**BEFORE THE**

**FLORIDA PUBLIC SERVICE COMMISSION**

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| In Re: Investigation into Pricing Unbundled Network Elements | ) ) | DOCKET 990649-TP |

**DIRECT TESTIMONY OF**

**LARRY RICHTER**

**ON BEHALF OF**

**VERIZON FLORIDA INC.**

**SUBJECT: COST SUPPORT FOR PROPOSED NON-RECURRING CHARGES**

**MAY 18, 2001**

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# DIRECT TESTIMONY OF LARRY RICHTER

## I. INTRODUCTION

**Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

A. My name is Larry Richter, and my business address is 600 Hidden Ridge, Irving, Texas.

**Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

A. I am employed by Verizon Services Group as Consultant – Witness. I am testifying here on behalf of Verizon Florida Inc.

**Q. WHAT ARE YOUR RESPONSIBILITIES IN THIS CAPACITY?**

A. I have the witness responsibility for supporting Verizon's non-recurring wholesale, retail and access cost studies for all states in which the former GTE operated. In this role, I work directly with the costing group who prepares the cost study for filing.

**Q. WHAT IS YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE IN TELECOMMUNICATIONS?**

A. I received a Bachelors Degree in Business Administration from Northwood University, in Cedar Hill, Texas in 1995. I have been employed by Verizon for over 32 years. I joined General Telephone Company in 1968 in California working in the Outside Plant Installation, Repair, and Maintenance Department. I moved to Texas in 1973 and

remained in the same type job capacity. In 1975, I was promoted to management, where I was primarily associated with Network Operations in varying capacities, each with increasing responsibilities. These positions included First Line Supervision, Area Support, and Service and Facilities Management. In 1987, I became manager of the DART (Dispatch, Assignment, Repair, and Test) Center for one of the largest service centers in Texas. In 1988, I accepted a position in the Finance group, providing Business Analysis, Service Results, and Budget creation and tracking for Network Operations and Engineering and Construction work groups. In 1996, I moved to a different Finance position, responsible for Capital Budget creation and tracking for the Company's Texas/New Mexico Region. In 1998, I accepted a position at GTE Headquarters in the Costing Group responsible for cost study development for Retail, Wholesale, Access, and Collocation services. In 2000, I assumed the position of Consultant Witness, with primary responsibility for witnessing at the state commissions for the cost studies.

**Q. HAVE YOU TESTIFIED PREVIOUSLY BEFORE PUBLIC UTILITY COMMISSIONS?**

A. Yes. I have testified before the California, Washington, Illinois, North Carolina, Michigan, Ohio, and Hawaii public utilities commissions.

**Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

A. I will present Verizon's study of the non-recurring costs caused by

Competitive Local Exchange Carriers (CLECs) when they order unbundled network elements (UNEs) from Verizon. I discuss the processes necessary to order, provision, and connect CLEC orders.

**Q. ARE YOU SPONSORING ANY EXHIBITS?**

A. Yes. I am sponsoring Verizon's Non-Recurring Study. This study provides Verizon's detailed costs for processing UNE orders for CLECs. Mr. Bert Steele addresses Verizon's proposed non recurring rates in his testimony, while I address the underlying costs.

## II. WHOLESALE COSTS IN SUPPORT OF NON-RECURRING CHARGES

**Q. WHAT COSTS SUPPORT NON-RECURRING CHARGES?**

A. Costs that support non-recurring charges are those incurred in processing and provisioning CLEC requests. For example, when a CLEC orders a two-wire loop, it pays for the cost of the loop through a monthly recurring charge (MRC). This MRC, however, does not reflect the costs an Incumbent Local Exchange Carrier (ILEC) incurs in processing and provisioning the CLEC's request--for example, the labor costs associated with Verizon's customer service representatives and the field technician who makes electrical connections. These costs are captured separately from the MRC and recovered through non-recurring charges (NRC).

**Q. PLEASE PROVIDE A SPECIFIC EXAMPLE OF HOW NON-RECURRING COSTS ARE INCURRED.**

A. Assume a CLEC operating in Florida wants to order a two-wire loop. If the CLEC submits its order electronically, it will be delivered to one of Verizon's National Market Centers (NMCs). A Verizon customer service representative – who works exclusively on wholesale and UNE orders - will determine the complexity of the order, as different types of orders require different types of activities that create different costs. Generally, the more complex the order, the greater the costs.

Returning to our example, let's assume the CLEC's two-wire loop order (1) is a new order, (2) does not require any network design or engineering activities, (3) can be provisioned using standard network components maintained in inventory, and (4) does not require any special instructions for switch translation or routing. After evaluating the order, the customer service representative will designate the two-wire loop example used here as an "Exchange-Basic" order, which is the simplest type of UNE cost category. (As I discuss later in my testimony, Verizon places each UNE order into one of four categories: (1) Exchange – Basic; (2) Exchange – Complex; (3) Special / Advanced – Basic; and (4) Special / Advanced – Complex. Each of these categories has a distinct provisioning process and associated non-recurring costs.)

