Exhibit CMD-8T
Docket No. UT-023003

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 Unbundled Network Elements, Transport, And Termination	Docket No. UT-023003

SUPPLEMENTAL REPLY TESTIMONY OF CHRISTIAN M. DIPPON ON BEHALF OF VERIZON NORTHWEST INC.

June 18, 2004

Q. PLEASE STATE YOUR FULL NAME, EMPLOYER, AND BUSINESS ADDRESS.

A. My name is Christian M. Dippon. I am a Senior Consultant at National Economic Research Associates ("NERA"), One Front Street, Suite 2600, San Francisco, CA 94111.

Q. HAVE YOU PREVIOUSLY FILED TESTIMONY IN THIS PROCEEDING?

A. Yes. I filed Reply Testimony on behalf of Verizon Northwest Inc. ("Verizon NW") on April 27, 2004.

Q. WHAT IS THE PURPOSE OF YOUR SUPPLEMENTAL REPLY TESTIMONY?

A. My Supplemental Reply Testimony updates my previously-filed Reply Testimony and addresses the revised version of HM 5.3 submitted by AT&T Communications of the Pacific Northwest, Inc. ("AT&T") and WorldCom, Inc. (d.b.a. "MCI") (collectively, "AT&T/MCI") during the June 4, 2004 evidentiary hearings in this proceeding. Per the Commission's instructions, I will refer to the June 4 version of HM 5.3 as "HM 5.3 Revised."[1] While purporting to correct the error in the strand distance multiplier, HM 5.3 Revised still does not produce accurate and reliable estimates of Verizon NW's forward-looking costs of providing UNEs.

[1] Before the Washington Utilities and Transportation Commission, Docket No. UT-023003, *Hearing Transcript* (June 4, 2004) at p. 1484.

Q. ON WHAT BASIS DO YOU CONCLUDE THAT HM 5.3 REVISED CONTINUES TO PRODUCE UNRELIABLE AND INACCURATE COST ESTIMATES?

A. First, the correction in the strand distance multiplier calculation does not address the large majority of errors and flaws discussed in my Reply Testimony, the Reply Testimonies of Dr. Timothy Tardiff, Mr. Francis Murphy, and Mr. Willet Richter, or the Rebuttal Testimony of Dr. Tardiff. While the correction has caused some of the numbers in our respective Reply and Rebuttal Testimonies to change, the conclusions reached and criticisms discussed therein remain the same.

Second, as discussed in my Reply Testimony, the strand distance multiplier is merely a failed attempt by AT&T/MCI to "refine" a flawed cost model. AT&T/MCI would like this Commission to believe that simply adjusting HM 5.3's calculated distribution route distance to match the strand distance will make up for the fact that the Model is not building to actual customer locations. This is incorrect. As discussed more fully herein, there are many other failings in HM 5.3, besides distribution route distance, that result in drastically understated UNE cost estimates. None of these flaws are corrected by AT&T/MCI's strand distance multiplier adjustment.

Finally, as the attached maps for HM 5.3 Revised's modeled network demonstrate, in some instances, HM 5.3 Revised produces a network that is even further removed from reality than its predecessor version.

Q. WHAT IS THE DIFFERENCE BETWEEN HM 5.3 AND HM 5.3 REVISED?

A. As I understand it, HM 5.3 and HM 5.3 Revised are identical in all aspects but one. Reportedly, HM 5.3's distribution route distance was intended to be normalized to match the strand distance, which is calculated by TNS using the undisclosed clustering algorithm. However, rather than grossing up to the strand distance, HM 5.3 grossed up to the strand distance *minus* a measure of the cumulative drop distance. That is, HM 5.3 grossed up to a measure that was shorter than intended. HM 5.3 Revised allegedly corrects for this error and now supposedly grosses up to the full strand distance.

Q. WHAT MODELED NETWORK COMPONENTS ARE IMPACTED BY THE CHANGES MADE IN HM 5.3 REVISED?

A. The impact of HM 5.3 Revised's changes is primarily limited to distribution plant and its associated costs. Thus, AT&T/MCI's modification to the strand distance multiplier does not correct the many errors and flaws in the feeder, interoffice, and switching portions of the Model. Furthermore, the correction does not address the Model's poorly conceived clustering approach, the misplaced SAIs, and the over-simplified and unrealistic

distribution network layout. HM 5.3 Revised still groups customers in a fashion that is inconsistent with standard clustering analysis procedures and basic engineering guidelines. HM 5.3 Revised continues to uniformly distribute customers in rectangular-shaped clusters, despite the fact that TNS supposedly provided AT&T/MCI with actual and surrogated customer locations. Moreover, HM 5.3 Revised still places all of Verizon NW's customers on equal-sized lots in a cluster -- lots that are not only perfectly adjacent to each other, but are twice as deep as wide -- an entirely unrealistic assumption. Thus, the only real change between HM 5.3 Revised and its predecessor is that HM 5.3 Revised grosses up to the full strand distance, whereas its predecessor did not.

