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.)

DIRECT TESTIMONY

of

DINELL CLARK

VERIZON MASSACHUSETTS

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I. INTRODUCTION

Q. Please state your name, present position, and business address.

A. My name is Dinell Clark. I am employed by Verizon as Staff Director in the Service Cost Organization. My business address is 125 High St., Boston, Massachusetts.

Q. Please describe your education and experience in the telecommunications industry.

A. I received a Bachelor of Science Degree in Business Administration from New Hampshire College and a Master of Liberal Arts - Government Degree from Harvard University. I have been employed by Verizon for 13 years and have held numerous positions, the majority of which related to the outside plant environment. I initially was hired to work in the Outside Plant Engineering department to conduct long-range planning analyses. I subsequently transferred to staff positions related to the process reengineering of the Outside Plant organization. In 1997, I assumed the position of Staff

Director in the Service Cost organization where I am responsible for developing cost studies for collocation.

Q. Have you testified previously?

A. Yes. I have testified before the Massachusetts Department of Telecommunications and Energy and the New Hampshire Public Utilities Commission concerning collocation costs.

II. PURPOSE OF TESTIMONY

Q. What is the purpose of your testimony?

A. My testimony addresses the costs to Verizon Massachusetts ("Verizon MA") to provide collocation to Competitive Local Exchange Carriers' ("CLECs") for the purposes of interconnection and access to unbundled network elements ("UNEs"). My testimony also addresses an arrangement referred to as Adjacent Off-Site Arrangement ("AOSA"), as well as an optional Site Survey/Report. Each cost study is described below. The studies were developed by me or under my direction and supervision.

Q. Please identify the collocation offerings that Verizon MA offers in D.T.E. - Mass. - No. 17 which are discussed in your testimony.

A. Verizon MA offers a wide range of collocation options that allows CLECs to choose the option that best suits the needs of their businesses and considers the availability of space in a particular central office. The offerings detailed in this testimony are:

- Physical Collocation
- Secured Collocation Open Physical Environment ("SCOPE")
- Cageless Collocation Open Environment ("CCOE")
- Virtual Collocation
- Dedicated Transit Service ("DTS")
- Dedicated Cable Support ("DCS")
- Adjacent On-site Collocation
- Collocation at Remote Terminal Equipment Enclosures ("CRTEE")

IX. COST METHODOLOGY

Q. What cost methodology did Verizon MA use to prepare these cost studies?

A. Verizon MA developed its costs using cost methods that are consistent with the Federal Communications Commission's ("FCC") TELRIC construct and with the analyses used elsewhere in this filing for unbundled network elements and other serving arrangements. This forward-looking, incremental cost construct generally follows the methodology previously approved by the Department in its Phase 4-G Order in the Consolidated Arbitrations and in DTE 98-57. Specifically, Verizon MA's analyses rely on general contractor invoices for collocation projects, investment data from engineers, and estimated work times and expenses from the various work groups involved in provisioning collocation arrangements. This data reasonably estimates future collocation costs in Massachusetts.

Q. Please describe the inputs that are common to the collocation studies and the UNE studies.

A. Throughout these cost studies, Verizon MA uses annual cost factors ("ACFs"), land and building investment factors, common overhead loadings, installations factors, and labor rates. These inputs are the same as used in the UNE cost studies discussed in the Panel Testimony.

Q. Are there any rate element differences between these studies and rate elements contained in D.T.E. - Mass. - No. 17?

A. Yes, minor rate element changes have been made in some of the offerings, and all costs have been reviewed and updated as required. For example, for Physical Collocation, the rate element associated with space conditioning has been separated into a Space Conditioning Charge and separate Engineering and Administration Fees. The rate structure for the Service Access Charge has been changed to include both a nonrecurring and recurring portion, and the DC power charge is now comprised of two components: a recurring power distribution charge and a power consumption charge. Verizon MA has also developed a separate Service Access Charge for its Adjacent On-site Collocation offering. Verizon MA is making these changes to better reflect the manner in which costs are incurred for these arrangements.

Q. Are there any cost studies which you are presenting that are associated with collocation offerings in D.T.E. - Mass. - No. 17 that are currently pending review before the Department?

A. Yes. Adjacent On-site Collocation (filed May 19, 2000), CRTEE (filed May 17, 2000), and AOSA (filed October 5, 2000) are currently pending a ruling by the Department. In this filing, the costs previously presented to the Department have been updated, where appropriate.

X. PHYSICAL COLLOCATION

Q. Please describe Verizon MA's Physical Collocation offerings.

A. Verizon MA offers three forms of physical collocation - traditional Physical Collocation, Secured Collocation Open Physical Environment ("SCOPE"), and Cageless Collocation Open Environment ("CCOE").

Traditional Physical Collocation

Q. What is Verizon MA's traditional Physical Collocation offering?

A. Traditional Physical Collocation is described in detail in D.T.E. - Mass. - No. 17. This offering allows a CLEC to place its equipment used for interconnection or access to UNEs in a dedicated, secure, environmentally conditioned area within a Verizon MA central office. The CLEC may order Physical Collocation in three area sizes: 25 square feet, 100 square feet, and 300 square feet. A CLEC may add to its physical collocation space in 20 square feet additions. As part of the arrangement, Verizon MA provides points of interconnection between the collocator's equipment and the Company's network.