The order will flow through various Verizon work groups for

provisioning, including Verizon's Assignment Provisioning Centers (APCs), Business Response Provisioning Centers (BRPCs), Central Office (CO) Technicians, Field Technicians, and other specialized groups. As Mr. Steele explains, the CLEC that initiated this order will be charged the NRC to cover the costs incurred by these work groups.

In summary, when a CLEC places an order for a UNE, Verizon incurs recurring costs for the UNE. These non-recurring costs reflect the ordering, provisioning, and related activities required to process the CLEC's order and put that UNE in service. The monthly recurring and non-recurring costs are separate costs and reflect different investments and expenses.

**Q. HOW DID VERIZON CALCULATE ITS COSTS THAT ARE RECOVERED BY NON-RECURRING CHARGES FOR UNE ORDERING?**

A. Verizon calculated its ordering costs in two steps. First, Verizon identified the activities that are incurred when a CLEC places an order. Verizon determined these costs by studying each activity needed to fulfill a particular CLEC request. Returning to the example above -- an order for a two-wire loop -- to calculate the appropriate variable costs, Verizon studied the time it takes for a NMC representative to (1) access the order, (2) review it, and (3) apply all the appropriate MRCs and NRCs and (4) complete the order into Verizon's ordering system. The studies for the Exchange-Basic loop are based on a sampling of

observations of actual customer service representative activities. (This sampling technique produces a statistical confidence level of +/- 5%). Verizon developed its costs based on these studies, and based on the actual loaded labor rate (LLR) in effect for the NMC which handles Florida orders. Again, different categories of UNEs have different non-recurring costs – generally, the more complex the order, the greater the non-recurring costs. The assignment of costs to the appropriate category of UNE is based on established principles of cost causation and ensures that CLECs bear the costs they cause – no more and no less.

Second, Verizon developed separate non-recurring costs to capture the significant costs incurred in fulfilling and provisioning CLEC orders. These include the cost of the computers used by the customer service representatives and the cost of the land and buildings for the NMCs, where the orders are sent to be processed. Verizon calls these the "NMC Shared/Fixed Costs," which equal $18.648 million per year for all of Verizon-West. Verizon-West refers to the former GTE properties. The support for these costs is set forth in Verizon's Non-Recurring study. Verizon witness Steele explains how Verizon proposes to recover the NMC shared/fixed costs; my testimony supports the total annual shared/fixed cost of $18.648 million.

**Q. HOW DID VERIZON CALCULATE ASSIGNMENT PROVISIONING CENTER (APC) AND BUSINESS RESPONSE PROVISIONING**

**CENTER (BRPC) COSTS?**

A. Verizon's cost team documented the provisioning process flows for the APC and BRPC. The cost team then utilized various work center reports to establish the hours expended for each activity required to provision each type of order, and the volume of activities handled for the hours expended. This information produced a time per activity calculation. The activity times were multiplied by the LLR for the APC and BRPC personnel to develop the costs. As I mentioned earlier, there are four basic categories of UNEs.

**Q. HOW DID VERIZON CALCULATE CENTRAL OFFICE (CO) AND FIELD TECHNICIAN COSTS?**

A. Verizon's cost team documented the installation process flows for the central office and outside plant activities. The cost team then utilized time and motion studies, system reports, order volumes, workgroup hours and Subject Matter Expert (SME) estimates to establish the hours expended for each activity required to install each type of order. The activity times were multiplied by the LLR for the central office and field personnel to develop the costs. These costs are grouped into the four basic categories of UNEs.

## III. COST STUDY OVERVIEW

**Q. WHAT COST MODEL PRINCIPLES DID VERIZON EMPLOY IN COMPLETING ITS COST STUDIES?**

A. Verizon's cost studies are based on the long-run cost principles. The long-run cost of a service is the amount by which a company's total costs will increase as a result of offering that service. Long run refers to a situation where capital and labor costs expected to be incurred by Verizon are captured, to the extent possible, in the cost study. Verizon's non-recurring cost methodology is:

(1) forward-looking;

(2) least-cost, based on planned systems and process enhancements and corresponding efficiencies;

(3) long-run;

(4) based on incremental costs; and

(5) consistent with the principles of cost causation.

In addition, as Messrs. Trimble and Steele explain, Verizon's cost studies comply with the FCC's total element long-run incremental cost (TELRIC) methodology, even though Verizon has never agreed with this approach, and even though it has now been invalidated by the Eighth Circuit Court. Verizon reserves the right to revise its cost studies to the extent necessary when the issue of appropriate cost methodology is finally settled at the federal level.

**Q. WHAT ACTIVITIES ARE ADDRESSED IN THE COST STUDY?**

A. The activities are pre-ordering, ordering, provisioning and field work necessary to provide UNEs and resold services to CLECs. They are more fully described in Verizon's cost study.

**Q. HOW WERE THE ACTIVITIES TO BE STUDIED DETERMINED?**

A. As explained in our cost study, the activities to be studied were determined based on a work flow analysis that organized all of the work activities, by work group, performed to satisfy a CLEC's request for service.