Q. DOES THE GROSS UP TO THE CORRECTED STRAND DISTANCE ADDRESS YOUR CONCERNS REGARDING THE STRAND DISTANCE MULTIPLIER?

A. No. The strand distance multiplier is flawed in ways that extend well beyond the error corrected in HM 5.3 Revised. In particular, as detailed in my Reply Testimony, conceptually, the use of the gross-up multiplier is simply a band-aid for the fundamentally flawed manner in which HM 5.3 and HM 5.3 Revised calculate distribution route distances. The strand distance multiplier increases the original distribution route distance calculated by the Model in over 75 percent of the clusters.[2] This is a clear

[2] Dr. Mercer refers to this process as providing an initial estimate of where customers are located and how much cable is required. Before the Washington Utilities and Transportation Commission, Docket No. UT-023003, *Reply Testimony of Dr. Robert A. Mercer on behalf of AT&T Communications of the Pacific Northwest, Inc. and WorldCom, Inc.* (May 12, 2004) at p. 28

indication that HM 5.3's modeling approach to distribution plant is biased downward. That is, the Model, through its fundamentally flawed approaches and assumptions, on average, yields distribution route distances that are shorter than what AT&T/MCI deem reasonable. However, rather than attempt to correct this bias by revising the initial calculations that yield the insufficient distribution route distances, AT&T/MCI opted to simply overwrite the results with a measure they deemed more appropriate. By "normalizing" the distribution route distance (rather than correcting it), HM 5.3 Revised still relies on much of the inaccurate processes that yielded the initial erroneous results.

Q. WHAT ERRORS REMAIN AFTER THE ROUTE DISTANCE GROSS UP?

A. First, the gross up does not correct the Model's significant understatement in feeder distances. As detailed in my Reply Testimony, HM 5.3 produces significantly shorter feeder route distances than VzCost. This is partially caused by HM 5.3's (and now HM 5.3 Revised's) routing of feeder. Unlike the much-touted *rectilinear* routing of distribution plant, HM 5.3 Revised's feeder is routed directly (that is nonrectilinear). This omission yields unrealistically short feeder route distances. Since the strand distance

("Mercer Reply"). The results of HM 5.3 Revised demonstrate that these initial estimates tend to be very inaccurate. Consequently, at best it requires a tremendous leap of faith to conclude that simply scaling these estimates to match the strand distance can produce accurate estimates of forward-looking costs.

gross up only addresses the distribution route distance, the feeder route distance in HM 5.3 Revised remains too short.

Second, the correction in the strand distance gross up does not address cable-sizing issues. As was the case with HM 5.3, HM 5.3 Revised still typically uses only two cable sizes per cluster -- one cable size for backbone cables and another for branch cables. This assumption is entirely unrealistic. As properly reflected in VzCost, there are many different cable sizes in a distribution area, each sized to serve its assigned demand. The strand distance gross up in HM 5.3 Revised does not address cables sizing, and thus the new model remains equally flawed.

Third, the correction does not address the splicing-point problems. HM 5.3 Revised still models distribution plant in a grill-like configuration, assuming erroneously that there will be a splice point every 1,000 feet for aerial copper cable, every 2,000 feet for buried copper cable and every 600 feet for underground cable.[3] This overly simplistic design, even after the corrected gross up, ignores the fact that many more splicing points are needed. It is my understanding that typically an engineer places one splicing point at each intersection. In Richmond Beach, for instance, there are approximately 713 intersections in the wire center. Thus, while not always a one-to-one match, it is reasonable to expect that there be a

[3] Interestingly, HM 5.3 Revised employs the same splicing assumptions for copper distribution cable as for copper feeder cable, although one would expect many more splicing points for distribution than feeder because of the need to continually "branch" distribution down every street.

similar amount of splice points for this wire center. HM 5.3 Revised, however, only models 365 splice points. Even using HM 5.3 Revised's understated splicing costs for splicing, for the Richmond Beach wire center this error alone underestimates distribution investment by $99,885.[4]

Finally, as detailed in Mr. Murphy's Reply Testimony, HM 5.3 understates the amount of indoor SAIs by assuming that the entire Verizon NW territory in Washington has only eight indoor SAIs. HM 5.3 Revised does not correct this understatement.

