BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Review of	)	
Unbundled Loop and Switching Rates; the	)	
Deaveraged Zone Rate Structure; and	)	**DOCKET NO. UT-023003**
Unbundled Network Elements, Transport,	)	
and Termination	)	

POST-HEARING REPLY BRIEF OF VERIZON NORTHWEST INC.

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August 12, 2004

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Verizon Northwest Inc. ("Verizon NW") respectfully submits this reply to the opening briefs filed by AT&T Communications of the Pacific Northwest, Inc. ("AT&T"), XO Washington, Inc. and Pac-West Telecommunications, Inc. ("XO/Pac-West"), and the Commission Staff ("Staff").

I. INTRODUCTION AND EXPLANATION OF TELRIC PRINCIPLES

In its opening brief, Verizon NW sought to demonstrate the extent to which the two competing cost models in this case, VzCost and HM 5.3, address the requirements of the FCC and this Commission for identifying the forward-looking costs of providing UNEs. In contrast, AT&T's brief is largely confined to a summary of its own testimony about the two models, devoid of any recognition of Verizon NW's substantial rebuttal thereto. Verizon NW has discussed much of that rebuttal in its opening brief, and will not repeat it here.

AT&T's brief is also premised on two economic red herrings about TELRIC. The first is that its astonishingly low UNE rate proposals are necessary to "improve th[e] situation" by

reducing Verizon NW's market share[1/] — at the very same time AT&T has also announced that it is now withdrawing from the residential market.[2/] As the Commission has recognized, TELRIC is not a federal subsidy program. The goal here is not to transfer market share from one firm to another, or to "striv[e] for the lowest possible price," but to promote healthy competition based on "accurate price signals that tell competitors when to invest and when to use other strategies."[3/] Those signals must be based upon an honest appraisal of the forward-looking costs the incumbent expects to incur in making UNEs available to new entrants.

Both the FCC and this Commission have recognized the importance, to that appraisal, of relating UNE cost models to the real-world constraints under which any telephone network must operate, and to the efficiencies inherent in the acquisition and use of rights-of-way already secured by the incumbent LEC. VZ Br. 4-8. On this score, the assimilation of extensive data by VzCost reflecting these real-world constraints represents a vast improvement upon any model that the Commission has previously analyzed. In contrast, HM 5.3 disregards not only the real-world obstacles between the customer and the wire center *but also the actual customer locations themselves*.[4/] Like its predecessors, it thus continues to fail this reality check — whether measured by the average loop length analysis repeatedly endorsed by this Commission, by the

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1/ AT&T Br. 1.

2/ *See* "AT&T Announces Second-Quarter Earnings, Company to Stop Investing in Traditional Consumer Services; Concentrate Effort on Business Markets," *available at* <http://www.att.com/news/item/0,1847,13163,00.html> (last visited Aug. 6, 2004). For market share assumptions, AT&T relies on Staff's speculations based on responses to data requests that were neither admitted into evidence nor based on admissible evidence. *See* Exh. No. 1062T 11:4-6 (Spinks). As Verizon NW explained in those responses, the documents it produced do not contain reliable data. They exclude business line information, extrapolate from other states, and include sample sizes of only 30-40 Washington customers per quarter.

3/ *See* VZ Br. 6 (*quoting* Thirty-first Supplemental Order, Docket Nos. UT-960369, -960370, -960371, ¶ 23 (issued Dec. 14, 2000)).

4/ Exh. No. 601T 18-20 (Dippon).

map comparisons of model routes provided by Mr. Dippon, by the real-world validations used by Dr. Tardiff, or by any other measure.

The second of AT&T's red herrings about TELRIC, which appears over and over again in its brief (AT&T Br. 2-4, 25-26, 29-30, 34, 37), is that this consideration of real-world constraints "contorts TELRIC to cover every piece of Verizon's existing network." *Id.* at 34. This argument disregards the record, misstates the law, and ignores principles of economic efficiency.

As explained in its opening brief, Verizon NW uses existing network routing data *as a starting point* in developing its modeled network, in order to capture the ways in which its current network is efficient, and then alters that existing network where appropriate to make it more forward-looking in several critical respects. VZ Br. 64-66. By following this methodology, Verizon NW has been able to take into account all of the factors that an ILEC must consider when designing and building a network, and also to avoid the "black box" speculation that the FCC has found to be associated with an "excessively hypothetical" network.[5/] This approach stands in stark contrast to HM 5.3, which simply assumes the real world away.

HM 5.3's fantasy network certainly is not compelled by the TELRIC rules. Staff's witness conceded that VzCost is TELRIC compliant.[6/] AT&T, however, repeatedly suggests that those rules require ignoring all aspects of the existing network except for the locations of wire centers. AT&T Br. 25, 29, 30. Nothing in the FCC's *Local Competition Order* states or requires

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5/ Notice of Proposed Rulemaking, *Review of the Commission's Rules Regarding the Pricing of Unbundled Network Elements and the Resale of Service by Incumbent Local Exchange Carriers*, 18 FCC Rcd 18945 ¶ 7 (2003) ("*TELRIC NPRM*").

6/ Tr. 1051:3-6 (Spinks); *see also* Tr. 1053:6-11 (Spinks).

this.[7/] The FCC itself has held that loop studies in which "cable routes . . . follow existing rights-of-way" are entirely consistent with its TELRIC rules.[8/] More recently, the FCC has reached the tentative conclusion that its TELRIC rules should "more closely account for the real-world attributes of the routing and topography" of the ILECs' existing networks.[9/] This Commission has similarly implored parties to present cost models that approximate "the real world"[10/] — and to document their relationship to it with average loop length studies. VZ Br. 52. Several other state commissions have agreed.[11/] AT&T's contrary suggestion is simply an effort to conflate the term "embedded costs" with proper recognition of any realistic constraint imposed by the "existing network."

Indeed, any model that ignores the constraints and characteristics of the real world cannot be squared with the FCC's prescription that TELRIC rates must be "economically efficient."[12/] As Dr. Tardiff explained, AT&T's unnecessarily aggressive interpretation of TELRIC "could

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7/ AT&T refers to paragraph 684 of that order regarding use of existing "network design and technology." AT&T Br. 26 & n.37. That was *not* a reference to network routing, which is and always will be governed by real-world constraints, but rather to the use of existing equipment and technology. First Report and Order, *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, 11 FCC Rcd 15499 ¶ 685 (1996) ("*Local Competition Order*"). The three comments to which the FCC was referring made no reference to network *routing*. *See* BellSouth Reply Comments at 37; Roseville Telephone Co. Reply Comments at 8; U.S. Telephone Association Comments at 18-19, FCC CC Docket No. 96-98 (all filed May 30, 1996).

8/ Memorandum Opinion and Order, *Joint Application of BellSouth Corporation, BellSouth Telecommunications, Inc., and BellSouth Long Distance for Provision of In-Region, InterLATA Services in Georgia and Louisiana*, 17 FCC Rcd 9018 ¶ 36 (2002) ("*BellSouth Georgia/Louisiana § 271 Order*").

9/ *TELRIC NPRM* ¶ 52.

10/ Eighth Supplemental Order, Docket Nos. UT-960369, -960370, -960371, ¶ 21 (issued Apr. 16, 1998) ("*Eighth Supplemental Order*").

11/ Decision and Order, *Board's Review of Unbundled Network Elements Rates, Terms and Conditions of Bell Atlantic-New Jersey, Inc*., Docket No. TO00060356, (Mar. 6, 2002) at 12 ("*New Jersey Order*"). *See also* Illinois Bell Telephone Company Filing to Increase Unbundled Loop and Nonrecurring Rates, Docket No. 02-0864, at 1 (Ill. Commerce Comm'n June 9, 2004); Order, *Commission Investigation and Generic Proceeding of Rates and Unbundled Network Elements and Collocation for Indiana Bell Telephone Company, Inc. d/b/a SBC Indiana Pursuant to the Telecommunications Act of 1996 and Related Indiana Statutes*, Cause No. 42393, at 29 (Ind. Util. Reg. Comm'n Jan. 5, 2004) ("*Indiana Commission Order*").

12/ *Local Competition Order* ¶ 113.

never produce accurate UNE cost estimates" because it "[a]ssum[es] a level of 'efficiency' that no real carrier can achieve" and "does not approximate competitive conditions, but rather only serves to produce uneconomically low cost estimates."[13/] And as Verizon NW has demonstrated, using real-world data enhances the efficiency of a cost model by capturing the value of existing rights-of-way.[14/] Dr. Mercer himself acknowledged that an "ideal" modeled network would contain information about actual customer locations (which HM 5.3 discards) and real-world constraints (which it ignores).[15/]

In response to this record evidence, AT&T and Staff argue that because it is *conceivable* that there might be more efficient ways to route Verizon NW's network, real-world routing information must *necessarily* be inefficient.[16/] But Verizon NW begins with updated information about network routing that reflects *today's* network, not its network from the past.[17/] There is no record evidence of any inefficiencies incorporated into that routing. Quite the contrary. AT&T's own engineering witness concluded that in "today's competitive marketplace" Verizon NW's engineers have conformed their guidelines and practices to the "competitive environment that now exists."[18/] Indeed, where routing changes *are* made in response to the increased development of land, there is no evidence why those changes would tend to make loop routes

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13/ Exh. No. 501T 9:13-14 (Tardiff); *see also* Exh. No. 503 6:23-9:7 (Tardiff) (challenging AT&T's assumption that, "except for the wire center locations, the existing network and all of its functions can be completely disregarded as irrelevant under the guise of TELRIC").

14/ VZ Br. 104; Exh. No. 451T 3:17-4:7 (Richter); *see also* Tardiff, "Pricing Unbundled Network Elements and the FCC's TELRIC Rule: Economic and Modeling Issues," *Review of Network Economics*, Vol. 1, Issue 2 (2002), at 140.

15/ Tr. 1611:12-1612:22 (Mercer).

16/ AT&T Br. 2-4, 25-26, 29-30, 34, 37; Staff Br. 16.

17/ VZ Br. 64. Verizon NW's recent reconfiguration of SAIs in the Bothell wire center is a good example of the dynamic nature of the existing network. Exh. No. 228TC 39:16-40:12 (Verizon Panel).

18/ Exh. No. 956TC 6:18, 8:17-9:16, 16:17 (Fassett).

anything other than *more* circuitous, in order to accommodate new obstacles. And as noted above, Mr. Richter has found that such obstacles make rights-of-way more difficult (and expensive) to acquire in today's marketplace.[19/] AT&T's and Staff's mere speculation to the contrary does not in any event demonstrate that the routing modeled by HM 5.3 is more efficient. Indeed, as Mr. Dippon's maps illustrate quite clearly, the routing that AT&T and Staff would have this Commission accept bears no relationship to existing customer locations or to the real-world constraints found in Verizon NW's serving territory.[20/]

II. COST OF CAPITAL

A. TRO and Other Applicable Federal Authority

AT&T and Staff give lip service to the FCC's requirement that the "TELRIC-based cost of capital should reflect the risks of a competitive market." *See* VZ Br. 11; Staff Br. 7. But AT&T's 7.45% cost of capital proposal, which is **[BEGIN AT&T PROPRIETARY] [END AT&T PROPRIETARY]** basis points lower than the **[BEGIN AT&T PROPRIETARY] [END AT&T PROPRIETARY]** cost of capital that AT&T itself uses to make internal investments regarding the local exchange network, is just the sort of drastically low number that is inconsistent with the FCC's express goal of promoting facilities-based competition.[21/] Indeed, AT&T's proposal is significantly lower than even the 11.25% cost

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19/ VZ Br. 104; Exh. No. 451T 3:17-4:7 (Richter).

20/ VZ Br. 70; *see also* Exh. No. 606; Supplemental Reply Testimony of Christian M. Dippon on behalf of Verizon Northwest Inc. (June 18, 2003), Exh. CMD-12 ("Dippon Supp. Reply"); Tr. 1380:8-1381:9 (Dippon).

21/ Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, *Review of the Section 251 Obligations of Incumbent Local Exchange Carriers*, 18 FCC Rcd 16978 ¶ 682 (2003) ("*Triennial Review Order*"), *vacated in part on other grounds*, *United States Telecom Ass'n v. FCC*, 359 F.3d 554 (D.C. Cir. 2004).

of capital that the FCC established as the "starting point" for setting the cost of capital in UNE proceedings.[22/]

B. Capital Structure

A book value capital structure, such as that proposed by Staff, is inherently backward-looking and inconsistent with TELRIC cost principles. *See* VZ Br. 15. Staff claims that, as a regulated public utility, Verizon has an obligation "to maintain a sound capital structure that includes a prudent mix of debt and equity."[23/] But it fails to explain why Verizon NW's proposed capital structure of 75% equity and 25% debt is not prudent or how it "ignores the need to balance economy with financial flexibility." Staff Br. 8. Indeed, that proposed capital structure is based on the average capital structures of a large number of real-world competitive firms. *See* VZ Br. 15.

AT&T does not go so far as to propose a book-value capital structure. It claims that Verizon NW's proposed capital structure is based on "older data" from 1998-2002, that Verizon NW has produced "no evidence" to support its proposal, and that it has failed to identify which companies were included in its analysis of capital structure. On each of these claims, AT&T is incorrect. While Verizon NW's initial capital structure proposal was based on data from 1998-2002, this data was updated to include 2003 data — which reflected even more equity.[24/] As noted above, Verizon NW also provided substantial evidence that its proposal accurately reflects the capital structure of firms operating in a competitive market. Finally, Verizon NW identified

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22/ *See Local Competition Order* ¶ 702.

23/ Staff Br. 8 (*quoting* Exh. No. 1065T (Spinks) at 5:16-18).

24/ *See* Exh. No. 106TC 79:13-18 (Vander Weide).

the companies it included as "telecommunications companies" in response to AT&T/XO Data Requests 4-001 and 4-002.