**Q. DOES VERIZON'S COST STUDY REFLECT THE IMPLEMENTATION OF ELECTRONIC GATEWAYS FOR LOCAL SERVICE REQUEST (LSR) PROCESSING?**

A. Yes. Verizon's operating support systems (OSS) solutions are industry-standard and in full compliance with the Act in providing non-discriminatory access to OSS functionalities. The Verizon CLEC Support Website (http://www.wwwclecsupport.com) provides information on Verizon-West's Secure Integrated Gateway System (SIGS) and Wholesale Internet Service Engine (WISE). CLECs can input LSRs directly into SIGS through a mechanized ordering system at their location or (if they do not have their own ordering systems) through WISE via the Internet, which transmits LSRs into SIGS.

**Q. DOES VERIZON'S NON-RECURRING COST STUDY SEPARATE MANUAL AND ELECTRONIC COSTS FOR ORDER RECEIPT?**

A. Yes. Verizon identified the costs for orders received both manually and electronically since CLECs may submit orders by either option.

**Q. DOES THE STUDY REFLECT ENHANCEMENTS THAT WILL AFFECT SYSTEMS AND PROCESSES IN A FORWARD-LOOKING ENVIRONMENT?**

A. Yes. Verizon's study accommodates the various ordering processes. It includes costs based upon manual LSR receipt, which apply when the CLEC does not utilize one of the mechanized options available. The time for handling the manual requests is in addition to the semi-mechanized processing time. Manual costs are only incurred when the CLEC is unwilling or unable to utilize a mechanized option to transmit LSRs to the NMC. In addition, Verizon's ordering process reflects adjustments for flow-through and expected efficiency gains, which are applicable to both the manual and semi-mechanized ordering processes.

To date, Verizon has provided CLECs with the ability to query in an electronic format all information necessary to process a pre-order request, as well as to receive from Verizon any responses, error messages, or selection information necessary to complete each request. Through WISE, the CLECs have the ability to pre-qualify loops that can support DSL service. This is accomplished through an internet solution that conforms with the Ordering and Billing Forum (OBF) standards and includes information on bridged tap location (length and quantity), the presence of load coils, loop length, the presence of pair gain devices and additional miscellaneous information.

Verizon utilizes SIGS, the ordering interface, to access data from the Verizon ordering system or to transmit orders electronically for processing. Today, approximately 40% of UNE Exchange-Basic orders are mechanically generated without human intervention in response to electronic orders received from the CLEC. This is otherwise known as simple order flow through. Verizon has projected that UNEs will achieve the same level of flow through in the semi-mechanized environment. Verizon has also projected productivity improvements of 15% in the NMC due to planned projects to enhance OSS functionalities. The costs for the NMC personnel have been adjusted in order to reflect these enhancements.

**Q. WOULD IT BE APPROPRIATE FOR VERIZON TO PERFORM A STUDY IN WHICH ALL ORDERS ARE ELECTRONICALLY PROVISIONED?**

A. No. Verizon's non-recurring cost study does not assume that all provisioning will be electronic because neither Verizon nor any other ILEC has anything approaching 100% automatic processing end-to-end for all telecommunications requests. Nor is there any evidence that this will change. While many basic ordering functions can be processed mechanically, certain activities for all types of orders will remain manual because mechanization costs for every activity would create a situation where costs for mechanization exceed manual labor savings.

## IV. TYPES OF UNE ORDERS

**Q. PLEASE DESCRIBE THE UNE ORDER TYPES.**

A. There are five UNE order types processed through LSRs. Following are descriptions of each UNE order type:

- **New** - A New order for local wholesale UNE establishes a UNE or combination for the first time or adds additional lines or telephone numbers at an existing CLEC customer's location.
- **Change** - A Change order applies when the CLEC requests changes in central office switch features for an existing local wholesale UNE; this can be either a "Change feature" or a "Change Switch Feature Group" type order. A Change order also applies when the CLEC requests a change in Central Office Connection (the cross-connect between the CLEC's cage terminal block and Verizon's terminal block(s) on the Main Distribution Frame (MDF)) or changes in the field related to subloop element.
- **Disconnect** - A Disconnect order for local wholesale UNE applies when the CLEC requests that all or a portion of a local wholesale UNE or combination be removed.
- **Record** - A Record order applies when the CLEC changes existing records without changing the UNE itself. An example of a record order is a change of the billing address.
- **Migration** - A Migration order applies when the CLEC requests conversion of an existing UNE combination: Retail to UNE-P and Resale to UNE-P. When the service is migrated from retail or

Resale to the UNE-P, Verizon must change the switch translations to measured service.

