in Verizon NW's local exchange operations depends on operating leverage, competition, rapidly changing technology, and the regulatory environment. The degree of operating leverage required to provide facilities-based local exchange telecommunications services far exceeds the average degree of operating leverage required to provide the goods and services offered by companies in the S&P Industrials.

Telecommunications is also a high technology business that is particularly sensitive to the risks of competition and rapidly changing technology. To be sure, the combination of

competition and rapidly changing technology has forced many companies in the telecommunications industry into bankruptcy. In addition, a regulatory environment that subjects Verizon NW to the risk that rates will be reduced without allowing Verizon NW an opportunity to earn a fair rate of return on its investment exacerbates the risk of investing in Verizon NW's local exchange operations in Washington State compared to the S&P Industrials.

These factors—high operating leverage, competition, rapidly changing technology, and the regulatory environment—make the risk of investing in Verizon NW's local exchange operations at least as great as the risk of investing in the S&P Industrials.

IV. COMPARABLE COMPANIES

A. Selection Criteria

Q. WHAT GENERAL CRITERIA DO YOU RECOMMEND TO SELECT A REASONABLE PROXY GROUP FOR THE PURPOSE OF ESTIMATING VERIZON NW'S COST OF CAPITAL?

A. I recommend that the proxy group satisfy the following criteria: (1) the companies must have stock that is market traded; (2) the companies must have sufficient data to apply cost of equity methodologies, *i.e.*, dividends and I/B/E/S growth rates; (3) taken as a whole, the average risk for the proxy group must be similar to the risk of Verizon NW's local exchange telecommunications operations; (4) the group of companies must be sufficiently large in number to reduce random noise in the estimation process to an acceptable level; and (5) the companies must operate in an economic environment that is

sufficiently stable so that investors can make reasonable predictions of the company's future economic performance.

Q. WHY DO YOU REQUIRE THAT YOUR PROXY COMPANIES BE PUBLICLY TRADED?

A. As noted above, I used the DCF model to estimate the cost of equity for my proxy companies. The DCF model uses information on a company's stock price, dividends, and investor growth expectations to estimate the cost of equity. The information required to implement the DCF model is only available for publicly-traded companies.

Q. DOES FINANCIAL THEORY REQUIRE THAT PROXY COMPANIES BE IN THE SAME LINE OF BUSINESS?

A. No. Although it is convenient if proxy companies are in the same line of business, it is not necessary. Financial theory only requires that proxy companies have the same risk. According to financial theory, all companies with the same risk should have the same cost of equity.

Q. WHY DO YOU REQUIRE THAT A PROXY GROUP BE COMPRISED OF A RELATIVELY LARGE NUMBER OF COMPANIES?

A. Since the cost of equity is forward looking, the DCF model requires estimates of investors' expected growth for each company. Given the uncertainty in growth forecasts, growth forecasts for individual companies may understate or overstate the company's actual future growth. The error resulting from overstatement or understatement of

growth expectations for individual companies can be significantly reduced by using a large sample of companies. Intuitively, the understatement of growth for some companies will be off-set by overstatement of growth for other companies, and vice versa.

Q. IS THERE ANY WAY TO DETERMINE IN ADVANCE HOW MANY COMPANIES SHOULD BE INCLUDED IN A PROXY GROUP?

A. No. The selection of proxy companies necessarily involves some judgment. As long as the companies are reasonably similar in risk on average to the target company, a larger number of companies is always better than a smaller number. Although no hard and fast rule exists for determining the number of companies that is sufficient to reduce estimation error to a reasonable level, many analysts agree that a proxy group containing as few as five companies would be inappropriate for the purpose of providing reasonable estimates of the cost of equity.