C. Cost of Debt

Verizon NW explained in its opening brief that its 6.26% cost of debt proposal is reasonable, as it is based on the market valuations of the average yield to maturity on Moody's A-rated industrial bonds. *See* VZ Br. 16. AT&T and Staff claim that Verizon NW's proposal should be rejected because it is not based on telecommunications companies. *See* AT&T Br. 7; Staff Br. 9. Their claims miss the point. As Verizon NW has explained, all industrial companies with A-rated bonds pay the same interest rate. Verizon is listed by Moody's as an A-rated industrial company, and therefore the yield to maturity for A-rated industrial bonds is a perfectly appropriate measure of the cost of debt Verizon NW would pay going forward. Indeed, Verizon NW's cost of capital expert demonstrated that its proposed cost of debt is in fact roughly equal with the internal cost of debt that Verizon has estimated it would pay if debt were issued today, and is lower than the average interest rate Verizon actually pays on its outstanding debt today.[25/]

In contrast, the only support AT&T can muster for its proposal is that it follows the methodology adopted by the FCC's Wireline Competition Bureau ("WCB") in the *Virginia Cost Order*.[26] *See* AT&T Br. at 7. Apart from the limitations of that Order (VZ Br. 8-10), the Commission should reject AT&T's proposed cost of debt because it inappropriately includes

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[25/] *Id.* at 49:17-50:8. As Dr. Vander Weide explained, J.P. Morgan estimated that Verizon would have to pay an average interest rate of 6.22% on yields to maturity of 17 years, the average life of Verizon NW's network facilities. In addition, Dr. Vander Weide explained that Verizon NW pays an average interest rate of 6.72% on outstanding debt as of May 6, 2004.

[26] Memorandum Opinion and Order, *Petition of WorldCom, Inc. Pursuant to Section 252(e)(5) of the Communications Act for Preemption of the Jurisdiction of the Virginia State Corporation Commission Regarding Interconnection Disputes with Verizon Virginia Inc., and for Expedited Arbitration*, 18 FCC Rcd 17722 (WCB 2003) ("*Virginia Cost Order*").

short-term debt, which an efficient carrier would not use to finance long-term telecommunications facilities. VZ Br. 16-17. AT&T's claim that the short-term debt included in its proposal matures in 12 years is misleading. *See* AT&T Br. 7. This 12-year figure is only an average, which includes short-term debt with maturity of as little as one year — some of which has already matured since AT&T made its proposal.[27/]

D. Cost of Equity

1. Determining the appropriate sample — which firms should be included/excluded and why?

AT&T and Staff have presented no legitimate reason for the Commission to reject Verizon NW's application of the discounted cash flow ("DCF") model to the S&P Industrials. The S&P Industrials constitute a group of large, well-known, and publicly traded companies operating in competitive markets and thus are an appropriate proxy for a company offering UNEs in a competitive market. *See* VZ Br. 17. That Verizon NW's proxy group does not include telecommunications companies is irrelevant. The most important criterion in selecting a proxy group to calculate cost of equity is that the proxy accurately represents the risks inherent in a comparably competitive market. The S&P Industrials do just that, and are a large enough group to reduce any anomalies that might arise from a smaller group, such as that advocated by AT&T. *See id.* at 10-11. For this reason, the Pennsylvania Commission has adopted Verizon's proposal. As it concluded, "the return associated with the S&P Industrials reflects the best proxy

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[27/] AT&T also argues that Verizon NW itself uses a "mix of vintages in equipment and design." AT&T Br. 7. This claim confuses the value of the asset with how to finance it. The interest rate for a home mortgage, for example, does not depend on its vintage.

of the investment risk, and therefore, resulting return that a TELRIC-style competitive entity would experience."[28/]

AT&T ignores the significant problems identified in the record with its competing proposal to use a proxy group consisting of only the four Regional Bell Holding Companies ("RBHCs"). The RBHCs constitute a group that is too small, and therefore less reliable than a group such as the S&P Industrials. VZ Br. 18. In addition, AT&T's claims that it has proposed the "market equity figures for the ILEC operations of the RBOCs" is simply wrong. AT&T Br. 9. The "ILEC operations" of the RBHCs are not publicly traded, and the stock prices of the RBHCs represent *all* of the RBHCs' operations. And the proposition that the ILEC operations of the RBHCs are the least risky of the RBHCs' various operations was badly discredited. *See id.* at 19-20.

2. Which methodology is appropriate and why?

Verizon NW's use of the one-stage DCF model to calculate the cost of equity best reflects the risks of providing UNEs in a competitive market and is far superior to the Capital Asset Pricing Model ("CAPM") used by AT&T. *See* VZ Br. 20-21. AT&T's main criticism of the one-stage DCF model is that it assumes one rate of constant growth that exceeds the rate of growth of the overall economy. *See* AT&T Br. 10-11. This criticism is a distraction. Companies do not have to grow at the same rate forever for a one-stage DCF model to reasonably approximate how prices are determined in capital markets. Because future periods are discounted in the DCF model, the fact that the proxy groups would technically overtake the

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[28/] *See* Final Order, *Generic Investigation Re Verizon Pennsylvania Inc.'s Unbundled Network Element Rates*, R-00016683, at 61 (Pa. P.U.C. Dec. 11, 2003).

economy at some distant point of time has no real effect on the cost of capital Verizon NW proposed.[29/]

AT&T's defense of its own proposed model is unconvincing. As Verizon NW explained, the CAPM requires three fundamental inputs that are highly subjective and uncertain, as opposed to the DCF model, which requires only two inputs that can be derived from readily available data. VZ Br. 21. For this and other reasons, this Commission has a long-standing practice of adopting the DCF over the CAPM and has found that the results of the CAPM are unreliable. *See id*. at 20-21. Moreover, as noted above, AT&T's attempt to show that UNE provisioning is less risky than other RBHC operations was rife with manufactured data and methodological mistakes. AT&T's brief simply ignores these problems.

3. Recommended cost of equity

Because AT&T and Staff have not identified any serious flaws in Verizon NW's proposed cost of equity, and AT&T's proposal uses an inferior model with flawed inputs, the Commission should adopt Verizon NW's 13.95% proposed cost of equity.

E. Option Value of UNE and Effect on Cost of Money

In addition to the market cost of capital Verizon NW has proposed, the Commission should adopt an additional risk premium in order to account for the regulatory risks of the TELRIC regime, including the risk of lease cancellation. AT&T argues that the risks of TELRIC regulation should be reflected in the data used to calculate Verizon NW's cost of capital. *See* AT&T Br. 15-16. But the models used to calculate the cost of equity do not account for the

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29/ AT&T also wrongly claims that the growth forecasts used by Verizon NW in applying the DCF model have proven wrong in the past. *See* AT&T Br. 14-15. Although analysts' earnings forecasts in 1998 may have been higher than the actual 2002 earnings for the S&P composite, the analyst forecasts are, at any time, the best available estimate of future growth. It simply does not matter how accurate they ultimately are; if investors rely upon them today, they are the most relevant measure of investors' expectations.

unique risk in a TELRIC regime that CLECs will cancel their UNE leases, and that Verizon NW is obligated to give CLECs the option to do so. Moreover, Verizon's stock price reflects the full panoply of diverse services that Verizon Communications offers, of which UNE operations are a very small segment.

AT&T also argues that Verizon NW faces no greater risk in providing UNEs than in providing retail services. *See id.* at 16. AT&T fails to recognize the unique nature of the risks posed by the TELRIC regime, under which Verizon NW is obligated to provide UNEs to its competitors, so that customers can ultimately move off Verizon NW's network. *See* VZ Br. 23. Contrary to AT&T's suggestion, CLECs have numerous such bypass alternatives, including their own facilities and technologies such as VoIP and wireless.[30/] These increased risks make necessary the risk premium Verizon NW has proposed, for without it Verizon NW would have no opportunity to earn its market cost of capital.[31/]

III. DEPRECIATION

AT&T offers little justification for its proposal that the Commission set UNE rates using depreciation lives originally set in 2000 for an entirely different purpose, other than to assert that those lives are forward-looking and that the Commission has deemed them to be reasonable. AT&T Br. 17, 19. As Verizon NW has explained, however, the Commission adopted those lives pursuant to a rate-of-return methodology in order to set retail rates in 2000. VZ Br. 27-29. Thus, their purpose was to enable Verizon NW to recover its historical costs (the costs of its embedded assets) based on the level of competition and the specific assets that existed four years

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30/ *See* AT&T Br. 16; Exh. No. 106TC 83:19-21 (Vander Weide).

31/ AT&T claims that because UNEs are available only if CLECs' ability to compete without them is impaired, there is no risk to Verizon NW that CLECs will cancel their leases. AT&T Br. 16. This argument ignores the whole premise of the FCC's unbundling regime as a transition "to encourage the development of facilities-based competition." *See, e.g., Triennial Review Order* ¶ 22.

ago,[32/] as opposed to the forward-looking costs of providing UNEs in the fully competitive market assumed by TELRIC.[33/] Moreover, the Act expressly prohibits the use of a rate-of-return methodology for determining UNE rates.[34/] Accordingly, the Commission's determination four years ago that those lives were reasonable for retail ratesetting purposes can have no bearing here.

AT&T devotes most of its brief on this point to quotations of the decision of the WCB in the Virginia arbitration. Staff agrees with Verizon NW that this ruling is of limited utility here, in light of its application of baseball arbitration rules to different proposals on a different record. Staff Br. 4-5 & n.9; VZ Br. 8-10. In particular, the WCB was comparing Verizon's proposed GAAP lives to AT&T's very different proposal to rely on the depreciation lives prescribed by the FCC.

In addition, the WCB based its decision not to adopt Verizon's proposed depreciation lives in Virginia on a desire for more information concerning those lives, rather than on any inherent defect in them.[35/] As Staff notes, the Commission must base its decision on the evidence before it here today, not on that presented to the WCB several years ago. Whatever the status of cable telephony penetration, wireless substitution, and VoIP technology at the time of the Virginia testimony, the issue here is the relationship of these factors to Verizon NW's asset

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[32/] *See* Exh. No. 151T 5 (Flesch).

[33/] *See Triennial Review Order* ¶¶ 670, 681 n.2048.

[34/] *See* VZ Br. 28 (*citing* 47 U.S.C. § 252(d)(1)(A)(i)).

[35/] *See* AT&T Br. 18 (*quoting Virginia Cost Order* ¶ 115). Nevertheless, Verizon maintains that it presented adequate evidentiary support in the Virginia proceeding for its proposal to use GAAP lives, and has appealed the Bureau's decision on that basis. And the TELRIC regime, as the FCC has made clear in the *Triennial Review Order*, assumes a fully competitive market.

lives in Washington today.[36/] And it is factors such as these that the FCC's *Triennial Review Order* concludes will "cause a decline in asset value."[37/]

Contrary to AT&T's assertion, Verizon NW has demonstrated in this case that its lives comply with GAAP, that its assessments on that score are updated annually, that these lives are generally equal to or longer than those of its competitors, that its external auditors have reaffirmed these determinations on a regular basis, and that those determinations must comply with federal securities laws. VZ Br. 25-26. In the absence of any effort by AT&T to rebut these determinations, the Commission should accept Verizon NW's proposed GAAP lives to set UNE rates, a course that many other state commissions have accepted as "a more progressive view,"[38/] particularly given the required assumption of a fully competitive market and the reality of rapid competitive and technological change.

IV. EXPENSE AND OTHER ANNUAL COST FACTORS

AT&T complains that Verizon NW's approach to expense factors is somehow flawed because it does not — as some other types of cost studies do — simply apply a fixed expense mark-up to all investment.[39/] But Verizon NW uses a far more nuanced approach. It has developed specific annual cost factors that represent the particular relationships between investment and expense in different equipment/plant accounts. Thus, as the mix of modeled

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[36/] *See* Exh. No. 351T 2-12 (West). Recent data confirm the rapid growth of robust intermodal competition. *See, e.g.*, AT&T Press Release, *AT&T's CallVantage Service Expands to the Western United States* (May 17, 2004) (AT&T now offers VoIP services to Washington customers); Denise Pappalardo, Network World, *MCI Rolls Out VoIP over DSL, Offering Targeted at Small Offices* (May 10, 2004) (MCI now offers VoIP in every market in which it offers DSL, and is partnering with Covad Communications to expand its VoIP offerings to Covad's markets); J. Halpern, Bernstein Research, *U.S. Telecom and Cable: Faster Rollout of Cable Telephony Means More Risk for RBOCs, Faster Growth for Cable*, at 3 (Jan. 9, 2004).

[37/] *Triennial Review Order* ¶ 685.

[38/] *See Indiana Commission Order* at 60; VZ Br. 26-27.

[39/] Tr. 806:13-14 (Kopta) (asking Verizon's cost factor witness, Mr. Jones, to state "a percentage that's added on to the investment" from application of the factors).

forward-looking investment in particular accounts changes, so do the total annual expenses produced by VzCost. For example, different ACFs apply to buried fiber cable and aerial fiber cable, and whether there is more of one or the other in the modeled TELRIC network will determine the resulting total expenses. That approach is more detailed and accurate than using the simple percentage mark-up AT&T apparently prefers.

As explained in Verizon NW's initial brief, its expense factors are based on data from the year 2001, because that was the most recently available data when it filed its cost studies in June 2003. AT&T argues that Verizon NW's data "fail to reflect the increased efficiency and decreased costs that Verizon has been working to achieve" since 2001 (AT&T Br. 20), but this criticism can hardly be credited: AT&T itself proposes using *1998* expense data from the FCC's universal service *Inputs Order* for the plant-specific factors it advocates.[40/] In any event, Verizon NW's experience is that the relationship between expenses and investment remains generally constant over time. But to ensure that its factors are forward-looking, Verizon NW applies a productivity adjustment that accounts for technological and other changes that improve efficiency.

AT&T also claims that Verizon NW has not "produced any evidence to quantify, much less justify, the adjustments that Verizon NW claims to have made to its embedded expense accounts." AT&T Br. 20. To the contrary, however, Verizon NW's adjustments are well documented in its workpapers, which AT&T itself entered into the record.[41/] Further, Verizon NW has explained these adjustments to AT&T in numerous data requests.[42/] It is the extreme

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40/ Exh. No. 951T 29:20-21 (Bryant).

41/ *See, e.g.*, Exh. Nos. 270C and 278C.

42/ *See, e.g.*, Exh. No. 277C.

downward adjustments and productivity improvements proposed by *AT&T* that are unexplained and unsupported.