- **Migration as Is** - A Migration as Is order applies when the existing end user changes service from Verizon to a CLEC, or from a CLEC to another CLEC, and the end user keeps the same service. This type of order requires only the ordering function and APC activity; it does not require central office or field installation activities. "Migration as Is" is applicable to Exchange Basic and Exchange Complex products.
- **Migration as Is +/-** - A Migration as Is +/- order type applies when the end-user asks to add or delete a vertical feature from his existing service, thus requiring the central office switch to be updated for the requested feature change.
- **Migration as Specified** - A Migration as Specified order occurs when the end user converts an existing Verizon retail service (at a single location) or another provider's service to UNEs provided by a different CLEC. The CLEC specifies the UNE or UNE combinations to be migrated.

## V. UNE COSTS THAT SUPPORT NRCS

**Q. PLEASE DESCRIBE COST CATEGORIES OF UNE ORDERS.**

*A.* Verizon employs a process approach, rather than a product basis approach, for developing non-recurring costs. As I noted, there are four categories of UNE orders: (1) Exchange – Basic; (2) Exchange –

Complex; (3) Special / Advanced – Basic; and (4) Special / Advanced – Complex. Each of these categories has a distinct provisioning process and associated non-recurring costs. For each category, Verizon has identified costs and associated activities required to pre-order, order, provision and update records for the UNEs. This approach allows Verizon to apply costs for any UNE request based upon the workflow of one of the four categories. In this way, Verizon is able to develop costs by mapping the product to the applicable process to determine the costs, rather than incurring the time and administrative expense to develop costs on a UNE-by-UNE basis.

Whether a UNE fits within an Exchange or Special/Advanced category depends on whether or not a UNE requires design and/or engineering. The Exchange category does not require design or engineering. The Special/Advanced category requires design and/or engineering work based on variables specific to the order placed by the CLEC.

A Basic or Complex category designation will also apply to each order. Basic requests can be provisioned using standard network components maintained in inventory without specialized instructions for switch translations, routing, and service arrangements. Complex requests require special instructions for the provisioning of the UNE to meet the customer's needs. The additional time associated with these requirements drives the costs for these requests.

**Q. ARE COSTS DEVELOPED FOR OTHER CLEC REQUESTS OR REQUIREMENTS?**

A. Yes. Due to additional activities that may be required to fulfill CLEC requests, Verizon has developed costs for the following services:

(1) CLEC Account Establishment – Verizon establishes the CLEC account in each state billing system in which that CLEC orders UNEs. The NMC receives the CLEC account profile from the CLEC's account manager, reviews it for completeness and then enters the CLEC profile information and creates summary bill masters in Verizon-West's National Order Collection Vehicle (NOCV), which is Verizon-West's order processing system. Once the CLEC account has been established for a state, the CLEC may submit a local service request ("LSR") for processing;

(2) Coordinated Conversion – A coordinated conversion may be requested by the CLEC if it wants to establish a specific appointment for the completion of the service order, and wants Verizon to contact it for authorization to proceed prior to beginning work, as well as after work is complete. This service includes only the additional costs caused by Coordinated Conversion and is in addition to the cost of the underlying LSR;

(3) Hot Cut Coordinated Conversion – This service is the coordinated conversion mentioned above with the added feature that the CLEC, the Verizon coordinator and the Verizon technicians remain on a conference call for the duration of the service order completion process. Each step of the process is completed sequentially following

authorization from the CLEC. Since there is no way for Verizon to estimate or control the amount of time required for a Hot Cut Coordinated Conversion, the cost developed is for a conversion lasting up to one hour. Additional costs will be incurred for each quarter hour thereafter at Verizon's loaded labor rates for the Verizon employees involved;

(4) Expedite – An Expedite refers to a request by a CLEC to advance the completion of the LSR earlier than the next standard due date that is normally available. Instead of relying on the automated system for work scheduling, an Expedite requires a manual appointment-setting process in which NMC personnel must contact the Division Resource Management group to determine if the earlier completion interval is feasible. In addition to the costs shown in this study, overtime charges may apply if the work is done outside of the normal installation work time periods, or if other work is moved outside of the normal installation work time periods to accommodate the CLEC's expedite request.

## VI. COSTS FOR DARK FIBER

**Q. WHAT COSTS DOES VERIZON INCUR FOR PROCESSING CLEC REQUESTS FOR DARK FIBER?**

A. As Verizon's cost study reflects, it will incur costs for pre-ordering, ordering, provisioning, central office and field installation activities associated with CLEC dark fiber requests.

**Q. PLEASE DESCRIBE THE PRE-ORDERING ACTIVITIES FOR DARK FIBER.**

A. In the pre-ordering stage, Verizon must determine whether dark fiber is available on the specific network segment requested by the CLEC. A CLEC's request for dark fiber will fall into one of four categories, according to the portion of Verizon's network in which the fiber may lie. These categories are 1) inter-office facilities (IOF); 2) unbundled loop; 3) sub-loop feeder; and 4) sub-loop distribution.

A pre-ordering request is sent via an Access Service Request (ASR) form, which I will discuss in more detail later in my testimony. This form goes through Verizon-West's National Access Contact Center (NACC), which is the single-point of contact for access services in place today in Verizon-West for processing inter-exchange carrier (IXC) requests for interstate and intrastate access, both switched and special. I will describe the functions of the NACC in detail in the ordering section of my testimony.

