

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Petition of Verizon)
Northwest Inc. for Approval of Revised) **DOCKET NO. UT-040520**
Depreciation Rates)

DIRECT TESTIMONY OF
CARL R. DANNER
ON BEHALF OF
VERIZON NORTHWEST INC.

DECEMBER 6, 2004

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. I am Carl R. Danner. I am a Director with Wilk & Associates/LECG LLC, 201 Mission
3 Street, Suite 700, San Francisco, CA 94105.

4
5 **Q. PLEASE SUMMARIZE YOUR EXPERIENCE AND QUALIFICATIONS.**

6 A. I was Advisor and Chief of Staff to Commissioner (and Commission President) G.
7 Mitchell Wilk during his tenure at the California Public Utilities Commission (CPUC).
8 Since leaving the CPUC, I have provided consulting services to various clients on
9 regulation and policy, with emphases on the telecommunications and energy industries. I
10 hold a Masters and Ph.D. in Public Policy from Harvard University, where my
11 dissertation addressed the strategic management of telecommunications regulatory
12 reform. At Harvard, I served as Head Teaching Assistant for graduate courses in
13 microeconomics, econometrics and managerial economics. I hold an AB degree from
14 Stanford University, where I graduated with distinction in both economics and political
15 science. My experience includes researching and teaching regulation, advising
16 regulators, testifying in regulatory proceedings, and advising clients on regulatory issues.
17 My complete resume is attached as Exhibit No. _____ (CRD-2).

18

19 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

20 A. Verizon Northwest, Inc. (Verizon) has asked me to comment on the public policy issues
21 that are associated with its depreciation expense filing before the Commission.

22

1 **Q. BROADLY SPEAKING, WHAT IS THE CURRENT SITUATION FOR**
2 **VERIZON WITH RESPECT TO CAPITAL RECOVERY IN WASHINGTON?**

3 A. As the Company's witness Mr. Flesch documents, capital recovery for Verizon in
4 Washington has occurred very slowly, as prior Commission decisions on depreciation
5 have effectively pushed the recovery of Verizon's network investments into the future.
6 With this filing, one might say that the future has arrived.

7

8 **Q. WHAT PUBLIC POLICY CONCERNS ARE CREATED BY THIS SLOW**
9 **RECOVERY OF CAPITAL IN WASHINGTON?**

10 A. There are several important policy concerns for the Commission:

11

12 1. Postponing capital recovery forces customers to pay a substantial carrying cost on
13 unrecovered rate base – akin to a credit card rate of interest. Because of this carrying
14 cost, postponed capital recovery is costly to customers.

15 2. Competition makes timely capital recovery important for Verizon since there is no
16 assurance that recovery postponed now can occur later.

17 3. The current capital recovery situation in Washington, especially when combined with
18 Verizon's current low rate of return, makes Washington considerably less attractive
19 for discretionary network investments by Verizon to the extent the Commission can
20 regulate the prices charged for services provisioned using such new facilities.

21

22 The Commission should recognize these important policy reasons for approving the
23 depreciation rates that Verizon's depreciation study has calculated for Washington.

1 **Q. IS DEPRECIATION A GENUINE EXPENSE FOR VERIZON, OR JUST AN**
2 **ACCOUNTING ENTRY OR COST ON PAPER?**

3 A. As I explain further below, depreciation is an expense representing prior cash
4 expenditures that the corporation incurred; it is just as real as any other expense. It is
5 necessary to allow Verizon to recover the cost of the extensive investments it must make
6 to provide service, by returning to shareholders the funds they have already spent on
7 service-related capital additions. The Commission's ratemaking process appropriately
8 recognizes this fact by treating depreciation in the same manner as any other annual
9 expense, such as those that Verizon pays for in cash.

10

11 **Q. PLEASE REVIEW THE BASIC TENETS OF DEPRECIATION, AND THE**
12 **PURPOSE IT SERVES FOR EVERY COMPANY (WHETHER REGULATED OR**
13 **NOT).**

14 A. Any company needs to know what its expenses are in a given year in order to determine
15 its profitability and to render accurate financial statements. Many expense items reflect
16 current outlays for goods or services used immediately, such as employee salaries. These
17 expenses can be assigned to the year in which they were incurred. Other expense items
18 reflect the use of longer-lived capital or equipment that is paid for by the company at one
19 time but used over multiple years. The initial capital cost of such items has to be spread
20 over the years it will provide economic benefit to the company, and the process of doing
21 so is depreciation.