A. Verizon NW's Forward-Looking Calibration ("FLC") Factor

As we have explained, Verizon NW applies the .85 FLC factor to the denominator of its ACFs to make them appropriate for application to the TELRIC investment it modeled for the forward-looking network, which is lower than the embedded investment Verizon NW used in the first stage of developing the factors. AT&T erroneously claims that the FLC "divorce[s] the calculation of [Verizon's] expenses from the network redesign that goes on within the investment side of the model" because it ensures recovery of the identified level of expense. AT&T Br. 21. To the contrary, as just explained, the total expenses produced by Verizon NW's studies directly reflect the particular forward-looking plant and technology mix adopted for the TELRIC network. Verizon NW's use of the example of hypothetical switching expenses to illustrate this point, in Table B of Verizon's Panel Rebuttal Testimony, does not, as AT&T seems to suggest, prove otherwise. While that simplified illustration suggests recovery of the full identified amount of forward-looking expense, in Verizon NW's actual studies, which recover expenses on a unit basis, Verizon NW recovers units of expense only in connection with the units of particular investment that actually are included in the forward-looking network. Thus, as noted, if there are fewer units of copper in the forward-looking network, Verizon NW will recover less copper-related expense: *not* the full amount of copper-related expense it has identified.[43/]

[43/] For example, assume there is $100 of buried copper cable investment in the embedded network, with forward-looking expenses of $25; the ACF, before the FLC is applied, would be .25; once "FLC'ed," the ACF (.25 x .85) will be .294. Because the TELRIC network uses relatively more fiber and consequently models less copper cable, the application of this FLC'ed ACF produces lower copper-related expenses than the $25 Verizon NW

Conversely, when quantities of forward-looking equipment approximate those currently in the network (e.g., digital end-office switching), then current efficient expense levels approximate forward-looking ones, and the application of the FLC produces this outcome. In contrast, HM 5.3 applies its factors to substantially underestimated switching investment levels, with the consequence of producing maintenance expenses that are only 56% of what Verizon NW actually incurred to maintain its digital switches in Washington.[44/]

AT&T also is wrong that a CC/BC ratio is a "narrowly-tailored adjustment" that can serve as a substitute for the FLC. AT&T Br. 22. As the Massachusetts Department of Telecommunications and Energy has recognized**,** a CC/BC ratio can produce only the *current* cost of reproducing *embedded* investment.[45/] It cannot estimate *forward-looking* TELRIC investment amounts.[46/] Applying a CC/BC ratio therefore would not calibrate the ACFs so that they can be properly applied to the forward-looking investment used in the TELRIC studies.

B. GDP-PI v. CPI

AT&T continues to criticize Verizon NW's use of the CPI as a measure of inflation. As AT&T's own witness acknowledged, however, "[f]or nearly all of its expense accounts,"

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originally identified. For example, if only $50 of copper cable were modeled, the "FLC'ed" ACF would produce total copper cable expenses of only $14.70 (.294 x 50) — far less than the embedded expense amount.

44/ Exh. No. 501T 6:8-10 (Tardiff).

45/ Order*, Investigation by D.T.E. on its own Motion into the Appropriate Pricing based on Total Element Long Run Incremental Cost, for Unbundled Network Elements and Combination of Unbundled Network Elements, and the Appropriate Avoided Cost Discount for Verizon New England, Inc. d/b/a Massachusetts Resale Services in the Commonwealth of Massachusetts*, D.T.E. 01-20, at 97 (Mass. D.T.E. July 11, 2002) (finding that CC/BC ratios only "value the existing network at different prices (booked prices versus current prices)," failing to "value different networks (current network versus forward-looking network) at the same price (current prices)," as the FLC does). The *Virginia Cost Order*, which is not persuasive here (VZ Br. 8-10), misunderstood this point: whereas the WCB erroneously believed that the FLC is used to calculate forward-looking expenses, in fact it is applied to ACFs only *after* forward-looking expenses are calculated. Verizon Virginia Inc.'s Application for Review, CC Docket Nos. 00-218, 00-249, 00-251, at 56 (FCC Sept. 29, 2003). Other commissions have recognized this point. VZ Br. 34-35.

46/ Exh. No. 1001TC 12:12-15 (Lundquist).

Verizon NW does *not* rely on the CPI.[47/] It applies the CPI only to five expense accounts. VZ Br. 36. And for those five accounts, using the CPI is entirely appropriate. AT&T argues that the CPI measures the inflation "experienced by retail consumers,"[48/] and Verizon NW applies the CPI to expenses in Verizon NW's model that correspond with such expenses. For example, the CPI measures inflation on goods such as electricity, computers, and computer information processing services and equipment. It thus makes sense to apply the CPI, as Verizon NW does, to the USOA expense accounts that include power, general purpose computers, and information management.[49/] By contrast, the GDP-PI includes classes of goods that Verizon NW's studies treat as *investment*, not expenses, such as non-residential structures and producers' plant and equipment.[50/]

C. Other Issues

Verizon NW develops its marketing expense factor as a ratio of wholesale marketing expenses to total expenses of a company of its current size by excluding retail-related costs and including only the estimated marketing costs of a wholesale-only company. AT&T argues that "[n]othing in the FCC's TELRIC methodology permits . . . such an assumption." AT&T Br. 24. But TELRIC does not preclude a reasonable assumption that current retail costs are a fair proxy for a company that sold 100% of its unbundled network elements wholesale. And since the TELRIC rules specifically require assuming that these wholesale volumes are large enough to

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47/ *Id.* at 28:1-3. AT&T's proposal to use a five-year snapshot, ending in 2001, of the Wired Telecommunications Carrier index as a measure of productivity is misguided. VZ Br. 32.

48/ AT&T Br. 23.

49/ Exh. No. 228TC 116:12-19 (Verizon Panel).

50/ *Id.* AT&T also argues that the CPI rose faster than the GDP-PI from 1996-2002, but this is not a reason in itself for rejecting the CPI.

serve current demand,[51/] there is good reason to think that many of the costs the combined retail/wholesale company incurs today would be incurred, albeit for an altered business purpose, by an equally large wholesale-only company. Whether or not this 100% wholesale company assumption is preposterous, as AT&T asserts, is a question appropriately debated in the FCC's pending *TELRIC NPRM*.[52/] The only question here is whether Verizon NW's marketing expense factor complies with TELRIC's requirement that it allocate costs in "a reasonable manner,"[53/] and it does. The factor represents the total marketing expense data that a wholesale company of Verizon NW's size would incur, and that amount is appropriately divided by the total network expense for a company of that same total size. The resulting marketing expense factor thus expresses a logical relationship and one that complies with TELRIC.

AT&T insists that Verizon NW has "produced no evidence that it advertises, much less incurs any costs to advertise, its wholesale services." AT&T Br. 24. But what Verizon NW does today is not the end of the discussion for marketing expense purposes, anymore than it is for any other UNE-related expense. The only relevant question is what would Verizon NW do in a forward-looking environment in which its entire volume were unbundled and sold wholesale.

51/ *See* 47 C.F.R. § 51.505(c)(2)(ii).

52/ AT&T Br. 24. For the very limited purpose of measuring common costs, the Ninth Circuit has recently questioned the TELRIC assumption of a 100% wholesale-only company large enough to serve existing demand. *See AT&T Communications of California, Inc. v. Pacific Bell Tel. Co.*, No. 02-16818 (9th Cir. July 14, 2004). The FCC has made expressly clear that "common costs also include costs incurred by the firm's operations as a whole," excluding only those costs specifically "attributable to the provision of retail service." *Local Competition Order* ¶ 694. In any event, the holding in that case addressed the specific approach SBC used to estimate common costs for UNE purposes, which is very different from the approach Verizon NW uses.

53/ *Local Competition Order* ¶ 696.

And the only rational answer is that it would advertise those wholesale services. In any event, Verizon NW already *is* advertising wholesale services to CLECs.[54/]

AT&T also incorrectly states that Verizon NW "has produced no evidence of its product management expenses for UNEs." AT&T Br. 24. But this is belied by Verizon NW's retail-avoided study of service centers that support both retail and wholesale products, which AT&T itself entered into the record as Exhibit No. 276C, and by testimony concerning the project managers that perform work for UNEs, such as voice mail, caller I.D., call waiting, 3-way calling, and call waiting I.D.[55/] Nor is there anything to AT&T's unsupported assertion that a wholesale-only company "would offer far fewer products." AT&T Br. 24. If all of Verizon NW's network elements were unbundled and sold wholesale, it certainly would seek to expand that line wherever profitable. And contrary to AT&T's contention that "Verizon maintains that it would incur the same product management expenses as a wholesale only provider that it incurs today" (*id.*), Verizon NW explicitly proposes to reduce its product management expenses by 15%.[56/] Verizon NW has provided a more than adequate evidentiary basis for its marketing costs and expense factors.

V. MODEL OVERVIEW: CHOICE OF MODEL

A. The Importance of Selecting the Right Model

Verizon NW has addressed at pages 2-6 *supra* AT&T's mischaracterization of the FCC's discussion of embedded costs, the economic efficiency reflected in modeling network locations

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54/ Exh. No. 228TC 110:16-18 (Verizon Panel) (press release for Verizon's "Wholesale Advantage" offering to CLECs). *See also* VZ Br. 40.

55/ Exh. No. 228TC 112:16-23 (Verizon Panel).

56/ *Id.* at 105:16.

for which there is a realistic prospect of future use, and the aspects in which VzLoop appropriately departs from Verizon NW's existing network and technology.

B. Openness and Flexibility of Model

AT&T asserts that HM 5.3 "relies to the greatest extent possible, on publicly available data."[57/] This is a rather careful use of the word "possible." AT&T has defied repeated orders by the ALJ and the Commission to produce all of the proprietary processes yielding HM 5.3's cluster input database (including the clustering source code).[58/] Although the Commission denied Verizon NW's motion to strike HM 5.3 for this reason, the Commission agreed that failure to produce this proprietary data was flatly inconsistent with its openness requirements, and that AT&T's willingness (or unwillingness) to provide the source code will "add or subtract to the weight the Commission gives to evidence associated with the model."[59/] Adoption of HM 5.3 in these circumstances would be tantamount to repudiating for future cost cases the very clear requirements of the *Eighth Supplemental Order* on this point.[60/]

Equally unpersuasive is AT&T's claim regarding the manner in which HM 5.3 and its predecessors "have been scrutinized by this and other commissions" and have "benefited greatly from this review." AT&T Br. 27. As an initial matter, HM 5.3's preprocessing that AT&T steadfastly refuses to produce in this case (but produced in the Verizon California UNE

57/ AT&T Br. 27.

58/ Exh. No. 601T 10-11 (Dippon).

59/ Eighteenth Supplemental Order, Docket No. UT-023003, ¶ 21 (issued Dec. 5, 2003) ("*Eighteenth Supplemental Order*").

60/ Staff argues that a prior version of the HAI model was earlier found "to more closely comply with the openness requirement." Staff Br. 14. But VzCost was not part of that comparison. In fact, the Commission found that "none of the models filed in this proceeding . . . fully meet our criteria for openness," and declined to adopt the HAI model for a reason applicable here — the flawed and largely undisclosed nature of its PNR (now TNS) clustering process. *Eighth Supplemental Order* ¶¶ 26, 35. In contrast, Verizon NW has documented the ways in which VzCost is far more open than HM 5.3 or the models at issue in the earlier proceeding. VZ Br. 46-47.

proceeding) has never been "scrutinized" by this or any other state or federal commission. And to the extent HM 5.3 has actually been analyzed by such commissions, it has hardly "benefited greatly" from the review. VZ Br. 41 n.170. HM 5.3 still relies upon a set of unrealistic and hypothetical assumptions that are often supported by nothing more than the opinion of AT&T's consultants or TNS, the developer of HM 5.3's cluster input database. Similarly, many of its inputs are identical to those about which the Commission has previously expressed concern.[61/] As Mr. Dippon explained, the modeling techniques employed by HM 5.3 are far from state-of-the-art.[62/]

AT&T's claim that VzCost's use of proprietary data somehow compromises its openness is completely inconsistent with its own refusal to disclose HM 5.3's clustering processes, and with the standards by which the evidence has been presented throughout this proceeding. All parties have had access to Verizon NW's network data. There is simply no way to conduct UNE proceedings about the costs of an ILEC's network without significant analysis of, and reliance on, such proprietary data; indeed, the Commission recognized at the outset of this case that "[i]t is likely that proprietary and confidential information will be required to resolve the issues in this proceeding."[63/] If AT&T's extreme argument were accepted, virtually all company-specific data would be out of bounds in cost cases.[64/]

61/ Exh. No. 551TC 132:6-133:7 (Murphy).

62/ Exh. No. 601T 8, 21-22 (Dippon).

63/ First Supplemental Order, Docket No. UT-023003, ¶ 1 (issued Mar. 25, 2002).

64/ *See* Report and Order, *Examination of Current Policy Concerning the Treatment of Confidential Information Submitted to the Commission*, 13 FCC Rcd 24816 (1998) (describing FCC's disclosure criteria for company-specific confidential information).

AT&T's and Staff's principal challenge to VzCost is not about "openness" or "flexibility," but rather a claim that one aspect of the model (VzLoop) is "complex."[65/] Verizon NW has shown that to an experienced loop modeling expert, VzLoop is readily understood [66/] — certainly as readily as HM 5.3, which Dr. Tardiff demonstrated is equally complex.[67/] A cost model is complex because a telephone network is complex. And AT&T witness Dr. Mercer conceded that the complexity of the network would be something the "ideal" model would take into account.[68/] To address the problem of complexity in the network by replacing it with rearranged customer locations and routing designs that have no relationship to real-world constraints (as AT&T has done)[69/] is the equivalent of throwing up one's hands and conceding that it is impossible to grapple with those complexities. VzCost, on the other hand, shows that it is possible to address and incorporate the multifarious aspects of a forward-looking telecommunications network.

Finally, AT&T's criticism that VzCost is not a "unitary" cost model fails to identify any evidence that the various modules within VzCost are any less easy to use. In fact, these modules are well integrated into the cost calculator that is VzCost, which contains clearly stated algorithms.[70/] Nor is there any basis for the claim that the web-based nature of the model

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65/ *See* AT&T Br. 27 ("VzCost is exceedingly complex and difficult to work with.").

66/ AT&T's claim that making even simple changes to VzCost takes "hours to complete and run" is flatly repudiated by Verizon NW's testimony; in Washington, with only 99 wire centers, only two files take any significant amount of time to upload, and Verizon NW has identified ways to cut that time down. VZ Br. 49 n.209.

