Exhibit No. _____(SLS-1T)
Docket No. UT-003013

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

IN THE MATTER OF THE CONTINUED COSTING AND PRICING PROCEEDING FOR INTERCONNECTION, UNBUNDLED ELEMENTS, TRANSPORT AND TERMINATION, AND RESALE	)))))	**DOCKET NO. UT- 003013**

DIRECT TESTIMONY OF

STEPHEN L. SCHROEDER

CONSULTANT-NETWORK PLANNING

ON BEHALF OF

GTE NORTHWEST, INC.

SUBJECT: LINE-SHARING AND LOOP CONDITIONING TECHNICAL ISSUES

MAY 19, 2000

TABLE OF CONTENTS

I. INTRODUCTION

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

A. My name is Stephen L. Schroeder. My business address is 545 East John Carpenter Freeway, Irving, Texas 75062. I am employed by GTE Service Corporation as a Consultant-Network Planning and am representing GTE Northwest Incorporated ("GTE") in this proceeding.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND WORK EXPERIENCE.

A. I received a Bachelor of Science in Electrical Engineering in 1971 from the University of Florida. In December 1988, I received a Masters of Science in Telecommunications Management from Southern Methodist University. I joined General Telephone Company of Florida in January 1972 as an engineer trainee. Since 1972 I have held many positions in GTE in which I was responsible for network engineering and planning. During my tenure with GTE, I have obtained experience in circuit design, station installation procedures, central office service supervision, central office modernization, and outside plant modernization. I have also managed the development of loop access product and feature requirements, development and introduction of new loop access technologies, and managed development of procedures for the introduction of new products. In my current position, I am responsible for the implementation of GTE's policies related to loop access and transport unbundled network elements (UNE).

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to address a number of technical issues that arose during the national line sharing negotiations leading up to this proceeding.

Q. WHAT TECHNICAL ISSUES DO YOU ADDRESS?

A. I will address the following: (1) the availability to CLECs of GTE's network planning information; and (2) loop conditioning.

II. NETWORK PLANNING INFORMATION

Q. WHAT IS A DIGITAL LOOP CARRIER ("DLC") SYSTEM?

A. A DLC is a loop access technology that is used as a cost-effective alternative to twisted-pair copper cable. DLCs are primarily used in the feeder portion of the loop access plant. The facilities from the customer premises to the DLC remain twisted-pair copper cable. In many cases, the transport facilities from the DLC to the central office are fiber-based technologies. Analog signals are carried from the customer's premise to the remote terminal of a DLC system. The DLC converts the analog signals to digital signals, multiplexes them with other digital signals, and transports, generally over fiber facilities, to the incumbent local exchange carrier's (ILEC) central office. Such systems are frequently deployed to improve network efficiency in areas where loop lengths tend to be longer (12,000 feet or more from the central office). They are also used closer to the central office, where there is insufficient outside plant support structure (e.g., poles, conduit) to cost-effectively support expansion of the loop access network via twisted-pair copper cable technology.

Q. HOW DOES DEPLOYMENT OF DLC SYSTEMS AFFECT LINE SHARING?

A. As the Federal Communications Commission (FCC) noted in its Order in CC Docket 98-147, released December 9, 1999 ("Line Sharing Order"), and elsewhere, CLECs seeking to offer xDSL services via line sharing must access the copper portion of the loop. (Line Sharing Order, ¶ 90.) Where the ILEC has deployed DLC systems, CLECs are functionally precluded from deploying xDSL service unless they can otherwise obtain access to the copper portion of the customer's loop before the traffic is multiplexed at the remote terminal. (Id.)

Q. HOW ARE CLECS SUPPOSED TO OBTAIN ACCESS TO THE COPPER PORTION OF THE LOOP WHEN DLC SYSTEMS ARE DEPLOYED?

A. CLECs either must obtain access to another entire unbundled copper loop, if one exists, or find another alternative to maintain service. (Line Sharing Order, ¶ 80.) One such alternative method would be for the CLEC to subloop unbundle, by collocating their DSL equipment at or adjacent to the ILEC remote terminal (Line Sharing Order, ¶ 92.)

Q. WILL GTE PROVIDE THE CLECS WITH INFORMATION CONCERNING ITS DEPLOYMENT OF DLC DEVICES?

A. Yes. The CLECs can request a "CLEC Remote Address Report" from GTE. This report provides the CLEC with the addresses of end-users that are served by DLC systems.

III. LOOP CONDITIONING

Q. PLEASE DESCRIBE LOOP CONDITIONING.

A. Loop conditioning is the removal of bridged taps, filters, extenders, and/or load coils from the local loop to provide acceptable forms of xDSLbased services over the high frequency portion of the loop.

Q. WHY IS LOOP CONDITIONING REQUIRED?

A. ILECs, like GTE, add devices to the basic copper loop, such as loading coils and voice frequency amplifiers, to enable the copper loops to transmit voice frequencies (approximately 300 Hertz to 3,300 Hertz) over long distances. Generally such devices are applied to loops greater than 18,000 feet in length.

Q. WHAT IS THE IMPACT TO HIGHER FREQUENCIES WHEN SUCH DEVICES ARE ADDED TO THE COPPER LOOP?

A. The presence of such devices on the loop precludes the transmission of the higher frequencies above 3,400 Hz over the copper loop.

Q. WHEN LOOPS CONTAINS SUCH DEVICES, WHAT ARE ILECS REQUIRED TO DO?

A. The ILECs are required to condition loops to enable requesting carriers to provide xDSL-based services on the same loops the incumbent is providing analog voice service. This means that when loading coils, bridged taps, and other voice band transmission enhancing

equipment is on a loop, ILECs are required to remove these devices, except when such loop conditioning would impair the voice service.

Q. UNDER WHAT PARAMETERS WILL GTE CONDITION A LOOP, I.E., REMOVE LOAD COILS AND BRIDGED TAPS?

A. As noted in GTE witness Robert Tanimura's testimony, GTE will not provide loop conditioning in cases where such conditioning significantly degrades other advanced services or traditional voice band services in accordance with FCC rules. GTE practice[1] states that the maximum conductor loop loss must be no more than 8.0 dB at 1kHz, excluding COE loss. GTE will condition loops, where the resulting loop loss, after conditioning, for the voice service is 8.0 dB or less. Conditioning will not be provided in circumstances where such conditioning will result in a loop loss greater than 8.0 dB.

Q. IS THIS CONSISTENT WITH THIS COMMISSION'S RULES?

A. Yes. Washington Administrative Code (WAC) rules[2] require the transmission loss from the central office to the network interface not to exceed 8.5 dB at a frequency of 1,004 Hertz.. Allowing a .5dB loss within the central office, the allowable designed loop loss is then 8.0 dB.

[1]Practice 832-100-072 Issue 6, Transmission Design and Objectives Resistance Engineering to Measured Limits Customer Loops
[2]WAC 480-120-515

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.