22

1 For example, a personal computer system might yield four years of service before it
2 becomes obsolete and must be replaced. For financial and accounting purposes, the
3 purchase price of that computer is divided into four parts, with one part charged to each
4 year's recorded expenses. The dollar amount that is expensed each year through
5 depreciation is regarded as a genuine expense of the company just like salaries, or other
6 ongoing outlays.

7
8 To complete the accounting, the initial purchase price of the computer is recorded in a
9 capital account (for Verizon, the "Plant in Service" account). As depreciation occurs for
10 the computer, the annual depreciation amount is added to a depreciation reserve account.
11 When the computer is retired from service after four years, the capital account and
12 depreciation reserve amounts are netted (and should generally net to zero, including
13 salvage value), and taken off the books.

14
15 **Q. HOW IS THE ANNUAL DEPRECIATION AMOUNT CALCULATED FOR A**
16 **GIVEN PIECE OF EQUIPMENT, OR FACILITY?**

17 A. There are several methods used to determine depreciation expense.

18
19 The annual cost of a piece of long-lived equipment should be calculated using economic
20 depreciation. Under this approach, the expense for the year (of using a long-lived asset)
21 is the loss in economic value the asset suffers during that year. This is the real cost to a
22 company of using that asset. This amount might not be constant from year to year;
23 however, by the end of the asset's economic life, the total depreciation expense charged

1 should equate to the asset's purchase price (less any salvage value). Dr. Michael Crew,
2 testifying in behalf of the Commission Staff, recognized this method as appropriate in the
3 last contested Verizon depreciation case (Docket No. UT-961632).

4
5 A more mechanical method is straight-line depreciation. This approach takes the initial
6 cost of the asset and divides it by the number of years it is expected to be in service.
7 Another method often used (through a variety of formulae) is accelerated depreciation,
8 through which a greater proportion of the asset's value is expensed during the initial
9 years of service, to reflect the reality that many assets lose a greater portion of their value
10 in those years.

11
12 **Q. HOW HAS THE COMMISSION TRADITIONALLY CALCULATED**
13 **DEPRECIATION EXPENSE?**

14 A. The Commission has used straight line depreciation based on an expected useful life of
15 an asset in service. However, the Commission has recognized that this method may need
16 to be adjusted, in practice, to reflect the realities of economic depreciation.¹ In particular,
17 where an asset's value declines more rapidly in the early years of service as compared to
18 the later years, I would note that such an adjustment would have to involve the adoption
19 of a shorter straight line depreciation period (i.e., a shorter service life) to effectively
20 recover depreciation expense more rapidly.

21

¹ Fourth Supplemental Order, Docket No. UT-961632, December 12, 1997; page 3.

1 **Q. ARE THERE REAL-WORLD IMPLICATIONS TO HOW ASSETS ARE**
2 **DEPRECIATED?**

3 A. Yes, there are. Because depreciation reflects a prior cash purchase, rather than a current
4 year cash payout, its precise timing can have an important influence on a company's
5 books and its business decisions. If the way in which a business accounts for the
6 consumption of its capital assets does not match the economic reality of how quickly
7 those assets lose value over time, significant problems can arise, such as an unrealistic
8 view of the profitability of a firm, poor decision making that can waste economic
9 resources, and an impaired ability to fund new investments in a timely manner.