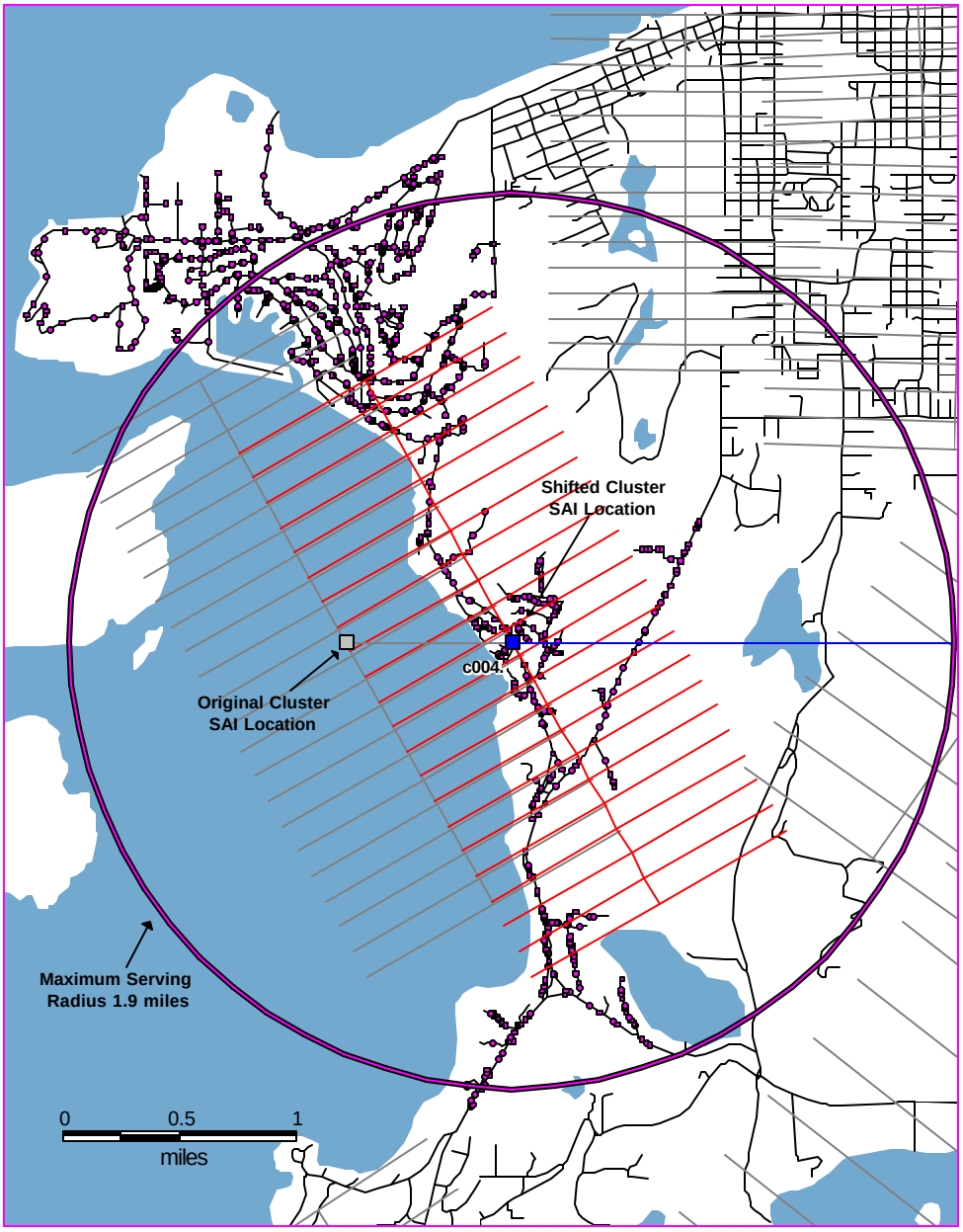
Q. CAN YOU GIVE AN EXAMPLE OF HOW HM 5.3 REVISED STILL PRODUCES INACCURATE LOOP LENGTH ESTIMATES?

A. Yes. While many examples exist, the Anacortes (ANCRWAXX) wire center provides an illustration in point. A number of inaccuracies become apparent when reviewing the modeled network map for this wire center (which is attached to this testimony as Exhibit CMD-12). First, consider

[4] *See* CMD-9. This calculation is based on AT&T/MCI's assumptions that it takes an engineer 30 minutes per splice and 15 minutes for each 300 splice pair, and takes a construction worker 2 hours per splice and 1 hour for each 300 splice pair. (AT&T/MCI assume that both the engineer and the construction worker receive $60.00 per hour.) I recognize that HM 5.3 Revised also places a splice point at each drop terminal in a cluster. These splice points, however, should not be included in this analysis as their purpose is different from the splicing points along the backbone and branch cables. The purpose of the splice points at the drop terminal is to extract a small number of pairs (usually 25 pairs contained in a single "binder" group within the passing distribution cable) from the distribution cable as it passes by the customer locations in order to connect the customer premises to the network. Splicing along backbone and branch cables should account for the fact that many pairs must be "branched off" the backbone and branch cables to allow distribution facilities to route down every street that has customers located along it. These splices involve splicing all pairs and all binder groups within the backbone and branch cables in order to route some of the pairs down side streets and in order to transition the remaining pairs that continue down the original street to smaller size cables. These considerations are over and above splices associated with maximum cable lengths that can fit on a cable reel and they are over and above the splice points required in order to extract individual binder groups for termination on drop terminals.