67/ Exh. No. 501T at 11:1-7 (Tardiff). As Dr. Tardiff also noted, the most fundamental aspects of HM 5.3 cannot be changed, as they are hard-coded into the preprocessing. Changes that can be made require expertise and time. Exh. No. 503 15:6-17:21 (Tardiff).

68/ Tr. 1599:1-2 (Mercer).

69/ Exh. No. 601T 18-20 (Dippon).

70/ Exh. No. 228TC 89:18-90:3 (Verizon Panel).

prevents changes to the underlying code.[71/] But in any event, HM 5.3 fails AT&T's own "integration-is-good" test on a much more fundamental level. First, the TNS clustering process not only occurs outside of the model,[72/] but as noted above is outside the record in this case entirely because AT&T never disclosed it. Second, HM 5.3 fails to reconcile the inconsistent assumptions it makes in its different modules for IOF and loop plant and for distribution and feeder facilities.[73/]

C. Metrics for evaluating reasonableness of model

1. Route miles/average loop length

The Commission has repeatedly made clear that it considers average loop lengths to be one of the most important benchmarks by which to gauge a loop model's reliability.[74/] As noted in Verizon NW's opening brief, VzLoop has produced average loop lengths that are strikingly similar to those that exist in its real-world Washington network, with an average individual wire center ratio of modeled to actual loop lengths of 0.9922. VZ Br. 52-53. By the same measure, HM 5.3 fails miserably; its average individual wire center ratio is 1.4422. *Id.* at 53. AT&T and Staff now seek to disregard the Commission's established standards, claiming that "a model should not 'live or die' depending on such a comparison,"[75/] and that (notwithstanding earlier

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71/ *Id.* at 13:20-14:2, 42:13-43:4.

72/ Exh. No. 501T 65:9-10 (Tardiff).

73/ *Id.* at 65:16-66:12.

74/ Thirty-second Supplemental Order, Docket No. UT-003013, ¶ 345 (issued June 21, 2002); Ninth Supplemental Order on Clarification Docket No. UT-960369, -960370, -960371, ¶ 47 (issued June 5, 1998); *Eighth Supplemental Order* ¶ 227.

75/ Staff Br. 15. Staff's about-face is particularly troublesome. One of its earliest data requests to Verizon NW was to obtain information about average loop lengths. In seeking to expedite Verizon NW's response to that request in May 2003, Staff argued that "Verizon's loop length studies are directly relevant to the scope of this docket." Commission Staff's Motion to Compel Verizon to Comply with the Third Supplemental Order (filed May 14, 2003), at 2. When Staff sought to reject VzLoop based on an average loop length comparison, Verizon NW demonstrated that such a comparison actually *validated* VzLoop and reflected highly adversely on HM 5.3. Exh.

Commission orders) "route miles are a more meaningful comparison than average loop length."[76/] This argument requires little response. And Staff's loop length adjustment does nothing to remedy HM 5.3's shortcomings as to *where* cable is routed (e.g., through lakes or other impracticable obstacles),[77/] *what kind of cable* is routed (e.g., size, structure type, and feeder-distribution mix), and *what technology* is used (e.g., copper vs. fiber).

For this same reason, total route miles is not a meaningful indicator of the reliability of a model. AT&T cites no decision of this Commission to the contrary. Indeed, in the Commission order cited by AT&T, which dealt with universal service issues and not UNE costs, the Commission's concern was with whether a cost model contained enough "route miles of distribution plant necessary to reach all customers."[78/] Nowhere did the Commission suggest, as AT&T does, that a "surplus" of route miles is somehow beneficial. Moreover, while AT&T and Staff claim that changes to HM 5.3 have addressed the Commission's concern that there was sufficient plant to reach all customers, HM 5.3's "fix" is to invoke the strand distance adjustment.[79/] As Mr. Dippon's maps and Verizon's rebuttal testimony demonstrate, this

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No. 228TC 29:13-31:17 (Verizon Panel). Then Staff withdrew its testimony, and now claims that this comparison can be ignored.

76/ AT&T Br. 28. Apart from its inconsistency with the Commission's prior orders, this preference for route distance reveals a number of inconsistencies in the views of HM 5.3's proponents. Dr. Mercer viewed route distance as less sensitive than loop length to redesign of DAs, noting that loop length would increase because of the need to "back haul" distribution cable. AT&T's Response to Data Request No. 12-19. Mr. Spinks, however, expected loop length should be shorter in a forward-looking network. Tr. 1048:14-1049:1 (Spinks). This phenomenon is also inconsistent with Mr. Fassett's suggestion that larger DAs are more efficient. Exh. No. 956TC 10:4-17 (Fassett). And as Mr. Dippon demonstrated, lack of sensitivity of HM 5.3's loop costs to changes in DA sizing or maximum distribution distance not only reveals significant flaws in the operation of the model but also is inconsistent with AT&T's insistence that larger distribution areas are more efficient.

77/ Exh. No. 601T 25 (Dippon).

78/ Tenth Supplemental Order, Docket No. UT-980311(a) ¶ 262 (issued Nov. 20, 1998).

79/ As Mr. Dippon explained (and the Commission previously recognized), the strand distance was meant to be a diagnostic to detect insufficient cable in certain areas, and not a mechanism for wholesale redesign of distribution facilities. Exh. No. 601T 29, 62 (Dippon).

artificial expansion (or compression) of HM 5.3's distribution plant introduces a host of new problems, such as oversized and overlapping "grills," copper loop lengths in excess of engineering design standards, and in others, insufficient cable to reach all customers.[80/]

2. Adhering to current location of pedestals and cabinets

As noted above, VzLoop's use of existing pedestal and cabinet locations is economically efficient because it recognizes the value of having already identified and obtained the rights-of-way for those locations and avoids the more expensive option of identifying and obtaining new locations and rights-of-way.

AT&T asserts that its placement of SAIs at the "centroid" of its clusters, "rather than at the edges of distribution areas as may have occurred in the past," allows those SAIs to "serve . . . distribution areas efficiently." AT&T Br. 29. This claim is unsupported by any citation, and cannot be reconciled with the record evidence. As Verizon NW has previously noted and Mr. Dippon's maps amply demonstrate, HM 5.3's clustering program (which places SAIs at the midpoint between the two farthest points in a cluster) inappropriately models SAIs away from customer locations, outside wire center boundaries, and in the middle of lakes and other bodies of water (or other locations that would absolutely be precluded by real-world constraints).[81/] The resulting feeder routes are equally unrealistic, being placed in impossible locations and modeled in a manner that is anything but "efficient." As the example of Verizon NW's routing in the Bothell wire center to accommodate the specific demands of a gated community shows,[82/] it is highly unlikely that the centroid scheme used by AT&T is most efficient.

80/ Dippon Supp. Reply 4:15-12:13.

81/ VZ Br. 73; *see also* Exh. No. 601T 75-76 (Dippon); Exh. No. 451T 3:11-5:16 (Richter).

82/ Exh. No. 228TC 40:5-8 (Verizon Panel).

3. Number of lines in a serving area

VzLoop has modeled distribution areas ("DAs") in accordance with established industry standards. VZ Br. 54. Its real-world approach enables Verizon NW to rely on DAs shaped by engineers familiar with local conditions and requirements.[83/] In contrast, as Staff notes, HM 5.3 "designs distribution areas to serve up to 5,000 access lines in a single distribution area." Staff Br. 16.[84/] The ALJ in the recent SBC California proceeding concluded that HM 5.3 thus "relie[s] on too many large DA configurations, more than it is reasonable to assume would happen in the real-world network."[85/] These larger DAs, which are a complete departure from the limitations previously relied upon in the model and by AT&T's engineering witness,[86/] result in the use of almost twice as much distribution cable.[87/] They are highly inefficient (particularly given the greater maintenance expenses associated with distribution cable), distort the sharing and structure mix inputs in the model, and ignore the real-world siting difficulties described by Mr. Richter. VZ Br. 56.[88/]

83/ *See* Exh. No. 452C 2-4 (Distribution Area Planning and Design).

84/ In fact, HM 5.3 permits DAs as large as 6,451 lines. VZ Br. 55 & n.244. *See also* Tr. 1660:15-18 (Mercer) (noting that HM 5.3 can model SAIs as large as 6,400 lines).

85/ Proposed Decision of ALJ Duda, *Joint Application of AT&T Communications of California, Inc. (U 5002 C) and WorldCom, Inc. for the Commission to Reexamine the Recurring Costs and Prices of Unbundled Network Element Costs Pursuant to Paragraph 11 of D.99-11-050*, Docket Nos. 01-02-024, 01-02-035, 01-02-031, at 81 (Cal. P.U.C. May 3, 2004) ("*SBC California Proposed Decision*").

86/ Exh. No. 551TC 41:16-20 (Murphy) (*citing* Before the Washington Utilities and Transportation Commission, Docket Nos. UT-960369, -370, -371, *Workshop Transcript* (Feb. 17, 1997) at pp. 158-59); *see also* Exh. No. 451T 12:6-9 (Richter).

87/ Exh. No. 601T 63-64 (Dippon); Exh. No. 501T 26:12-28:13 (Tardiff).

88/ AT&T argues that the availability of large SAIs demonstrates some industry judgment that DAs of this size are acceptable. AT&T Br. 31. Nothing in the record provides any support for this assertion. AT&T made no showing that *all* of the available capacity in larger SAIs would be used to provide *a separate line* for each living unit within the DA (instead of being used, for example, for the provision of ADSL, which requires 2 pair per each line).

AT&T now seeks to disown its huge DAs, citing its response to Bench Request 19. AT&T Br. 31-32. But that response shows in fact that in zones 1 and 2, its median SAI has 2,436 and 2,266 lines, respectively.[89/] And the 32% of clusters that exceed 1,000 lines account for 87% of all lines.[90/] There can be no doubt that the clusters modeled by HM 5.3 are large. DAs of this size are hardly supported by Verizon engineering guidelines to "place larger [SAIs] . . . as opposed to establishing many smaller ones."[91/] In fact, neither AT&T's guidelines, nor those of Verizon NW, endorse the size of DAs proposed by HM 5.3 in this case.

Here again, AT&T seeks to characterize the WCB's Virginia order as a dictate from "[t]he FCC," endorsing its large DAs. AT&T Br. 31. Apart from the general limitations of that order as discussed above, the WCB in fact agreed that 200 to 600 line DAs are the "general deployment goal."[92/] But in the context of that baseball arbitration, it preferred the DAs used by one of two models (neither of which is at issue in this case) because that model — while more complex than the competing grid approach — was better in identifying "natural groupings of customers" and did not "impose arbitrary serving area boundaries"; rather it "t[ook] into account engineering constraints such as distance limitations between customer locations and DLC systems."[93/] In the context of this case, such reasoning is an endorsement of VzLoop — not HM 5.3.

89/ Exh. No. 1169 (AT&T Response to Bench Request No. 19).

90/ Column I of the "distribution output by cluster" worksheet of the workfile produced by a run of HM 5.3 as revised on June 4, 2004 lists the number of lines in each cluster. This column shows that (1) 562 of the 829 main clusters (68 percent are under 1,000 lines, and (2) the 266 clusters with 1,000 lines or more include about 867 thousand of the total of 1.001 million lines included in column I (87 percent).

91/ AT&T Br. 31 (*citing* Exh. No. 265 at 13, ¶ 3.2.2).

92/ *Virginia Cost Order* ¶ 237. And rather than produce the huge clusters that HM 5.3's 6,451-line size limit permits, the model selected in that case (the Modified Synthesis Model) imposed an 1,800-line limit. *Id.*, Appendix G.

93/ *Virginia Cost Order* ¶ 233.

4. Maximum length of copper cable

AT&T has addressed copper loop length limitations as an input issue. Verizon NW accordingly responds to this issue in Section VIII.A.12 of this brief.

5. Other

The parties' respective claims about model complexity are addressed in Section V.B above. AT&T argues that HM 5.3 "has a long history with this and other Commissions" while VzCost is new. As noted above, that is a mixed blessing. VZ Br. 41 & n.170. The ALJ in California recently found that HM 5.3 "fail[ed] the Commission's cost modeling criteria" and did not clearly explain and allow modification of its inputs.[94/]

Staff, on the other hand, argues that web-based models are deficient in that they reside on one party's server. This evidentiary argument is misplaced. Staff declined numerous opportunities to review the model,[95/] and in fact decided to endorse HM 5.3 even before seeing it.[96/] VzCost's reliance on computerized data not located on Staff's PC does not make the model any less reliable.[97/] As the Commission has found, "[n]o party has cited any case to the Commission that would preclude reliance on a web-based model as long as the Commission can determine the weight to accord to the model, and the results derived from it, based on the

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94/ *SBC California Proposed Decision* at 230. AT&T refers to unspecified "additional errors" in VzCost uncovered during the California proceeding. As AT&T witness Mr. Turner conceded, the only error identified in this case had no impact whatsoever on Verizon NW's cost studies in *this* proceeding. Confidential Statement of Steven A. Turner in Response to Verizon VzLoop 7A Filing (filed June 16, 2004). There is no small irony that AT&T points to errors in VzCost, given that it has corrected its model at least twice — first in April, and then again on the last day of the hearings. *See* Exh. Nos. 851T, 853, and 856, all filed on June 26, 2003, revised on April 9, 2004, and revised again on June 4, 2004. *See also* Tr. 1472:11-1474:25.

95/ Tr. 1034:23-1038:18 (Spinks).

96/ Tr. 1006:19-22 (Spinks).

97/ *See* Wash. R. Evid. 901(b)(9) (computer-based evidence may be authenticated by "[e]vidence describing a process or system used to produce a result and showing that the process or system produces an accurate result"); Fed. R. Evid. 901(b)(9) (same); *id.*, Advisory Committee Notes, Ex. 9 (Rule 901(b)(9) expressly "designed for situations in which the accuracy of a result is dependent upon a process or system which produces it").

evidence taken as a whole."[98/] That evidence includes no showing that any of VzCost's fully disclosed algorithms and calculations are unreliable.