10

11 Imagine a company that purchases a fleet of new autos for \$20,000 each, planning to
12 lease them to customers for five years before selling them as used vehicles. These autos
13 have an expected service life of ten years before they would ultimately be scrapped.
14 Believing in straight line depreciation, the company controller decides that since half the
15 useful life of the vehicles is five years, they will lose half of their value (i.e., \$10,000)
16 during their time in service for the company. He thus assigns one-fifth of this expected
17 decline in value (i.e., \$2,000) to each year of service for each auto.²

18

19 The decision to use straight line depreciation is a major influence on the company's net
20 operating income, and on the level of revenues the company must produce in order to be
21 profitable. If the company can cover its other expenses plus \$2,000 per car (per year) in
22 depreciation, then any additional money left over will be recorded as profit. Not only is

² For simplicity, this example ignores the cost of capital for the remaining undepreciated value of the autos. While this cost has important implications for Verizon's customers (as discussed below), it is neglected here for simplicity. Including the cost of capital does not change the result of the example.

1 profit beneficial to the business owner, it is also a powerful economic signal that his
2 business makes economic sense – i.e., that the value created for customers by this
3 business is greater than the cost of the resources being consumed to create it (including
4 the cost of using capital assets, such as autos).

5
6 For this hypothetical, assume the business makes a small profit for each of its first five
7 years, based on using straight line depreciation. But when it comes time to sell the autos
8 as used, the company discovers that their resale value is not \$10,000 each, but \$7,500,
9 even though they still have five years (half their life) to run before being scrapped. This
10 reflects the reality that the value of a new auto declines far more rapidly at first, and then
11 more slowly in later years. As a result, the company belatedly discovers that it has
12 actually been incurring a loss instead of a profit during the past five years because the
13 actual economic cost of using the autos (as reflected in the extra \$2,500 in depreciation)
14 more than offsets the small yearly profits that were earned according to the controller's
15 calculations based on straight line depreciation. Instead of a going concern that yields a
16 small profit and creates net economic benefits for society, there is a money-losing
17 proposition that should be shut down – all because depreciation method selected did not
18 reflect reality.³

³ A partial solution to the problem of this company would be to adopt a more realistic salvage value – i.e., \$7,500 – and then depreciate the difference between that and the purchase price ($\$20,000 - \$7,500 = \$12,500$) at a straight line rate of \$2,500/year. However, if for some reason some of these autos had to be sold prior to the five year mark (say, due to financial trouble, or the availability of a new and better kind of auto to use for leasing purposes), then the same kind of problem would occur. An auto sold after two years of service would presumably yield less than the \$15,000 this method would imply, because autos lose a disproportionate amount of their value during the early years of ownership (i.e., when “driven off the lot”). Once again, the choice of an inaccurate depreciation approach would allow the company to believe it was breaking even (or earning a profit) even though its revenues did not cover the true cost of using the capital investment that was tied up in the business.

1 Going beyond this simple illustrative example, I discuss below some real-world
2 implications -- and problems -- of the Commission's depreciation policies towards
3 Verizon.

4
5 **Q. DOES IT MATTER AT WHAT RATE DEPRECIATION OCCURS, SO LONG AS**
6 **THE ENTIRE INVESTMENT COST OF THE ASSET IS RECOVERED BEFORE**
7 **IT IS TAKEN OUT OF SERVICE?**

8 A. Yes, the timing of depreciation recovery matters a great deal for Verizon, even if the
9 arithmetic of ratemaking suggests that its investments would ultimately be recovered at
10 some point. In the days when local phone companies were monopolies, the Commission
11 could in theory get the timing of depreciation wrong but still assure capital recovery
12 because the customer base was captive, and growing. Such an assured revenue source
13 can be used to ameliorate such a regulatory error, even if (as I discuss below) too-slow
14 depreciation was still harmful to customer interests even then. However, the advent of
15 competition, especially when combined with the extraordinary new technologies
16 competitors are using today, has taken away that luxury of mistiming capital recovery,
17 because Verizon may be foreclosed, by the marketplace, from making up the difference
18 in later years from a shrinking base of wireline customers and service revenues.

19
20 **Q. DOES VERIZON PROPOSE DEPRECIATION FACTORS THAT WOULD**
21 **RECOVER ALL OF ITS INVESTMENT, AND RELATED COST OF CAPITAL**
22 **OF SERVING CUSTOMERS IN WASHINGTON?**

1 A. On a cumulative basis, even the full approval of Verizon's depreciation study (including
2 recovery through authorized rates) will still leave the Company with a substantial
3 shortfall in reflecting its full investment-related costs on its Washington-jurisdictional
4 books. This will occur for two reasons.

