Exhibit No. ___ (RP-4)
Cost Study Overview
Docket No. UT-023003

Cost Study Overview

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The purpose of this document is to provide the reader with an overview of the cost study methodology presented and sponsored by Verizon in regulatory proceedings. We briefly summarize here the methodology, the costing tools, and the network assumptions utilized in the preparation of Verizon's cost studies.

1.0 Study Methodologies

The costs of providing each unbundled network element (UNE) or service are divided into two general categories: recurring and nonrecurring. Recurring costs are the ongoing costs associated with providing the UNE or service and are reflected in the monthly costs Verizon will charge its customers (*i.e*, competitive local exchange carriers [CLECs], interexchange carriers [IXCs], and retail end-users). Nonrecurring costs are one-time costs incurred by Verizon in connection with responding to an individual customer's order for services or UNEs.

The methodology used to determine recurring costs generally involves the following steps. Verizon first identifies the relevant material and labor related investments required to provide each service or UNE in the study. These investments are converted to a per-unit basis either by (1) dividing by the demand underlying the modeled network (*e.g*., as in the case of the local loop studies) or by (2) dividing by the capacity of the equipment being studied and then applying a utilization factor to the capacity unit investment for each piece of the equipment that make up the service or UNE (*e.g*, as in the case of the IOF studies). Where appropriate, investment loading factors may be applied to account for the costs associated with the installation, engineering, or power for the relevant central office (switching, circuit, and operator) equipment or facilities. Verizon then applies annual cost factors and expense loading factors to determine the ongoing forward-looking costs associated with the identified investment.

In contrast, the nonrecurring studies are designed to identify the specific activities involved in provisioning customer requests and estimate the labor costs involved in performing those activities. Forward-looking adjustments are made to take into account developments that should eliminate or reduce the incidence of or time required for specific activities.

2.0 VZ COST Costing System

Verizon uses several developmental tools in its studies to generate both the recurring and nonrecurring forward-looking costs incurred in connection with each service or UNE. While many of the studies use service-specific tools to generate elements or components of a service category (*e.g.*, Loop or Switching), all costs, both recurring and nonrecurring, are developed using VzCost, Verizon's new on-line costing system. VzCost is a modular, template-driven system that allows the user to bring together all facets of a cost study (*e.g*., investment, expense, or demand) to generate service or UNE costs. The cost study flow generally works as follows: For recurring studies, one of several developmental tools (*e.g.*, VzLoop or SCIS) is used to

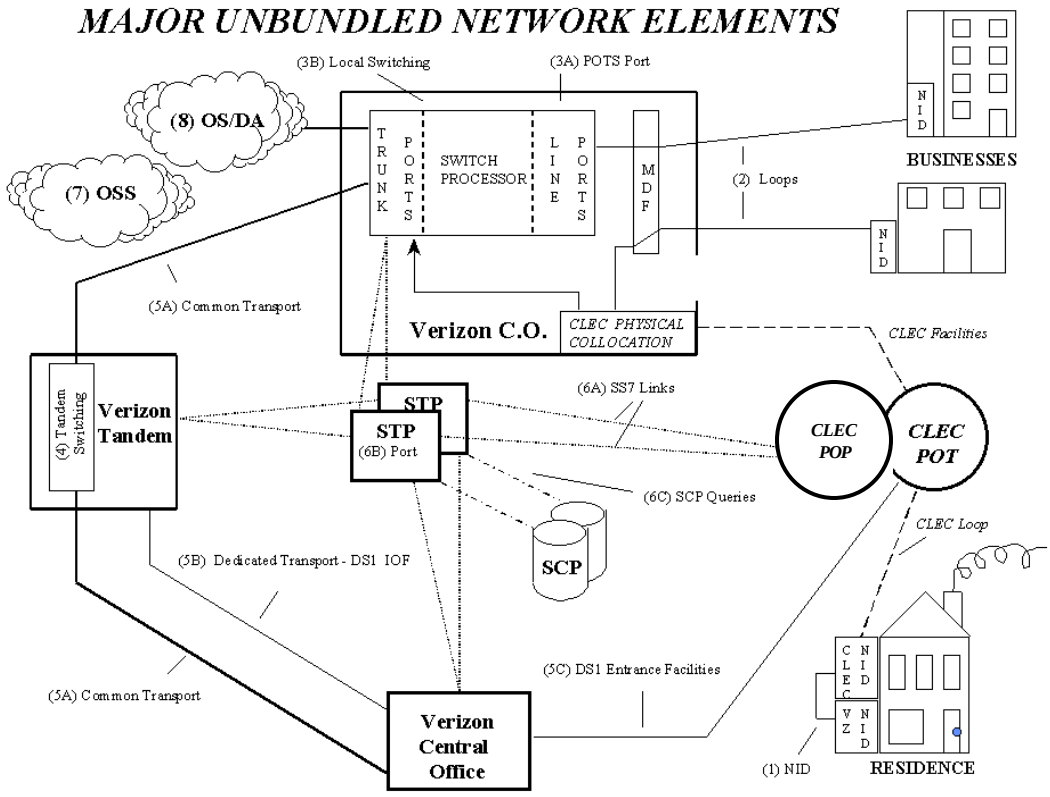
model forward-looking investment. The modeled investments are passed to the VzCost platform via tables. Finally, using either system-generated or imported data, VzCost performs the investment loading (for certain recurring studies) plus cost factor and expense loading application (for recurring and nonrecurring studies) portions of the cost studies. Labor costs for nonrecurring studies and most of the annual cost factors are developed within VzCost. Other cost factors and investment loadings are developed outside of VzCost and imported into the system for use in cost studies (*e.g.*, the Right to Use and Gross Revenue Loading factors). Verizon's cost methodology is discussed in more detail in the accompanying testimony and cost manuals.

