

**COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY**

)

Investigation by the Department on its own Motion)

into the Appropriate Pricing, based upon Total Element)

Long-Run Incremental Costs, for Unbundled Network)

Elements and Combinations of Unbundled Network) D.T.E. 01-20

Elements, and the Appropriate Avoided Cost Discount)

for Verizon New England, Inc. d/b/a Verizon)

Massachusetts' Resale Services in the)

Commonwealth of Massachusetts.)

**VERIZON MASSACHUSETTS
D.T.E. 01-20, Part A
NON-RECURRING COST TESTIMONY**

Cost Witness

Mr. Bruce F. Meacham

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VERIZON MASSACHUSETTS

D.T.E. 01-20, Part A

NON-RECURRING COST TESTIMONY

I. INTRODUCTION

Q. Please state your name and position with Verizon.

A. My name is Bruce F. Meacham and my office is located at 125 High Street, Boston, Massachusetts. I am a Senior Specialist in Verizon's Finance Department (Service Costs Organization) with responsibility for the development of Verizon's nonrecurring cost studies for unbundled network elements ("UNEs").

Q. Would you please describe your education and business background?

A. I am a graduate of the University of Massachusetts where I received a Bachelor of Science degree in Industrial Engineering and a Masters degree in Business Administration. In addition, I received a Master of Science degree in Accounting from Suffolk University in May 1999.

In 1972, I was first employed by New England Telephone in the Outside Plant Engineering Department. In 1975, I was assigned to the General Engineering Department where I held several positions performing and supervising jurisdictional separations studies of investments and expenses used for long distance revenue settlements, cost of service studies, and tariff filings.

In 1986, I transferred to the Marketing Department where I was responsible for developing embedded and incremental costs to support regulatory proceedings, new product or service offerings, and special contracts for facilities-based pricing options. From 1989 to 1992, I had responsibility for developing methods and controls for tracking costs of enhanced products and services to meet state and federal requirements for nonregulated business activities. In 1992, I joined the Finance Department and was responsible for analyzing expense and force budgets for the Marketing and Engineering Departments.

In 1993, I was assigned to the Service Costs organization. Since the enactment of the Telecommunications Act of 1996, I have been responsible for developing various cost analyzes for wholesale services and UNEs provided by Verizon under the Act. I have testified before the Rhode Island Public Utilities Commission and the New Jersey Board of Public Utilities in support of Verizon's non-recurring cost model.

Q. Have you previously testified before the Department?

A. Yes, I testified on line sharing and DSL conditioning costs in D.T.E. 98-57, Phase III.

II. BACKGROUND

Q. Did Verizon Massachusetts ("Verizon MA") previously file wholesale non-recurring costs with the Department?

A. Yes. Verizon MA developed its first set of wholesale non-recurring costs for its January 5, 1998 filing in Phase 4 of the Department's Consolidated Arbitrations.⁽¹⁾ The Department ultimately adopted Verizon MA's non-recurring cost model, with certain modifications, in Phase 4-L⁽²⁾ and Phase 4-O⁽³⁾ of the Consolidated Arbitrations.

Q. Did Verizon make other filings addressing wholesale non-recurring costs in Massachusetts?

A. Yes. On May 5, 2000, Verizon MA filed its initial tariff compliance filing with the D.T.E. in Docket 98-57, Phase III. The filing contained both recurring and non-recurring rates for xDSL Conditioning and Line Sharing as required by the Federal Communications Commission's ("FCC") December 9, 1999 Line Sharing Order⁽⁴⁾. Verizon MA submitted supporting testimony for its May 5 filing on June 14 and July 19, 2000. The Department issued its order on September 29, 2000, which approved Verizon MA's proposed rates in part and denied the rates in part.

On May 25, 2000, Verizon MA filed a supplemental rate filing in Docket 98-57, Phase I that addressed new UNEs requested by Competitive Local Exchange Carriers ("CLECs") as well as those required by the FCC's November 5, 1999 UNE Remand Order and November 24, 1999 UNE Remand Supplemental Order.⁽⁵⁾ Verizon MA's May 25 filing included non-recurring costs for UNE-Platform ("UNE-P") and several standalone UNEs not included in prior filings such as DS3 UNE Loops, DDS UNE Loops, standalone NIDs, IOF STS-1s, and UNE Subloop Arrangements. On September 7, 2000, the Department approved these supplemental UNE rates.

III. PURPOSE

Q. What is the purpose of your testimony?

A. In response to the Department's January 12, 2001 Order in this proceeding, Verizon MA is submitting direct testimony and new non-recurring cost and rate documentation. This filing is referred to as the "2001 Filing" in this testimony. I will explain the analyses conducted by me or under my direction and supervision for the nonrecurring costs Verizon MA incurs to provide UNEs to CLECs under the Act. I also explain the differences between Verizon MA prior cost analyses and the 2001 Filing.