Q. What are the rate elements included in the Physical Collocation cost study?

A. The Physical Collocation cost study includes the following rate elements:

- Application Fee
- Engineering and Administration Fee
- Space and Conditioning Charge
- Building Expense
- POT Bay Frame Charge
- DC Power Charge
- Conduit Fee
- Cable Pull and Splice Charge
- Service Access Charge POT Bay Termination
- Service Access Charge Cable and Frame Termination
- Escorting Fee
- Security Access Cards Charge
- Cable Rack Support Fee

Q. Do all of these elements have rates associated with them in D.T.E. - Mass. - No. 17?

A. Yes. However, in the current tariff, the rates for a physical caged area include not only the conditioning and security cost for the area, but also the associated Engineering and Administration Fee and the cost of the cage that surrounds the 25, 100, or 300 square foot area. In this filing, the appropriate component costs are not only developed separately but are structured to be charged as separate rate elements. In addition, Verizon MA no longer places a cage around the individual physical collocation areas (the 25, 100, and 300 square foot areas) occupied by a CLEC, and therefore, the cost of caging is no longer included in the costs for conditioning space for physical collocation. Verizon MA is giving CLECs the option to place a cage around their designated space.

Q. Are there any new rate elements for this offering?

A. Yes. The Cable Rack Support Charge has been added because of changes in engineering practices. This rate element, as well as those discussed above, is detailed below.

a. Application Fee

Q. What is the Application Fee?

A. As with all forms of collocation, when the CLEC submits its application for traditional Physical Collocation, Verizon MA incurs costs to process the application. This is a nonrecurring cost, which Verizon MA recovers through a one-time fee.

Q. How is that fee determined?

A. The fee is a portion of the cost of the Engineering and Administration Fee, which is collected when the application is submitted by a CLEC. The level of the fee has been determined by Wholesale Marketing. The remainder of the Engineering and Administration Fee is billed after the job is completed.

Q. Is there more than one type of Application Fee?

A. Yes. Verizon MA has examined the costs associated with processing three different types of Physical collocation applications: (1) an application to establish an initial collocation presence ($2,500), Exhibit Part CA, Exhibit, Page 1; (2) a subsequent request in the same central office ($2,500), Exhibit, Page 1; and (3) an augment to an existing CLEC collocation area ($1,500) Exhibit, Page 1.

b. Engineering and Administration Fee

Q. What is the Engineering and Administration fee?

A. The Engineering and Administration Fee is designed to recover Verizon MA's costs for processing and implementing a CLEC's request to establish a physical presence in a particular central office. These activities include tasks such as:

- Processing the CLEC's collocation application
- Establishing CLEC information and billing numbers
- Distributing the application to the effected organizations
- Collecting pre-site survey data
- Conducting site survey
- Determining feasibility of requests for engineering and security purposes
- Developing sketches, assignments, and routing of cable logistics
- Distributing site survey information to appropriate organizations
- Making assignments in Local Facility Assignment Control System ("LFACS") and Frame Operations Management System ("FOMS")
- Distributing completed data to Local Collocation Coordinator ("LCC") and/or Wholesale Network Services ("WNS")
- Issuing billing requirements.

Q. How did Verizon MA determine the costs for Engineering and Administration?

A. A Service Cost analyst contacted every organization involved in provisioning collocation arrangements and obtained detailed work descriptions and the associated labor hour data for the activities. The cost analyst provided instructions to the work-group subject matter experts informing them that the work times must be based on productive time and must take into account any efficiency of hours factored into the results. The contact was provided with a description of each type of engineering and administration rate element for every form of collocation required by this filing.

Q. Was this same methodology used to determine activities of all forms of physical and virtual collocation?

A. Yes. As stated above, all the various forms of applications for each type of collocation were considered in developing Engineering and Administration fees for each collocation offering.

Q. Does this method differ from the methodology used by Verizon MA in the Physical Collocation cost study filed in the Consolidated Arbitrations?

A. Yes. The study filed in the Consolidated Arbitrations considered two scenerios - an initial request for collocation within an office and subsequent requests for collocation within the same office. The associated Engineering and Administration hours were weighted to reflect both situations and a single charge was developed per density zone**.** See June 25, 1999 Physical Collocation Compliance filing. In addition, the resulting Engineering and Administration Fee was added to the Cage Collocation Cost and not reflected separately in the cost study or as a rate element in the tariff.

The new Engineering and Administration Fees cover five separate situations where engineering and administration activities are required. There is a separate fee for an initial arrangement, subsequent arrangement, expansion of space and additional cable for an existing physical node, a cable only augment, as well as a power cable augment. All five arrangements have a separate rate element and are charged separately based on the CLECs request.

