BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Review of:	)	
Unbundled Loop and Switching Rates;	)	Docket No. UT-023003
the Deaveraged Zone Rate Structure; and	)	
Unbundled Network Elements,	)	
Transport and Termination	)	
(Recurring Costs)	)	
	)	

REPLY POST-HEARING BRIEF OF

AT&T COMMUNICATIONS OF THE PACIFIC NORTHWEST, INC.

August 12, 2004

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I. INTRODUCTION

1. AT&T Communications of the Pacific Northwest, Inc., TCG Seattle, and TCG Oregon (collectively "AT&T") provide the following brief in response to the Initial Post-Hearing Brief ("Initial Brief") of Verizon Northwest Inc. ("Verizon"), and the Initial Brief of Commission Staff ("Staff"). AT&T has already addressed most of the arguments in Verizon's Initial Brief, and AT&T will endeavor not to repeat points that it previously made. Rather, this brief responds to Verizon arguments that AT&T has not fully addressed and clarifies or corrects inaccurate statements Verizon has made in its Initial Brief.

2. AT&T's sole response to the arguments Verizon makes in the introductory section of its Initial Brief falls in the latter category. Verizon claims that the Wireline Competition Bureau's *Virginia Arbitration Order*[1] "is neither binding on this Commission nor of any special persuasive value in this case." Verizon Initial Brief at 8. AT&T explained in its Opening Brief why that is incorrect. Verizon, however, states that "the FCC has made it clear that it considers the WCB's orders in that case to be nothing more than non-binding 'interlocutory staff ruling[s],' which do not constitute 'agency policy.'" *Id*. The FCC has said no such thing. Verizon relies on statements made (1) in a *brief* filed by the FCC in a case involving interconnection issues between a wireless carrier and Qwest and (2) on a D.C. Circuit decision that predates passage of the Act, much less the *Virginia Arbitration Order*. Verizon's representation is misleading at best, and directly conflicts with the FCC's own rule.[2]

[1] *In re 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*, CC Docket Nos. 00-218 & 00-251, DA 03-2738, Memorandum Opinion and Order (Aug. 29, 2003) ("*Virginia Arbitration Order*").
[2] 47 C.F.R. § 0.5(c).

II. COST OF CAPITAL

A. TRO and Other Applicable Federal Authority.

3. AT&T proposes a reasonable cost of capital of 7.45 percent that is calculated using the methodology adopted by the Wireless Competition Bureau in the *Virginia Arbitration Order*. Verizon proposes an excessive cost of capital of 15.98 percent, which is almost 65% higher than the cost of capital the Commission has previously used in calculating Verizon's UNE rates. Verizon contends that such an increase is consistent with the FCC's definition of a competitive market and the assumption that "increased competition would lead to increased risk, which would warrant an increased cost of capital."[3] Verizon interprets this statement to require an increase above the current Commission-approved cost of capital. Verizon is incorrect. The FCC's statement refers to an increase over the cost of capital that would apply in a non-total element long-run incremental cost ("TELRIC") environment. The FCC said nothing about the relationship between such a competitive cost of capital and the rate previously established by the Commission.

4. The Commission established Verizon's current overall cost of capital 20 years ago, when both financial *and* local exchange telecommunications markets were very different. The Commission will establish a new cost of capital for Verizon's intrastate operations in the pending rate case in Docket UT-040788, which will very likely be *lower* than the approved 9.76 percent in light of current financial conditions. Interestingly enough, however, Verizon proposes the same 12.03 percent cost of capital in its rate case that Verizon proposes for use in this docket, except that here, Verizon also proposes a 3.95 percent additive based on its "cancelable lease" theory. As AT&T discussed in its Opening Brief, that theory does not justify Verizon's

proposal. Even if the Commission were inclined to give any credence to Verizon's arguments, moreover, those arguments would be *more* applicable to Verizon's retail customers than to UNEs. Accordingly, Verizon selectively applies its misinterpretation of the *TRO* depending on whether that misinterpretation will benefit Verizon.

5. Verizon also purports to support its 15.98 percent cost of capital as comparable to AT&T's internal hurdle rate for evaluating local exchange projects. Verizon mischaracterizes both the law and the facts. AT&T's figure does not represent its cost of capital as Verizon asserts. AT&T expressly identified this figure to Verizon as the "hurdle rate for determining whether to offer a particular local service." Ex. 658. As Dr. Selwyn explained, "A 'hurdle rate' is a target rate of return on a *specific* investment initiative, establishing the minimum *projected* return that a company would accept before allocating capital funds to any one *specific* project." Ex. 657T (AT&T Selwyn Surrebuttal) at 12 (emphasis in original). The cost of capital, on the other hand, "reflect[s] the *portfolio risk* associated with the totality of the enterprise. Risk issues aside, it would obviously make no sense for a firm to invest in a project that merely returned the firm's overall cost of capital, so all firms routinely establish higher objective earnings levels for individual undertakings." *Id*. at 12-13 (emphasis in original). Adjusting AT&T's hurdle rate to reflect these differences would produce a cost of capital for the wholesale UNE business of a firm like Verizon in the range of 7 to 8 percent – the midpoint of which is precisely where AT&T has separately calculated Verizon's cost of capital. *Id*. at 13.

6. The FCC stated a rationale comparable to Dr. Selwyn's explanation in *rejecting* the very comparison between internal hurdle rates and cost of capital that Verizon makes here:

[3] *In re Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, CC Docket Nos. 01-338, *et al*., FCC 03-36, Report and Order and Order on Remand ¶ 681 (Aug. 21, 2003) ("*Triennial Review Order*" or "*TRO*").

> Finally, we are not persuaded that the use by firms of hurdle rates that exceed the market cost of capital is convincing evidence that sunk investments significantly increase a firm's cost of capital. An alternative explanation for this phenomenon is that the process that firms use to choose among investment projects results in overestimates of their returns. Firms therefore use hurdle rates in excess of the market cost of capital to account for these overestimates.[4]

7. Verizon's misconstruction of the facts and misinterpretations of federal law fail to provide any support for Verizon's proposed 15.98 percent cost of capital, which lacks even facial plausibility.