5
6 First, effective in 2000 the Commission authorized Verizon to book an additional \$16
7 million in annual depreciation expense on its intrastate books, but was not asked to (and
8 did not) authorize Verizon to recover that amount through rates.⁴ By booking the \$16
9 million/year in additional depreciation since that time, Verizon has given up a running
10 total of \$80 million (by the end of 2004). In other words, Verizon was authorized to
11 incur an additional expense, but not to recover that expense in rates. Approval of
12 Verizon's depreciation study would still not make such recovery possible in the rate case.

13
14 Thus, the best Verizon could do from this point forward in capital recovery is to come up
15 at least \$80 million short.

16
17 Second, Verizon is not earning its authorized Washington intrastate rate of return. As the
18 cost of capital is a genuine expense associated with investment, this shortfall represents a
19 further investment-related expense that Verizon cannot now hope to recover.

20

⁴ As Mr. Flesch explains, the mechanics of this modification involved the Commission's approval of new depreciation factors that would have resulting in a \$21.5 million increase in depreciation expense if applied to Verizon on a whole-company basis (interstate and intrastate). As 75 percent of Verizon's ILEC investments lie within the WUTC's jurisdiction, the intrastate portion was just over \$16 million/year.

1 **Q. DO CORE PRINCIPLES OF RATEMAKING REQUIRE THAT VERIZON BE**
2 **PERMITTED A REASONABLE OPPORTUNITY TO RECOVER ITS**
3 **INVESTMENTS AND THE COST OF CAPITAL?**

4 A. Yes, they do, as the Commission and its Staff have appropriately acknowledged.⁵
5 Depreciation expense merely reflects the recovery, over time, of the cost of capital
6 investments as they wear out or lose their economic value while in service to customers.
7 The cost of capital is the percentage rate of return that must be provided to investors to
8 obtain the use of the funds that are tied up in Verizon's capital investments. Under the
9 rate of return regulatory framework the Commission uses for Verizon, the Company must
10 be afforded a reasonable opportunity to recover both of these expenses.

11

12 **Q. HOW DOES THE EXISTENCE OF COMPETITION RELATE TO THE**
13 **COMMISSION'S DELIBERATIONS ABOUT CAPITAL RECOVERY?**

14 A. Because of competition, Verizon may not recover the full amount of depreciation the
15 Commission may later authorize in rates. Competition also emphasizes the need to use
16 depreciation methods that are compatible with market-based practices.

17

18 Under the Commission's current oversight, Verizon faces two limits on its prices – those
19 set by the Commission, and those set by the market. The lower of the two bounds is what
20 Verizon must respect. Market pressures on Verizon's prices will continue to evolve over
21 time due to changes in important factors such as technology, the actions of competitors,
22 and customers' habits and preferences. As a result, market pressures could force some of

⁵ E.g. Fourth Supplemental Order in UT-961632, page 2; Direct Testimony of Thomas L. Spinks, UT-961632, June 3, 1997, pages 3-4.

1 Verizon's future prices below Commission-determined levels, leading to less-than-
2 authorized capital recovery. A shrinking customer base can also deny capital recovery to
3 Verizon because sunken investments may become stranded due to a loss of the customers
4 who would have used them.

5
6 The depreciation practices of Verizon's competitors also offer a market benchmark for
7 appropriate capital recovery, particularly where utility regulation plays no role in
8 determining their depreciation rates. The Commission should adopt depreciation rates
9 that are consistent with such market information.

10
11 **Q. IN LIGHT OF NEW TECHNOLOGIES AND RELATED MARKET PRESSURES,**
12 **IS IT STILL IMPORTANT FOR COMMISSION ESTABLISHED TELEPHONE**
13 **SERVICE PRICES TO REFLECT THEIR UNDERLYING ECONOMIC COSTS?**

14 A. Yes. The economic rationale for charging prices to recover economic costs applies in a
15 competitive environment; indeed, since non-cost-based prices will distort competition, it
16 is even more important for regulated prices to be economically rational. Additionally,
17 competition applies even greater pressure to eliminate the sources of cross-subsidy (i.e.,
18 the prices that have been set high to support other, low prices), also making below-cost
19 prices less sustainable. Finally, as a point of perspective, it is important to recognize that
20 the appropriate public policy answer to competition is the end of governmental price
21 controls, not further attempts to refine a rate case process.