cluster c004. This cluster is almost entirely in the water. Even if the SAI were to be "moved" onto the land, the distribution layout would still extend into the water. More important, even on land, the modeled distribution cable would not be able to serve the customers it is supposed to serve. Specifically, as illustrated in the map below, HM 5.3 Revised models backbone cable and branch cable of 6,758 feet and 3,310 feet, respectively. Thus, the maximum distribution length in this cluster is 10,068 feet. Assuming the most conservative scenario where distribution cable can be laid "as the crow flies," the modeled network is too short to serve all the locations outside the circle in the map.

ANCRWAXX: HAI Network



Second, the subfeeder for cluster c004 is not only routed directly through Heart Lake, but also through the Anacortes Community Forest Land. Third, cluster c008 is almost entirely in the Anacortes Community Forest Land. Fourth, the SAI for cluster 001 is located *in* Lake Campbell and its backbone and branch cable span the lake. The cable for the same cluster also spans Mount Erie. Fifth, the maximum copper distribution distance for cluster c003 is 21,066 feet, which exceeds AT&T/MCI's own copper distance threshold of 18,000 feet.

Consequently, even as "corrected," HM 5.3 Revised still models an unreasonable network design, and therefore produces wildly inaccurate estimates of the forward-looking costs of providing UNEs in Washington. Many of the same problems are evident in the other wire centers modeled by HM 5.3 Revised, as can be seen in the maps attached to this testimony as Exhibit CMD-12.

Q. IN WHAT SENSE DOES HM 5.3 REVISED PERFORM EVEN WORSE THAN ITS PREDECESSOR?

A. First, as Mr. Murphy discussed in his Reply Testimony, HM 5.3 previously produced copper loops exceeding AT&T/MCI's own threshold of 18,000 feet in 218 clusters. HM 5.3 Revised performs even worse, as there are now 239 clusters that exceed this threshold.[5] Second, because of the

[5] *See* Before the Washington Utilities and Transportation Commission, Docket No. UT-023003, *Supplemental Reply Testimony of Francis J. Murphy on Behalf of Verizon Northwest Inc.* (June 18, 2004) at p. 3.

unrealistic layout of the Model's newly formulated distribution "grills," HM 5.3 Revised creates significant overlapping distribution areas. For instance, in the Everett (EVRTWAXC) wire center clusters c005 and c015 are within approximately 600 feet of each other, and the clusters' distribution cables overlap almost perfectly with each other.

Q. DOES THE MODIFICATION MADE TO HM 5.3 SUPPORT DR. MERCER'S PREVIOUS TESTIMONY ABOUT THE STRAND DISTANCE MULTIPLIER?

A. No, it does not. In his Reply Testimony, Dr. Mercer attempted to justify how the strand distance normalization apparently tended to *reduce* route distances in higher density areas.[6] His explanation was that areas without customer locations (e.g., schools, parks, undeveloped land, and parking garages) would purportedly reduce the amount of cable required to connect customers. Significantly, however, the reduction that Dr. Mercer had defended no longer occurs in HM 5.3 Revised. Indeed, counter to Dr. Mercer's explanation, the strand distance multiplier *increases* distribution route distances in the two highest density zones (5,000 lines per square mile and above) proportionately more than it does in the two lowest density areas (under 100 lines per square mile), where the need for upward adjustments was previously believed to be the greatest. Because there is no reason to suspect that Verizon NW's territory is materially different with respect to the presence or absence of unoccupied areas, Dr.

[6] Mercer Reply at p. 26.

Mercer's explanation seems to have been more of an after-the-fact rationalization than a cogent analysis of what the strand distance adjustment actually accomplishes.

Q. DOES THE MODIFICATION MADE TO HM 5.3 CHANGE YOUR RECOMMENDATION TO THIS COMMISSION?

A. No, not at all. As the attached updated maps illustrate, one of the most compelling reasons to adopt VzLoop over HM 5.3 Revised is VzLoop's superior modeling of outside plant. HM 5.3 Revised's modeled network remains nothing but an array of cables that are intermingled with each other and routed irrespective of feasible network routes, physical boundaries, and rights-of-way. It simply cannot be relied upon to produce accurate estimates of Verizon NW's forward-looking costs of providing UNEs in Washington.

Q. DOES THIS COMPLETE YOUR SUPPLEMENTAL REPLY TESTIMONY?

A. Yes.