VI. VERIZON'S COST MODEL

A. Overview

Contrary to its assertions (AT&T Br. 26-27), AT&T has failed to identify any aspects of VzLoop that were not disclosed to AT&T, in the loop and preprocessing manuals and source code supplied with Verizon NW's June 2003 filing, the source code and other materials produced with its January 2004 supplemental filing, or in the extensive responses to AT&T's data requests.[99/]

B. Outside Plant Network Design

Given the enormous quantity of data about network locations VzLoop has collected for all of Verizon NW's 99 wire centers, it is not surprising that some of it is either imperfect or incomplete. But as Verizon NW has shown, this did not significantly detract from the development of the modeled network or its associated investments. VZ Br. 67. AT&T's opening brief (AT&T Br. 34-37) recycles Mr. Turner's rebuttal testimony regarding these questions, without reference to any of the testimony responding to them:

- AT&T argues that for those distribution terminals that could not be located, Verizon NW should not have applied an average investment cost but rather should have assumed a cheaper cost because of "economies of scale." There is utterly no evidence justifying such a self-serving assumption: whether these lines are residential or business locations, they could just as easily be located in more remote areas with higher costs, or simply at locations where the additional demand triggers the need for a larger cable, DLC, or other equipment.[100/]

98/ Fifteenth Supplemental Order, Docket No. UT-023003 ¶ 14 (issued Oct. 16, 2003).

99/ See Exh. No. 205 (VzLoop Manual); Exh. No. 207 (Loop Preprocessing); Exh. No. 217 (source code); Exh. No. 227 (materials filed with Supplemental January 2004 testimony).

100/ Exh. No. 228TC 50:16-51:19 (Verizon Panel); Tr. 1249:11-1251:17 (Tucek).

- AT&T argues that for its lines for which an address could not be identified, Verizon NW improperly assigned a NID and drop to each line when some could well have been non-switched private lines sharing a NID and a drop. AT&T further identifies approximately 32,000 private lines for which Verizon NW was unable to locate a distribution terminal, and argues that for these it should not have assumed each would require a separate distribution terminal. These are unknowns with virtually no cost impact.[101/]

- AT&T claims that Verizon NW has "acknowledge[d] that it was unable to locate all of its existing SAIs in deriving the modeled network." This claim is patently false. The testimony makes clear that Verizon NW located all of its SAIs, but that 10% were placed at the same location in its plant records as others, because its network engineers locate them at a point where they may be monitored more efficiently.[102/] Relying on those records did not have any significant effect on distribution cable distance or investment, and contrary to AT&T's assertion, Verizon NW identified a way for AT&T's consultant to move those locations in a February 2004 meeting. That he chose not to do so is not an indictment of Verizon NW's cost model.[103/]

- AT&T ignores the Verizon NW panel rebuttal testimony addressing these points, and asserts without support "that [they] are *likely* to increase the costs" of Verizon NW's modeled network. But Verizon NW has already quantified the impact of these anomalies; as noted in response to Bench Request No. 16, the impact of correcting all of them and others, *in addition to* adjustments to cost-of-capital, depreciation, and structure sharing inputs, leads only to a 2.33% reduction in two-wire loop investment.[104/]

C. Switching Model Issues

AT&T claims that the importation into VzCost of the SCIS and COSTMOD switching models is "complex" and "impossible to verify." AT&T Br. 37-38. This argument makes no sense. VzCost operates as simply a calculator for these well-established switching models,[105/] and all of its algorithms are viewable in readily understandable equations.[106/] There is nothing

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101/ Exh. No. 228TC 52:13-15 (Verizon Panel).

102/ *Id.* at 39:4-15. HM 5.3 itself models SAIs close together in many instances. Exh. No. 503 21:3-15 (Tardiff).

103/ Exh. No. 228TC 42:13-43:4 (Verizon Panel).

104/ *See* Exh. No. 1166, WA.UT023003 Whsl UNE Loop Bench Request No 16.06082004 (Verizon NW Response to Bench Request No. 16(f)).

105/ Exh. No. 228TC 89:18-90:13 (Verizon Panel).

106/ *Id.* at 3:12-4:10.

"complex" or surprising about how these well-established models work. The FCC and state commissions have been using SCIS for many years to establish switching rates for both UNE and access services. Indeed, the model was adopted in the Virginia arbitration as flexible and adjustable.[107/] As in that case, here AT&T has been provided access to both SCIS and COSTMOD, and to all programs needed to run them.[108/] AT&T is fully familiar with these long-used models, particularly SCIS, and its experts often re-run SCIS to restate switching costs.[109/] In fact, Catherine Pitts, a witness for AT&T in other cost proceedings, was one of the original developers of SCIS and "led the . . . SCIS . . . group . . . which was responsible for the technical development, documentation, and customer care for the SCIS/MO and SCIS/IN models."[110/] COSTMOD, a Verizon-developed program that models the costs of the GTD-5 switch, operates similarly to SCIS.[111/] AT&T cannot therefore claim that it cannot figure out how these models work.

107/ *See Virginia Cost Order* ¶¶ 367-73.

108/ Exh. No. 228TC 90:16-22 (Verizon Panel).

109/ *See*, *e.g.*, Rebuttal Testimony of Michael R. Baranowski, Terry L. Murray, Catherine E. Pitts, Joseph P. Riolo, and Steven E. Turner on Behalf of AT&T and WorldCom, Inc., *In the Matter of WorldCom, Inc. Pursuant to Section 252(e)(5) of the Communications Act for Expedited Preemption of the Jurisdiction of the Virginia State Corporation Commission Regarding Interconnection Disputes with Verizon Virginia, Inc., and for Expedited Arbitration*, *et al*., CC Docket Nos. 00-218, 00-249, 00-251 at 96-124 (filed Aug. 27, 2001) (describing in detail the SCIS model and presenting restated switching rates using the SCIS model).

110/ *See* Declaration of Catherine E. Pitts in Support of Opening Comments of Joint Commentors, *Rulemaking on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish a Framework for Network Architecture Development of Dominant Carrier Networks*, R. 94-04-003, I. 93-04-002 at 1 (Cal. P.U.C., filed Nov. 3, 2003). Thus, AT&T's complaint that Verizon NW did not receive Telcordia's approval to provide the SCIS source code to AT&T more promptly is disingenuous. In any event, AT&T has not identified any aspect of SCIS that it purports not to understand.

111/ *See* Exh. No. 201TC 77:4-18 (Verizon Panel).

VII. HM 5.3

A. Overview

AT&T claims that HM 5.3 uses "detailed and granular information" to estimate Verizon NW's forward-looking costs of providing UNEs.[112/] In fact, as Verizon NW has demonstrated in its testimony and in its initial brief, time and again AT&T discarded reliable, verifiable data in favor of the unsubstantiated opinions of its consultants. For example, while AT&T touted the benefits of the geocoding and surrogating exercise in which TNS engaged, in the end HM 5.3 does not route its plant to *a single* existing customer location.[113/] Instead, AT&T ignores those locations (provided by Verizon NW in discovery), and assumes that Verizon NW's customers are spread uniformly in rectangular-shaped DAs, each of which is assumed to contain lots of equal size and shape that are evenly dispersed within the DA, have the same line demand, and have an identical dispersion of equal-sized distribution terminals — assumptions that are entirely unrealistic.[114/] Any precision obtained through geocoding is discarded, and very little information gained from TNS's elaborate geocoding and surrogating exercise, if any at all, is used to derive HM 5.3's final UNE cost estimates.[115/] It is this reliance on subjective "subject matter expert opinion"[116/] (as a replacement for readily available real-world data) that has been widely rejected by the FCC and numerous state commissions.[117/]

112/ AT&T Br. 39; *see also* Staff Br. 20 (claiming incorrectly that HM 5.3 begins with existing customer locations).

113/ Exh. No. 601T 41 (Dippon).

114/ *Id.* at 4.

115/ *Id.* at 19.

116/ AT&T Br. 39.

117/ VZ Br. 41 n.170; Exh. No. 551TC 35:25-36:1 (Murphy).

Nor does HM 5.3 "assum[e] the use of forward-looking network architecture currently being deployed today." AT&T Br. 39. In particular, both in criticizing VzCost and defending HM 5.3, AT&T's witnesses offer nothing more than unsubstantiated opinion that competitive carriers serving Verizon NW's customer base would have substantially different routes and outside plant design than what is captured in VzLoop. For example, in place of starting with DAs that embody well-established engineering practices and recognize real-world obstacles, AT&T offers the proposition that a competitive carrier would have considerably larger DAs. As such, HM 5.3 is fundamentally incapable of estimating the costs of an "efficient firm." *Id.* at 38.[118/]

HM 5.3 also ignores Verizon NW's actual demand data.[119/] It (1) ignores entirely the high-capacity service data provided and, among other things, inflates the amount of high-capacity fibers in the loop to achieve lower unit costs; (2) disregards the high-capacity demand in the interoffice facilities network; (3) ignores wireless and CLEC switched trunks for developing both tandem switching and IOF investments, but then divides the understated investment by the demand associated with these carriers; and (4) claims to include in-state private lines, but fails to use the actual customer data provided by Verizon NW when modeling the associated network design and equipment.

B. Outside Plant Network Design

AT&T attempts to summarize HM 5.3's modeling of outside plant in three, overly simplistic steps. These "three major steps" highlight a number of HM 5.3's fundamental flaws. AT&T first claims that it "us[es] geo-coded customer location data provided by Verizon."

118/ *See* Section I *supra*; VZ Br. 54-56.

119/ *See* Exh. No. 551TC 35:1-15 (Murphy).

AT&T Br. 40. As noted above, however, this geocoded and surrogated customer location data is actually never used in determining how "HM 5.3 models network design." *Id.* TNS's geocoding and surrogating exercise takes place separate and apart from any "modeling" actually done by HM 5.3. Indeed, the detailed customer location information available from Verizon's data is ultimately discarded by TNS when it completes its abstract representation of clusters, some of which are miles from the customer locations they purportedly represent.[120/]

AT&T's second step is to "cluster" Verizon NW's customers. *Id.* As Mr. Dippon's maps illustrate, the resulting clusters described in the second step are entirely severed from reality, and therefore cannot be "efficiently served by available local exchange technology," as AT&T claims. *Id.*

Finally, AT&T claims that the model "employs numerous optimization routines." *Id.* These routines ignore widely-accepted engineering and technical standards to produce a network that would never exist in the real world (either now or on a forward-looking basis), because as described above HM 5.3's engineering "rules" would produce a highly *inefficient* network at odds with reality. As Verizon NW has described above and in its initial brief (VZ Br. 50-52), AT&T's claim that HM 5.3 overestimates the amount of network facilities is nothing more than a reflection of its misguided obsession with comparative route distances. AT&T Br. 41. The result is a cost model that produces a loop cost that is little more than one-third of what the Commission previously approved.[121/]

[120/] Exh. No. 601T 19-20 (Dippon).

[121/] Exh. No. 501T 6-7 n. 12 (Tardiff).

C. Switching Model Issues

AT&T's defense of HM 5.3's approach to switching is based almost solely on the FCC's order that selected particular inputs for its universal service Synthesis Model. AT&T Br. 41-42. A careful review of the FCC's reasoning, which occurred almost five years ago, reveals why the universal service model and inputs cannot provide proper estimates of Verizon's forward-looking switching costs in Washington. First, *by design* the FCC limited its investment inputs to new switch purchases.[122/] But as noted in section VIII.B below, *TELRIC* switching studies require proper recognition that efficient firms purchase switching equipment at both new equipment and add-on equipment discount levels. Second, the sample of switch purchases used to develop the FCC's inputs spanned the period 1989 to 1996. The consequence of such obsolete data is that the investment levels represented in the FCC's inputs capture neither the usage patterns nor the technical capabilities of the switches that an efficient carrier would now install.[123/] In short, HM 5.3's switching module is fundamentally inappropriate for use in developing forward-looking switching UNE costs.

VIII. MODEL INPUTS

A. Loops

As Verizon NW demonstrated in its initial brief (VZ Br. 6-7), the Commission has emphasized in its *Eighth Supplemental Order* the need to subject proposed inputs to some form of validation based on "the recent experience of efficient firms," or (in the absence of such experience) to require careful analysis of methodology and assumptions. This approach is

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122/ Tenth Report and Order, *Federal-State Joint Board on Universal Service,* CC Docket No. 96-45, 14 FCC Rcd 20156 ¶ 315 (1999) ("*Inputs Order*").

123/ For example, as Mr. Murphy explains, while HM 5.3 assumes optical interfaces between switches and interoffice facilities (so that OC-3/DS-1 multiplexing equipment is unnecessary), the switches represented in the FCC's model did not have this technical capability. The *Virginia Cost Order* discussed the deficiencies associated with data that is now up to 15 years old in detail. *Virginia Cost Order* ¶¶ 369-71.

designed to avoid inputs based on mere "value judgements."[124/] Yet that is precisely what AT&T has relied upon for most of its critical loop inputs — such as structure mix, structure sharing, placement and material costs, fill factors, IDLC/UDLC mix, and DLC installation times. *See* VZ Br. 83-91, 93-95, 96-98, 100-101. Indeed, these are precisely the same types of value judgments made by the same engineering witness, Mr. Donovan,[125/] that the California ALJ recently dismissed in the pending SBC UNE proceedings as "speculation" and uncorroborated "opinion."[126/]

AT&T devotes little of its brief to a defense of its own speculative value judgments. Rather, it focuses on Verizon NW's determination to rely on empirical evidence for its loop inputs, claiming that these inputs are tainted by association with an "embedded network." As noted above, this is nothing but a red herring. Verizon NW's loop inputs are premised upon either the immutable facts of topography, or documented industry guidelines and practices that there is no reason to believe will change in the foreseeable future. To disregard these reality checks on HM 5.3's inputs and assumptions in favor of Mr. Donovan's wishful thinking would leave the Commission powerless to rely on anything but pure guesswork in determining key input values. This is precisely the kind of "black box" approach that the FCC has determined to avoid.[127/]

[124/] *Eighth Supplemental Order* ¶ 133.

[125/] Mr. Donovan's testimony was later adopted by AT&T witness Dean Fassett. Exh. No. 956TC 4:17-19 (Fassett).

[126/] *SBC California Proposed Decision* at 186, 191.

[127/] *TELRIC NPRM* ¶ 7.

1. Plant Mix

HM 5.3 assumes that *only 1%* of distribution cable — which, as it notes, is the most expensive structure — would be underground. AT&T Br. 42-43. AT&T has provided no support for this self-serving assumption, which works in tandem with AT&T's use of oversized DAs (and resulting overuse of distribution compared to feeder) to drive down UNE prices substantially. VZ Br. 43-44, 75-76.