Q. What costs are presented in your testimony?

A. My testimony presents Verizon MA's forward-looking, non-recurring costs associated with the one-time activities necessary to process and provision CLECs' requests for the initiation, change or disconnection (termination) of UNEs and various services provided by Verizon MA to CLECs. Non-recurring costs are generally incurred at the time the ordering and provisioning occurs. This testimony does not address the non-recurring costs to Verizon MA of providing any retail services.

Verizon has developed a non-recurring cost model to standardize the presentation of non-recurring cost calculations throughout all Verizon regulatory jurisdictions. NRC Exhibit I presents the wholesale rate structure and cost summary for Verizon MA's non-recurring costs. The costs presented in NRC Exhibit I will be used to update the non-recurring costs contained in D.T.E. - Mass. - Tariff No. 17. The 2001 Filing is intended to provide a single update of the UNE non-recurring costs submitted by Verizon MA in all previous filings.

Q. What are the wholesale products and services Verizon MA provides to CLECs?

A. NRC Exhibit I contains a summary of the non-recurring rates that Verizon has calculated for the 2001 Filing. Many of the UNEs and services offered by Verizon MA on a wholesale basis are described in Verizon's website at:

<http://www.verizon.com/wholesale>.

In addition, the Verizon website contains wholesale customer documentation such as handbooks, order forms, testing guidelines, access to the Carrier Services Gateway ("CSG") with a tutorial for completing Access Service Requests ("ASRs"), forecasting tools, access to Verizon's tariffs in each state, and many other resources of value to CLECs.

IV. COMPARISON OF THE 2001 FILING WITH THE 1998 FILING

Q. Please summarize the changes in the 2001 non-recurring cost filing compared to the January, 1998 filing.

A. The following is a brief comparison of the 2001 non-recurring cost filing and the 1998 filing. The changes are described in further detail in the testimony.

The rate structure of some non-recurring cost elements has changed in the 2001 Filing. Verizon MA's non-recurring cost model now produces loop costs on a first or initial loop per order and each additional loop per order. This replaces the cost structure for orders of single, two to nine, and ten or more UNE loops formerly in place. The new rate structure better reflects the economies attained when orders are placed for more than one loop.

Another change in rate structure is the elimination of the weighting of hotcut vs. new UNE loop orders to produce a single, common loop cost. The new rate structure better aligns the appropriate costs with the manner in which Verizon MA incurs the costs.

Labor activities are incurred in various functional organizations in Verizon. New functional organizations associated with the growing list of UNEs provided by Verizon were added in the 2001 Filing.

The 1996 Task Oriented Costing ("TOC") surveys of labor time estimates were replaced by 1999/2000 surveys of the current wholesale organizations and provisioning process activities based on a regional perspective for the 2001 Filing. In addition to the new activity based work time analyses, time and motion studies performed for the Company by an outside consultant (Andersen Consulting for the Telecom Industry Services Operations Center) and a productivity report (in the Mechanized Loop Assignment Center) were also employed.

In the 2001 Filing, Verizon MA's non-recurring cost model assumes the same mix of technologies that drives Verizon MA's recurring cost model: 20 percent copper, 55 percent Universal Digital Loop Carrier ("UDLC"), and 25 percent Integrated Digital

Loop Carrier ("IDLC"). The recognition of this mix reduces the central office wiring costs for UNEs. For DSL and Line Sharing, a copper loop technology and continued use of copper plant is the appropriate technology on which to base the costs for DSL services.

Forward-looking adjustments were made for all labor activities required to order and provision UNEs and other services. These adjustments were updated based on a panel of experts' assessments of planned system enhancements.

In the 2001 Filing, labor rates were updated from the 1995 base year to the 1999 base year. Also, in the 2001 Filing, the 1999 labor rates are levelized for a 2-year period, 2001-2002, using Verizon's standard cost of money factor of 12.6 percent.

Q. How do these changes relate to non-recurring cost issues addressed by the Department in previous orders?

A. In its Phase 4-L and Phase 4-O Orders, the Department directed Verizon MA to modify its non-recurring costs to meet four requirements:

- 1) Use only the minimum work times from the weighted averages of the "minimum," "maximum" and "most likely" work time estimates provided by the TOC survey respondents;
- 2) Reduce the MLAC (Mechanized Loop Assignment Center) and RCMAC (Recent Change Memory Administration Center) fallout rates from fifteen percent to two percent;
- 3) Reduce the Coordination Bureau (now Regional CLEC Coordination Center or RCCC) work times; and
- 4) Eliminate the costs of individual manual cross-connections at the main distributing frame for loops terminating at the DS1 level.

With respect to the first of the Department's findings, Verizon MA did not use the TOC approach for the 1999/2000 activity-based work time surveys. At the time the 1996 survey data was gathered, Verizon MA had only processed about 240 UNE loop orders for CLECs in the Metropolitan Boston area, and consequently, only a limited number of survey respondents had experience provisioning such orders. As of December 2000, Verizon has provisioned over 75,000 UNE loops in Massachusetts and over 680,000 in the 14 Verizon-East jurisdictions. The new work time surveys are thus based on a much broader level of experience.

Regarding fallout rates, the actual rate at which orders fall out to the MLAC has been reduced from 15 percent to 10 percent since 1996. For the 2001 Filing, Verizon MA is using a forward-looking fallout rate of 4 percent.