Q. WHY IS IT NECESSARY THAT THE PROXY COMPANIES OPERATE IN A REASONABLY STABLE ECONOMIC ENVIRONMENT?

A. The DCF model is based on the assumption that investors can reasonable predict the future economic performance of the company. When companies operate in an unstable economic environment where technology is highly uncertain, competitors are constantly changing, and regulators are seeking to restructure the industry, forecasting such companies' future economic performance becomes extremely difficult. In these circumstances, the errors in estimating future economic performance are so great that it is

not possible to obtain reasonable estimates of the cost of equity using data for such companies.

B. Risk Proxies for Verizon NW's Local Exchange Business

Q. WHAT COMPANIES DO YOU RECOMMEND AS RISK PROXIES FOR VERIZON NW'S LOCAL EXCHANGE TELECOMMUNICATIONS BUSINESS IN WASHINGTON?

A. I recommend two groups of publicly traded industrial companies as risk proxies for Verizon NW's local exchange telecommunications business in Washington.

Q. WHY DO YOU RECOMMEND GROUPS OF INDUSTRIAL COMPANIES AS RISK PROXIES FOR VERIZON NW'S LOCAL EXCHANGE TELECOMMUNICATIONS BUSINESS?

A. I recommend groups of publicly-traded industrial companies as risk proxies for Verizon NW's local exchange telecommunications business because they satisfy the basic criteria for proxy companies, namely, my proxy companies are publicly traded, have sufficient data to apply cost of equity methodologies, taken as a whole, have similar risk to Verizon NW's local exchange operations, are sufficiently large in number to reduce the random noise in the cost of equity estimation process to an acceptable level, and on average operate in reasonably stable economic environments.

Q. DID YOU CONSIDER USING THE REGIONAL BELL HOLDING COMPANIES (RBHCS) AS RISK PROXIES FOR VERIZON NW'S LOCAL EXCHANGE TELECOMMUNICATIONS BUSINESS?

A. Yes. However, I concluded that the RBHCs are poor proxies for the purpose of estimating the cost of equity for Verizon NW's local exchange telecommunications business because: (1) the three remaining RBHCs that still pay dividends are too small a sample for the purpose of estimating the cost of equity; (2) the RBHCs are less risky than Verizon NW's local exchange business because they can diversify away some of the technological, geographic, and regulatory risks facing Verizon NW's local exchange business in Washington; and (3) the RBHCs no longer operate in an economic environment that is sufficiently stable to reasonably forecast their future economic performance.

Q. AT THE TIME THE COMMISSION LAST REVIEWED VERIZON NW'S RATE OF RETURN IN 1994, THE COMMISSION CONSIDERED THE COST OF EQUITY RESULTS FOR A SAMPLE OF REGULATED NATURAL GAS DISTRIBUTION COMPANIES. ARE THE REGULATED NATURAL GAS DISTRIBUTION COMPANIES REASONABLE PROXIES FOR VERIZON NW'S LOCAL EXCHANGE TELECOMMUNICATIONS BUSINESS AT THIS TIME?

A. No. The regulated natural gas distribution companies are no longer reasonable proxies for Verizon NW's local exchange operations because Verizon NW's local exchange operations face significantly more competitive, technology, and regulatory risks than natural gas distribution companies.

Q. HOW DID YOU SELECT YOUR FIRST PROXY GROUP OF INDUSTRIAL COMPANIES?

A. I applied the DCF model to a subset of the S&P Industrials that is significantly less risky than the average U.S. market-traded company. I included in this proxy group only those companies in the S&P Industrials which have a reported stock price, pay a dividend, have a positive growth rate, have at least three analysts' long-term growth estimates, and have at least one common share outstanding. To be conservative, I also eliminated those 25% of companies with the highest and lowest DCF results.