As Verizon NW explained in its initial brief, VzLoop relies on plant mix values that are based not on hypothetical assumptions, but rather on actual records for every cable segment in its Washington network.[128/] These records allow it to determine the plant mix separately for feeder and distribution cable and to determine the specific plant mix for each wire center and density zone.[129/] Neither AT&T nor Staff has explained why such real-world information, based on the topography and soil conditions that actually govern cable placement in Verizon NW's service area, is an inappropriate basis for structure mix inputs.

AT&T again seeks to tar these data with the "embedded network" brush it uses throughout its brief. AT&T Br. 42. But *any* network (forward-looking or not) will have to conform its structure mix to the same topography, soil conditions, and local ordinances that Verizon NW confronts today. Indeed, AT&T itself purports to rely on "Verizon ARMIS data filed with the FCC" as to Verizon NW's "embedded" network for the basis of its own structure mix. AT&T Br. 43, 44. However, it simply guesses about how to assign these data by density zone and between feeder and distribution, and discards the ARMIS data on underground

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128/ VZ Br. 83; Exh. No. 451T 17:9-19:4 (Richter).

129/ *See* Exh. No. 451T 18:21-20:10 (Richter).

structure in favor of a reduction by half,[130/] based upon Mr. Donovan's wholly unsubstantiated assumptions.[131/] And those guesses lead to wholly unrealistic results that ignore the undisputed increase in percent of underground structure in *every one* of the 11 years prior to the cost study filing,[132/] as well as the documented underground structure in many wire centers.[133/] Since the use of underground structure is increasing and engineers are increasingly using conduit because of the environmental and maintenance benefits,[134/] there is no basis for jettisoning VzLoop's real-world data (which likely understate such use on a forward-looking basis) in favor of Mr. Donovan's wholly unsupported value judgments.[135/]

2. Structure Sharing

Nor does AT&T's brief justify its own proposals for structure sharing, which are similarly based entirely on uncorroborated guesswork.[136/] These are *the same* proposals that the California ALJ rejected because they had "little basis other than [witness Donovan's] own speculation."[137/] The Florida Commission also found, for similar proposals, that "witness

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130/ Exh. No. 501T 45:16-46:2 (Tardiff)

131/ AT&T notes that HM 5.3 "contains an optimization assumption that shifts cable between aerial and buried depending on local terrain conditions." AT&T Br. 43. That assumption does not apply to underground structure. And it has a trivial impact on the costs produced by HM 5.3. Exh. No. 501T 68:1-5 (Tardiff). As noted above, VzLoop does not need to "optimize" its data to take account of real terrain: its data already measure this mix.

132/ *Id.* *See also* Exh. No. 951T 18 (Donovan) (reproducing ARMIS data).

133/ Exh. No. 451T 19:9-12 (Richter).

134/ *See id.* at 21:12-13, 39:13-14.

135/ VzLoop's ability now to base plant mix on current real-world data is thus superior to GTE's outdated structure mix proposals in the universal service proceeding relied upon by Staff (Staff Br. 21), which did not rely on segment-by-segment plant mix data, but rather on an average structure mix for groups of wire centers based on density zone. *See* Direct Testimony of Kevin Collins, Docket No. UT-980311(a), filed on behalf of GTE Northwest, Inc, June 15, 1998, at 16 & KCC Exh. 1.

136/ So were those of Staff, upon which the Commission based its prior estimates. Mr. Spinks conceded at the hearing that these proposals were not based upon any studies or other data, but rather on what he and two others decided would be reasonable. Tr. 1099:7-1100:17 (Spinks).

137/ *SBC California Proposed Decision* at 186.

Donovan did acknowledge that his recommended inputs are not based on any documentation in the record."[138/]

AT&T's brief also does not challenge the sharing percentages assumed by Verizon NW for aerial or underground sharing or for feeder-distribution sharing, all of which are based on real-world data.[139/] AT&T addresses only buried sharing with other utilities and does not dispute Mr. Richter's testimony that it is often virtually impossible for other utility companies to share trenches with Verizon NW, given their different priorities, construction schedules, and budget cycles.[140/] Nor could it, in light of AT&T's recognition that its *own* opportunities for co-trenching are "slim."[141/]

AT&T claims, however, that Verizon NW's buried structure sharing percentages should be adjusted to account for the fact that, in new growth areas, developers are required to provide the plant structure for both telephone and electric companies together. AT&T Br. 44-45. As a threshold matter, such a requirement does not affect sharing inputs. Instead, it only raises the narrow question whether structure cost should somehow be adjusted to account for some degree of developer-provided trenching. *See* VZ Br. 89 n.439. And under TELRIC principles, the only relevant developments of this kind would not be ones already in existence today, but future ones in which *none* of the utilities has yet established a presence. As Verizon NW noted, the Florida Commission has rejected AT&T's assumptions of significant buried and underground sharing for

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138/ Final Order, *Investigation into Pricing of Unbundled Network Elements*, Docket No. 990649A-TP, Order No. PSC-02-1311-FOF-TP, (Fla. P.S.C. Sept. 27, 2002), at 40 (emphasis added) ("*Florida 2002 Decision*").

139/ *See* VZ Br. 85-90; Exh. No. 225 (Doc Set 2 and WA00share.xls). Nor does AT&T challenge VzCost's approach of reducing loop fiber investment (including structure) by 50% to account for IOF sharing. VZ Br. 90-91.

140/ Exh. No. 451T 25:3-16 (Richter).

141/ Exh. No. 551TC 85:20-21 (Murphy). While this assessment addressed fiber, the sharing issues are precisely the same with copper. Exh. No. 451T 26:10-12 (Richter).

precisely this reason, noting that more aggressive sharing assumptions would be "severed from reality" because other utilities already have their facilities in the ground.[142/]

AT&T and Staff disagree on the question posed by the Commission about the effects of a fully competitive market on existing structure sharing percentages. AT&T argues that "[n]either TELRIC nor HM 5.3 assume that structure will be shared with competitors" — since, if it were, costs might have to "be spread over fewer lines to count for those that might be lost to competition." AT&T Br. 46.[143/] Verizon NW agrees that a fully competitive market would not eliminate the substantial practical obstacles to structure sharing that it has identified, which would be exacerbated in the case of new entrants reluctant to share their deployment plans with an incumbent. VZ Br. 91-93. And, of course, competition comes in many flavors. Wireless carriers would have no need for Verizon NW's cable structure. Nor would CLECs that do not use their own loop facilities.

While AT&T agrees that the Commission should not assume increased numbers of telephone providers sharing structure in a fully competitive market, it argues that in such a market Verizon NW would somehow try harder to engage in structure sharing. AT&T's notion that today there is "virtually no market pressure from competitors" (AT&T Br. 45) is inconsistent with the testimony of its own engineering witness, who recognized "the competitive environment that now exists," and the responsiveness of Verizon's engineering guidelines and

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142/ *Florida 2002 Decision* at 42.

143/ *See also* Exh. No. 855 31 (Mercer Model Description). Staff concedes that if more sharing is assumed in a fully competitive market, "some adjustment to line counts may be warranted." Staff Br. 22. It notes that the Commission made such an adjustment in Docket No. UT-960369. *Id.* Staff's assumption that the adjustment would be "negligible" because Verizon NW has *today* experienced "minimal line losses" is neither consistent with the record (*see* Exh. No. 351TC 2:13-3:7; 3:19-4:2 (West)) nor legally sound, since the question assumes a fully competitive market *in the future.*

practices to "today's competitive marketplace."[144/] And AT&T also concedes that Verizon NW already requires "every effort . . . to coordinate with other utility companies to accomplish this." AT&T Br. 46 (quoting Ex. 265 at 16, ¶ 3.5.2). If Verizon NW were able to share more of its buried or underground structure, it would do so — for the same reason that it currently *does* share aerial structure today. But the coordination, safety, and other obstacles to sharing today will not simply go away tomorrow by wishing it so. Once again, there is no basis to reject Verizon NW's existing real-world experience with the difficulties of sharing structure, reflected in the record, in favor of the wholly hypothetical assumptions advanced by AT&T or by Staff.

3. Placement Costs

Verizon NW's placement inputs are based on the actual contract prices that it pays for placing poles, digging trenches, or laying conduit. VZ Br. 92. Staff does not address these inputs in its brief, and AT&T addresses only placement costs for buried structure. AT&T Br. 47-50.

AT&T claims that the placement contracts used by Verizon NW "are not typically used for large projects." *Id*. at 50. AT&T provides no record support for this claim, which was suggested by AT&T's counsel,[145/] but in fact rejected by Verizon NW's witnesses. Those witnesses refused to accept AT&T's suggestion that "repairs and augments" are "all [these contracts are] used for";[146/] on the contrary, they noted that these placement contracts were generally available for "any type of work you need."[147/] They also made clear that, while AT&T

144/ Exh. No. 956TC at 8:17-9:20 (Fassett) (citing confidential guidelines). *See also* Exh. No. 351TC 12:7-12 (West) (competition analysis).

145/ Tr. 1273:12-13 (Steele).

146/ Tr. 1273:7-11 (Tucek).

147/ Tr. 1273:16-21 (Richter).

appears to assume that these "single source" contracts were not "put out to bid,"[148/] they *were* in fact put out to bid.[149/] This real evidence of what Verizon NW actually pays for buried placement is far more accurate than AT&T's placement inputs, which consist of Mr. Donovan's speculative placement rates based on outdated contractor surveys that have long ago been rejected both by this Commission and by the FCC, and that are wholly unrealistic in light of real-world practicalities as described by Mr. Richter. VZ Br. 93-94, 147.[150/]

AT&T likewise relies on the same type of unreliable "surveys" and unsupported guesswork, in determining the amount of hand-digging and boring that will occur in a forward-looking network.[151/] Mr. Donovan does not even attempt to defend these assumptions in his testimony. As AT&T concedes, Verizon NW's proposals on these issues reflect empirical data on the extent such activities have actually been required in its network. AT&T Br. 56. Indeed, Verizon NW used only Washington-specific data, and only from the three years immediately preceding its cost studies. VZ Br. 93 & n.462.[152/] AT&T's only challenges to such real-world empirical data are nothing more than quibbles. It argues that Verizon NW's witness did not know how buried cable was originally placed, but its study (Exh. No. 256) clearly identifies the

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148/ AT&T Br. 50; Tr. 1273:22-25 (Steele).

149/ Tr. 1278:24-1279:14 (Richter).

150/ Nor does AT&T justify Mr. Turner's restatement of Verizon NW's cost studies using the "pick-and-choose" approach of adopting only those real world rates that were lower than AT&T's concocted ones. *See* Exh. No. 228TC 53:2-54:17 (Verizon Panel).

151/ Exh. No. 856 151 (Inputs Portfolio).

152/ AT&T argues that the Commission should reject Verizon NW's inputs for boring percentages because these inputs are "similar" to those of U S WEST rejected in a prior docket. AT&T Br. 49. However, the Commission rejected those proposals not because they were unreasonable, but because they were based on extrapolations from data outside of Washington. *See Eighth Supplemental Order* ¶¶ 45-46, 52-53, 55. Thus, here it is AT&T's proposals — not those of Verizon NW — that are "similar" in this regard to those of U S WEST (if not even more speculative).

relevant labor codes.[153/] Such empirical data is far more reliable an indicator of actual buried placement methods than the speculation on which AT&T relies.[154/]

The only other challenge that AT&T makes to Verizon NW's placement costs is to its use of a 30% engineering factor. This criticism is disingenuous. AT&T asserts that "[t]here is no support for Verizon's 30% factor in any materials Verizon has filed in this proceeding" (AT&T Br. 51) — though it proceeded to cross-examine Verizon NW's witnesses based on the supporting study, provided to AT&T in response to a data request, and then declined to introduce the study into evidence.[155/]

4. Material Costs

AT&T asserts that "[f]or the most part, the material costs used by HM 5.3 in the Verizon VzLoop module are not strikingly different." AT&T Br. 51. As Verizon NW has shown, however, there are indeed material differences between Verizon NW's real-world prices (provided to AT&T in response to data requests in this case) and those AT&T decided to use instead. For example, AT&T continues to use a significantly lower Class 4, 40-foot pole price with no justification for doing so. VZ Br. 95 n. 474. And while it claims that some of the

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153/ AT&T also claims that the data ignores that small portion of buried structure at the end of those particular distribution routes where developers of new subdivisions — rather than Verizon NW itself — may pay for the trenching costs. As noted above, this assumption ignores TELRIC's forward-looking environment, in which the replication of Verizon NW's existing environment could not permit the use of such trenching in developments already in place. These claims provide no basis for entirely ignoring the only empirical data on the record in favor of rank speculation.

154/ AT&T also argues that hand digging and boring would be less extensive on large growth projects. AT&T Br. 48. But AT&T has presented no showing that Verizon NW's data on these tasks was limited to smaller jobs, as it assumes. And in any event, the need for hand digging or boring is a function of the actual soil conditions and other real-world constraints in the area (which are addressed by VzLoop), not the size of the project. Contrary to AT&T's suggestion, the FCC's inputs order (which is not probative in UNE cases in any event) did not dictate otherwise. It limited *cost* estimates to projects over $50,000.

155/ Tr. 1292:1-9 (Steele). AT&T cites to (AT&T Br. 51) a lower number from a confidential Verizon document (VZ-DAPD10) that was never introduced into the record, and that is simply an estimate of the engineering cost *increase* in going from two to three or four pairs per living unit.

material prices used in HM 5.3 exceed those assumed by Verizon, the short answer to that argument is that AT&T should therefore have no objection to using actual Verizon NW material prices rather than purely hypothetical ones. It certainly should not be permitted to select Verizon NW's material prices for only those items for which Verizon NW's actual prices are *lower* than those used in HM 5.3.[156/]

5. Fill Factors[157/]

AT&T asserts (without support) that "Verizon's model . . . claims that it relies on actual network fill." AT&T Br. 53. But VzLoop does *not* do this. Like HM 5.3, it relies instead on sizing factors, which – in VzLoop's case – are based upon established engineering guidelines that are *lower* than those used in HM 5.3 for copper feeder and, for distribution cable, are well within the range previously endorsed by at least one of AT&T's engineering witnesses, Mr. Riolo. VZ Br. 96-97. VzLoop's use of 2.5 pairs per customer location (residential and business) is also quite similar to Mr. Fassett's previous use of 2.0 and AT&T's own engineering handbook, which uses a figure of 2.0 for residences only. *Id.*

Since neither model employs fill factors, AT&T's effort to invoke the Commission's prior determinations with respect to such factors is off the mark.[158/] Those decisions did not even address the use of sizing factors' consistency with the engineering guidelines cited in this

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156/ Exh. No. 228TC 54:10-55:3 (Verizon Panel).