The RCCC performs a necessary quality control function for all CLEC service orders that require coordinated efforts between the CLEC end-user customers, the CLEC

technicians, and Verizon MA technicians. Since work activities for new loop orders can be performed in advance, less coordination figures into the non-recurring cost development. Hotcuts, or coordinated cutovers, on the other hand, cannot be completed without coordination. Without coordination, there is great risk that CLECs' end-user customers could be put out of service for extended periods of time. Furthermore, CLEC-to-CLEC end-user customer transfers are impossible to complete without RCCC involvement since only Verizon MA technicians can complete the transfer.

Finally, the change in the forward-looking network construct addresses the Department's original concern with the cross-connection costs. Because Verizon MA's forward-looking view of the network construct now assumes 25 percent IDLC, 25 percent of the loop cross-wiring costs are avoided for the central office wiring cost element.

Q. Are non-recurring cost issues from more recent Orders addressed in the 2001 Filing?

A. Yes. In its September 29, 2000 Phase III Order,⁽⁶⁾ the Department found that since Verizon's TELRIC network structure was calculated with 100 percent fiber feeder in the loop, loop qualification and loop conditioning should not be necessary. As stated above, Verizon now presents a forward-looking network construct that contains copper loops from the central office to end-user customers. Copper loops are still the only way that Verizon MA can provide Digital Subscriber Line ("DSL") services, and Verizon MA will continue to rely on its copper network facilities to provide DSL services into the foreseeable future. This new construct is consistently applied in both the recurring and non-recurring cost studies.

For copper loops beyond 18,000 feet, the 2001 Filing calculates new non-recurring costs for load coil removal. The number of assigned loops in Massachusetts beyond 18,000 feet is approximately 19.5%. This means that less than one out of every five DSL service orders may require load coil removal. Not unlike the costs for Field Installation work on new UNE loops, the costs for load coil removal are only charged to CLECs on DSL loop conditioning orders that actually require Splice Technicians to be dispatched. The 2001 filing also calculates new loop conditioning non-recurring costs for excess bridged tap removal.

In its Phase III Order,⁽⁷⁾ the Department directed Verizon to submit a separate Line Sharing-specific cost study for its Line Sharing/Splitter Cable Augment - Engineering and Administration non-recurring cost. An update to that cost study is provided on NRC Exhibit M, Page 4 of 4.

In its September 7, 2000 Phase I Order,⁽⁸⁾ the Department generally accepted Verizon MA's non-recurring costs for the UNE Remand elements. These costs have been updated in the 2001 Filing. Verizon's non-recurring cost model also develops new costs for unique UNEs such as Dark Fiber, Signaling System 7 ("SS7"), Customer Specified Signaling ("CSS"), AIN Service Creation Service, Line Information Data Base ("LIDB") Service, and port provisioning services for Simplified Message Desk Interface ("SMDI"), ISDN - Primary Rate Interface ("ISDN-PRI") and Direct Inward Dialing ("DID") trunks.

II. NON-RECURRING COST MODEL

Q. Please describe Verizon MA's non-recurring cost model.

A. The non-recurring cost model identifies all of the activities, by functional organization, necessary to satisfy a CLEC request for UNEs and other services. A list of these functional organizations and their acronyms is contained in NRC Exhibit C. A list of work activities performed within each functional organization is provided in NRC Exhibit D. The times for these work activities are adjusted by the frequency with which they occur today and with which they will be performed in the future. These forward-looking work activities are the basis for the calculation of generic non-recurring cost elements. The appropriate set of work activities is mapped to each generic non-recurring cost element. Generic non-recurring costs can then either be mapped on a one-for-one basis or combined with other generic non-recurring costs to derive rate elements.

Verizon MA's non-recurring cost model is described in detail in NRC Exhibits A - F to my testimony. The non-recurring cost model output is voluminous (over 1,200 printed pages) and is provided on CD-ROM. An example of the non-recurring cost details for one UNE from the model output, a two-wire new initial loop (Tab 1), is contained in NRC Exhibit G. A summary of the generic non-recurring costs produced in the model is shown in NRC Exhibit H. NRC Exhibit I displays the wholesale non-recurring rate structure and the corresponding non-recurring cost elements.

Q. How may interested parties view the model in detail?

A. Interested parties may use the CD-ROM to view the non-recurring cost model on a personal computer. The non-recurring cost model is based in Microsoft Excel and is used to facilitate the identification of unique forward-looking, non-recurring costs associated with studied UNEs and services provided to CLECs. Within the model, each numbered tab is associated with a specific UNE as listed in the "*Contents*" tab. (With Microsoft Excel 97, the tab numbers on the "*Contents*" tab are hyperlinks, so the user can move to the tab directly by clicking on the underlined number.) Each UNE tab details the costs of performing the activities in various functional organizations in order to provision the UNE. The non-recurring cost model identifies only those costs that will be incurred to perform necessary work activities in a wholesale environment. Verizon has constructed this standardized non-recurring cost model for the purpose of facilitating the identification of the unique forward-looking service order, central office wiring, provisioning and field installation costs associated with each studied UNE and service across all of the jurisdictions served by Verizon.