Q. IS THERE ANY WAY TO COMPARE THE RISK OF YOUR FIRST PROXY GROUP TO THE AVERAGE RISK OF U.S. MARKET-TRADED COMPANIES?

A. Yes. *Value Line* publishes a set of equity risk measures, including ratings for beta, safety rank, financial strength, and earnings predictability that are widely available to investors. In its *Guide to Using the Investment Survey*, *Value Line* defines beta, safety rank, financial strength, and earnings stability as follows:

> **Beta**. A relative measure of the historical sensitivity of the stock's price to overall fluctuations in the New York Stock Exchange Composite Index.
>
> **Safety Rank**. A measure of potential risk associated with individual common stocks. The Safety Rank is computed by averaging two other Value Line indexes—the Price Stability Index and the Financial Strength rating. Safety Ranks range from 1 (Highest) to 5 (Lowest). Conservative investors should try to limit purchases to equities ranked 1 (Highest) or 2 (Above Average) for Safety.
>
> **Financial Strength.** A relative measure of financial strength of the companies reviewed by Value Line. The relative ratings range from A++ (strongest) down to C (weakest), in nine steps.
>
> **Earnings Predictability.** Earnings predictability is a measure of the reliability of an earnings forecast. Predictability is based on the stability

of year-to-year comparisons, with recent years being weighted more heavily than earlier ones.

These measures can be used to compare the average risk of U.S. market-traded companies, as represented by the *Value Line* universe, to the risk of my first proxy group.

Q. HOW DO THE AVERAGE RISK MEASURES FOR YOUR PROXY GROUP OF S&P INDUSTRIALS COMPARE TO THE AVERAGE RISK OF THE RBHCS AND THE *VALUE LINE* UNIVERSE?

A. As shown below in Table 1, the S&P Industrials are a safer group than either the RBHCs or the average company in the *Value Line* universe, using the *Value Line* equity risk ratings.

Table 1
Average Risk Measures for S&P Industrial Group, the RBHCs, and the Value Line Universe of Companies

Company Group	Safety Rank	Beta	Earnings Predictability	Financial Strength	Financial Strength (numerical)
S&P Industrial Group	1.8	0.95	77	A+	2
RBHCs	2.0	1.01	85	A+	2
Value Line universe	3.0	1.05	53	B+	5

Q. HOW DID YOU SELECT YOUR SECOND PROXY GROUP OF COMPANIES?

A. To select my second proxy group, I identified companies from *Value Line* that have: (1) a beta greater than or equal to .85 and less than or equal to 1.05; (2) a Safety Rank of 1 or 2; (3) a Financial Strength rating equal to or greater than A; and (4) an Earnings Predictability rating equal to or greater than 85. Thus, my screening criteria assure that the risk comparable group is significantly less risky than the average company in the Value Line universe.

Q. HOW DO THE AVERAGE RISK MEASURES FOR YOUR *VALUE LINE* PROXY GROUP OF COMPANIES COMPARE TO THE AVERAGE RISK MEASURES FOR THE RBHCS AND THE *VALUE LINE* UNIVERSE?

A. As shown below in Table 2, the Value Line proxy group of companies is also safer than either the RBHCs or the average company in the *Value Line* universe.

Table 2
Average Risk Measures for Value Line Proxy Group, the RBHCs, and the Value Line Universe of Companies

Company Group	Safety Rank	Beta	Earnings Predictability	Financial Strength	Financial Strength (numerical)
Value Line Proxy Group	1.6	0.95	93	A+	2
RBHCs	2.0	1.01	85	A+	2
Value Line universe	3.0	1.05	53	B+	5

V. THE DISCOUNTED CASH FLOW MODEL AND RESULTS

Q. YOU MENTIONED ABOVE THAT YOU USED THE DCF MODEL TO ESTIMATE VERIZON NW'S COST OF EQUITY. PLEASE DESCRIBE THE DCF MODEL.

A. The DCF model suggests that investors value an asset on the basis of the future cash flows they expect to receive from owning the asset. Thus, investors value an investment in a bond because they expect to receive a sequence of semi-annual coupon payments over the life of the bond and a terminal payment equal to the bond's face value at the time the bond matures. Likewise, investors value an investment in a firm's stock because they expect to receive a sequence of dividend payments and, perhaps, expect to sell the stock at a higher price sometime in the future.