B. Capital Structure.

8. AT&T proposes a capital structure that consists of 70% equity and 30% debt using the methodology that the Wireline Competition Bureau adopted in the *Virginia Arbitration Order*.[5] AT&T based the application of that methodology on the market capitalization figures for all of the Regional Bell Operating Companies ("RBOCs") for the most recent five year period for which statistics are available (1999-2003). Ex. 651T (AT&T Selwyn Direct) at 58-59. Verizon takes issue with Dr. Selwyn's calculations because they include "the capital structure for Qwest, a company that that is so highly leveraged that bond rating agencies have lowered its bond ratings to below investment grade, and that is largely unable to attract the capital needed to invest in its telecommunications network." Verizon Initial Brief at 16. Verizon's contention ignores the very TELRIC assumptions that Verizon so loudly trumpets in other contexts.

9. The FCC has stated, "The objective of TELRIC is to establish a price that replicates the price that would exist in a market in which there is facilities-based competition."[6]

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[4] *In re Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98, FCC 96-325, First Report and Order ¶ 689 (Aug. 8, 1996) ("*Local Competition Order*").
[5] *Virginia Arbitration Order* ¶¶ 102-03.
[6] *Triennial Review Order* ¶ 680.

There doubtless will be firms in such a market that are "highly leveraged" and have difficulty in attracting the capital needed to invest in their telecommunications network. Dr. Selwyn's calculation thus accurately reflects a competitive telecommunications market, while Verizon's proposal ignores the telecommunications market altogether.

10. Verizon also claims that AT&T's proposal is inconsistent with its own capital structure. Again, however, Verizon relies on figures that AT&T used to calculate its internal hurdle rate for individual local exchange projects, not for the company's cost of capital. These calculations, as discussed above, necessarily are very conservative, as well as wholly inapplicable to Verizon's cost of capital. Verizon thus fails to refute AT&T's proposed capital structure of 70% equity and 30% debt.

C. Cost of Debt.

11. AT&T has calculated Verizon's cost of debt as 4.98%, which is the weighted average cost of all of the company's outstanding issues, including the debt of Verizon's parent and subsidiary corporations. Ex. 651T (AT&T Selwyn Direct) at 10-11. AT&T addressed the issues that Verizon raised in its Initial Brief and thus will not repeat that discussion here.

D. Cost of Equity.

12. AT&T has used the Wireline Competition Bureau's methodology as applied to updated and additional data to calculate Verizon's cost of equity as 8.51%. None of Verizon's criticisms of AT&T's calculations are valid.

1. Determining the Appropriate Sample – Which Firms Should Be Included/Excluded and Why?

13. AT&T recommends that the Commission use market equity figures for calculating the cost of equity based on the incumbent local exchange company ("ILEC") operations of the RBOCs, which most accurately reflect the cost of equity incurred by a telecommunications carrier operating in a market with facilities-based competition. Verizon

claims that RBOCs represent too small a sample, which "may reflect anomalies specific to existing management or the dramatic restructuring in the telecommunications industry over recent years." Verizon Initial Brief at 18. Verizon further asserts that "because of that restructuring, the growth prospects for the [RBOCs] are highly uncertain and there is a high standard of deviation of analyst's growth forecasts for these companies." *Id*.

14. Verizon's arguments are startling inconsistent. Verizon criticizes AT&T's use of the RBOCs' data because of the volatility of the telecommunications market – and excludes all telecommunications companies from Verizon's proposed sample of companies – yet Verizon advocates a single, stable forecasted dividend growth rate for Verizon, a company in that volatile telecommunications market, that continues indefinitely. Such advocacy starkly ignores reality, as well as the risks of a "competitive market" in which "all facilities-based carriers would face the risk of losing customers to other facilities-based carriers."[7] AT&T's proposal, on the other hand, is specific to the telecommunications industry and thus accurately reflects the specific risks that Verizon will face as a participant in that market.

15. In addition, Verizon selectively and inaccurately cites to the record in this case in a failed attempt to refute AT&T's argument that Verizon in a TELRIC environment would have a lower cost of equity that other competitive industries. Again, Verizon relies on Dr. Selwyn's inclusion of Qwest in his analysis, but again, AT&T's inclusion of Qwest recognizes that companies' financial circumstances will not be uniform and that an average should reflect such differences.[8] Verizon also asserts that Dr. Selwyn's analysis was "fatally flawed" because of errors in the data he initially used for SBC. Upon request from the Commission, however, Dr.

[7] *Triennial Review Order* ¶ 680.

[8] Verizon also criticizes how Dr. Selwyn used the Qwest data, but Dr. Selwyn more than adequately demonstrated that Verizon's criticisms lack any merit. Ex. 1153 (AT&T Selwyn Response to Verizon Expert Report).

Selwyn corrected that data and the results *strengthened* his analysis. Ex. 1153 (Responses to BR 4). Dr. Selwyn also corrected his reference to the Verizon 10-Ks and 10-Qs, which was "misleading" only to the extent that Dr. Selwyn previously had not made clear that those materials were not available for a small fraction of the total number of Verizon affiliates reports he referenced. *Id*. at A4-50, n.5.

16. Verizon thus has failed to demonstrate that AT&T's analysis is flawed in any way. Rather, Verizon has provided additional grounds on which the Commission should reject Verizon's proposal and should adopt AT&T's recommendations.

2. Which Methodology Is Appropriate and Why?

17. AT&T has used and recommends that the Commission adopt the Capital Asset Pricing Model ("CAPM"). The Wireline Competition Bureau concluded in the *Virginia Arbitration Order* that the CAPM "is the better mechanism for estimating the cost of equity in this proceeding" because it "does not rely on assumptions concerning dividend growth rates, and therefore cost of capital estimates derived from the CAPM are no better or worse for companies that are growing rapidly than for those growing slowly."[9] Verizon falsely claims that the Commission has chosen Verizon's proposed Discounted Cash Flow ("DCF") model "on numerous occasions over the [CAPM] proposed by AT&T." Verizon Initial Brief at 20. AT&T is not aware of *any* case in which the Commission was presented with a choice between the CAPM and DCF Model, much less chosen the DCF Model over the CAPM. The Commission in the decisions Verizon cites did little more than reference the DCF Model, which no party in those proceedings opposed.[10] Those cases, moreover, were rate cases for monopoly public utility

[9] *Virginia Arbitration Order* ¶ 71.
[10] *See WUTC v. Avista Corp.*, Docket No. UE-991606, Third Supp. Order ¶ 326 (Sept. 29, 2000); *WUTC v. American Water Resources*, Docket Nos. UW-980072, *et al*., Sixth Supp. Order at 8 (Jan. 21, 1999).

companies with long histories of dividend growth, not a firm like Verizon that must be assumed to operate in a competitive market. Not surprisingly, then, the CAPM, not the DCF Model, "is the most commonly used technique to calculate the cost of equity." Ex. 651T (AT&T Selwyn Direct) at 18.

