Exhibit T-___ (GB-1T)
Docket No. UT-023003
Witness: Glenn Blackmon, Ph.D.

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Review of Unbundled Loop and Switching Rates and Review of the Deaveraged Zone Rate Structure	)))))	DOCKET NO. UT-023003

TESTIMONY OF

GLENN BLACKMON, Ph.D.

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION STAFF

February 9, 2004

Revised April 20, 2004

Q. Please state your name and business address.

A. My name is Glenn Blackmon, Ph.D. My business address is 1300 South Evergreen Park Drive Southwest, P.O. Box 47250, Olympia, Washington 98504. My e-mail address is blackmon@wutc.wa.gov.

Q. By whom are you employed and in what capacity?

A. I am employed by the Washington Utilities and Transportation Commission as the Assistant Director for Telecommunications.

Q. What are your education and experience qualifications?

A. I hold Ph.D. and master's degrees in public policy from Harvard University and a bachelor's degree in economics from Louisiana State University. I have been employed at the Commission since August 1995 and assumed my current position in April 1996. I previously served as the Commission's economics advisor in the interconnection case, UT-941464, and the U S WEST general rate case, UT-950200. Prior to working at the Commission, I was a consultant in private practice, where my clients included both regulated companies and consumer advocates, and an analyst for the Washington State Senate Energy and

Utilities Committee. I have presented testimony as an expert witness before this Commission, as well as the Illinois and Idaho commissions.

I am the author of a book, *Incentive Regulation and the Regulation of Incentives* (Boston: Kluwer Academic Publishers, 1994). I have authored or co-authored articles on utility regulation and economic theory published in *American Economic Review*, *Journal of Regulatory Economics*, *Yale Journal on Regulation*, *Journal of Risk and Uncertainty*, and *Public Utilities Fortnightly*.

Q. What is the purpose of your testimony at this time?

A. My testimony will explain how Staff has grouped the wire centers of Verizon and Qwest into five zones for the purpose of determining recommended loop prices in each zone.

Q. Does your analysis begin with the cost estimates made by Mr. Spinks for each wire center?

A. Yes. I used Mr. Spinks' calculations of cost in each wire center and, where applicable, for the core and fringe areas of certain wire centers, and grouped them into five zones to arrive at the recommended zone rates.

Q. What objective and constraint guided your grouping of the wire centers into rate zones?

A. I assigned wire centers to zones so as to minimize the variation between the cost of each loop in each wire center and the loop rate for that zone. This objective was constrained by two requirements: (1) There could be only five zones; and (2) The loop rate in each zone must equal the weighted average cost of all loops assigned to that zone.

Q. What is the reason for using minimization of the variation between cost and price of the loop as the objective in assigning wire centers to zones?

A. As the Commission discussed in its initial deveraging order, *In the Matter of the Pricing Proceeding for Interconnection, Unbundled Network Elements, Transport and Termination, and Resale, et al.* Docket Nos. UT-960369 et al., 24th Supplemental Order (May 4, 2000), the directive of federal law is that prices for unbundled network elements, including unbundled loops, must based on cost. Federal rules would permit the use of three loop zones, but the Commission decided to expand the number of zones to five specifically because doing so would increase the accuracy of the prices.[1] The Commission did not specifically say so, but I

[1] "Based on our review of the record, we find that a three- or four-zone structure

believe it intended to set accurate prices across the board, from the lowest cost wire center to the highest cost wire center.

Q. What is the reason for using five zones?

A. Using more zones increases the accuracy of the prices, but it increases complexity for both the buyer and the seller of the unbundled loops. In its initial deaveraging decision the Commission stopped at five zones, citing the administrative costs that would result with additional zones.

Q. How do you recommend that the accuracy of the zone prices be quantified?

A. The best measure of accuracy is the weighted sum of squared errors across all zones. This measure takes the difference between the wire center loop cost and the zone price, squares it, and then weights it by the number of loops in that wire center. The sum of squared errors method produces an unbiased allocation of wire centers to zones, i.e., it does not give more weight to the accuracy of the low-cost wire centers than to the accuracy of the high-cost wire centers or vice versa.

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would not result in UNE loop rates that sufficiently reflect the variation in costs that exist at different wire centers. The addition of a fifth zone is necessary to adequately reflect the underlying cost providing unbundled loops in each zone." Docket UT-960369, 24th Supp. Order, ¶ 71.

Q. Will the sum of squared errors method result in an even distribution of loops across the zones?

A. No, it will not. To get the most accuracy in prices, it is generally better to have fewer wire centers per zone within the range where loop costs are most variable. The greatest variation in loop costs is at the high end of the range, so the sum of squared errors method will put fewer loops in the higher zones and more loops in the lower zones. This results in more accurate prices, which means prices are higher in the high-cost areas.

Q. Are you using the same optimization method that AT&T's witness, Dr. Mercer, is using?

A. No, it is not. AT&T assigned wire centers to zones with the objective of minimizing weighted errors, as explained in Exhibit ____ (RAM-7). In other words, AT&T used the absolute value of the difference between cost and price, rather than the square of the error as Staff has used. The absolute value is a less efficient, though still unbiased, method. However, AT&T then introduces a bias into its method by dividing the error by the average cost within the zone. This has the effect of giving much more weight to the accuracy of prices in Zone 1

relative to Zone 5. If the Zone 5 price were five times the Zone 1 price, the AT&T method would consider a 50-cent error in the price for a Zone 1 loop to be more significant than a $2.49-cent error in the price for a Zone 5 loop.

Q. What is the practical effect of this bias in the AT&T method?

A. The practical effect is that more wire centers end up being assigned to the high-cost zones and fewer wire centers are assigned to the low-cost zones. This skews prices downward across all zones without affecting the weighted average loop price. Prices in the low-cost zones are more accurate, but overall accuracy is lower.

Q. Have you prepared exhibits with the specific zone groupings and zone rates that Staff recommends?

A. Yes. ~~Exhibit ____ (GB-2) presents Staff's recommended zones for Qwest using the core and fringe approach.~~ Exhibit ____ (GB-3) provides our recommendation for Qwest ~~if the Commission decides not to use the core and fringe approach~~. Exhibit ____ (G-4) provides our recommended zones for Verizon~~. In each exhibit, I have provided the results optimized using the sum of squared errors method and the results using AT&T's method.~~

Q. It appears from these exhibits that the AT&T method results in lower loop prices than Staff's method. Is that the case?

A. No. The average loop price is the same with either method. This is a necessary condition, since the weighted zone prices must equal the statewide average loop cost. Some wire centers have higher prices and some have lower prices when the sum of squared errors method is used to group them into zones. The overall accuracy of prices is greater, but the average price is the same.

Q. Should the Commission be concerned about the higher Zone 5 prices that result from the sum of squared errors method?

A. The Commission may well want to be concerned with the Zone 5 prices, but any such concern should be expressed in universal service policy and not within the context of establishing loop prices. The high Zone 5 price is a direct result of having more accurate prices. The reality is that costs at the upper end of the range are high. The only way to reduce the Zone 5 price would be to include additional wire centers with lower costs. This would raise loop prices in those wire centers and make all prices less cost-based.

Q. Does this conclude your testimony?

A. Yes.