A second fundamental principle of the DCF approach is that investors value a dollar received in the future less than a dollar received today. They place a higher value on the dollar received today because they can invest it in an interest earning account and increase their wealth. This principle is called the time value of money.

Applying the two fundamental DCF principles to an investment in a firm's stock suggests that the price of the stock should be equal to:

Equation 1

$$P_s = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \cdots + \frac{D_n + P_n}{(1+k)^n}$$

where:

P_S	=	Current price of the firm's stock;
$D_1, D_2 ... D_n$	=	Expected annual dividend per share on the firm's stock;
P_n	=	Price per share of stock at the time the investor expects to sell the stock; and
k	=	Return the investor expects to earn on alternative investments of the same risk, i.e., the investor's required rate of return.

Equation (1) is frequently called the annual Discounted Cash Flow model of stock valuation.

Q. DOES THE ANNUAL DCF MODEL OF STOCK VALUATION PRODUCE APPROPRIATE ESTIMATES OF A FIRM'S COST OF EQUITY CAPITAL?

A. No. The annual DCF model of stock valuation produces appropriate estimates of a firm's cost of equity capital only if the firm pays dividends just once a year. Since most U.S. firms pay dividends quarterly, the annual DCF model produces downwardly biased estimates of the cost of equity. Investors can expect to earn a higher annual effective

return on an investment in a firm that pays quarterly dividends than in one which pays the same amount of dollar dividends once at the end of each year. In the case of my proxy groups of industrial companies, however, the use of the quarterly DCF model, as opposed to a correctly applied annual DCF model, has very little impact on the DCF result (approximately 7 basis points).

Q. CAN YOU EXPLAIN HOW INVESTORS, IN PRACTICE, RECOGNIZE THE ACTUAL TIMING AND MAGNITUDE OF CASH FLOWS WHEN THEY VALUE STOCKS AND OTHER SECURITIES?

A. Yes. In valuing long-term government or corporate bonds, investors recognize that interest is paid semi-annually. Thus, the price of a long-term government or corporate bond is simply the present value of the semi-annual interest payments on these bonds. Likewise, in valuing mortgages, investors recognize that interest is paid monthly. Thus, the value of a mortgage loan is simply the present value of the monthly interest and principle payments on the loan. Stock investors correctly recognize quarterly dividends when valuing stocks.

Q. HOW DID YOU ESTIMATE THE GROWTH COMPONENT OF THE QUARTERLY DCF MODEL?

A. I used the mean of analysts' estimates of future earnings per share (EPS) growth reported by I/B/E/S (formerly known as the Institutional Brokers Estimate System).

Q. WHY DID YOU USE THE I/B/E/S GROWTH ESTIMATES?

A. I used the I/B/E/S mean growth rates because they: (1) are widely circulated in the financial community; (2) include the projections of a large number of reputable financial analysts who develop estimates of future growth; (3) are reported on a timely basis to investors; and (4) are widely used by institutional and other investors. In addition, there is considerable empirical evidence that analysts' forecasts are better predictors of future growth than a firm's historical growth rates and that investors actually use these forecasts. In my opinion, they provide the best available estimate of investors' long-term growth expectations.

Q. HAVE YOU PERFORMED ANY STUDIES THAT CONFIRM THE USE OF ANALYSTS' FORECASTS AS THE BEST ESTIMATE OF INVESTORS' EXPECTED GROWTH RATE, REFERRED TO AS "G?"

A. Yes, I prepared a study in conjunction with Willard T. Carleton, Karl Eller Professor of Finance at the University of Arizona, on why analysts' forecasts are the best estimate of investors' expectation of future long-term growth. This study is described in a paper entitled "Investor Growth Expectations and Stock Prices: the Analysts versus Historical Growth Extrapolation," published in the Spring 1988 edition of the *Journal of Portfolio Management*.