18. Verizon further recommends that the Commission reject the CAPM "because AT&T employs it to produce a grossly low cost of equity." Verizon Initial Brief at 22. AT&T has already addressed the substantive arguments that Verizon makes on this point, but those arguments are irrelevant to the Commission's choice of a *methodology* for estimating the cost of equity. On that score, the record fully supports Commission adoption of the CAPM.

3. Recommended Cost of Equity.

19. AT&T continues to recommend a cost of equity of 8.51%, based on the CAPM model and methodology adopted by the Wireline Competition Bureau and applied with updated and additional data.

E. Option Value of UNEs and Affect on Cost of Money.

20. AT&T fully discussed this issue in its Opening Brief, and Verizon has not raised any points in its Initial Brief that merit further discussion.

III. DEPRECIATION

21. AT&T's Opening Brief addresses the proposal of AT&T and Commission Staff that the Commission continue to use Commission-prescribed depreciation lives, and the total lack of evidence that Verizon has presented to use different lives. AT&T does not believe that further discussion of these issues is warranted or would be useful to the Commission.

IV. EXPENSE AND OTHER ANNUAL COST FACTORS

22. AT&T has proposed reasonable, TELRIC-compliant expense factors and has explained in its Opening Brief and in its testimony why the factors Verizon has proposed are

unreasonable and unsupported. Exs. 1001TC – 1004TC (AT&T Lundquist Direct, associated exhibits, and Rebuttal); Tr. at 875-88 (AT&T Lundquist). Only one aspect of Verizon's Initial Brief requires additional discussion. Verizon makes multiple factual claims about its adjustments to its embedded expenses allegedly to make them "forward-looking," but Verizon offers virtually no evidence to support the level of those limited adjustments or to refute the additional adjustments that AT&T recommends.

23. Verizon, for example, argues that "as competitors have begun to bypass Verizon's network using VoIP and wireless, Verizon already has begun actively to promote its wholesale offering, 'Wholesale Advantage,' to CLECs." Verizon Initial Brief at 40. Other than that bald statement, Verizon offered no evidence to describe how Verizon is allegedly promoting that offering, the extent of that promotion, or the costs that Verizon is incurring in that promotion. Verizon, moreover, contends that as an imaginary and entirely unrealistic "wholesale only" company, Verizon will extensively engage in "industry" promotions along the lines of the "Got Milk?" campaign. Yet, Verizon's witness could not provide a single example of an occasion when Verizon has undertaken advertising to promote telecommunications products and services in general, rather than Verizon products and services specifically. Tr. at 826 (Verizon Jones).

24. The record simply does not support Verizon's expense factors, and the Commission should reject them on that basis.

V. MODEL OVERVIEW – CHOICE OF MODEL.

A. Is the Selection of a Model Important, or Just the Inputs?

25. AT&T and Staff recommend that the Commission adopt HM 5.3, agreeing that Verizon's VzCost does little more than replicate Verizon's embedded network and existing inefficiencies, relies on proprietary and largely inaccessible data, and is extremely complicated, if not impossible, to change in several significant respects. Verizon recommends VzCost,

contending that "HM 5.3 is seriously flawed and cannot produce either TELRIC-compliant costs or economically efficient rates." Verizon Initial Brief at 45. Because the parties have already provided considerable argument and testimony on this issue, substantial additional briefing would largely be duplicative and would not be of much benefit to the Commission. Accordingly, AT&T will only selectively respond to Verizon's arguments in its Initial Brief.

26. Two overall observations are in order. First, HM 5.3 is not an engineering model, and AT&T has never claimed otherwise. The model does not even attempt to prescribe the precise routes between the serving wire center and each customer location. Rather, the model ensures that more than sufficient plant exists to serve the existing customer locations. *E.g.*, Ex. 861T (AT&T Mercer Reply) at 27 & 51. Stated somewhat simplistically, HM 5.3 assumes a string between the serving wire center and each customer location that is loose enough to ensure that an engineer would have plenty of string to install along the actual, most efficient route. Verizon thus misses the mark by criticizing HM 5.3 for failing to account for natural or man-made "obstacles" or "existing rights of way." HM 5.3 accounts for obstacles and efficiencies by assuming enough cable to accommodate obstacles and make use of existing rights of way if they are part of the most efficient route. The fact that the model does not *prescribe* the exact route for each cable is irrelevant as long as the model estimates sufficient cable to enable engineers to determine the least cost, most efficient routing. Indeed, VzLoop, not HM 5.3, fails to account for obstacles or existing rights of way by assuming that the cable between distribution terminals is deployed in a straight line. *Id*. at 51.

27. The second general observation derives from Verizon's contention that the significant differences between the Parties' respective models have "very real consequences that cannot be undone simply by changing inputs." *Id*. at 43. When Verizon's model is run with the inputs AT&T uses in HM 5.3, however, VzCost produces significantly *lower* costs than HM 5.3

estimates. *Compare* Ex. 753C (AT&T Turner Restated Verizon Rates) *with* Ex. 853 (AT&T Mercer Proposed Rates). Verizon has neither disputed nor explained why HM 5.3 produces *higher* costs than VzCost when both models are run with the same inputs. Nor did Verizon even attempt to run HM 5.3 with Verizon's proposed inputs. Verizon cannot plausibly contend under these circumstances that differences between the models are so drastic that changing inputs does not address Verizon's concerns with HM 5.3.