Q. What are the results of the Engineering and Administration Fees for Physical Collocation?

A. The results are summarized in Exhibit Part CA, Exhibit, Page 1. This figure reflects the remaining portion of the engineering and administration fee after the application fee has been subtracted. The Engineering and Administration Fee varies based on whether the CLEC request is for an initial, subsequent, or augment arrangement. The initial fee is $1,626.27; the subsequent fee is $778.48; the cage and cable expansion augment fee is $1,668.07; the cable only augment fee is $1,260.55; and the power cable augment fee is $765.25. The hours for the above activities are displayed in Exhibit Part CA, Workpapers 1.0, 1.1, 1.2, 1.3 and 1.4, Page 2.

c. Space Conditioning Charge

Q. What does the Space Conditioning Charge recover?

A. This charge recovers Verizon MA's costs to condition space for a physical collocation area within a central office.

Q. What types of costs does Verizon MA incur when preparing collocation space?

A. When preparing an area for any type of physical collocation, the Company may be required to perform some general building construction to accommodate the CLEC arrangement. This work may include securing entrances, installing new doors, partitions, floor tiles, general overhead lighting, convenience outlets and painting walls. It may also include work such as building infrastructure support systems such as heating, ventilation, air conditioning ("HVAC"), grounding and AC power distribution system modifications or augments.

Q. Are these costs developed in your study different from the Physical Collocation costs submitted in the Consolidated Arbitrations?

A. While the overall activities and labor to provide physical collocation are much the same as studied in the earlier filing, the methodology Verizon MA used to determine the appropriate TELRIC costs has changed in this study.

Q. Briefly describe how construction costs were developed in the earlier study.

A. When the Physical Collocation cost study was filed on July 3, 1997, in the Consolidated Arbitrations, there were only 13 recent collocation arrangements in New England, and all were located in Massachusetts. These 13 arrangements were the traditional "caged" type, 10 of which were 300 square feet, and the other three were smaller size cages. Physical collocation construction costs were developed using the ten, 300-square-foot construction jobs as a base. The invoices for the arrangements were divided by density zone and then costs for the arrangements were separated into two types of costs: fixed and variable. The fixed cost was associated with conditioning collocation space, and the variable cost was associated with the wire mesh caging surrounding the individual CLEC areas. The two types of costs were added together to derive a physical collocation cost per density zone. The engineering and administration fees were added together with the construction cost for a final cost per density zone.

Q. How does the revised methodology differ?

A. In the past few years, Verizon MA has responded to a significant number of requests for all types of physical collocation. Through year-end 2000, Verizon MA received approximately 1,807 applications for traditional Physical Collocation, 803 applications for SCOPE, and 153 applications for CCOE. Thus, Verizon MA now has access to much more data than when the initial Physical Collocation cost study was filed.

Q. Please describe the data used to develop the conditioning costs.

A. The Verizon Corporate Real Estate ("CRE") organization provided Service Cost with a list of all physical collocation applications received between the third quarter of 1999 and the fourth quarter of 2000. These applications triggered either an initial job in a central office or a subsequent job in an existing area in the central office.

Q. Please explain what is meant by an initial job and a subsequent job.

A. Initial jobs include the costs of conditioning an entirely new area of a central office that will be occupied by an initial collocator and subsequent collocators. It also includes any conditioning costs generated by the initial collocator itself. An initial job is normally triggered by an application for a physical collocation arrangement at a central office with no previous physical collocation arrangements. An initial job may also be an expansion job in a central office where an existing collocation area has exhausted. In the latter case,

an existing collocation area must be expanded and conditioned, or an entirely new collocation area in that central office must be conditioned.

A subsequent job involves the collocation of a CLEC in an area that has already been conditioned. For these jobs, incremental conditioning costs generated by the subsequent collocator are incurred. This work usually consists of the installation of cable holes, ceiling inserts and air distribution, lighting and grounding modifications. Although subsequent jobs typically entail smaller amounts of construction work than initial jobs, they sometimes trigger larger work efforts and expenditures. For example, placing the next CLEC in an already conditioned area may require an expansion or supplement of the existing HVAC and AC power distribution systems in order to meet the appropriate environmental conditions for collocation equipment.

Q. Were all the jobs performed during the time period that was queried used to develop the physical conditioning costs?

A. A statistically valid sample of both initial and subsequent jobs was selected, which resulted in a sample size of 61 initial jobs and 91 subsequent jobs. Of the 61 initial jobs, 29 were for traditional Physical Collocation arrangements and 32 were for SCOPE/CCOE arrangements. Of the 91 subsequent jobs, 67 applications were for traditional Physical Collocation and 24 were for SCOPE/CCOE collocation. All density zones were included in the samples.

Q. What data were gathered and analyzed from the sampled jobs?

A. The following data were analyzed for each of the initial jobs:

1) The total cost of the job including both the costs for conditioning the new collocation area and the costs specific to the initial collocator.

2) The amount of square footage in the newly-conditioned area that could be assigned for use to the CLEC. This excluded common areas, such as aisles, which are shared by all the collocators occupying the area.

3) The type of collocation arrangement (Physical, SCOPE, CCOE) requested by the initial collocator.

4) The square footage occupied by the first collocator.

For the subsequent jobs, the following data were examined:

1) The conditioning costs specific to the subsequent collocator.

2) The type of collocation arrangement (Physical, SCOPE, or CCOE) requested by the collocator.

3) The square footage occupied by the subsequent collocator.