The NACC reviews the pre-ordering request and forwards it to the Access Design and Network Design groups located in Verizon-West's Engineering departments. These groups determine the feasibility and availability of dark fiber for a particular network segment requested by a CLEC by accessing inventory records and performing verification steps.

**Q. HOW WERE COSTS DEVELOPED FOR PRE-ORDERING ACTIVITIES COMPLETED BY THE NACC AND ENGINEERING GROUPS?**

A. Subject matter experts who have direct experience in these activities in the NACC, Engineering group, and headquarters staff support developed the work times associated with each of the activities performed for pre-ordering dark fiber. The work times were multiplied by the loaded labor rate (LLR) for each work group involved to develop the costs.

**Q. PLEASE DESCRIBE ORDERING ACTIVITIES ASSOCIATED WITH DARK FIBER REQUESTS.**

A. As previously discussed, the CLEC will place its order for dark fiber through the ASR process. This process is somewhat different from the ordering process I described for other requests. For example, the CLEC would place its order for UNEs by means of a LSR submitted to Verizon-West's NMC. A dark fiber order, however, will be placed through Verizon-West's NACC and be processed as an ASR. The NACC's processes and systems for IXCs are closely aligned with the ones that will be required for processing dark fiber requests. For example, dark fiber orders are generally associated with the CLEC's infrastructure and facilities needed to support their network design for serving multiple customers, whereas UNE unbundling is associated with the local loop for a CLEC end user.

**Q. PLEASE DESCRIBE THE NACC ORDERING PROCESS FOR DARK FIBER REQUESTS FROM CLECS.**

A. The NACC is located in Durham, North Carolina, and staffed by Service Consultants who interface with customers either manually or electronically, based on how the CLEC submits the Access Service Request (ASR). They are the same Service Consultants responsible for processing the IXC ASRs mentioned earlier. The NACC has existed for approximately 20 years in Verizon-West and has a great deal of experience in processing IXC requests for both switched and special access services. Once the NACC receives the ASR, it is checked for completeness and accuracy. The NACC then releases the order into Verizon-West's access order processing system, which routes it to the appropriate provisioning and central office/field installation groups involved with completing Florida orders.

**Q. HOW WERE THE COSTS DEVELOPED FOR ASR ORDERING ACTIVITIES FOR DARK FIBER?**

A. Verizon-West, in conjunction with Arthur Andersen LLP, conducted time and motion studies of the activities performed by the Service Consultants in the NACC to establish the work time associated with the various types of orders handled there. Although dark fiber orders *per se* were not studied because the offering did not exist at that time, dark fiber orders are processed in the same manner as dedicated non-switched transport orders. To derive the costs associated with dark

fiber ordering, Verizon has therefore multiplied the work time for the dedicated non-switched transport order by the LLR for the NACC consultants.

**Q. WHAT ARE THE PROVISIONING ACTIVITIES ASSOCIATED WITH DARK FIBER REQUESTS?**

A. Dark Fiber ASRs are provisioned through Verizon-West's Business Response Provisioning Centers (BRPCs) located in Ft. Wayne, Indiana and Tampa, Florida. The BRPC has Plant Control Office (PCO) and design/engineering responsibilities for dark fiber UNEs. The BRPC receives the order from the NACC, verifies that the order is entered into the facility administration system, which is called Telecom Business Solutions (TBS), checks for accuracy and completeness, and enters a distribution code into TBS to route the order to the required work groups. The BRPC must access facility records in its inventory database, change the records to identify the network configuration requested by the CLEC, and create updated circuit and design layout reports (CLRs/DLRs).

**Q. HOW WERE COSTS DEVELOPED FOR PROVISIONING ACTIVITIES COMPLETED BY THE BRPC?**

A. Cost managers used data from the TBS database to determine the number and type of orders or lines worked by each group in the BRPC. The BRPC productive hours were used to develop the time per ASR. This work time was multiplied by the loaded labor rate (LLR) for the

BRPC to develop the cost.

**Q. PLEASE DISCUSS THE CENTRAL OFFICE AND FIELD WORK ACTIVITIES ASSOCIATED WITH DARK FIBER REQUESTS.**

A. As discussed earlier, there are four types of requests processed via the ASR process that CLECs may submit for dark fiber. Following are the activities required for each type:

IOF – Requires central office jumper connection and disconnection work, but no fieldwork.

Unbundled Loop – Central office jumper connection and disconnection work is required. An outside plant technician must be dispatched to complete the physical connection to the CLEC termination point.

Subloop Feeder – Central office jumper connection and disconnection work is required. An outside plant technician must be dispatched to complete the physical connection to the CLEC termination point.

Subloop Distribution – No central office work is required. An outside plant technician must be dispatched to complete the physical connection to the CLEC termination point.

**Q. HOW WERE THE CENTRAL OFFICE AND FIELDWORK COSTS DEVELOPED FOR DARK FIBER?**

A. For central office costs, "jumper-running" studies were conducted to develop the time to place or remove one jumper cable. The time per

jumper was multiplied by the central office technician LLR to develop the cost per jumper activity. Costs are based on the number of jumpers required for each of the activities discussed above.