1 **Q. DO CUSTOMERS BENEFIT FROM LOWER PHONE BILLS DUE TO**
2 **DEPRECIATION THAT IS DELAYED, I.E., HELD BELOW ACCURATE OR**
3 **MARKET-BASED LEVELS?**

4 A. No. Over the long run, customers will pay considerably more when capital recovery is
5 delayed.

6
7 **Q. HOW DOES DELAYED DEPRECIATION FORCE CUSTOMERS TO PAY**
8 **MORE FOR SERVICE?**

9 A. From a traditional ratemaking standpoint, utility investment in rate base is akin to a credit
10 card balance, or mortgage principal amount. Customers are ultimately responsible for
11 paying off the balance, and must pay interest or carrying costs in the interim on the
12 outstanding amount. Specifically, under rate-of-return regulation, customers must pay an
13 after-tax rate of return on investment for a company's net plant in rate base; investment
14 that is not depreciated remains in that rate base. For Verizon in Washington, the cost of
15 capital (on the after-tax basis that is actually included in rates) is 16.53%.⁶ In other
16 words, customers must pay the equivalent of 16.53% annual interest on delayed
17 depreciation. Thus, like a credit card or mortgage balance, the longer the repayment
18 period, the greater the total carrying cost that must be paid. However, unlike a
19 homeowner's mortgage or home equity loan, the carrying cost of utility rate base is not
20 tax deductible for the consumer.

21

⁶ This reflects the cost of capital calculated by Dr. Vander Weide in his rate case testimony, adjusted for tax effects.

1 This adverse result does not occur where capital recovery through rates keeps pace with
2 the economic depreciation of utility assets. Then, customers incur the carrying cost of
3 rate base on a basis that reflects the genuine cost of capital needed to provide service.
4 However, when a regulatory agency postpones capital recovery through inadequate
5 depreciation, the result is to cause customers to bear an excessive carrying cost, as noted
6 above. This is contrary to the published advice of many financial planners to consumers
7 – that they should avoid ongoing credit card debt, and make the repayment of such
8 balances one of their top financial priorities. There is no reason to force all customers to
9 take the equivalent of such loans through their telephone bills by delaying capital
10 recovery.

11
12 Thus, the lower short term rates that can result from delayed depreciation are akin to the
13 lower monthly charges that result from making only minimum payments on a large credit
14 card debt. The ultimate impact on consumers is a cost, not a benefit.

15
16 **Q. IS IT GOOD PUBLIC POLICY FOR THE COMMISSION TO FOCUS SOLELY**
17 **ON DEPRECIATION RATES FOR PARTICULAR CATEGORIES OF PLANT**
18 **AND EQUIPMENT, AND TO NOT CONSIDER THE BROADER PICTURE OF**
19 **CAPITAL RECOVERY IN WASHINGTON?**

20 **A.** No, it is not. Although the composite depreciation rate is determined by aggregating the
21 rates for individual types of assets, there is judgment and discretion in that process that
22 should be exercised with a view to the broader picture of competition, technological
23 change, and attracting new investment to Washington.

1 From a standpoint of competition and technological change, the low-bandwidth,
2 telephone-only twisted copper wire pair network is on its way to obsolescence. While it
3 still provides fine telephone service and will doubtless continue to serve a declining
4 customer base into the future, developments such as the Verizon Communications and
5 SBC plans for an overlay broadband network signal that the commercial viability of new
6 twisted copper pair telephone networks is nearing its end. Customer demands for more,
7 different and better services are being met by the proliferation of wireless phones and
8 data services, enhanced cable TV networks offering cable modem Internet access, two-
9 way satellite services and voice over IP technology. These developments require more
10 rapid recovery of investments in Verizon's existing telephone network.