157/ We address here AT&T's discussion of fill factors as applied to loops – for distribution cable and copper and fiber feeder. We address in parts VIII.B and VIII.C below AT&T's claims with respect to switching and IOF fills, respectively. With respect to DLCs, AT&T concedes that Verizon NW's proposed overall fill (84.85%) is *higher* than AT&T's (80.2%). AT&T Br. 55-56. In simplifying the channel unit calculation and failing to apply a fill, Verizon NW thus lowered its modeled costs. If the Commission orders use of a fill factor, those costs would increase.

158/ AT&T also mischaracterizes Verizon NW's proposals. For example, it accuses Verizon NW of inconsistency in having a 38% *distribution* fill in this cost study and a 55% composite fill for *distribution and feeder* in an earlier proceeding. But there is no inconsistency here. As AT&T itself recognizes, feeder typically has a higher utilization rate than distribution cable, so that a composite feeder/distribution fill would be expected to exceed that for distribution only.

record.[159/] But the FCC has squarely rejected a challenge to a comparable distribution fill factor of 41%. In doing so, it noted that where fill factors are "not inputs" but rather "an output of the cost model based on [the carrier's] existing network," it will not reject them absent a showing that the output has a flawed basis.[160/]

AT&T's claim that VzLoop's measure of 2.5 distribution pairs per location is inconsistent with the FCC's prohibition on serving "ultimate demand" is a mere word game. This fact is apparent in the testimony of Mr. Donovan, who stated that serving ultimate demand is "[t]he generally accepted engineering practice."[161/] As noted above, VzLoop's sizing factors serve reasonably foreseeable demand by accommodating not only unanticipated fluctuations in demand (from area to area and residence to residence), but also "some amount of growth." AT&T Br. 60. They are designed to avoid the need to rip up streets or string extra cable, as Mr. Tucek testified,[162/] and as became necessary when the Thai network Mr. Richter helped to design was initially built only to fit an existing customer wait list.[163/] Contrary to AT&T's assertion, such sizing factors benefit existing customers by accommodating their additional demand without digging up the streets.

For fiber feeder, AT&T claims that Verizon NW fails to address the "100% redundancy already built into the fiber feeder network." AT&T Br. 55. In making this claim, AT&T ignores Mr. Richter's testimony that protect pairs in fiber cable cannot simply be treated as spare (unless

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159/ See Exh. No. 451T 61:9-62:3 (Richter); Exh. No. 452T 2-40 (Distribution Area Planning and Design); Exh. No. 862 at 3-11 (AT&T OSP Handbook).

160/ *BellSouth Georgia/Louisiana § 271 Order* ¶¶ 68-69. AT&T mischaracterizes an FCC order allowing fill factors as one mandating them. *See Inputs Order* ¶¶ 196-97. Indeed, one reason the FCC gave for allowing use of them was that they accurately translated into "implicit lines per location." *Id.*

161/ Exh. No. 951T 58 (Donovan).

162/ Tr. 1306:3-23 (Tucek).

163/ Exh. No. 451T 9:17-10:8 (Richter); Exh. No. 454 (picture of results).

one is willing to gamble with needs for ongoing service).[164/] In any event, AT&T gets to the same place, because HM 5.3 "start[s] with a minimum 6-fiber cable."[165/]

6. DLC Assumptions

UDLC-IDLC. AT&T makes no effort to address the overwhelming evidence, summarized in Verizon's initial brief, that UDLC is still necessary for stand-alone loops requested by CLECs, as a result of unresolved security and other issues — and that the FCC's *Triennial Review Order* recognizes this fact. VZ Br. 99-101.[166/] AT&T asserts that Mr. Fassett testified that "at least one incumbent carrier [in Alaska] is using this technology today to provide unbundled loops." AT&T Br. 57. In fact, Mr. Fassett acknowledged that this incumbent was *not* in fact provisioning stand-alone unbundled loops to multiple CLECs, and he failed to address any of the operational difficulties that Telcordia and Alcatel continue to identify as unresolved. *See* VZ Br. 100-01 & n.503.

DLC Installation Costs. AT&T's proposed "factory" pricing of DLC installation once again champions rank speculation over actually documented expenses, and ignores a whole range of site selection, acquisition, and preparation requirements identified by Mr. Richter. VZ Br. 101. In contrast, in light of the significant variation in costs for such installations, Verizon NW calculates an average cost from actual data on a large number of installations, over a long time period, across a wide geographic area.[167/] This average factor approach reflects a rational

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164/ Exh. No. 451T 62:19-63:18 (Richter).

165/ Exh. 951T 55-56 (Donovan).

166/ *See also* Exh. No. 551TC 46:11-47:4 & n. 75 (Murphy) (stand-alone DS-0 loops cannot be separately identified within the DS-1 signal). AT&T argues that Verizon's own guidelines favor the use of only IDLC. AT&T Br. 57. In fact, these guidelines state that "No RT site should be entirely integrated," Exh. No. 265, at 11, § 2.4.5, and that "UDLC is deployed where the types of services to be provided by the system cannot be integrated such as non-switched services and unbundled loops." Exh. No. 265, at 11, § 2.4.4.

167/ Exh. No. 228TC 124:20-22 (Verizon Panel).

and even-handed measure of the costs involved, which has been validated by a sample of Alcatel DLC work orders. VZ Br. 102. The record identifies no changes expected in DLC "embedded" installation practices — other than declining material prices and increasing labor costs, both of which would serve to *increase* Verizon NW's EF&I factor.[168/] The recent proposed decision in California has rejected AT&T's substantially similar proposal in favor of costs for SBC that were over triple those of HM 5.3.[169/]

As Verizon NW noted in an erratum to its rebuttal testimony, because it calculated the EF&I factor as a function of *major* material costs, it should not have applied that factor to *minor* as well as major materials.[170/] But because only very small amounts of expenses (e.g., the bolts to fasten down remote terminals) are included as "minor" materials, this mismatch overstated costs by less than 1%.[171/] AT&T first ignores this erratum, and then proceeds to assert that "[o]ther incumbent carriers have admitted this systematic overstatement of installed costs." AT&T Br. 59. But the only such admission AT&T cites had nothing whatsoever to do with this insignificant kind of error. It involved another carrier's different CPR data in another state, its problems in maintaining that data, and its miscalculation of the factor by failing to include certain investments in the denominator as major materials — not the later application of that

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168/ *Id.* at 126:3-20. In the *Virginia Cost Order*, upon which AT&T purports to rely as a rejection of Verizon NW's approach to installation costs, even the WCB concluded that these factors would increase the EF&I factor over time. *Virginia Cost Order* ¶ 525. Indeed, whatever "concerns" the WCB expressed about use of "linear loading factors" as applied to transport prices in that order are at best irrelevant here, since it ended up *accepting* cost studies based on them. *See id.* AT&T's other criticisms of this approach have been addressed in unchallenged rebuttal testimony, Exh. No. 228TC 125:1-129:6 (Verizon Panel), and several were specifically recently rejected by the Illinois Commission. VZ Br. 102-03.

169/ *SBC California Proposed Decision* at 145, 150.

170/ Exh. No. 228TC 130 (erratum) (filed May 26, 2004).

171/ *Id.*

factor to investment that included minor as well as major materials.[172/] This confused guilt by association ploy is completely untenable.

7. Cable Sizes

AT&T does not explain why it makes significant use of 4,200-pair cable on aerial structure that cannot sustain it. VZ Br. 103.

8. Cost of Obtaining Rights-of-Way

AT&T notes, without record support, that both models "assume that the plant will be placed in existing public rights-of-way and private easements." AT&T Br. 60. This is not true with respect to HM 5.3 because, as Dr. Mercer conceded in response to questions from the Commission, AT&T made no effort to justify that assumption.[173/] This highlights one of the most critical differences between VzLoop and HM 5.3: VzLoop is designed to take account of these real-world constraints, and to capture the efficiencies reflected in use of locations for network facilities that are practical and affordable, while HM 5.3 simply ignores them.

9. Cable Gauge

AT&T simply ignores the engineering guidelines cited by Verizon NW, which clearly indicate that 26-gauge cable is subject to significant environmental vulnerabilities, that 24-gauge cable should be used instead to the greatest extent possible in the future, and that failing to do so would create significant problems in the provision of advanced services.[174/] Its only argument in defense of using the thinner cable is that in the FCC's universal service proceeding almost five years ago GTE at that time agreed that, for purposes of that universal service model, both gauges could be used. AT&T Br. 61. That proceeding had no occasion to address needs for advanced

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172/ *Id.* at 134-35.

173/ Tr. 1632:15-1633:7 (Mercer).

174/ Exh. No. 228TC 55:4-56:14 (Verizon Panel).

services, and there is no basis for rejecting current engineering guidelines in favor of technologies that are now being replaced.[175/] Indeed, even in that proceeding GTE argued that 24-gauge cable should be used extensively in spite of its somewhat higher cost because of its "increased splicing efficiency and lower maintenance costs."[176/] The FCC agreed.[177/]

10. Length of Drop Wires

Staff criticizes Verizon NW for failing to conduct a drop study to validate its drop length inputs. Staff Br. 22. In fact, Verizon NW did conduct such a study, which was Washington-specific. It provided that study to AT&T and Staff in response to a data request in November 2003, showing actual drop lengths.[178/] In contrast, AT&T conducted no such study. It did cite (but did not provide) a study conducted on a nationwide-basis over 20 years ago.[179/] But it provided no demonstration in its testimony of how (if at all) its proposed drops, which vary by

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175/ *See id.* at 55:10-13.

176/ See Comments of GTE, FCC CC Docket Nos. 96-45, 97-160, at 47 (filed July 23, 1999).

177/ *See Inputs Order* ¶ 95.

178/ *See* Verizon NW's Supplemental Responses to WUTC Data Request No. 3, AT&T-XO Data Request No. 3-039, and MCI Data Request 37, all filed November 10, 2003. Since neither AT&T nor Staff challenged Verizon NW's drop inputs in its April 2004 rebuttal testimony months after receiving these results, Verizon NW found no need to submit them for the record. In these circumstances, AT&T and Staff should be estopped from such claims. *See Dep't of Ecology v. Campbell & Gwinn, LLC*, 146 Wash.2d 1, 20, 43 P.3d 4, 14 (Wash. 2002) (equitable estoppel applies where (1) a party acts in a manner inconsistent with a later claim; (2) another party reasonably relies on the act; and (3) the other party would be prejudiced if the first party is allowed to contradict or repudiate the earlier act).

179/ *See* Telcordia Notes on the Network, Issue 4 (October 2000), at 12-8. In his May 2004 reply testimony in support of AT&T's drop inputs, Mr. Fassett made reference to a study by GCI in Anchorage, Alaska, which he claimed supported a shorter average drop length. Exh. No. 956TC 24:12-14 (Fassett). This study cannot be relied upon: not only is it based entirely on data from outside of Washington state; it is also limited to 279 drops in the city of Anchorage and the reported standard deviations are at least 85 percent of the reported means. Exh. No. 892 (DR 11-4) (AT&T Responses to VZ 11th Set of DRs). In any event, it would be wholly inappropriate to rely on an Alaska study of this kind to rebut Verizon NW's inputs in these circumstances, when Verizon NW validated those inputs with a Washington study provided to the parties well in advance of the hearing, and they failed to challenge that study in their reply testimony.

density zone from up to 150 feet, correlate with that study. In fact, those proposed drops are too short to reach 90% of the customer locations they are designed to serve.[180/]

11. Drop Sharing

HM 5.3 shares away 50% of the cost of buried drops. AT&T Br. 62.[181/] It premises this reduction on Verizon NW's retail tariff, which requires customers to pay certain drop expenses for new construction.[182] This confuses costing with pricing issues, since Verizon NW's past recovery of embedded drop investment is irrelevant. But if these are CLEC customers in a fully competitive TELRIC environment, Verizon NW would not have the option to recover any portion of the drop cost from them. On a forward-looking basis, such recovery is only relevant to new drops for as yet unserved customers. If AT&T wishes to provide service to such a customer, it is free to impose whatever charge it desires to recover the drop costs.

12. Copper/Fiber Breakpoint

In its initial brief, Verizon NW cited evidence that its proposed 12,000 foot maximum copper loop length is consistent with TELRIC requirements, industry standards, vendor specifications, advanced services requirements, the California ALJ's SBC draft decision, the prior testimony of Mr. Donovan, and the CSA design standards relied on by AT&T. AT&T ignores all of this evidence, and simply asserts that "[t]here is no need to prohibit copper loop lengths from exceeding 12,000 feet." AT&T Br. 63. This position is untenable. Moreover, HM

180/ Exh. No. 551TC 69:11-70:1 (Murphy).

181/ *See also* Exh. No. 856 20 (Inputs Portfolio).

182 Exh. No. 266 ¶ C.13.C.

5.3 produces copper distribution lengths *in excess* of 18,000 feet in 239 of its 829 main clusters, with some as long as 38,000 feet and the average over 22,000 feet.[183/]

13. Geographic Deaveraging

AT&T accurately describes the three loop deaveraging proposals in this case,[184/] but inaccurately describes their respective benefits and disadvantages. As Staff notes, the RMSE approach endorsed by Staff and Verizon NW "produce[s] accuracy in the prices because it allocates fewer loops in the higher-cost zones and more loops in the lower-cost zones." Staff Br. 23.