3.0 Network Description

Verizon's studies are based on forward-looking assumptions about network technology. The specific plant characteristics assumed in Verizon's studies differ from jurisdiction to jurisdiction, based on the location of the existing Verizon wire centers in those jurisdictions and the forward-looking network design for serving customers in those wire centers. In all cases, however, the technology used reflects the current technology being deployed in Verizon's network.

Verizon's network is composed of a complex array of technologies and systems that interoperate to provide telecommunications services. The network is best understood when the plant is subdivided into its major functional components: local switching facilities, out-of-band signaling (SS7) network, interoffice facilities (IOF) that interconnect Verizon's wire centers with each other and with the networks of other carriers, local loop facilities that connect individual end-users to the wire centers, and high-capacity loop facilities that connect wire centers to end user customers or telecommunications carriers.

The diagram below depicts the overall architecture of the voice telephony network.



While the specific technological assumptions that Verizon makes in its studies are addressed in detail in the testimony concerning each UNE or service, the following discussion provides a general description of the network components and technology in Verizon's network that are assumed for purposes of the studies. In all cases, Verizon assumes rational deployment of the current technology being deployed in its network today, taking into account the location of existing wire centers. Accordingly, the cost studies assume that the forward-looking network would include the following technologies:

Digital Switching

Digital switching is the most efficient, currently available technology for providing both local and tandem switching functions in a circuit-switched telephone network. Both ILECs and CLECs employ these systems across the entire industry.

Signaling System 7 (SS7)

Digital switches in the circuit-switched network are controlled by software-driven processors. These processors interpret customer-dialing information and create the proper connections between lines and trunks in order to establish the desired call path. When more than one switch is involved in a call, those switches must exchange control information between them in a process

called "signaling." In modern telecommunications networks, a technology called SS7 is employed to provide these functions. All of the signaling and control elements for which Verizon has developed costs are built using SS7 technology and related Advanced Intelligent Network (AIN) Database Systems.

Interoffice Facility (IOF) Transport Systems

All Verizon transport elements cost studies assume that the IOF network is built with Synchronous Optical Network (SONET) technology. High-capacity fiber optic systems employing the SONET digital channelizing and multiplexing hierarchy are standard throughout the industry. These systems provide cost effective direct digital interfaces capable of transporting aggregated switched and private line traffic between offices. The SONET equipment interfaces at signal levels of DS1 and above. Additional multiplexing equipment is utilized when required to aggregate DS0 channels.

Loop Facilities

Local loops connect end user subscribers to a digital switch in a Verizon central office, to other equipment if it is a non-switched loop, or to a CLEC's facilities. The digital switches require delivery of signals to the switching matrix in a digital DS0 format. Because ordinary telephone sets create an analog electrical signal at the customer end of a basic access loop, the signal must be converted into a digital DS0 format for switching. This analog-to-digital conversion may take place anywhere along the loop path, up to and including at an analog line termination port located at the digital switch. The modeled local loop network consists of a mix of all-copper, fiber-and-copper, and all-fiber loop facilities, as well as a mix of integrated and universal digital loop carrier (DLC) equipment.

Central Office Configuration

The service area of an ILEC such as Verizon is divided into areas called "wire centers." The physical geography and the number of customers covered by wire centers can vary widely. In a dense urban area, a wire center may be a few square miles and serve 100,000 or more customer lines. Rural wire centers might cover tens of square miles and might serve only several thousand customers or fewer. Many factors have influenced the selection of the existing wire center boundaries, including political jurisdictions, topography, and engineering economy. The forward-looking network assumed in Verizon's studies is based on the existing wire center topography.