Outside plant field work time is based on SME estimates of the "drive time" required to reach the point of interconnection and place a fiber jumper. Costs were calculated by multiplying the time for the outside plant activity by the LLR for the outside plant technician.

## VII. COSTS FOR SUB-LOOP UNBUNDLING

**Q. WHAT TYPES OF COSTS WILL VERIZON INCUR FOR PROCESSING CLEC REQUESTS FOR SUBLOOP UNBUNDLING?**

A. Verizon will incur costs for ordering, provisioning, and central office and field installation activities associated with CLEC sub-loop unbundling requests. These costs may be found in Verizon's cost study.

**Q. PLEASE DESCRIBE THE ORDERING ACTIVITIES ASSOCIATED WITH SUB-LOOP REQUESTS.**

A. Requests for sub-loops are submitted by CLECs to Verizon-West's NMC by means of the LSR process I described earlier. The NMC receives the LSR, checks it for accuracy, and applies all applicable NRCs and MRCs. The NMC releases the order into Verizon's order processing system, which then routes it to the appropriate provisioning

and central office/field installation groups involved in completing Florida orders.

**Q. HOW DID VERIZON DEVELOP THE COSTS ASSOCIATED WITH ORDERING ACTIVITIES FOR SUB-LOOP UNBUNDLING?**

A. To determine the costs for sub-loop ordering, Verizon relied upon the exchange-basic ordering process, which is initiated through an LSR. Since the steps that are required to process a request for a sub-loop element are the same as those required to process a request for the exchange-basic element, this ordering process was used as a proxy for sub-loop ordering.

**Q. PLEASE DESCRIBE THE PROVISIONING ACTIVITIES ASSOCIATED WITH SUB-LOOP REQUESTS.**

A. There are four categories of requests for sub-loops: 1) main distribution frame (MDF) connection; 2) feeder connection; 3) distribution connection; and 4) serving terminal connection (or "loop drop"). These categories correspond to different portions of Verizon's network that CLECs can request on an unbundled basis.

For each of these requests, Verizon's Assignment Provisioning Center (APC) must access facility records in its inventory database and change the records to identify the network configuration requested by the CLEC.

**Q. HOW WERE COSTS DEVELOPED FOR PROVISIONING ACTIVITIES COMPLETED BY THE APC?**

A. Verizon tracks activities based on the number of times the APC accesses or "touches" an order to provision it. The costs are based on the number of touches per order. This activity measure, for various order types, was collected by the cost managers from Verizon-West's NOCV system. The total of productive minutes of the APC for order touches is divided by the total number of touches to create the minutes per touch calculation. The cost per touch is calculated by multiplying the minutes per touch by the loaded labor rate for the APC.

**Q. PLEASE DISCUSS THE CENTRAL OFFICE AND FIELDWORK ACTIVITIES ASSOCIATED WITH SUB-LOOP REQUESTS.**

A. As discussed earlier, there are four types of requests CLECs may submit for sub-loops. Central office and field work activities vary with the type of request. MDF and sub-loop feeder requests require central office jumper connection and disconnection. Sub-loop feeder and distribution requests require an outside plant technician to complete the physical connection to the CLEC facility. Fieldwork will also be required for some MDF requests. Serving terminal requests requires an outside plant technician dispatch, but no central office work.

**Q. HOW WERE THE CENTRAL OFFICE AND FIELDWORK COSTS DEVELOPED FOR SUB-LOOP UNBUNDLING?**

A. For central office costs, jumper-running studies were conducted to

develop the time to place or remove one jumper. The time per jumper was multiplied by the central office technician's LLR to develop the cost per jumper. Costs are based on the number of jumpers required for each of the categories discussed above.

Outside plant fieldwork time was determined by a special sub-loop unbundling drive time and work activity study. Costs were calculated by multiplying the time for the outside plant activity by the LLR for the outside plant technician.

## VIII. COSTS FOR EELS

**Q. WHAT IS AN ENHANCED EXTENDED LINK (EEL)?**

A. An EEL is a combination of dedicated transport, multiplexing (when required) and unbundled loops. An EEL combination allows an IXC with CLEC status to aggregate UNE loops and transport them back to their switch or distant node without having to collocate in a Verizon central office where the loop originates. An ASR is required when requesting this UNE combination.

**Q. WHAT COSTS WILL VERIZON INCUR FOR PROCESSING OF ORDERS SUBMITTED BY CLECS FOR EELS?**

A. As shown in the cost study, Verizon will incur costs for ordering, provisioning, central office and field connection activities associated with the EEL request.

**Q. HOW DID VERIZON DETERMINE THE ACTIVITIES AND RESULTING NON-RECURRING COSTS ASSOCIATED WITH EEL REQUESTS?**

A. EELs are processed in the same manner as dark fiber requests. Therefore, my earlier discussion of activities and cost determination for dark fiber requests applies equally to EEL requests.