Q. PLEASE SUMMARIZE THE RESULTS OF YOUR STUDY.

A. First, we performed a correlation analysis to identify the historically-oriented growth rates which best described a firm's stock price. Then we did a regression study

comparing the historical growth rates with the mean analysts' forecasts. In every case, the regression equations containing the mean analysts' forecasts statistically outperformed the regression equations containing the historical growth estimates. These results are consistent with those found by Cragg and Malkiel, the early major research in this area. These results are also consistent with the hypothesis that investors use analysts' forecasts, rather than historically-oriented growth calculations, in making buy and sell decisions. They provide overwhelming evidence that the mean analysts' forecasts of future growth are superior to historically-oriented growth measures in predicting a firm's stock price.

Q. ARE YOU AWARE OF ANY OTHER STUDIES THAT CONFIRM THAT ANALYSTS' FORECASTS ARE THE BEST ESTIMATE OF INVESTORS' EXPECTED GROWTH RATE, G?

A. Yes. My results were corroborated in an article by David A. Gordon, Myron J. Gordon, and Lawrence A. Gould, "Choice Among Methods of Estimating Share Yield," (*The Journal of Portfolio Management*, Spring 1989).

Q. WHY DID YOU NOT USE FORECASTS OF GROWTH IN BOOK VALUE OR DIVIDENDS?

A. I did not use forecasts of growth in book value or dividends because long-term book value and dividend value growth forecasts are not generally available to investors. Furthermore, dividend and book value growth forecasts are more uncertain than earnings forecasts. Analysts normally forecast dividend and book value growth by first

forecasting earnings growth, then determining how much of those earnings will be paid as dividends, and how much will be retained on a company's books. Therefore, there is an additional degree of uncertainty involved in a forecast of growth in dividends or book value that is not present in a forecast of earnings growth.

Q. WHY DID YOU NOT USE HISTORIC MEASURES OF GROWTH?

A. There is considerable empirical evidence that analysts' forecasts are better predictors of future growth than a firm's historical growth rates, and that investors actually use these forecasts. In addition, historical measures of growth are highly sensitive to: (1) the beginning and ending dates of the historical period selected; (2) the effect of one-time accounting adjustments and write-offs; and (3) dramatic restructurings of the business, such as divestitures, acquisitions, and down-sizings. Thus, historical growth measures alone are not likely to be indicative of the future. Analysts, on the other hand, are able to evaluate the effect of industry, technological, and competitive changes, and adjust historical data for the effect of unusual circumstances.

Q. WHAT IS THE RESULT OF YOUR APPLICATION OF THE DCF MODEL TO YOUR PROXY GROUPS?

A. As shown on Attachment A, the market-weighted average DCF cost of equity for my S&P Industrial proxy group is 13.95%. As shown on Attachment B, the market-weighted average DCF cost of equity for my *Value Line* proxy group is 13.84%.

VI. FAIR RATE OF RETURN ON TOTAL CAPITAL

Q. HOW DID YOU DETERMINE AN APPROPRIATE TARGET CAPITAL STRUCTURE FOR USE IN ESTIMATING VERIZON NW'S FAIR RATE OF RETURN ON TOTAL CAPITAL?

A. To determine an appropriate target capital structure for use in estimating Verizon NW's fair rate of return on total capital, I examined capital structure data for the S&P Industrials companies and a group of telecommunications companies with incumbent local exchange subsidiaries. I examined the most current available data for these companies, and I also reviewed data for the past five years. The average market value capital structure for these companies contains no more than 25% debt and no less than 75% equity. In addition, I examined current capital structure data for my *Value Line* proxy group. The current market value capital structure for this group of companies contains approximately 9% debt and 91% equity.

Q. WHAT ARE THE AVERAGE MARKET VALUE CAPITAL STRUCTURES OF THE S&P INDUSTRIALS AND THE TELECOMMUNICATIONS COMPANIES WITH INCUMBENT LOCAL EXCHANGE OPERATIONS?