Q. How did Verizon MA use the data from the sampled jobs to develop the conditioning costs?

A. The Company used the data to estimate two separate components of conditioning costs. The first component accounts only for the costs of conditioning a new area in a central office. This cost component is directly related to the number of square feet conditioned and is unrelated to the mix of collocation arrangements that eventually occupies the area. On this basis, the data from the initial jobs was used to calculate a conditioning cost per square foot that was applied to all types of physical collocation arrangements.

Q. Are the initial construction costs the same for all types of physical collocation?

A. Yes. The construction costs associated with providing Physical, SCOPE, and CCOE forms of collocation basically require the same work activities and material. The actual construction requirements are the same; the only differences are the size in which the forms are offered and also how they are secured. Those costs would be unique to the three forms of physical collocation and are developed and represented separately in each of the three studies.

Q. Is this true for subsequent jobs as well?

A. No. Subsequent jobs can vary somewhat between traditional Physical Collocation and SCOPE/CCOE arrangements. SCOPE and CCOE are provisioned in allotments of bays. This gives CLECs the ability to install equipment in a more efficient manner from a space utilization perspective than traditional Physical Collocation. The arrangements are also more densely populated requiring a higher concentrated cooling load per square foot for HVAC requirements. Subsequent SCOPE arrangements could trigger larger HVAC-related work due to potentially greater requirements for environmental conditioning related to multiple CLECs' equipment being placed in a small size area.

Q. Please describe how the conditioning cost per square foot component was developed using data from the initial jobs.

A. The initial jobs were used to develop the conditioning cost per square foot. However, the costs for conditioning a new area are not recorded separately from the incremental costs specific to the first collocator. As a result, it was necessary to remove the collocator-specific costs from the total cost of the initial jobs so that only the costs for conditioning the new area remained.

Q. How were the collocator-specific costs removed from the cost of the initial jobs?

A. Discussions with CRE indicated that the collocators that subsequently collocated in an initially conditioned area are no different (in terms of costs) from the initial collocator

that triggered the new area to be conditioned. Therefore, Verizon MA used the collocator-specific costs from the subsequent jobs to determine the amount of collocator-specific costs to remove from the initial jobs. To do this, an average cost per job was calculated for the subsequent Physical Collocation jobs ($11,287.58) (Exhibit Part CA, Workpaper 2.0, Page 3) and an average cost per job was calculated for the subsequent SCOPE/CCOE jobs ($4,461.96) (Exhibit CA, Workpaper 2.0, Page 3). The two sets of costs were multiplied by the number of initial jobs in the sample for their respective type of 32 SCOPE/CCOE and 29 Physical Collocation. The two costs were added together and then subtracted from the total costs of all the initial jobs.

Q. What was the result of the above calculation?

A. Once the costs specific to the first collocators were removed from the initial jobs, only the cost of conditioning an entire area remained. These remaining costs were divided by the entire assignable square feet (36,754) that was conditioned on the initial jobs. This resulted in a conditioning cost per square foot of $24.57. See Exhibit Part CA, Workpaper 2.0, Page 2.

Q. How was the CLEC-specific component of conditioning costs developed?

A. CLEC-specific costs were developed separately for traditional Physical Collocation and SCOPE/CCOE. The average CLEC-specific cost per job for a Physical arrangement was developed by summing the conditioning costs for 67 Physical subsequent jobs and then dividing by the number of jobs in the sample (67). This resulted in a collocator-specific cost of $11,287.58 per Physical Collocation node. See Exhibit Part CA, Workpaper 2.0, Page 3.

The average CLEC-specific cost per job for SCOPE/CCOE arrangements was developed by summing the conditioning costs for the 24 subsequent jobs that entailed either a SCOPE or CCOE arrangement and dividing by the sample size of 24 jobs ($4,461.96). See Exhibit Part CA, Workpaper 2.0, Page 3.

Q. How was the conditioning cost per square foot combined with the CLEC-specific costs to develop an overall conditioning costs for the three forms of physical collocation?

A. As explained earlier, traditional Physical Collocation is offered in three sizes: 25 square feet, 100 square feet, and 300 square feet. Collocators may augment these basic sizes in 20 square feet increments. In order to develop the costs for the three size areas, the conditioning cost per square foot ($24.57) was multiplied by an 80 percent occupancy rate. The resulting cost per square foot was multiplied by each size, and each result was added to the CLEC-specific cost per job ($11,287.58) for Physical Collocation. This sum was multiplied by the common overhead and gross revenue loading and yielded the overall conditioning costs for the three sizes of Physical Collocation. These are displayed in Exhibit Part CA, Workpaper 2.0, Page 1. The conditioning cost per additional 20 square foot area was calculated by multiplying the conditioning cost per square foot by

20 feet, which resulted in an additional cost of $665.33. See Exhibit Part CA, Workpaper 2.0, Page 1.

SCOPE and CCOE are offered on a per-bay basis and the conditioning costs for these forms of collocation are discussed in detail in their respective sections of this testimony.

d. Building Expense Charge

Q. What is the purpose of the Building Expense Charge?

A. The per-square-foot building charge is intended to cover the costs associated with a CLEC's occupancy of space in a collocation area. It is designed to recover Verizon MA's forward-looking costs associated with inhabiting the building itself such as maintenance, housekeeping, janitorial services, and servicing of miscellaneous ancillary equipment.