**Q. WHAT IS AN EEL MIGRATION?**

A. An EEL migration is when a CLEC requests an existing special access circuit be converted to an EEL with UNE rates.

**Q. WHAT COSTS WILL VERIZON INCUR FOR PROCESSING OF ORDERS SUBMITTED BY CLECS FOR EEL MIGRATION?**

A. As shown in the cost study, Verizon will incur costs for ordering and provisioning activities associated with the requests. In order to process an EEL migration request, a disconnect order is issued on the existing circuit and an install order is issued to put the new rates into effect. The two orders are necessary to remove the current billing and circuit identifiers from the system and create a new billing location and circuit identifier. The provisioning activity is necessary to remove the previous circuit identifiers and add the new circuit identifiers. Circuit identifiers (numbers) are used to identify circuits, just as telephone numbers are used to identify voice grade service. Because the circuit is already established there are no central office or field connections

necessary.

**Q. HOW DID VERIZON DETERMINE THE ACTIVITIES AND RESULTING NON-RECURRING COSTS ASSOCIATED WITH MIGRATION TO EEL REQUESTS?**

A. EELs are processed in the same manner as dark fiber requests. Therefore, my earlier discussion of activities and cost determination for dark fiber requests applies equally to EEL requests.

## IX. COSTS FOR UNE-P

**Q. WHAT COSTS WILL VERIZON INCUR FOR PROCESSING CLEC REQUESTS FOR UNE-P?**

A. Verizon will incur costs for ordering, provisioning, central office and field installation activities. For retail or resale services that are in place and are being "migrated" to UNE-P, central office or field installation activities are not required.

**Q. PLEASE DESCRIBE ORDERING ACTIVITIES ASSOCIATED WITH UNE-P REQUESTS.**

A. UNE-P ordering applies when the CLEC requests conversion of existing services, retail or resale, to UNE-P. Conversion orders will follow the "Resale Migration" process flow described previously in my testimony. The ordering activities are handled by the NMC via the LSR process, as I also described earlier.

**Q. HOW WERE COSTS DEVELOPED FOR ORDERING ACTIVITIES ASSOCIATED WITH UNE-P REQUESTS FROM CLECS?**

A. Work time studies were conducted during August 1999 in the NMC for resale orders; this process is the same as used for UNE-P requests. The work times were multiplied by the LLR for the NMC to develop the costs.

**Q. WHAT ARE THE PROVISIONING ACTIVITIES ASSOCIATED WITH UNE-P REQUESTS?**

A. Provisioning activities include facility assignment and switch translations (if required). The APC activities relate to touches required to process a CLEC request.

**Q. HOW WERE COSTS DEVELOPED FOR PROVISIONING UNE-P REQUESTS?**

A. Verizon developed the minutes per occurrence based on the number of touches in the APC and applied a factor for the probability of occurrence that an order would require provisioning work. Many UNE-P orders can be provisioned mechanically from network components in inventory. For example, a "Migration as Is" requires only one switch translation to convert to minute of use measurement. However, more complex requests, such as "Migration as Specified" orders, require more manual provisioning due to switch translations, routing instructions, and service arrangements.

The work time per touch was weighted by the probability of occurrence and multiplied by the LLR for the APC to determine the costs associated with each type of migration order.

## IX. COSTS FOR LOOP CONDITIONING

**Q. WHAT IS LOOP CONDITIONING?**

A. Loop Conditioning is the removal of load coils and/or bridged taps from the local cable pairs. While load coils and bridged taps are an integral part of the copper, voice grade network, they impede the transmission of digital signals. If the CLEC requires copper pairs without load coil(s) or bridged taps(s) for the digital service it offers its customers, then the CLEC has the option of ordering Loop Conditioning from Verizon.

**Q. WHAT ARE THE ACTIVITIES REQUIRED FOR LOAD COIL AND /OR BRIDGED TAP REMOVAL?**

A. When the CLEC requests a conditioned loop for a customer and the cable pair is loaded or has bridged taps, a request is sent to the local engineering department to analyze the network and draft a work order for the pair(s) to be deloaded or for the bridged tap(s) to be removed. The Engineering group will create a work order that will be sent to the Outside Plant Construction forces outlining the work necessary to deload the cable pair or remove bridged tap(s). The Outside Plant Construction splicing group will complete the work order and advise

the engineering group upon the completion of the activity. The Engineering group will then advise the Verizon NMC the order can be worked. All records are updated showing the change in the conditioning of the pair.

**Q. HOW WERE COSTS DEVELOPED FOR LOOP CONDITIONING ACTIVITIES?**

A. Noted below are the steps used for calculating costs for (1) Load Coil removal and (2) Bridged Tap removal. These costs are detailed in Verizon's cost study.

(1) Load Coil Removal – The first criterion used in determining the cost of removal are the footages of aerial/buried and underground cable. This is because the amount of time for load coil removal differs based upon the type of cable. Florida-specific data was used to develop these costs.