B. Openness and Flexibility of Model.

28. Verizon's chief defense of the openness and flexibility of its model is essentially that Staff and AT&T have no one to blame but themselves if they could not retain expert witnesses that could understand VzCost and find it simple and easy to use. *See* Verizon Initial Brief at 47-48. Verizon itself elicited testimony that has demonstrated Mr. Turner's qualifications as an expert on cost models, Tr. at 1159-65 (AT&T Turner), and Mr. Spinks has been reviewing, evaluating and modifying cost models for the Commission since the first cost docket began in 1996. The fact that both of these well-established cost model experts had extreme difficulty understanding, navigating, and modifying VzCost and its component models more than amply demonstrates that Verizon's characterization of its model as "open" and "flexible" has no basis in the factual record.

29. Verizon's criticisms of HM 5.3 on this score similarly lack merit. Several state commissions, including this Commission, have used a version of the HAI Model, in whole or in part, to establish UNE rates. The FCC based its own Synthesis Model in large part on the HAI Model. Even Qwest, HAI's longest running critic, has incorporated – *verbatim* – many of HAI's calculations into the version of LoopMod, Qwest's loop cost model, that Qwest filed in this proceeding. Verizon's own witnesses had little trouble examining HM 5.3 and making specific observations about how the model works. Indeed, Mr. Dippon created detailed maps from

nothing more than the information that TNS provided through AT&T with respect to the clustering process used. Had it chosen to do so, Verizon could have verified the customer locations used in the model by comparing them with Verizon's customer records. The record evidence demonstrates without doubt that HM 5.3 is far more open and flexible than VzCost.

C. Matrix for Evaluating Reasonableness of Model.

30. AT&T sufficiently addressed the expressly identified issues under this subheading in its Opening Brief so that additional response is not necessary. Verizon, however, raises two "other" issues in its Initial Brief that AT&T has not yet addressed.

31. The first issue is validation. Verizon contends that HM 5.3 fails validation tests because the model produces lower costs than the costs AT&T previously estimated, the costs that the Commission adopted, and Verizon's embedded costs. None of these arguments are sound. The developers of the HAI model have continued to refine it and increase the model's sophistication and the accuracy of its results. Ex. 861T (AT&T Mercer Reply) at 18-19. Any decline in the loop cost attributable to the model (as opposed to the inputs) merely reflects that greater accuracy and sophistication. Indeed, VzCost fails Verizon's own test, given that that model produces a loop rate that is almost double the rate the Commission previously established despite declining costs as technology increases the efficiency and capacity of the network.[11] To paraphrase Dr. Tardiff, Verizon offers nothing to explain why loop costs should be twice what the Commission adopted as a price just a few years ago. Dr. Mercer further explained that Verizon's embedded costs are irrelevant, and perhaps more fundamentally, Verizon's complaints go to the model *inputs*, not to the model itself. Ex. 861T (AT&T Mercer Reply) at 5-7.

[11] In addition to the cost benefits of deploying more fiber in the network, "[t]here have been various technological improvements that have increased the efficiency of placing and installation work." Ex. 956TC (AT&T Fassett Reply) at 21.

32. Verizon also contends with respect to validation that HM 5.3 models insufficient levels of equipment as compared to Verizon's embedded network. This argument, however, is no different than Verizon's overall complaint that HM 5.3 does not model Verizon's embedded network. As AT&T has previously discussed and discusses elsewhere in this brief, the objective in this proceeding is to model a forward-looking, least cost, most efficient network, not Verizon's embedded network. Verizon, moreover, improperly attempts to shift its burden of proof to AT&T by proposing to require that "any substantial deviation between the cost model and reality should be explained with specificity." Verizon Initial Brief at 60. In other words, Verizon proposes that AT&T justify any cost calculation that is significantly different than Verizon's embedded costs. Such a proposal directly conflicts with the FCC's requirements that *Verizon* bears the burden to "prove to the state commission the nature and magnitude of any forward-looking cost that it seeks to recover in the prices of . . . network elements,"[12] and any such costs may not be based on Verizon's embedded costs.[13] Verizon, therefore, must explain with specificity why its proposed, embedded costs are compliant with TELRIC requirements, which Verizon simply has not done.

33. Verizon also claims that HM 5.3 is not consistent with reasonable expectations because the multitude of sensitivity runs that Verizon made to the model produced only what Verizon considered to be "modest" differences. The specific 10% difference Verizon cites is hardly "modest," and Verizon's preconceptions, not the model, are flawed. Ex. 861T (AT&T Mercer Reply) at 50. The results Verizon criticizes are "what one would expect." *Id*. at 15. As Dr. Mercer explained, Verizon compared the *total* loop costs before and after a sensitivity run,

[12] *In re Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98, FCC 96-325, First Report and Order ¶ 680 (Aug. 8, 1996) ("*Local Competition Order*").
[13] *Id*. ¶¶ 705-06.

and the total loop cost is comprised of many components, only one of which is examined in each Verizon sensitivity run. "It is not surprising, then, that the total cost is not highly sensitive to changes in any one factor." *Id* at 23.

34. Dr. Mercer also responded to each of Mr. Dippon's criticisms, specifically demonstrating why Mr. Dippon is incorrect. *Id*. at 48-55. Mr. Dippon, for example, criticized HM 5.3 because he found that as the number of clusters used in the model changes, there is approximately an equal sized change in the investment per cluster, allegedly making the model insensitive to modifications to the number of clusters. Dr. Mercer explained, "As the cluster size decreases, the increased investment in feeder fiber and DLC equipment needed to penetrate more deeply into the network and serve more customers is offset by a decrease in distribution investment because smaller cables are less expensive." Id. at 49. In other words, larger clusters require more distribution investment, resulting in roughly proportionally higher costs. In her proposed decision, the Administrative Law Judge in California found this explanation "reasonable" and rejected the very arguments that Verizon makes here. *Id*. at 50.

35. Verizon thus has failed to demonstrate that HM 5.3 has any flaws that would preclude the Commission from adopting the model for use in setting Verizon's UNE rates.

VI. VERIZON'S COST MODEL

36. Verizon devotes less than six of the 125 pages in its Initial Brief to discussing its own model in this section. In its Opening Brief, AT&T thoroughly addressed the issues with VzCost and will not repeat that discussion here.

VII. HM 5.3

A. Overview.

37. AT&T has addressed in its Opening Brief and elsewhere in this brief most of the arguments that Verizon makes in its overview of HM 5.3. Two inaccuracies in those arguments require additional discussion.