Q. How did Verizon MA calculate the building expense?

A. The expense is developed using data recorded in the Company's real estate department database for Massachusetts' central offices. The database contains information related to gross investments and assignable square footages. Verizon MA divided the total gross investment for all Massachusetts central offices by the total of assignable square feet to yield an investment per assignable square foot. This investment was multiplied by appropriate cost factors and then divided by 12 to derive a monthly recurring cost per assignable square foot of $4.02. The derivation of the cost is detailed in Exhibit Part CA, Workpaper 3.0, Page 1.

Q. Is this the same methodology that was previously approved by this Department?

A. Yes. Only the investments have been updated in the current study.

e. POT Bay Frame

Q. What is the purpose of POT Bay?

A. The POT Bay serves as the demarcation point between the CLEC's collocated equipment and the Company's network. The CLEC has three options associated with POT Bays. Under Option 1, Verizon MA purchases and places the POT bay in the collocation common area. With Option 2, the CLEC provides the POT bay and termination shelves and Verizon MA places the bay in the collocation common area. Option 3 requires the CLEC to provide and install the POT bay inside the CLEC node area. Verizon MA does not charge CLECs who choose this last option.

Q. What are the charges for Options 1 and 2?

A. With Options 1 and Option 2, the CLEC is assessed both a nonrecurring and a recurring charge. With Option 1, a nonrecurring charge of $1,199.40 associated with the

installed investment is assessed, as well as a monthly, recurring cost associated with the building costs, common overheads, and gross revenue loading ($13.96). The development of the costs is detailed in Exhibit Part CA, Workpaper 4.0, Page 1.

With Option 2, the CLEC incurs a nonrecurring charge associated with Verizon MA installing the POT bay ($416.50) as well as a Building Expense Charge for 7 square feet required for the POT bay ($28.14). The development of the costs is detailed in Exhibit Part CA, Workpaper 4.0, Page 2.

f. DC Power Charge

Q. What power costs are included in this study?

A. There are two separate rate elements associated with DC power costs that are developed in the study. The first rate element is a monthly recurring rate for DC power expressed on a per-amp basis. The per-amp costs are associated with the components of the power plant itself. This rate element, referred to as Power Consumption, includes all the material, engineering, and installation components necessary to develop the cost of a power plant that provides DC power to a representative central office. These components include equipment such as batteries, rectifiers, main fuse panels, electrical connections, and backup generators to the main power source.

The resulting costs for provisioning power greater than 60 amps and for less than or equal to 60 amps were developed separately by density zone, and then weighted and averaged to yield one per amp rate. This power rate is applicable to all forms of central-office based collocation.

Q. Please describe the second rate element associated with DC power.

A. The second rate element, referred to as Power Distribution, is a monthly recurring cost that recovers the costs of placing power cables from the CLEC's location in the central office to the appropriate Verizon MA power source. The Power Distribution rate element also includes costs associated with the power cable and its cable support, engineering, and installation.

Q. Is this the current structure for DC power charges in D.T.E. - Mass. - No. 17?

A. No. The DC power charges in the tariff have not been separated into consumption and distribution elements.

Q. Why is Verizon MA making this change in its analysis?

A. These changes allow CLECs to order amperage required for their equipment separately from the amperage associated with their power cable requirements. This permits CLECs to order drained amps, while still being able to order the amperage for the

cable at a fused level or at a load balancing level. CLECs will determine their amperage requirements for their equipment, as well as for the power cables.

Q. What methodology was used to develop the Power Consumption rate element?

A. Verizon MA used the same methodology to develop DC power costs per amp, which was approved by the Department in the Consolidated Arbitrations. Only the investments have been updated in the current study.

Q. What power equipment is included in Verizon MA's Power Consumption rate element?

A. The Company's DC power plant costs were calculated based on the following equipment components:

- Microprocessor Plant
- Rectifiers
- Automatic Breaker
- Power Distribution Service Cabinet
- Battery Distribution Fuse Bay ("BDFB")
- Batteries and
- Emergency Engine.

Q. Are Verizon MA's power costs forward-looking?

A. Yes. The costs are based on a forward-looking, power plant using the most efficient technology currently available. Verizon MA's power engineering department provided the four categories of power plants that would be placed in Massachusetts (metro, urban, suburban, and rural, based on amperage capacity), all associated investments, as well as discrete component capacities and utilizations. In addition, material costs for power plant components were based on the most recent vendor-discounted material prices currently available in Verizon MA.

Q. Please explain the power cost calculation in more detail.

A. The costs were calculated by first determining a unit investment for each element of the power plant. Unit investments were calculated by dividing the material investments for each discrete component by its utilized capacity. The unit investments for each component were summed and multiplied by an installation factor to determine the total

installed investments. The resulting costs for provisioning power greater than 60 amps and for less than or equal to 60 amps were developed separately by density zone.

Annual and monthly costs were calculated by applying the appropriate ACFs as described in the Panel testimony. Statewide average costs were then developed by weighting the cost results, based on the percent of access served in the central office buildings that house the four categories of power plants included in the cost study. Finally, the costs for greater than 60 amps, and less than or equal or 60 amps were weighted together for a total per DC amp cost of $22.79. The development of the costs is detailed in Exhibit CA, Workpaper 5.0, Page 1.