Q. How does the non-recurring cost model calculate forward-looking costs?

A. Verizon MA's model converts work times to costs in accordance with the following steps:

1. Identify and map non-recurring connect and disconnect work activities required to provision UNEs.
2. Determine the average amount of work time required to perform activities today.
3. Apply a Typical Occurrence Factor (the % frequency with which an activity is performed currently for a given UNE) to the estimate of average work time to produce present time (in minutes).
4. Apply a Forward-Looking Adjustment Factor (the % frequency with which an activity is expected to be done, if at all, for a given UNE in the forward-looking period) to the time identified in Step 3 to produce forward-looking work time (in minutes).
5. Multiply forward-looking connect and disconnect work times (in minutes) in Step 4 by directly assigned forward-looking labor rate per minute; this yields the forward-looking direct costs.
6. Multiply forward-looking disconnect cost by Present Worth Factor to reduce forward-looking disconnect cost to present value.
7. Add forward-looking connect and present worth of forward-looking disconnect costs together.
8. Multiply total of costs in Step 7 by the Common Overhead Factor to apportion common overhead costs to the direct costs.
9. Assign to the direct plus common costs an allocation of Gross Revenue Loading by multiplying the costs identified in Step 8 by the GRL Factor.
10. On the Cost Summary Tab, apply Aerial/ Underground Weighting Factors to the Bridged Tap and Load Coil Removal DSL Conditioning costs (Tabs 68 through 75).

The costs are determined for both a normal or standard interval⁽⁹⁾ and for an expedited interval⁽¹⁰⁾. The resulting costs, for both standard and expedited intervals, are contained in NRC Exhibit H.

Q. Does the cost model identify forward looking non-recurring costs?

A. Yes. All costs presented in my testimony reflect the forward-looking costs of provisioning UNEs and services provided by Verizon MA to CLECs. The non-recurring cost studies have taken into account all efficiencies reasonably achievable as a result of the deployment of forward-looking technology. Every effort was made to identify only productive work times, eliminate those tasks which may be required today to perform similar functions, but are not anticipated to be required assuming full deployment of forward-looking technologies, and reflect the savings due to projected system improvements and methods including the ongoing effects of the learning curve.

Q. Does the model include forward-looking Operations Support Systems?

A. Yes. The non-recurring cost model incorporates a forward-looking wholesale Operations Support Systems ("OSS") and process environment reflecting the Company's ongoing process improvement efforts. Key attributes of this environment include:

- Electronic application-to-application ordering interface for the carrier;
- Flow-through service order and work order distribution process;
- Fully automated, remote network activation process and system for all electronic elements;
- Mechanized work force management and dispatch process; and
- Intelligent, hand-held technician workstations allowing remote electronic work order close out.

To the extent possible, Verizon MA's OSS are designed to maximize flow-through. The non-recurring costs reflect Verizon MA's expectations of flow-through in the future. However, there will remain instances in which manual handling is required to process orders in the most efficient and cost-effective manner.

Q. Are manual intervention costs appropriate in a forward-looking environment?

A. Yes. For example, OSS electronic interfaces will reduce the need for incremental TISOC activity in the processing of a service order for UNEs, however, in certain instances, *e.g.*, a request for multiple loops or complex services such as Integrated Services Digital Network ("ISDN"), the cost to mechanize these types of requests exceeds any anticipated economic benefit. As such, requests for these types of more complex wholesale services will continue to require manual handling into the foreseeable future.

Manual handling of other service provisioning and installation activities will also continue, even in a mechanized environment. While some support functions are anticipated to be mechanized, the physical field installation work activities performed by Verizon MA personnel will not be appreciably affected (if at all) by the introduction of

the new wholesale OSS interfaces. Due to their complexity, some services do not flow through by design. For example, manual intervention is needed for complex orders such as End Office Trunk Ports and TOPS Trunk Ports.

Q. Has Verizon MA changed the treatment of disconnect costs?

A. Disconnect costs are now identified separately and then discounted⁽¹¹⁾ based on a 2.5 year forecasted service life, to recognize that Verizon MA will not incur this expense until some future date (estimated to be the average service life). The disconnect costs are then added to the connect costs to determine the total non-recurring costs. For example, the 2-wire loop's central office wiring and provisioning costs include both the loop's connect and disconnect costs.

Q. Why is it appropriate to add disconnect costs to connect costs?

A. It is appropriate to combine the costs of the one-time activities necessary for connection and disconnection because it is standard practice in the telecommunications industry to recover total non-recurring costs at the time the ordering and provisioning occurs. The recognition of disconnect costs at this time allows Verizon MA the opportunity to properly recover the disconnect costs from the cost causers. And, by discounting the disconnect costs by the present worth of money, it ensures the proper cost recovery for the future expenditure. The Department approved this approach in its Phase 4-L Order:

"While the CLECs have argued that they represent a different class of customers, the parties did not persuade us that a CLEC would be more available and willing to pay disconnection costs than retail customers. Thus, an allowance for these costs in the TELRIC-based NRCs is appropriate...Therefore, we maintain our longstanding policy of including disconnection costs in the calculation of installation NRCs."⁽¹²⁾

Q. How are forward-looking non-recurring costs classified in the non-recurring cost model?

A. In the 2001 Filing, forward-looking non-recurring costs are classified into four categories: (1) service order, (2) central office wiring, (3) provisioning, and (4) field installation.