38. First, Verizon incorrectly claims that HM 5.3 "discard[s] Verizon NW's actual customer locations when creating its clusters" and "assumes that Verizon NW's customers are uniformly spread in rectangular-shaped [distribution areas ("DAs")] containing lots of equal size and shape." Verizon Initial Brief at 68. Dr. Mercer explained that this statement is incorrect because Verizon improperly ignores the strand normalization process, which "is designed to ensure the amount of distribution cable reflects the actual locations of customers within the clusters, to the extent they are not uniformly distributed in the cluster." Ex. 861T (AT&T Mercer Reply) at 39.

39. The second Verizon inaccuracy that AT&T has not previously addressed in its briefing is the claim that "HM 5.3 ignores the numerous cable types and sizes deployed in real-world networks, employing generally only two types of cables and cable sizes to serve the lots in the rectangular DAs." Verizon Initial Brief at 68. This contention grossly mischaracterizes HM 5.3. The model uses "branch" and "backbone" cable, but the use of those terms does not mean that HM 5.3 uses only two sizes or types of cable. To the contrary, the types and sizes of these cables are unique for each cluster, and the backbone cable is tapered, which means in essence that the cable is in various sizes along its route. Ex. 855 (AT&T HM 5.3 Model Description) at 43-44. HM 5.3 thus uses precisely the types and sizes of cable that are used in the forward-looking "real-world" network.

B. Outside Plant Network Design.

40. Not surprisingly, Verizon repeats virtually all of the criticisms of HM 5.3's outside plant network design raised by its witnesses in their testimony. AT&T provided its own testimony refuting these criticisms and demonstrating that they are not valid and even if they were, correcting such "errors" either would have a negligible effect or would *decrease* the cost estimates produced by the model. Ex. 861T (AT&T Mercer Reply); Ex. 956TC (AT&T Fassett Reply); Tr. at 1477-1667 (AT&T Mercer and Fassett). AT&T nevertheless will provide brief responses to the points Verizon raises in its Initial Brief.

Outside Plant Locations

41. Verizon first complains that HM 5.3 allegedly ignores customer locations, "rights-of-way and other physical and man-made obstacles when designing its outside plant." Verizon Initial Brief at 69-70. AT&T has previously addressed this point, but the explanation bears repeating. HM 5.3 is not an engineering model. Rather, it is a cost model that is designed to estimate the amount and type of outside plant necessary to serve the existing customers located within Verizon's local service territory. *E.g.*, Ex. 956TC (AT&T Fassett Reply) at 5. The maps that Mr. Dippon created ignore this aspect of the model and attempt to depict HM 5.3 as using a flawed outside plant design. AT&T has never claimed that HM 5.3 could be used to establish the exact location of each foot of outside plant or anything more than an approximation of where the facilities would actually be installed. Mr. Dippon's maps, therefore, are virtually meaningless.

42. A comparison of the graphic depictions of the network designs used in HM 5.3 and VzLoop is similarly unavailing. VzLoop is based on Verizon's embedded network, largely using existing serving area interface ("SAI") and pedestal locations so that a map of VzLoop's outside plant design more closely resembles an engineering model. That design, however, is

Verizon's embedded network design with all of its inefficiencies. A more useful exercise would have been to actually create a forward-looking engineering design for a representative cluster and then determine whether HM 5.3 models sufficient outside plant to conform to that design. Verizon made no such effort, and the graphic depictions and comparisons it did make fail to demonstrate anything.

Strand Distance Multiplier

43. HM 5.3's strand distance multiplier ensures that sufficient outside plant exists to connect all of Verizon's actual customers together. *E.g.*, Ex. 861T (AT&T Mercer Reply) at 27. Verizon mischaracterizes this feature as "nothing more than a band-aid that attempts to compensate for (as opposed to fix) HM 5.3's modeling errors." Verizon Initial Brief at 71. Again, the maps that Verizon created do not support Verizon's argument. Far more telling is the adjustment that Mr. Spinks made to some representative clusters that he believed were "misplaced." He moved those clusters, but moving them either had no impact on the results or slightly *reduced* the wire center cost. Ex. 1065 (Staff Spinks Rebuttal) at 12-13; Tr. at 1024 (Staff Spinks).[14] AT&T experienced comparable results when it undertook the same process. Tr. at 1531-32 (AT&T Mercer). That outcome is not at all surprising given the nature of HM 5.3 to model sufficient outside plant, not engineer the network.[15]

[14] Mr. Spinks also correctly observes that "Mr. Dippon, in his analysis makes no attempt to quantify, correct, or estimate cost if these corrections are made. . . . Yet without any quantifiable analysis, the Commission is left to guess the extent, if any, of any cost impact caused by the misplacement of clusters." Ex. 1065 (Staff Spinks Rebuttal) at 13.

[15] Verizon also contends that the strand distance multiplier causes the model to produce loop lengths in excess of 18,000 feet, but as AT&T's witnesses testified, that assertion is simply incorrect. *E.g.*, Ex. 956TC (AT&T Fassett Reply) at 13.

Cluster Input Database

44. Verizon provides a laundry list of alleged flaws in HM 5.3's cluster input database. Dr. Mercer explained why Verizon is incorrect and that even if Verizon were correct, correcting any such "flaws" would have little or no impact or would decrease the cost estimates that HM 5.3 produces. Ex. 861T (AT&T Mercer Reply) at 36-55. A detailed reply in this brief to each item on Verizon's list, therefore, would be duplicative and unnecessary.

Feeder Plant Design

45. Verizon complains that HM 5.3 includes less than half of the remote terminals ("RTs") modeled in VzLoop allegedly because HM 5.3 models underground installation of RTs in controlled environmental vaults based on the size of the cluster, rather than on local conditions such as city ordinances and zoning regulations. Verizon, however, offered no evidence of any such city ordinances or local conditions that would require underground installation of RTs when such installation was otherwise unnecessary. Nor did Verizon even attempt to prove that the 2,100 line threshold for determining when to place underground RTs is inconsistent with any standard network design principles. Indeed, use of this threshold is fully consistent with least cost, most efficient network design *because* it ensures that "the high costs of acquiring and installing underground structures are spread over a large number of lines." Verizon Initial Brief at 74. Verizon artificially and unrealistically proposes to increase costs per line by assuming more than twice the number of RTs, each of which serves far fewer lines. Verizon's complaint thus only illustrates that VzLoop fails to reflect the efficiencies and cost savings in a TELRIC environment.