Q. How was the cost for the Power Distribution rate element developed?

A. The cost was based on an examination of about 70 percent of the collocation jobs performed during 2000 that required the placement of power cables for CLECs use. From each job, Verizon MA derived information by density zone about the actual footage of each power cable placed per central office and the gauge of each power cable placed. The resulting figures were averaged to determine an average length of cable by gauge for each density zone. Finally, the cable information by density zone was weighted to arrive at an average statewide power cable length by gauge.

Q. How was this information used in the cost study?

A. The average length per power cable for each type of gauge was multiplied by the cost per foot for that particular gauge of cable. That cost was then multiplied with an installation factor as well as the associated land, building, and digital switch annual cost factors and common overhead and gross revenue loading factors.

Q What were the results of these calculations?

A. These calculations resulted in a cost per power cable gauge. The costs per gauge were used to develop an average for fused capacity. The fused capacity was grouped into the following increments:

- Up to 15 AMPs
- Up to 30 AMPs
- Up to 45 AMPs
- Up to 60 AMPs
- Up to 70 AMPs
- Up to 100 AMPs

- Up to 225 AMPs.

Q. How was the weighted average for fused capacity developed?

A. The average was developed by taking the cost per power cable placement (battery and return) for each gauge and multiplying it by the number of cable placements in the engineering sample for each fuse group. The result was summarized for all cable gauges and then divided by the total number of cables placed for each fuse group. Exhibit Part CA, Workpaper 5.0, Page 2.

g. Space and Conduit Fee

Q. What costs is the Space and Conduit Fee designed to recover?

A. The Space and Conduit Fee recovers the costs associated with the fiber support facilities between Verizon MA's designated manhole and the vault area in the central office.

Q. How were the monthly recurring costs for the Space and Conduit fee developed?

A. The Space and Conduit Fee was developed for each wire center in Massachusetts using actual contractor costs incurred by Verizon MA when the work is done for itself. Work such as excavation, conduit placement, backfill, resurfacing, engineering and conduit work inspection were included in the cost development to derive a cost per duct foot by wire center. These costs were then averaged into a statewide total cost per duct foot. The resulting cost was divided by two to reflect the cost of a partial duct. The workpapers associated with the development of the costs are contained in Exhibit Part CA, Workpaper 14.0, Page 1.

Q. How are the Space and Conduit fees charged?

A. The monthly recurring Space and Conduit fee of $1.03 (Exhibit Part CA, Workpaper 14.0, Page 1) is assessed on a per foot basis from the designated manhole to the vault area located inside the collocated central office.

h. Cable Pull and Splice Charge

Q. What is the Cable Pull and Splice charge?

A. The Cable Pull and Splice charge is designed to recover the costs that Verizon MA incurs to pull the CLEC's fiber cable from the designated manhole to the collocation space occupied by the CLEC. It recovers the Verizon MA technicians' time to place and splice the cable, as well as the associated engineering time. Since the time required to perform these functions can vary greatly from case-to-case because of the characteristics of the central office and the location of the collocation areas, it is assessed on a time and material basis.

i. Service Access Charge POT Bay Termination

Q. What is the Service Access Charge POT Bay termination?

A. The Service Access Charge ("SAC") POT Bay termination is the equipment located in the POT Bay which serves as the demarcation point between the CLEC's cables and Verizon MA's cables. The equipment varies, depending upon the services to which the CLEC has requested access, i.e., connector blocks will be placed for voice grade ("VG") connections, and a DS1 or DS3 panel will be placed to provide access to those offerings.

Q. How are the charges for the POT Bay termination developed?

A. There are two components that make up this charge. The first is a nonrecurring component that recovers the shelf and its associated installation. The second is a monthly recurring component that recovers the Company's land and building costs for housing the equipment. Verizon MA determined the cost based on actual vendor invoices for the material that the Company uses to provision termination panels and blocks for collocation projects. The material investments were multiplied by an installation factor to derive the total installed investment with loadings, which is assessed on a nonrecurring basis. See Exhibit Part CA, Workpapers 6.0, 7.0, 8.0, and 9.0, Page 1.

To develop a recurring rate to recover ongoing operating and support costs, the Company applied the land and building factor to the total installed investment, multiplied by land and building ACFs. To derive an annual cost for the POT bay termination equipment, Verizon MA applied an additional annual cost factor, which was adjusted to exclude all capital-related costs. Adding the annual costs for land and building to the adjusted annual costs for the termination equipment and dividing by 12 yields the monthly cost for this rate element. This cost was then multiplied by the common overhead and gross revenue loading factors. See Exhibit Part CA, Workpapers 6.0, 7.0, 8.0 and 9.0, Page 1.

j. Service Access Charge Cable and Frame Termination

Q. What is the SAC Cable and Frame Termination?

A. The SAC Cable and Frame termination is comprised of the elements necessary to connect the SAC Pot Bay termination, discussed above, to Verizon MA's network. The SAC POT Bay termination is located in the CLEC area, and the SAC Cable and Frame termination extends from the CLEC area to Verizon MA's network located elsewhere in the central office. The Cable and Frame termination consists of the block or shelf located at Verizon MA's main distribution frame ("MDF"), DSX bay, or fiber distribution frame ("FDF"), based on the services requested of the CLEC, as well as a portion of the frame itself. It also includes the associated cabling necessary to connect the appropriate frame to the CLEC's POT bay frame.