1. **Service Order:** Includes the costs related to the process by which Verizon MA performs any necessary function(s) to issue an order in the Telcom Industry Services Operating Center organization resulting from a CLEC request for service;

2. Central Office wiring: Includes the costs associated with the process by which Verizon MA, after receipt of an order, performs the necessary function(s) in the Central Office (CO) Frame work group to satisfy a CLEC request for service;

3. Provisioning: Includes the costs incurred during the process by which Verizon MA performs the necessary functions in the remaining support work groups. Examples include the Regional CLEC Coordination Center ("RCCC"), Recent Change Memory Administration Center ("RCMAC") and the Mechanized Loop Assignment Center ("MLAC"); and

4. Field Installation: Includes the costs related to the process by which Verizon performs the functions associated with dispatching field forces to install service requested by a CLEC.

Q. What changes are there in the manual service order surcharge in the 2001 Filing?

A. In the 2001 Filing, the manual service order surcharge is calculated in the non-recurring cost model. The term "intervention," formerly used to describe the manual intervention surcharge, has been removed from the UNE service order description as redundant. (The term "intervention" implies that it is manual.) The manual service order surcharge will continue to be applied when a CLEC chooses not to submit an order electronically. The costs include the activity required for a Verizon service representative at the TISOC to receive and translate a local service request ("LSR") from a CLEC and to respond manually with a positive confirmation of order acceptance.

Q. Are all of the non-recurring costs calculated for this filing produced by the non-recurring cost model?

A. No. A small number of miscellaneous non-recurring work activities that have not yet been incorporated into the model were calculated on separate Microsoft Excel worksheets. They are: Record Change, Design Change, Data Entry Search, Duplicate Bills (for several types of media), and the Line Sharing/Splitter Collocation Cable Augment mentioned previously in my testimony. The worksheets for these activities are provided in NRC Exhibit M. The same standard non-recurring cost methodology - work time times labor rate - was employed to develop these costs. A typical occurrence factor of 100 percent was assumed since these costs are incurred in their entirety, but only if requested by a CLEC. A forward-looking adjustment factor of 100% was also assumed since there is no expectation of process improvements that would reduce the average work times estimated for each of these activities.

XVIII. FACTORS USED IN THE MODEL

Q. What factors are used in the non-recurring cost model?

A. In the 2001 Filing, the model uses a Cost of Money factor of 12.60 percent which is defined as the weighted average of Verizon's cost of debt and cost of equity. The Cost of Money is used to calculate the Present Worth Factors and the Annuity Factor. The Present Worth Factors are used to discount the year 2001 and year 2002 disconnect costs and the Annuity Factor is used to levelize the labor rates.

In the 2001 Filing, a Common Overhead Factor of 1.0892 is applied to each non-recurring cost. The Common Overhead Factor recovers an appropriate portion of Verizon's corporate service expenses such as Executive and Planning, Accounting and Finance, Human Resources, Legal, etc. The Common Overhead Factor does not include any labor expenses from the functional organizations that are directly assigned to non-recurring costs.

In the 2001 Filing, a Gross Revenue Loading Factor of 1.00270 is also applied. The factor recovers an appropriate portion of uncollectibles and regulatory assessment fees.

The Labor Trend Factor is 1.04. The factor is based on Verizon's forecasted management and non-management annual salary increases.

The application of the above factors is described in more detail in NRC Exhibit A. Brief descriptions of the methods used to develop these factors follow. For more detail on the development of factors used in the calculations of both recurring and non-recurring UNE costs, please see the panel testimony filed in this case.

Q. How does Verizon MA assure that there is no double recovery of recurring and non-recurring costs?

A. To eliminate any possibility of double recovery, Verizon MA has adjusted the development of the service order and network annual cost factors ("ACFs") applied to the investments to calculate the recurring costs. Verizon MA subtracts an amount equal to the total non-recurring revenues from the customer interfacing (service order) and provisioning (network) expenses for the 1999 base year period from which the ACFs are calculated. This subtraction ensures that the ACFs only reflect recurring expense activities and thus ensures that there is no double recovery of non-recurring costs in the recurring ACFs. The Panel Testimony provides the detail that supports the development of the recurring ACFs.

XVIII. LABOR RATES

Q. Please explain how labor rates were developed in the non-recurring cost model.

A. Verizon MA's starting point for developing the labor rates was the base year 1999 basic wage expense for each Job Function Code divided by productive hours. The Job Function Code is used to identify a specific type of work function, such as a Service

Representative. Productive hours are the time spent on specific job functions, such as provisioning trunks. Labor rates must also recover the cost associated with an employee's non-productive time for activities such as training, clerical support, supervision of reporting personnel, paid absence, premium time, payroll taxes and benefits. These expenses are distributed over productive hours to produce the total directly assigned labor cost per hour. The labor rates for each functional organization are shown in NRC Exhibit E.