Feeder Plant Amounts

46. Verizon asserts that HM 5.3 significantly understates the appropriate amount of feeder plant. Verizon, however, offers no alternative other than the amount of feeder that

currently exists in Verizon's embedded network. HM 5.3 estimates the amount of feeder plant required to serve clusters of Verizon's actual customers created in a *TELRIC* environment, which even Verizon argues does not currently exist. Verizon has presented no evidence to demonstrate that its embedded network is virtually identical to the network that would be rebuilt today. Accordingly, Verizon's embedded network provides no guidance on the appropriate amount of feeder plant. In addition, the amount of feeder plant cannot be viewed in a vacuum and must be considered along with total plant. The number and size of clusters impacts both distribution and feeder plant. Fewer, larger clusters means less feeder plant, but more distribution plant, while a larger number of smaller clusters will reduce distribution plant estimates, but increase feeder plant estimates. Verizon's criticism thus essentially is HM 5.3 did not model Verizon's embedded network. Verizon is correct in that regard. HM 5.3 models a more efficient, lower cost, forward-looking network, and Verizon's criticism is misplaced.

C. Switching Model Issues.

47. AT&T addressed these issues in its Opening Brief and does not believe that further discussion is warranted.

D. Other Model Issues.

48. HM 5.3 models virtually Verizon's entire network in Washington to ensure that appropriate efficiencies and cost savings are fully included. The model then removes the portion of the network used to provide services other than those at issue in this proceeding. Verizon contends that the only such services are OCn services, which allegedly represent only 6% of the total of Verizon's high capacity circuits, while AT&T allegedly proposes to eliminate 77% of the total network investment. As an initial matter, HM 5.3 has not "eliminated" any investment, but allocates investments between fiber circuits at issue in this proceeding and all other fiber circuits. Investments in OCn circuits and DS1 circuits provisioned over fiber were included in costing the

network to ensure capture of appropriate economies of scope and scale, but those investments were allocated to services not at issue here. That allocation is a user adjustable input, however, and can easily be modified if the Commission desires. As a practical matter, however, such allocation of investment would be accompanied by reallocation of the number of circuits, which means that the impact on AT&T's proposed DS1 and DS3 rates would be negligible.

49. Further, it should be made clear that HM 5.3 does not assign 77 percent of *total* network investment to OCn and fiber-provisioned DS1 circuits. To assign costs to high capacity circuits HM 5.3 takes two steps. First, the model determines the amount of total network cost that should be allocated to all high capacity circuits, which is performed for discrete investment categories, such as underground placement, buried placement, *etc*. The amount of total network costs assigned to high capacity circuits is less than four percent, not 77 percent. Of the costs assigned to high capacity services, HM 5.3 allocates the cost between DS3 loops and other high capacity circuits. Twenty three percent of that less than four percent is allocated to DS3 loops and the remaining 77 percent to other high capacity circuits. Thus the total amount that Verizon calls "eliminated investment" is less than three percent of total network investment. *See* Ex. 860 (HM 5.3 on CD).

50. Verizon also contends that HM 5.3 does not build high capacity fiber facilities directly to the customer premises. This issue is simply a variation of Verizon's general, inaccurate complaint that HM 5.3 "ignores" actual customer locations. As AT&T previously explained, HM 5.3 uses the customer location data provided by Verizon to ensure that sufficient – very likely *more* than sufficient – plant is constructed to serve the requisite demand.

51. Finally, Verizon briefly repeats, without additional discussion, various miscellaneous complaints from its testimony that allegedly demonstrate that HM 5.3 "produces a wide variety of unrealistic and unreasonable results." Verizon Initial Brief at 81. Again,

Verizon makes no attempt to provide a factual basis for its complaints or to quantify the impact of any of these additional "flaws" on the model's results. Verizon is also incorrect. HM 5.3, for example, uses fewer indoor SAIs than exist in Verizon's embedded network because the model predominantly assumes outdoor SAIs and network interface devices ("NIDs"), which conservatively require higher investment levels than indoor SAIs. Ex. 856 (AT&T HM 5.3 Inputs Portfolio) at 41; *see* Ex. 1061T (AT&T Mercer Reply) at 25-26. Similarly, Verizon has not substantiated its allegation that HM 5.3 does not include all competitive carrier demand for facilities, and even if such an adjustment were appropriate, increasing the number of circuits would *decrease*, rather than increase, the cost per circuit. Ex. 861T (AT&T Mercer Reply) at 56-58. Verizon thus has failed to demonstrate that any "other" issues preclude the Commission from adopting HM 5.3.

VIII. MODEL INPUTS

A. Loops.

1. Plant Mix.

52. AT&T addressed the issues arising from plant mix – whether outside plant is aerial, buried, or underground – in its Opening Brief and provides additional discussion in reply to correct Verizon's misstatements. As a general matter, the Parties do ***not*** "agree that the mix reflected in Verizon NW's current service area is an appropriate measure for the structure mix in the forward-looking network required to be modeled under TELRIC principles." Verizon Initial Brief at 82. HM 5.3 *starts* with data on Verizon's network that Verizon files with the FCC, but the model then makes substantial adjustments to that data to compensate for the inefficiencies in Verizon's embedded network. Ex. 951T (AT&T Fassett Direct) at 13-22. Only Verizon mistakenly believes that its embedded plant mix reflects a forward-looking network.

53. Verizon also contends that HM 5.3 "produces a plant mix that ignores natural and man-made barriers, disregards widely accepted engineering standards, and ignores the need to accurately estimate the number and size of cables on a route or the number of other users that will share the same structure." Verizon Initial Brief at 84. Again, Verizon is incorrect, as illustrated by the fact that neither of the two examples that Verizon provides of these alleged deficiencies supports Verizon's criticisms.

54. Verizon first asserts that "HM 5.3 ignores the fact that, despite being more expensive, underground cable is often preferable because it provides for 'out-of-sight' plant, ensures better protection from the elements, and is easier to augment, repair, and replace." *Id.* (footnote omitted). In making that statement, Verizon disregards its "own engineering guidelines that state, 'always look to alternative to placing conduit.'" Ex. 956TC (AT&T Fassett Reply) at 15. Verizon also conveniently forgets its own tariff, which obligates housing developers who require "out-of-sight" plant to provide the trench, eliminating the largest cost component of underground placement. Tr. at 1289 (Verizon Panel). HM 5.3 properly takes these factors into account, while VzLoop ignores them in order to artificially inflate its cost estimates.