Q. Please explain how Verizon MA developed the costs for the cable and frame termination.

A. As with the POT Bay termination, the Company based its cable and frame termination charges on vendor invoices for the material Verizon MA uses to provision cable, termination panels, and frames for collocation projects and itself. The material investments were determined on the basis of a full bay divided by the number of shelves that can fit into each one, and apportioned on a per-service-offering basis for the panel. The cable investment was determined on a service-offering basis and apportioned based on the CLEC's request. Verizon MA then applied installation factors and utilization factors to derive a total installed investment with associated loadings, which is assessed on a nonrecurring basis.

As with the POT Bay termination, to develop a recurring rate to recover ongoing operating and support costs, the Company applied the land and building factor to the total installed investment, multiplied by land and building ACFs. To derive an annual cost for the cable and frame termination equipment, Verizon MA applied an additional annual cost factor, which was adjusted to exclude all capital-related costs. Adding the annual costs for land and building to the adjusted annual costs for the cable and termination equipment and dividing by 12 yields the monthly cost for this rate element. The resulting cost was multiplied by the common overhead and gross revenue loading factors. See Exhibit Part CA, Workpapers 10.0, 11.0, 12.0, and 13.0, Page 1.

k. Escorting Fee

Q. What is the purpose of the Escorting Fee?

A. This charge recovers the costs associated with escorting CLECs to areas of Verizon MA's central office that are outside of the collocation area. There may be limited occasions in which CLECs may need access to the cable outside their collocation space, access to staging areas for equipment deliveries, or access to the vault area. Because these types of requests are made infrequently, if at all, the most cost-efficient method of recovering Verizon MA employee time is to provide an escort to accommodate that individual request. This nonrecurring charge is assessed on a half ($23.99) and quarter hour ($11.99) at a central office technician's labor rate. See Exhibit Part CA, Exhibit, Page 1.

l. Security Access Cards Charge

Q. Please explain the reason for the Security Access Cards charge.

A. The Security Access Cards charge is designed to recover the cost associated with providing a CLEC with security access cards. These cards allow CLEC employees entry into Verizon MA central offices.

Q. How were the costs for the security access cards developed?

A. Verizon MA estimated the hours required to process the card access applications (which includes imaging, data base entries and programming the applicable card readers)

and applied a appropriate labor rate. This was added to the average material cost of a card. The average investment per card was multiplied by the common overhead and gross revenue loading factors to arrive at a total cost per card of $11.74. The result was also multiplied by five for a cost of five security access cards. See Exhibit Part CA, Workpaper 15.0, Page 1.

m. Cable Rack Support Fee

Q. What is the Cable Rack Support Fee?

A. The Cable Rack Support Fee is intended to recover the costs of cable support from the Verizon MA central office vault to the CLEC area. The cost includes the installed of the cable rack and high-steel support as well as cable holes and protection.

Q. How were the costs developed?

A. The installed investments for the material and cable holes were based on the placement of a 300 feet section of cable racking. This investment was divided by 300 to arrive at an installed investment per foot. The per-foot investment was multiplied by the appropriate investment and ACFs to arrive at an annual cost per foot. This cost was divided by 12 and multiplied by the common overhead and gross revenue loading factors. Finally, this cost was divided by 30, which is the average number of fiber cables that can be placed in this cable racking.

Q. What is the resulting cost?

A. The result is a monthly cost of $.07 per cable, per foot of cable racking. See Exhibit Part CA, Workpaper 16.0, Page 1.

XVIII. SECURED COLLOCATION OPEN PHYSICAL ENVIRONMENT ("SCOPE")

Q. Please explain Verizon MA's SCOPE offering.

A. A SCOPE arrangement enables a CLEC to install one or more bays of equipment in a secure area. Each CLEC is responsible for providing and installing its own equipment and for performing all maintenance-related activities up to the CLEC side of a shared POT bay.

Q. What rate elements are applicable to SCOPE?

A. SCOPE requires 13 rate elements. Eight of these are the same as described above for traditional Physical Collocation and the costs are the same for the element for both offerings. They are:

- Cable Pull and Splice

- DC Power Charge
- SAC POT Bay Termination
- SAC Cable and Frame Termination
- Space and Conduit Fee
- Escort Fee
- Security Access Cards
- Cable Rack Charge

Q. What rate element costs are unique to the SCOPE offering?

A. The following rate element costs are unique to SCOPE:

- Application Fee
- Engineering and Administration Fee
- Space Conditioning Charge
- SPOT Bay Frame
- Building Expense Charge

Q. Are any of these rate elements new to this filing?

A. No. These rate elements are contained in D.T.E. - Mass. - No. 17. For this filing, Verizon MA used the cost methodology that was filed with the Department in D.T.E. 98-57 and approved in the Department's Order of March 24, 2000. The costs are described below.