AT&T's argument that its approach results in "rates that are more cost based than the approach offered by Staff or Verizon" (AT&T Br. 64) is unfounded. As Staff notes, the AT&T methodology "introduce[s] a bias into its method" that "results in the assignment of more wire centers to the high-cost zones, which skews prices downward across all zones." Staff Br. 24. Indeed, that methodology establishes averages with a relatively higher variance.[185/] And even AT&T's proposed Zone 1 rates are unreliable because its proposed Zone 1 lacks enough wire centers to be statistically reliable.[186/]

B. Switching

1. Appropriate Rate Structure

AT&T completely ignores the evidence that adopting a flat rate switching structure would subsidize AT&T — which has now announced that it will only serve higher usage

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183/ *See* Supplemental Reply Testimony of Francis J. Murphy on Behalf of Verizon Northwest Inc. (filed June 18, 2004), at 3; Ex. 551TC, Exh. FJM-5 at 1-4 (Murphy).

184/ However, AT&T fails to demonstrate that its methodology is capable of accommodating a five-zone deaveraging proposal. Exh. No. 401TC 7:13-8:15 (Tucek).

185/ *Id.* at 6:14-8:3.

186/ Exh. No. 228TC 68:6-12 (Verizon Panel).

business customers — at the expense of other CLECs. *See* VZ Br. 111. It has provided no valid reason to abandon the switching rate structure upon which the FCC and this Commission have traditionally relied.[187/] Nor has Staff, which ignores the per minute usage rates set for UNEs in paragraph 498 of the *Eighth Supplemental Order* in Docket No. UT-960369, and points instead to a later order in that docket dealing with transport and termination pricing. Staff Br. 24-25.

AT&T's central claim is that Verizon NW only pays once for a switch. AT&T Br. 65. This misses the point. As Verizon NW has demonstrated, its switches are planned and designed *ahead of time* in efforts to account for the specific usage that its engineers estimate each switch will handle. Verizon NW presented specific and credible evidence from a switching engineer demonstrating that many parts of a switch are in fact traffic-sensitive and require more or less equipment based on usage levels.[188/] For example, its experts explained in detail precisely which switch resources can exhaust based on usage, and provided instances in which switches have in

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187/ *Local Competition Order* ¶ 810. AT&T points to a handful of other state commission decisions that have (incorrectly) adopted a flat-rate structure. Other states have retained the traditional MOU/port rate structure, and the FCC has repeatedly approved section 271 applications in which significant portions of switching costs were recovered through a minute-of-use component. *See* Memorandum Opinion and Order, *Application by Verizon Virginia Inc., Verizon Long Distance Virginia Inc., Verizon Enterprise Solutions Virginia Inc., Verizon Global Networks Inc., and Verizon Select Services of Virginia Inc., for Authorization to Provide In-Region, InterLATA Services in Virginia*, 17 FCC Rcd 21880, at 21947-49 ¶¶ 119-21 ("*Virginia 271 Order*") (rejecting AT&T's claim that the Virginia Commission's allocation of "getting started" costs to the traffic sensitive category constituted a TELRIC violation); Opinion and Order, *Application by Verizon New England Inc., Bell Atlantic Communications, Inc. (d/b/a Verizon Long Distance), NYNEX Long Distance Company (d/b/a Verizon Enterprise Solutions), Verizon Global Networks Inc., and Verizon Select Services Inc., for Authorization to Provide In-Region, InterLATA Services In Maine*, 17 FCC Rcd 11659, 11674-78 ¶¶ 26-30 (2002) (approving the Maine Commission's allocation of 70% traffic sensitive and 30% non-traffic sensitive); Order No. 78552, *Investigation Into Rates for Unbundled Network Elements Pursuant to the Telecommunications Act of 1996*, Case No. 8879 at 64 (Md. Pub. Serv. Comm'n June 30, 2002) (adopting Verizon's proposed split of 61% traffic sensitive, 39% non-traffic sensitive); Tentative Order, *Generic Investigation Re Verizon Pennsylvania, Inc.'s Unbundled Network Element Rates*, R-00016683, at 145-46 (Pa. Pub. Util. Comm'n Oct. 24, 2002) (adopting Verizon's proposed split of 55% traffic sensitive, 45% non-traffic sensitive). In any case, this Commission should make its own decision, based on the undisputed evidence of varying switch demand actually submitted in this proceeding.

188/ *See* Exh. No. 301TC 6:13-15 (Verizon Panel); VZ Br. 110.

fact exhausted or nearly exhausted based on usage.[189/] Indeed, AT&T has *agreed* that a carrier would size a switch according to expected usage before deployment.[190/] Thus, the fact that Verizon NW is able to avoid switch exhaust situations by accurately predicting usage on its switches does not alter the fact that greater usage means increased switching costs.[191/]

2. Switching Inputs

Switch Discount. AT&T's position that the Commission should adopt switching rates based almost exclusively on "new switch" purchase prices is inconsistent with the evidence provided by Verizon NW regarding the switch prices and discounts it will likely incur going forward. VZ Br. 112-13. The "all new" assumption has been flatly repudiated by the FCC and the D.C. Circuit. *Id*. As the FCC has found, "TELRIC . . . does not assume that an efficient carrier would provide the switching element with [all new] large-capacity switches, rather than with a mix of smaller switches and so-called 'add-on modules.'"[192/] VZ Br. 112-113. In addition, even if the "all new" assumption were adopted, AT&T's proposal is flawed because as Drs. Shelanski and Tardiff have explained and the D.C. Circuit has agreed, new switch discounts that Verizon has received were premised on the expected purchase of a much larger percentage of growth additions. *Id*.

189/ *See id.* at 12:16-23. In fact, Verizon's switch vendors have developed tools specifically designed to monitor switch capacity and to identify any potential exhaust situations, and Verizon NW itself uses an in-house tool to do the same tasks. *See id.* at 6:11-9:10; VZ Br. 110-11.

190/ *See* Tr. 1122:1-1123:2 (Chandler). *See also* AT&T Br. 69 (referring to "the traffic thresholds for which Verizon's switches in Washington have been designed").

191/ AT&T's claims that minutes of use have declined over recent years (AT&T Br. 69) is irrelevant. This case is about establishing the forward-looking unit costs of providing switching. The amount of usage expected on a forward-looking basis is therefore factored into Verizon's studies, but this has nothing to do with whether switching costs are usage sensitive or not.

192/ Reply Brief for Petitioners United States and FCC, *Verizon Communications v. FCC*, 535 U.S. 467 (2002), 2001 WL 881216 at 9, n.7. *See also* VZ Br. 112-113.

AT&T's claims that Verizon NW's proposed switching investments "are more than double the amount that Verizon itself, as well as other ILECs, pay for switching on a per line basis" is also baseless. AT&T Br. 71. As Verizon NW explained, AT&T's per line analysis relied on a select number of new switch purchases, which do not represent the costs Verizon NW will actually incur.[193/] In addition, AT&T failed to provide *any* explanation or support for the per-line investment for the other ILEC switches in its analysis. Among other things, this failure prevents any scrutiny of the particular circumstances or contracts associated with these alleged switch purchases.[194/]

Switch Features. Verizon NW proposed to recover costs for features that require specific hardware (e.g., the three-port conference circuit for the three-way calling feature) through separate monthly port additive charges.[195/] AT&T argues that Verizon did not identify this hardware. AT&T Br. 73. This claim ignores the significant documentation of Verizon NW's proposed features that Verizon NW provided with its cost studies.[196/] Consistent with paragraph 282 of the *Eighth Supplemental Order*, upon which AT&T purports to rely, Verizon NW has thus provided evidence concerning "the degree to which vertical services require more investment than ordinary voice services," and is entitled to recover for that investment.[197/]

193/ *See* Exh. No. 228TC 80:13-81:21 (Verizon Panel).

194/ *Id.*

195/ *Id.* at 88:9-19 (Verizon Panel).

196/ *See* CD No. 2, 5. Cost Study Support Files, Switching & Common Transport, Switch Cost Study Support Files, WA UNE Features Weighting Model.xls.

197/ Contrary to AT&T's claim (AT&T Br. 73), nothing in the *Local Competition Order* prevents such recovery. All those paragraphs say is that vertical features are part of the switching function, and thus are subject to unbundling requirements. Consistent with the applicable authority, Verizon NW proposes separate feature rates only for those features that require equipment costs that are not recovered through the unbundled switching rates.

Trunking Assumptions. In contrast to AT&T, which assumes a fill factor of 94% for trunks (AT&T Br. 56), Verizon NW makes reasonable assumptions regarding the amount of spare capacity that is necessary on a functioning trunking network. Verizon NW's studies assume an administrative fill factor of **[VERIZON NW PROPRIETARY] [VERIZON NW PROPRIETARY]** and a trunk port utilization factor of **[VERIZON NW PROPRIETARY] [VERIZON NW PROPRIETARY]**. AT&T did not file any response to these assumptions. Each of these is necessary to efficiently run and maintain Verizon NW's network, in light of customer churn, maintenance requirements, and reasonably foreseeable demand.

AT&T's claim that Verizon NW somehow double-counts trunking costs by including trunk demand for non-CLEC use is likewise flawed.[198/] As Verizon NW has explained, its studies reflect the fact that it must deploy a trunking network that can meet all demand.[199/] In any event, if Verizon NW removed both costs and demand for the additional trunks for non-CLEC traffic, as AT&T proposes, it would have *no effect* on the rate because Verizon NW would simply divide lower total investment by lower demand.

Reciprocal Compensation. XO/Pac-West filed no response to Verizon NW's proposed reciprocal compensation rate. Now, however, having foreclosed any opportunity for rebuttal testimony on the point, they argue that Verizon NW should have developed a higher rate by including all costs included in its unbundled switching rates. XO/Pac-West Br. 1. XO/PacWest's claims are procedurally improper and should therefore be rejected. In any event, they offer no reason to ignore the statutory requirement that reciprocal compensation rates only

198/ *See* AT&T Br. 84; VZ Br. 113; Exh. No. 228TC 83:1-85:4 (Verizon Panel).

199/ *See* VZ Br. 113.

reflect the additional costs incurred by local traffic when calculating reciprocal compensation costs.[200/]

C. Transport

AT&T's opening brief mischaracterizes Verizon NW's proposed IOF fiber fill factor. Verizon NW proposes a **[VERIZON NW PROPRIETARY] [VERIZON NW PROPRIETARY]** utilization factor that occurs in its actual Washington network and that would likely be experienced in a forward-looking environment[201/] — not the **[VERIZON NW PROPRIETARY] [VERIZON NW PROPRIETARY]** figure cited by AT&T.[202/] AT&T's only support for its proposed 100% fill factor is an input promulgated by the FCC in the universal service setting[203/] — a use the FCC and this Commission have since made clear is inappropriate.[204/] In contrast, Verizon NW's proposed fill factor reflects the fact that spare fiber facilities are absolutely essential for administrative and maintenance purposes, such as preventing ribbon failures and allowing for the staging of necessary splicing for cable movements and rearrangements, and to account for the phenomenon of breakage that even AT&T's witness has acknowledged.[205/]

200/ *See* Exh. No. 201TC 94:11-95:13 (citing 47 U.S.C. § 252(d)(2)).

201/ *Id.* at 118:21-119:20.

202/ AT&T derived this figure by multiplying Verizon NW's foregoing fiber fill factor by the same 75% SONET terminal equipment fill factor that it assumes. Exh. No. 751TC 70:7-13 (Turner).

203/ AT&T Br. 75.

204/ *TELRIC NPRM* ¶ 46 ("[W]e continue to discourage states from using the nationwide inputs [developed in the universal service context] for the purpose of developing UNE prices."); Thirty-eighth Supplemental Order, Docket No. UT-003013, ¶ 93 (issued Sept. 23, 2002).

205/ VZ Br. 117; *see also* Exh. No. 228TC 74:15-21 (Verizon Panel); *see also* Exh. No. 451T 60:12-16 (Richter). AT&T also now (for the first time) seeks to criticize Verizon NW's IOF installation costs. For the reasons discussed above in section VIII.A.6, this argument is meritless as well as untimely.

IX. TAKINGS EVIDENCE

AT&T argues that, regardless of the enormous shortfall between its proposed UNE rates and Verizon NW's costs, Verizon NW can only demonstrate a constitutional taking by showing that its "operations as a whole . . . are unable to generate sufficient revenues to cover its prudently incurred costs." AT&T Br. 75. This argument fails for a number of reasons. First, relying on revenues earned by Verizon NW from other businesses to justify maintaining UNE rates that do not cover costs would violate the Act's requirement that UNE rates *themselves* must be just and reasonable and based on cost.[206] Second, it is well established that a regulator may not rely on revenues from competitive services (or from other jurisdictions) to justify confiscatory rates for the regulated services subject to its jurisdiction.[207/] Indeed, the Supreme Court has expressly acknowledged that a "particular, actual TELRIC rate" can be challenged on the ground that it is confiscatory.[208]

AT&T claims that Verizon NW's cost evidence "lacks credibility on its face" because Verizon NW's retail rates are lower than its calculated costs, and Verizon NW would have "filed its rate case long before now" if it were really incurring a shortfall. AT&T Br. 76. But in fact, Verizon NW *has* been forced to seek such relief due to the Commission's recent drastic reduction of access charges.[209/] AT&T's more specific criticisms of Verizon NW's study miss the point. Even if Verizon NW's study were adjusted to account for each of AT&T's proposed

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206 47 U.S.C. §§ 251(c)(3), 252(d)(1).

207/ See *Brooks-Scanlon Co. v. Railroad Comm'n*, 251 U.S. 396, 399 (1920); S*mith v. Illinois Bell Tel. Co.*, 282 U.S. 133, 160-61 (1930); *Michigan Bell Tel. Co. v. Engler*, 257 F.3d 587, 594 (6th Cir. 2001) (under *Brooks-Scanlon*, diversified enterprises cannot be "required to subsidize their regulated services with income from rates either deemed to be competitive, or with revenues generated from unregulated services.").

208 *Verizon Communications, Inc. v. FCC*, 535 U.S. 467, 524 (2002).

209/ *See* Direct Testimony of Nancy W. Heuring, *Petition of Verizon Northwest Inc. for an Order Approving Commencement of Bifurcated General Rate*, Docket No. UT-040788 (filed April 30, 2004).

changes, AT&T's proposed rates would still be dramatically below Verizon NW's costs. VZ Br. 76.

CONCLUSION

For the reasons stated above and in Verizon NW's initial brief, the Commission should adopt VzCost as the appropriate cost model for Verizon NW's UNE rates, and approve the UNE rates proposed by Verizon NW.

Respectfully submitted,

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August 12, 2004