Q. What were the changes in the labor rates in the 2001 Filing?

A. In the 2001 Filing, labor rates are developed using total year 1999 expenses from data sources including payroll, personnel, and time sheets. The non-recurring cost model then levelizes the labor rates over a two-year planning period (2001-2002). The 1999 labor rate data was levelized over the two-year period by using an Annuity Factor of 0.5964, based on the Cost of Money of 12.6 percent. The labor rate development is outlined in NRC Exhibit A to my testimony.

Q. What labor rates are used in the non-recurring cost model for Massachusetts?

A. The non-recurring cost model uses different labor rates depending on the locations of the functional organizations actually performing the work. For example, the functional organization Central Office Frame uses the labor rates developed for technicians that work in Massachusetts. The TISOC, however, uses labor rates developed for the Telesector Resources Group ("TRG") organization. There are two TISOCs covered by the same TRG labor rate located within the old NYNEX footprint: Boston, Massachusetts and New York City, New York. The labor rates in the model are based on the location(s) of the work centers where the work is actually performed, not simply the jurisdiction in which the cost model is being filed.

Q. Are the same non-recurring costs filed in every jurisdiction?

A. No. Labor rates specific to each state are applied whenever the work centers are located within the state where the costs are being filed. This makes the non-recurring costs specific for the work centers in those states. For example, CO Frame technicians work in every state. For the Massachusetts filing, the Massachusetts CO Frame labor rate was used for the Massachusetts cross-wiring costs.

The labor rates for regional work centers such as the Circuit Provisioning Center ("CPC"), on the other hand, are based on the labor rates for the state where the centers are located, since that is the only jurisdiction where the labor cost data would be available.

The basis for the labor rate application for each functional organization is shown in Column L of NRC Exhibit E to my testimony.

Q. How are expedited costs developed?

A. Costs for expedited service (*i.e.*, service provisioned sooner than the standard interval) were developed based on expedite labor rates which were calculated by multiplying basic salaries and wages by an expedite ratio before adding direct supervision, clerical support, absence, payroll taxes, benefits and miscellaneous expense components. The expedite labor rates are then trended and levelized. The expedite ratio (1.815 for the state of Massachusetts) was developed from actual 1999 data and calculated by taking the ratio of the total productive overtime wages and salaries per total productive overtime hours to the total basic and productive wages and salaries per total basic and productive hours.

Q. Are additional costs incurred for an expedited interval?

A. Yes. Requests for expedited service require adjustments to workload and schedules to accommodate such requests, and consequently, are more costly to provision because of the need to perform the work outside of normal working hours, or to shift other work to an out-of-hours schedule. Work performed out-of-hours is paid at a premium over normal working hours wages. The expedited interval costs are adjusted for these more costly labor rates.

II. FORWARD-LOOKING ACTIVITY TIMES

Q. What activities are included in the non-recurring cost model?

A. The model contains the activities performed in each functional organizations associated with the ordering and provisioning of Verizon MA's UNEs and other arrangements to CLECs. The list of activities was developed based on input from the appropriate work center personnel. Work center personnel also provided estimates of the time that will be required for each of the activities identified.

Q. Describe Verizon's functional organizations.

A. There are 28 functional organizations involved in ordering and provisioning UNEs and services to CLECs as shown in NRC Exhibit C. The activities performed in each organization are described in NRC Exhibit D of my testimony. For example, there are 38 activities listed for the RCCC.

As an example, five functional organizations are involved with the ordering, central office wiring, provisioning and field installation for a 2-wire loop (see NRC Exhibit G):

1. TISOC - service order processing
2. RCCC - coordination of Verizon and CLEC activities
3. MLAC - manual facility assignment for orders that fall out
4. CO Frame - cross-wire between Verizon and CLEC facilities in Central Office

5. Field Installation - connect outside plant facilities (only when necessary)

Q. Have there been changes in the functional organizations since the 1998 filing?

A. Yes, increases in the number and types of UNEs and arrangements provided to CLECs have contributed to an increase in the number of functional organizations handling service orders and provisioning. Some of the newly identified functional organizations are:

Regional CLEC Maintenance Center (Misdirects)

Network Administration Center / Regional Report Center (Traffic Studies)

Common Channel Signaling Network - Technical Support (SS7)

Service Delivery Engineer (Dark Fiber)

Two other functional organizations were renamed as part of organization changes. The Carrier Account Team Center ("CATC") was renamed the TISOC, and the Circuit Administration Center ("CAC") was renamed the Trunk Capacity Management ("TCM") group.