55. Verizon's other "example" is that HM 5.3 "does not always assume buried or underground construction when modeling cables larger than 2,700-3,000 pairs, and thus ignores completely the fact that cables of that size would never be placed on poles." Verizon Initial Brief at 84-85. Verizon correctly quotes Mr. Fassett as agreeing that cables of that size would not be placed on aerial pole structure but ignores Mr. Fassett's testimony that HM 5.3 does no such thing:

> HM 5.3 does not place 2700 pair and larger cables on pole line structure. Any aerial distribution cables for these sizes of cable would either be laterals, block or riser cable. These cables are technically classified as aerial plant, but are not being placed on pole structure. Laterals from the underground or buried structure to

> buildings would typically be placed in conduits that have been provided by the building owner from the property line. Riser cables are placed between floors in buildings in either customer provided conduits or plenums (air-vent system duct work).

Ex. 956TC (AT&T Fassett Reply) at 14. Verizon's criticisms of the plant mix assumed in HM 5.3 thus do not withstand scrutiny.

B. Structure Sharing.

56. AT&T thoroughly discussed structure sharing and related issues in its Opening Brief and provides the following brief additional discussion in response to only a few of the points raised in Verizon's Initial Brief.

1. Should the Values Be Based on What Is Observed and/or Current Values or What Could Hypothetically Exist in a Competitive Market?

57. Most striking about Verizon's discussion of competitive markets is Verizon's inconsistent interpretation of TELRIC requirements. Verizon contends in the context of structure sharing that Verizon "already is subject to competitive pressure" and that the "fully competitive market posited by TELRIC . . . 'does not necessarily mean . . . competition for every line,' since '[c]ompetitors rationally stay out of certain markets.'" Verizon Initial Brief at 91 (quoting Tr. at 511 (Verizon Shelanski)). In the context of Verizon's cost of capital, however, Verizon adamantly opposes using factors based on existing financial data because Verizon currently is not subject to the facilities-based competition envisioned by the FCC, *i.e.*, that "all facilities-based carriers would face the risk of losing customers to other facilities-based carriers, and that risk should be reflected in TELRIC prices."[16] Verizon should be required to live with a single set of TELRIC assumptions and not be permitted to "pick and choose" on an issue-by-issue basis whatever assumption most benefits Verizon.

[16] *TRO* ¶ 680.

58. Using the FCC's description of the "facilities-based competition" that "should be reflected in TELRIC prices," Verizon's existing structure sharing arrangements are irrelevant. Indeed, with 97% of the current local exchange market and little facilities-based competition, Verizon currently has virtually no incentive to share structure. The existence of one or more ubiquitously deployed facilities-based competitors would provide such incentive as a cost minimization issue, as well as obviously present Verizon with far more opportunities to engage in structure sharing.

59. Nor is such structure sharing limited to joint construction activities. Other companies can share underground structure costs just as they can share pole costs – by paying a cost-based "attachment" fee. *See* Ex. 956TC (AT&T Fassett Reply) at 16. Most, if not all, of Verizon's interconnection agreements include terms and conditions for both pole attachments and conduit occupancy, including a lease rate per foot of space used. Verizon thus should be recovering a portion of its underground structure costs from each company that leases space in those conduits, just as Verizon is recovering a portion of its pole costs through its attachment rates.

60. Verizon has no one to blame but itself if, as Verizon alleges, Verizon's attachment rates are not cost-based and do not represent a proportional share of Verizon's structure costs. The FCC formula for setting those rates allocates the total cost of the pole among the users of the pole according to their share of the usable space. If Verizon were using that formula to set its attachment rates, Verizon would, in fact, be recovering other users' proportional share of Verizon's structure costs, just as HM 5.3 assumes. Indeed, Verizon's failure to account for substantial cost savings when developers provide the structure, Tr. at 1289 (Verizon Panel), means that Verizon is overstating its structure investments in general and specifically understating other companies' contribution to Verizon's pole and conduit costs.

2. If the Structure Sharing Should Be Based on What Could Occur In a Competitive Market, Is There a Need to Make an Adjustment to the Line Counts? If So, to What Degree?

61. AT&T has nothing to add to its discussion of this issue in its Opening Brief.

3. Placement Costs.

62. AT&T's Opening Brief thoroughly discussed the relevant issues with respect to placement costs, *i.e.*, the costs to install outside plant facilities. The only issue that requires additional discussion is Verizon's contention that "AT&T's placement tasks are based almost entirely on sheer speculation, national averages, or the kind of undocumented experience that has consistently been found unacceptable." Verizon Initial Brief at 93. Dean Fassett, who has over 30 years of experience in designing and constructing outside plant, explained that this statement simply is not true:

> The HM 5.3 input values and assumptions are supported by documented evidence and expert opinions from a team of very experienced outside plant engineers and network administrators. Documented evidence has included numerous Proprietary and non-proprietary ILEC contracts that have been produced in several dockets, contractor surveys, extensive personnel experience by various HAI engineering team members in the actual awarding and administering contracts for many of these inputs. Proprietary contracts and documents provided by GTE in previous dockets have also validated the reasonableness of the HM 5.3 input values. The HM 5.3 Inputs Portfolio provides in-depth support for every default input value and engineering assumption used in the model.

Ex. 956TC (AT&T Fassett Reply) at 21-22.

63. AT&T, moreover, further validated its input values and assumptions, including placement costs, by comparing them to the values and assumptions the FCC developed in its *Inputs Order* and a Verizon filing in Massachusetts. In most cases, the costs included in HM 5.3 are comparable to or *higher* than the costs that the FCC adopted or Verizon proposed. Ex. 951T (AT&T Fassett Direct) at 27-44. The only validation that Verizon offered for its proposed inputs

and assumptions was a comparison with its embedded network costs and practices, which not surprisingly are virtually identical. The Commission should adopt AT&T's proposed placement costs.