The second criterion is the number of load coils to be removed. Load coils are placed on copper voice grade loops based on their distance from the central office using engineering distances for maximum transmission results. Florida-specific inventory of cable length was used to calculate the average number of load coils to be removed.

Based on these two cost criteria, Verizon developed the

average time per work order to remove load coils. This time was multiplied by the LLR for a Construction Cable Splicer. These costs are weighted by the ratio of aerial/buried to underground cable, and based on cable footages.

(2) Bridged Tap Removal – the engineering activities for bridged tap removal are the same to determine the number and location of load coils on a cable pair. The Construction Cable Splicer time was developed by SMEs in conjunction with field forces involved in bridged tap removal. Costs for removal are based on single and multiple occurrences.

## XI. DEDICATED TRANSPORT AND SS7 ACCESS

**Q. WHAT COSTS DOES VERIZON INCUR FOR PROCESSING CLEC REQUESTS FOR DEDICATED TRANSPORT AND SS7 ACCESS SERVICE?**

A. Verizon will incur costs for ordering, provisioning, central office and field installation activities associated with CLEC requests for dedicated transport and SS7 access.

**Q. HOW WERE COSTS DEVELOPED FOR THESE SERVICES?**

A. Verizon-West has been provisioning these services for IXCs through the NACC for many years. I previously described the NACC and its processes. Additionally, the BRPC provisioning, the central office

jumper work, and the outside plant installation work follow the same processes previously described. Verizon studied the work times associated with the activities for each of these services and developed costs based on the applicable LLRs described earlier for dark fiber. Where certain activities are not required, such as pre-ordering for dark fiber, these costs are not included.

## XII. MECHANIZED LOOP PRE-QUALIFICATION

**Q. PLEASE EXPLAIN VERIZON'S MECHANIZED LOOP PRE-QUALIFICATION PROCESS.**

A. The FCC Remand Order mandates that the ILEC provide requesting CLECs with nondiscriminatory access to the same detailed information about the loop that is available to the ILEC. The Mechanized Loop Pre-Qualification (MLPQ) process provides a means for a CLEC to perform loop qualification analysis. It provides the requesting CLECs with nondiscriminatory access to the same information that was used in Verizon's retail ADSL offering.

The FCC Remand Order, in paragraph 427, states that the incumbent local exchange carrier (ILEC) must provide requesting competitive local exchange carriers (CLECs) with nondiscriminatory access to the same detailed information about the loop that is available to the ILEC. This information is made available to the CLECs through Verizon's MLPQ process. The information includes: (1) composition of the loop

material, including but not limited to: fiber optics or copper; (2) the existence, location and type of any electronic or other equipment on the loop, including but not limited to, digital loop carrier or other remote concentration devices, feeder/distribution interfaces, bridge taps, load coils, pair-gain devices, disturbers in the same or adjacent binder groups; (3) the loop length, including the length and location of each type of transmission media; (4) the wire gauge(s) of the loop, and (5) the electrical parameters of the loop, which may determine the suitability of the loop for various technologies.

**Q. HOW WAS THE COST TO ESTABLISH THE MLPQ PROCESS DEVELOPED?**

A. Verizon incurred approximately $1.014 million in transition costs for the mechanized loop pre-qualification project during 2000. This includes the costs for two Data Processing Service Requests (DPSR) that provided for the equipment and software to access and interface the systems that contain the facility information. The systems involved in providing this information worked independently and had only limited interface capabilities. The need to interface these systems did not exist until the request for MLPQ. The Business Analysis Group tracked the financial costs of the two DPSRs. The DPSRs provisioned for CLEC access to WISE, AAIS, and other systems that contain the facility information. Software was also needed to format a response back to the requester that contained the facility information requested.

**Q. HOW DOES A CLEC USE THE MLPQ PROCESS TO PERFORM LOOP PRE-QUALIFICATION?**

A. CLECs utilize a Graphic User Interface (GUI) on Verizon's internet based Wholesale Internet Services Engine (WISE) to access the MLPQ capabilities. This access was chosen because CLECs currently have access to this interface and utilize it on a regular basis. The CLEC access the MLPQ form and enters either a working telephone or a valid address into the system. WISE interfaces with a report generation program which in turn access several different systems providing the CLEC with the following information:

NPA and NXX

Local Termination CLLI

Existence of a pair gain or DLC and if present, the type

Existence of DAML in the loop

Type of loop length provided (actual or electronic measurement)

Loop length

Loop length by gauge of cable

Type of any load coils

Quantity of load coils

Location of load coils

Quantity of bridged taps

Location of bridged taps

Type and number of disturbers in the feeder cable of the loop

Type and number of disturbers in the distribution cable of the loop

Composition of the feeder and distribution cables

Wire center name

OBF response codes and descriptions

## XIII. CONCLUSION

**Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

A. Verizon has developed a comprehensive and well supported non-recurring cost study that conforms to the FCC principles and addresses all of the non-recurring activities Verizon must perform to provide UNE products to CLECs. The Commission should approve these costs for use in pricing Verizon's unbundled network elements.

**Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

A. Yes.