Q. Provide an example of the activities performed in the various functional organizations.

A. A hotcut or coordinated cutover is the transfer of an existing Verizon MA loop and/or port to a CLEC. This operation is performed at the option of the CLEC in order to minimize service disruption for the end-user customer. The RCCC is the functional organization that ensures that all work is accomplished on a timely basis. It enables nearly simultaneous disconnection of a loop and/or port from Verizon MA and connection with the CLEC's facilities. Technicians from the Central Office Frame functional organization coordinate with the CLEC through the RCCC to ensure an interruption-free flashcut. The functional organization Recent Change Memory Administration Center ("RCMAC") performs the changes to the switch memory that will facilitate the cutover to the CLEC switch without a loss of service.

Q. Please explain how forward-looking activity times were developed.

A. The forward-looking activity times are work times under current operating conditions adjusted to reflect future operating conditions assuming improvements in productivity and enhancements to Operations Support Systems resulting in reduced work times and/or increased flowthrough. While work functions and work times associated with those functions were first analyzed for current operations, these functions and times served only as a baseline for the forward-looking analysis. Work functions and work times were then adjusted, as appropriate, to fully reflect the benefits of future mechanization by Verizon MA, as well as productivity and other process improvements.

Q. Why is the use of current average work times a reasonable starting point for estimating forward-looking costs?

A. Current average work times are a reasonable starting point for estimating forward-looking costs because the current average times are known and measurable. The expert personnel from whom the work time estimates were obtained were explicitly instructed to provide estimates that only reflected the productive time required to perform a particular work task.

Q. How were current average work times determined?

A. Verizon MA's non-recurring cost model is based on a rigorous survey of personnel actually involved in the relevant work functions under study. The work time estimates for each activity submitted by each respondent were reviewed by a Company statistician who looked for and removed any outliers. Variations on this approach included the use of existing time and motion studies performed for the Company by an outside consultant (Andersen Consulting for the TISOC) and the use of a productivity report (for the MLAC).

Q. What were the changes from the 1998 filing?

A. First, the 1996 surveys for Massachusetts have been replaced with updated, 1999-2000 multi-jurisdictional surveys that better reflect the current average work times. Second, the 1998 Filing did not use the time and motion study for the TISOC or the Productivity Report for the MLAC. For service order costs, the 1998 Filing averaged the costs of complex service orders (five or more UNEs orders) with simple service orders (less than five UNE orders).

Q. What process was used to ensure that the new 1999-2000 survey results were accurate?

A. Verizon Service Costs personnel used process workflows to develop surveys to determine the time required to complete various work activities. The surveys were reviewed by the Operations Assurance and Administration and Product Management groups to ensure that the most up-to-date work process activities were included. The surveys were then administered to the field organizations responsible for the ordering and provisioning of wholesale service.

Surveys were distributed throughout the Verizon region to those associate and management employees most familiar with ordering and provisioning services for Verizon's CLEC customers. The head of each identified work group was informed in writing of the purpose and importance of the survey and the need for accuracy. A copy of the letter dated June 9, 1999 is attached as NRC Exhibit J to my testimony.

In addition to management oversight of the process, instruction forms were given to each survey participant. These forms provided the necessary instructions and reinforced the

importance of the undertaking and the need for independent and accurate reporting. A copy of those instructions is attached as NRC Exhibit K.

The Service Costs staff monitored survey results and made repeated efforts to obtain completed surveys from respondents in all work groups. Substantial efforts were made to assure that the importance of the process was understood and that the number of surveys returned would be sufficient. Once the field personnel completed the surveys, the data was analyzed and validated for statistical accuracy.

Q. How were work times verified for the TISOC?

A. Andersen Consulting was engaged by Verizon to conduct a time and motion study for the TISOC. That analysis was relied upon to validate the scalability of TISOC processes and to ensure appropriate TISOC staffing, among other purposes. While most non-recurring cost studies were based on surveys of time estimates for work activities, the Andersen Consulting analysis was based on actual observations of order processing work in New York and Boston. The Andersen Consulting analysis included observations of the processing of over 800 service orders between March and August 1999. The results were then validated by more than 25 service representatives and their supervisors in the TISOC.

Q. Is the Andersen Consulting analysis of the work activities in New York and Boston valid for other jurisdictions?

A. Yes, since the TISOCs are regional centers, study observations in New York and Boston are valid for the six TISOCs located in Boston, Massachusetts; New York City, New York; Newark, New Jersey; Pittsburgh, Pennsylvania; Silver Spring, Maryland; and Falls Church, Virginia.

Q. Was the Andersen Consulting analysis adjusted to be forward looking?

A. Yes. Since Verizon expects that future advances in OSS electronic interfaces will reduce the TISOC activities work times, the Andersen Consulting results were adjusted downward in the non-recurring cost model to reflect forward-looking expectations.

Q. How were work activities times verified for the Mechanized Loop Assignment Center ("MLAC")?

A. The MLAC productivity report tracks the total number of requests for manual assignment and the hours worked on them on a monthly basis. The number of requests for manual assignments handled over a specific period of time in the MLAC can be calculated from this report. The time to process a request for manual assignments is the average time it takes an assignment clerk to assign cables and pairs per line for those orders that cannot flow through the mechanized provisioning systems. MLAC activities required in the future are not expected to change. However, in recognition of expected improvements in flow-through of orders, dramatic downward adjustments of the average

MLAC work times were incorporated in the non-recurring cost model. An optimistic estimate of 96 percent order flow through was incorporated, so that only 4 percent of the identified MLAC costs for manual cable and pair assignments are incorporated in the non-recurring cost model results. This reflects a level of flow-through far better than is achievable today.