4. Material Costs.

64. AT&T explained in its Opening Brief that with few exceptions, the material costs assumed in HM 5.3 are comparable to, or higher than, the prices that Verizon currently pays. Ex. 956TC (AT&T Fassett Reply) at 25-27. Verizon's knee-jerk criticisms of HM 5.3's material costs thus are full of sound and fury but signify nothing.[17]

5. Fill Factors.

65. AT&T fully discussed fill factors in its Opening Brief, and Verizon has not raised any points in its Initial Brief that warrant further discussion.

6. DLC Assumptions.

66. AT&T's Opening Brief fully discussed digital loop carrier ("DLC") assumptions, and Verizon's Initial Brief does not raise any arguments that require additional discussion.

7. Other Inputs.

67. AT&T's Opening Brief sufficiently covered issues arising from other inputs into the models, and no additional discussion is necessary in response to Verizon's Initial Brief.

8. Geographic Deaveraging.

68. AT&T has proposed the most reasonable and accurate geographic deaveraging methodology for unbundled loops in Verizon's local service territory. Staff contends, "While AT&T assigned wire centers to zones in an unbiased manner (by minimizing weighted errors), it

[17] Verizon, for example, complains that HM 5.3 estimates smaller costs for a pole than Verizon allegedly pays, but Verizon neglects to mention that once the labor costs to install the pole are included, the resulting total pole investments are virtually identical. Ex. 956TC (AT&T Fassett Reply) at 22.

introduced a bias into its method by dividing the error by the average cost within the zone." Staff Initial Brief at 24. Staff, on the other hand, proposes to square the difference between the wire center loop cost and the zone price, which Staff claims produces an unbiased allocation of wire centers. Contrary to Staff's assertions, AT&T's methodology does not introduce any bias and is more accurate than Staff's proposed methodology.

69. AT&T proposes that the Commission minimize the *actual* deviations between wire center and zone rates because actual deviations in the form of dollar amounts are what should be of concern. Squaring those deviations, on the other hand, artificially increases the actual deviations as those deviations increase. For example, a $1 deviation is the same amount whether squared or not, while a $2 deviation is doubled when squared, a $3 deviation is tripled, a $4 deviation is quadrupled, etc. AT&T also reasonably "mean centers" the data because the objective is to determine the proportional differences between wire centers. One dollar, for example, is a 20% difference on a $5 loop but only a 2% difference on a $50 loop. Thus wire centers with $50 and $51 loop costs are much more similar than wire centers with $5 and $6 loop costs. AT&T's methodology alone takes such differences into account. The Commission, therefore, should adopt AT&T's proposal.

C. Switching.

70. AT&T fully discussed switching issues in its Opening Brief, and Verizon has not raised any issues in its Initial Brief that merit additional discussion.

D. Transport.

71. AT&T has no further discussion on transport issues.

E. Other Issues.

72. Verizon incorrectly claims that no party has filed testimony challenging any of the additional elements for which Verizon has proposed prices except DS1 and DS3 loops and NIDs.

All of the elements that Verizon lists, in whole or in part, raise the same issues as unbundled loops. Dark fiber, for example, is merely a high capacity loop or transport without the electronics, and a four-wire analog loop is two two-wire analog loops. Accordingly, Steven Turner's testimony includes restated costs for *all* of the elements for which Verizon has proposed rates in this proceeding. Ex. 753C (AT&T Turner Restatement of Verizon Rates). The issues addressed in the testimony and post-hearing briefing, therefore, concern *all* of the UNEs for which Verizon has proposed prices in this docket.

73. Verizon also takes issue with HM 5.3's estimation of high capacity loop costs, contending that the model does not account for the total capacity of fiber-based loop systems and lacks demand information relating to the quantities of the specific types of high capacity loops ordered by Verizon's customers. Typical of Verizon's approach on such issues, Verizon does not even attempt to specify the adjustments that Verizon believes would be required, much less quantify the impact on the model if any such adjustments were made. Verizon's failure to do so here undoubtedly means that the impact would be minimal given that Verizon quantified other proposed adjustments if they were significant. These factors, however, are user-adjustable in HM 5.3, so the Commission can make whatever adjustments, if any, it believes should be made.

IX. TAKINGS EVIDENCE

74. Even after filing its Initial Brief, Verizon still has yet to identify a legal theory that would support Verizon's contention that adoption of any rates other than those that Verizon proposes would result in a regulatory taking of Verizon's property without just compensation. Verizon apparently believes that if its embedded network cost calculations are higher than the UNE rates the Commission establishes, an unconstitutional taking has occurred. The case law does not support that simplistic approach. To the contrary, the Supreme Court has consistently determined that a regulated entity must demonstrate that the company's operations as a whole –

not a select few of its services – are unable to generate sufficient revenues to cover its prudently incurred costs.[18] Verizon has not even attempted to make such a demonstration.

75. Verizon presented no evidence that lower UNE rates, *in conjunction with Verizon's other regulated rates*, "jeopardize the financial integrity of the compan[y], either by leaving [it] insufficient operating capital or by impeding [its] ability to raise future capital. Nor has it been demonstrated that these rates are inadequate to compensate current equity holders for the risk associated with their investments under a modified prudent investor scheme."[19] The Constitution does not recognize Verizon's unrealistic fiction of a "wholesale only" company but considers the actual operations of Verizon as it exists today. With a 97% share of the market in its local service territory in Washington, Verizon cannot plausibly claim that lower UNE rates will have any significant impact on Verizon's overall intrastate revenues. Indeed, Verizon could not even make such a claim based on the record in this proceeding, which is devoid of evidence of *any* revenues that Verizon generates in the state of Washington. Verizon, therefore, cannot legitimately claim that any Commission action in this proceeding would constitute an unlawful taking of Verizon's property.

[18] *E.g.*, *Duquesne Light Co. v. Barasch*, 488 U.S. 299, 102 L. Ed. 2d 646, 109 S. Ct. 609 (1989).
[19] *Id*. at 312, 102 L. Ed. 2d at 660.

X. CONCLUSION

76. For the reasons discussed above and in its Opening Brief and testimony, AT&T urges the Commission to adopt HM 5.3 as the appropriate model for estimating Verizon's forward-looking costs to provide the UNEs at issue in this proceeding and to adopt AT&T's proposed recurring rates for those UNEs.

RESPECTFULLY SUBMITTED this 12th day of August, 2004.

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