A. Table 3 below shows the average year-end market value capital structures of the S&P Industrials for the five-year period 1998 through 2002, and for the telecommunications companies for the six-year period 1998 through 2003 (data for the S&P Industrials is not yet available). These data show that both groups on average have market value capital structures that contain more than 75% equity.

Table 3
Capital Structure of the S&P Industrials
and Telecommunications Companies at Year End
($ in Millions)

Year End	S&P Industrials			Telecom Companies		
	Market Value	Total Debt	%Equity	Market Value	Total Debt	%Equity
1998	2,091,436	245,892	89.5%	286,225	38,973	88.0%
1999	2,463,210	289,640	89.5%	349,250	46,051	88.4%
2000	2,114,218	296,486	87.7%	373,828	71,446	84.0%
2001	2,267,945	421,412	84.3%	331,916	77,804	81.0%
2002	1,850,815	452,638	80.3%	244,352	75,610	76.4%
2003	(NA)	(NA)	(NA)	248,535	66,962	78.8%
Total	10,787,624	1,706,069	86.3%	1,834,107	376,846	83.0%

Q. HOW DID YOU MEASURE THE MARKET COST OF DEBT INVESTMENTS?

A. I used the average yield to maturity on Moody's A-rated industrial bonds as reported in the *Mergent Bond Record*.

Q. WHAT IS YOUR ESTIMATE OF VERIZON NW'S OVERALL WEIGHTED AVERAGE COST OF CAPITAL?

A. I estimate Verizon NW's overall weighted average cost of capital to be 12.03%. This estimate is based on a 6.26% market cost of debt, a target market value capital structure containing 25% debt and 75% equity, and a cost of equity of 13.95% (see Table 4).

Table 4
Weighted Average Cost of Capital
S&P Industrial Group
Using 25% Debt/75% Equity Capital Structure

Source of Capital	Cost Rate	Percent	Weighted Cost
Debt	6.26%	25.00%	1.57%
Equity	13.95%	75.00%	10.46%
WACC			12.03%

Alternatively, the 12.03% weighted average cost of capital for my proxy group of S&P Industrials is less the 12.31% conservative estimate of the weighted average cost of capital for the Value Line proxy group. (See Table 5.)

Table 5
Weighted Average Cost of Capital
Value Line Proxy Group

Source of Capital	Cost Rate	Percent	Weighted Cost
Debt	6.18%	20.00%	1.24%
Equity	13.84%	80.00%	11.07%
WACC			12.31%

Q. WHAT IS VERIZON NW'S CURRENT RATE OF RETURN ON ITS INTRASTATE RATE BASE IN WASHINGTON STATE?

A. Verizon NW's current rate of return on its intrastate rate base in Washington State for the 12 months ending September 30, 2003, is *negative* 3.73%.

Q. IS A *NEGATIVE* 3.73% RATE OF RETURN COMMENSURATE WITH THE RETURN THAT VERIZON NW'S INVESTORS COULD EARN ON OTHER INVESTMENTS OF THE SAME RISK?

A. No. Since my studies indicate that Verizon NW's investors could earn a rate of return of 12.03% on investments of comparable risk, Verizon NW's current earned rate of return of *negative* 3.73% on rate base is clearly well below the rate of return Verizon NW's investors could earn on other investments of the same risk.

Q. DOES VERIZON NW CURRENTLY HAVE ANY INCENTIVE TO INVEST IN ITS INTRASTATE OPERATIONS IN WASHINGTON STATE?

A. No. Common sense suggests that a company has no incentive to invest in operations when its investors could earn a higher return on other investments of the same risk. My analysis of Verizon NW's financial performance in Washington State indicates that Verizon NW will only have an incentive to invest in its intrastate operations in Washington State if it is given an opportunity to earn 12.03% on its rate base.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.