Q. How are average work times adjusted in the model to reflect the frequency with which a given activity is performed?

A. Average work times are adjusted within the non-recurring cost model according to the frequency with which the activities are expected to be performed. Field managers were polled by the Cost Analyst to determine in today's environment how often a given activity is performed in the ordering and provisioning of UNEs and services to CLECs. A Typical Occurrence factor (0 percent to 100 percent) is used in the model to adjust for the frequency in which a given activity is performed.

Q. How are average work times adjusted in the model to reflect the frequency with which a given activity will be performed in the future?

A. Forward-looking adjustments were made for all activities required to order and provision UNEs and services to CLECs. All of these adjustments can be found in the non-recurring cost model. A Forward-looking Adjustment factor is used in the model to adjust for the frequency in which a given activity will be performed in the future.

Q. How were these forward-looking adjustments developed?

A. First, all average work time estimates were subjected to a review by a panel of 18 subject matter experts involved in establishing and/or improving the provisioning process for UNEs. The object of the review was to assure that average work time estimates generally corresponded to reality. Second, the panel of experts developed forward-looking adjustment factors. The forward-looking adjustment accounts for both gains in labor productivity and mechanization advancements. As with the survey participants, the Panel members were also provided detailed instructions on the importance, purpose, and intent of the analysis. Those instructions can be found in NRC Exhibit L to my testimony. The experts who developed these adjustments were experienced managers from work groups who are and will continue to be involved in the provision of wholesale services.

Q. Please provide an example of a forward-looking adjustment in the non-recurring cost model.

A. One forward-looking assumption in the non-recurring cost model is a 50 percent improvement in the performance of the RCCC for UNEs and services provided to CLECs due to an anticipated mechanized advancement. The development of a single Graphical User Interface ("GUI") will reduce the time currently required to access and update multiple older systems. The future improvement is reflected in Verizon's non-recurring cost model.

A.

Q. Does this conclude your testimony?

A. Yes.

1.

¹ Consolidated Arbitrations, D.P.U. 96-73/74, 96-75,96-80/81, 96-83, 96-94 - Phase 4.

2.

² Consolidated Arbitrations, D.P.U./D.T.E. 96-73/74, 96-75, 96-80/81, 96-83, 96-94-Phase 4-L Order, Issued October 14, 1999.

3.

³ Consolidated Arbitrations, D.P.U./D.T.E. 96-73/74, 96-75, 96-80/81, 96-83, 96-94-Phase 4-O, Order On Motions For Reconsideration Of MCI WorldCom, Inc. and Motion For Reconsideration And Clarification Of Bell Atlantic-Massachusetts, Issued January 10, 2000.

4.

⁴ *Deployment of Wireline Services Offering Advanced Services Capability*, CC Docket Nos. 98-147 and 96-98, Third Report and Order in CC Docket No. 98-147, and *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, Fourth Report and Order in CC Docket No. 96-98 (released December 9, 1999) (hereinafter "*Line Sharing Order*").

5.

⁵ *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, Third Report and Order and Fourth Notice of Proposed Rulemaking, FCC 99-238, CC Docket No. 96-98 (released November 5, 1999) ("UNE Remand Order"); *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, Supplemental Order, FCC 99-370, CC Docket No. 96-98 (released November 24, 1999) ("UNE Remand Supplemental Order").

6.

⁶ D.T.E. 98-57-Phase III, Section IV. A. 3. (Page 103), Issued September 29, 2000.

7.

⁷ D.T.E. 98-57-Phase III, Section IV. D. 3. (Page 116), Issued September 29, 2000.

8.

⁸ D.T.E. 98-57-Phase I, Section XII, Compliance Review.

9.

⁹ A standard interval is the time between service ordering and service provisioning, based on normal work schedules. Standard intervals are developed based on the type and/or complexity of the service ordered, the volume of work, and the resources required and available to perform the work.

10.

¹⁰ An expedited interval is the time between service ordering and service provisioning, based on a request to advance a service order ahead the normal work schedules. Service orders, both retail and wholesale, are normally placed in queue as the orders are received. An expedited order is performed ahead of the other service orders in the queue, which reduces the interval between the time the order is received and the time service is available. Verizon's retail customers may also choose to pay a premium to have work done outside of normal intervals.

11.

¹¹ The model uses a Present Worth factor of 0.7433, based on the 12.6% Cost of Money to discount the future value of the disconnect costs by a period of 2.5 years, the average length of CLEC services estimated by Verizon Wholesale Product Management.

12.

¹² Consolidated Arbitrations, D.P.U./D.T.E. 96-73/74, 96-75, 96-80/81, 96-83, 96-94-Phase 4-L Order, Section II.B.2.c. (Page 23), Issued October 14, 1999.