Exhibit No. FJM-4T
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 FRANCIS J. MURPHY ON BEHALF OF VERIZON NORTHWEST INC.

JUNE 18, 2004

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND TITLE.

A. My name is Francis J. Murphy. My business address is 5 Cabot Place, Suite #3, Stoughton, Massachusetts 02072. I am the President of Network Engineering Consultants, Inc. ("NECI").

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 26, 2004.

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

A. My Supplemental Reply Testimony responds to the June 4, 2004 submission by AT&T Communications of the Pacific Northwest, Inc. ("AT&T") and WorldCom, Inc. (d.b.a. "MCI") (collectively, "AT&T/MCI") of yet another revised version of their cost model ("HM 5.3 Revised"). I have reviewed HM 5.3 Revised's algorithms, interim worksheets, and outputs, and found that Dr. Mercer's attempt to correct one error has not remedied any of the other errors I identified in my Reply Testimony, and actually exacerbates the Model's tendency to design copper distribution lengths in excess of 18,000 feet.

Q. WHAT PROBLEMS HAVE YOU IDENTIFIED WITH THE NETWORK MODELED BY HM 5.3 REVISED?

A. Compounding the problems associated with the previous version of HM 5.3, the latest round of revisions produces a network that is even less capable of providing high-quality, reliable service. HM 5.3 Revised continues to violate the transmission design rules established by the CSA Design Standard by routinely

designing copper distribution cable lengths that exceed 12,000 feet.[1] Even AT&T/MCI's own witness, Mr. Fassett, cites to the CSA Design Standard, which mandates all loops be non-loaded,[2] and specify that no copper loop exceed 12,000 feet in total length. Nevertheless, the Model sponsors claim that the Revised Resistance Design standard, which *pre-dates* the CSA Design Standard, allows for non-loaded copper loop lengths of up to 18,000 feet. The Model sponsors also claim that no loop within a cluster can exceed 17,000 feet.[3] Neither of these claims are true -- HM 5.3 Revised continues to produce copper distribution lengths in excess of 18,000 feet.

In the previous version of HM 5.3, the Model produced copper distribution lengths in excess of 18,000 feet in 218 clusters. As revised, HM 5.3 now produces copper distribution lengths that exceed 18,000 feet in 239 of the 829 main clusters, with some as long as 38,000 feet and the average being over 22,000 feet. Exhibit No. FJM-5 identifies the clusters that have copper distribution lengths in excess of 18,000 feet and the total number of lines in each of these clusters.[4]

Q. WHAT ARE THE CONSEQUENCES OF HM 5.3 REVISED'S MODELING OF EXCESSIVELY LONG LOOPS?

[1] The CSA Design Standard was developed to identify distinct geographic areas that can be served by a single DLC RT, and that could encompass a single DA or multiple DAs. Before the Washington Utilities and Transportation Commission, Docket No. UT-023003, *Direct Testimony of John C. Donovan on behalf of AT&T Communications of the Pacific Northwest, Inc., WorldCom, Inc. and XO Washington, Inc.* (June 26, 2003) at p. 10.

[2] "Non-loaded lines" are defined as cable pairs or transmission lines with no added inductive loading coils (i.e., straight raw copper pairs). Newton's Telecom Dictionary (16th ed. 2000).

[3] This 17,000-foot maximum is the product of a limit in the clustering process, which sizes clusters based on a 17,000-foot right-angle route from the centroid of the cluster.

A. The forward-looking construct mandated by TELRIC and the Federal Communications Commission ("FCC") does not permit the use of load coils, which are necessary if POTS services are to be provided on copper loops in excess of 18,000 feet.[5] But, even if the use of load coils were appropriate in a forward-looking network (which it is not), HM 5.3 does not account for their cost.[6] By modeling copper loops in violation of accepted engineering practices and failing to account for the costs associated with its flawed network design, HM 5.3 Revised is simply incapable of providing reliable POTS services to all customers. Moreover, HM 5.3 Revised's excessively long loops are unable to provide the numerous advanced services Verizon NW provides today because they violate the CSA Design Standard.[7] In short, the network modeled by HM 5.3 Revised is not only incapable of providing reliable service to Verizon NW's customers, it is fundamentally unable to serve as an accurate proxy for Verizon NW's forward-looking costs of providing UNEs.

Q. DOES THIS CONCLUDE YOUR SUPPLEMENTAL REPLY TESTIMONY?

A. Yes.

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[4] Exhibit No. FJM-5 shows the relevant data from selected columns of the HM 5.3 interim worksheets (R53_distribution_calculations_1-10.xls) filed by Dr. Mercer on June 4, 2004.

[5] Load coils are necessary in order to reduce signal loss in the voice frequency band and guarantee that POTS subscribers are able to hear each other. AT&T Outside Plant Engineering Handbook, August 1994, p. 5-11. (A load coil is "[a] series inductance inserted in the loop to counteract the effect of distributed capacitance and thereby to reduce transmission loss over the voice frequency band.").

[6] The FCC's outside plant design criteria specify that the modeled network shall "not impede the provision of advanced services;" and the FCC has "disallowed a model's use of loading coils because their use may impede high-speed data transmission." In re Federal-State Joint Board on Universal Service, In re Forward-Looking Cost Mechanism for High Cost Support for Non-Rural LECs, *Fifth Report and Order*, 13 FCC Rcd 21323 (1998) at ¶ 67.

[7] Telcordia Notes on the Network, SR-2275, Issue 4 (Oct. 2000) at Section 7.15.5, p. 7-70. (Loops designed in accordance with the CSA Standard "are capable of providing on a nondesigned-basis conventional, voice-grade message service; digital data service up to 64 kbps; Digital Subscriber Lines (DSLs) for ISDN; and most locally switched, 2-wire, voice-grade special services.").