11
12 **Q. HOW DOES CAPITAL RECOVERY RELATE TO INCENTIVES FOR**
13 **INVESTMENT IN WASHINGTON?**

14 A. It is only rational for businesses to prefer to invest where they see favorable opportunities
15 to earn a return and recover their investments, as the facilities those investments
16 purchased become obsolete or wear out. Unfortunately, past Commission decisions
17 addressing capital recovery and the resulting low percentage of past investment that has
18 been recovered make it clear that Washington has not been such a favorable place. Even
19 the other states that retain rate of return regulation have done far better at permitting
20 capital to be recovered, as the Verizon depreciation study [Exhibit No. _____ (AJF-7) to
21 Mr. Flesch's testimony] documents in the introduction section at page 5.

1 **Q. UTILITIES OFTEN SPEAK OF HARM TO INVESTMENT INCENTIVES, YET**
2 **SERVICE SEEMS TO CONTINUE AND NEEDED INVESTMENTS ARE MADE.**
3 **WHY IS THIS SITUATION ANY DIFFERENT FOR VERIZON’S FUTURE**
4 **SERVICES?**

5 A. Industries like electricity, water and gas distribution (and wired telephone service) must
6 make large, location specific sunk investments to provide service. They put their money
7 in the ground and are committed to those specific places, as well as to the particular
8 governmental authorities that oversee them. The companies cannot pick up and leave.
9 Therefore, even when regulation impairs investment incentives, companies can be
10 persuaded to invest minimal additional amounts if necessary to keep prior investments
11 working, and to meet ongoing service obligations (including avoiding related penalties).

12
13 However, this calculus is far different for new, discretionary investments that are not yet
14 sunk, and can be placed in locations where their economics are attractive. In those
15 situations, the regulatory climate is an important factor in determining whether such new
16 investment is made at all, how widely new technology is deployed and the speed of
17 which it is deployed.

18

19 **Q. WHAT SPECIFIC SIGNALS ARE THE COMMISSION’S DEPRECIATION**
20 **POLICIES SENDING TO VERIZON ABOUT WHEN A NEW NETWORK**
21 **SHOULD BE CONSIDERED FOR WASHINGTON CONSUMERS?**

22 A. The Commission’s decisions on remaining lives of network facilities effectively gives
23 specific direction as to how long it expects the existing network to remain. Consider, for

1 example, the copper loops that a new fiber network would replace. The current,
2 Commission-prescribed lives for this plant⁷ are five to eight years longer than Verizon
3 proposes. In other words, by its current prescribed lives, the Commission is asking
4 Verizon to rely on that plant for five to eight years longer than Verizon deems
5 appropriate.⁸

6
7 As I indicated above, it is possible that existing copper loops may function for a long
8 time, and the technology could in theory provide service indefinitely.⁹ The current
9 economic signal from the Commission is for Verizon to keep the old copper plant in
10 service for quite some time.

11
12 **Q. PLEASE BRIEFLY SUMMARIZE YOUR TESTIMONY.**

13 A. Depreciation and capital recovery are more than just paper expenses. They represent real
14 economic costs and the prior expenditures of cash that any business must recover. To
15 date, Verizon's record of capital recovery in Washington is poor, and that record creates
16 an important, adverse incentive against new discretionary investment by Verizon in
17 Washington. The first step towards addressing these concerns is for the Commission to
18 approve Verizon's depreciation study and requested rates in this proceeding.

19

⁷ Accounts 2421.1, 2422.1, and 2423.1, including Aerial Cable – Metallic, Underground Cable – Metallic, and Buried Cable – Metallic (respectively).

⁸ With respect to the existing plant in the ground, the average remaining lives under the Commission's existing prescriptions are 3.5 to 5.7 years longer than Verizon proposes (because of the vintages of plant that happen to be in use) – still a substantial difference.

⁹ Likewise, the Roseville Telephone Museum in Roseville, CA maintains a fully working step by step electromechanical switch to demonstrate for visitors. Although that technology had high maintenance costs that probably disqualify it from ongoing usage, the technology still functions and could be used today to provide telephone service.

1 **Q. DOES THAT COMPLETE YOUR TESTIMONY AT THIS TIME?**

2 **A. Yes.**