a. Application Fee

Q. Please describe the Application Fee.

A. As with most forms of collocation, an Application Fee is collected whenever the CLEC submits an application for SCOPE collocation. This fee is a portion of the total Engineering and Administration Fee for the offering. This is determined in the same manner as the application fee for traditional Physical Collocation. See Exhibit Part CB, Workpapers 1.0, 1.1, 1.2 and 1.3, Page 2.

b. Engineering and Administration Fee

Q. How were the costs for Engineering and Administration developed?

A. The methodology used to determine the Engineering and Administration costs is the same for all forms of collocation and was explained in the discussion of traditional Physical Collocation. After identifying the organizations involved in implementing SCOPE collocation arrangements, Verizon MA determined the necessary activities required to provision a SCOPE arrangement on an initial, subsequent, and augment for cable only and power cable only. The Company work groups responsible for performing these activities were surveyed for time estimates. Those time estimates were multiplied by the appropriate labor rates for that group.

Q. Please generally describe the activities associated with the engineering and administration of a SCOPE arrangement.

A. The activities associated with the engineering and administration of a request for a SCOP arrangement are:

- Reviewing requirements and design
- Pulling associated work plans of buildings
- Travelling to and from Central Office
- Conducting Site Survey
- Order administration and Billing
- Project Management
- Inputting into LFACS, FOMS, and SEPOC databases
- Contact meeting, Method of Procedure meeting, and acceptance.

Q. What are the results of the Engineering and Administration Fees for SCOPE?

A. The results are summarized in Exhibit Part CB, Exhibit, Page 1. The hours for the above organizations are contained in the associated Workpapers 1.0, 1.1, 1.2, and 1.3 Page 2.

c. Space Conditioning Charge

Q. What is the Space Conditioning Charge?

A. The SCOPE conditioning element is designed to reflect the forward-looking costs for conditioning space for a SCOPE area. This is similar to the space conditioning for traditional Physical Collocation, except that the cost for SCOPE is imposed per equipment bay rather than on a square footage basis.

Q. How did Verizon MA determine the costs for the Space Conditioning Charge?

A. The data we used was described above in the discussion of traditional Physical Collocation. The Company divided the number of SCOPE/CCOE bays (41) into the conditioning cost of CLEC-specific subsequent SCOPE/CCOE jobs. This resulted in an average CLEC-specific investment per bay of $2611.88. See Exhibit Part CB, Workpaper 2.0, Page 1.

Verizon MA then added high-steel and cable racking to the average space conditioning investment per square foot that was developed in the Physical Collocation cost study. The sum of these were then multiplied by a SCOPE occupancy rate of 80 percent and then multiplied by 15 square feet, which is the amount of space occupied by a SCOPE equipment bay.

This investment was added to the CLEC-specific investment per bay to arrive at a total investment per SCOPE bay. This figure was then multiplied by the common overhead and gross revenue factors for a total cost of conditioning space per SCOPE bay of $3,670.56 Exhibit Part CB, Workpaper 2.0, Page 1.

Q. Why were costs for high-steel and cable racking included?

A. These elements are necessary so that Verizon MA's equipment installers can run cable from the SCOPE area to the SPOT bay. The costs were developed from engineering estimates based on vendor prices.

Q. How did Verizon MA determine that a SCOPE equipment bay occupied 15 square feet?

A. The Company's Space and Frame Engineering group determined that fourteen SCOPE bays could be accommodated in a typical SCOPE area of 200 square feet which translates to approximately 15 square feet per bay. In addition, actual equipment configurations currently deployed in 200 square feet areas have a maximum of 14 equipment bays actually installed in them.

d. SPOT Bay Frame Charge

Q. What is the purpose of the SPOT Bay Frame Charge?

A. Unlike traditional Physical Collocation where the POT bay is dedicated to a single CLEC, the POT bay for SCOPE is shared by CLECs that order SCOPE arrangements -

thus becoming a shared point of termination (SPOT) bay. This SPOT bay houses the panels or blocks required to provide voice grade , DS1, DS3, and fiber access.

Q. How was this charge developed?

A. Since the frame is shared, a portion of it is recovered in association with the service the CLEC has requested. For example, a SPOT frame that provides VG services can house a total of 3,200 VG terminations. Since the service offering for VGs is a 100 pair unit, the frame investment is first divided by 32 and then multiplied by an installation factor. There is a nonrecurring charge that recovers the installed investment of the frame and a recurring element that recovers those costs associated with the land and building investment and associated ACFs and common overhead and gross revenue loading factors. See Exhibit Part CB, Workpapers 4.0, 5.0, 6.0, and 7.0, Page 1.

e. Building Expense Charge

Q. What is the Building Expense Charge?

A. The SCOPE Building Expense Charge is identical to the tradition Physical Collocation building expense rate, except that it is applied per equipment bay, rather than on a per square foot basis. The calculation of the charge was explained in the discussion of traditional Physical Collocation.

Q. How is this charge applied?

A. As with the SCOPE Construction Charge, the building expense is applied on a 15 square foot basis for a monthly recurring cost of $60.31. See Exhibit Part CB, Workpaper 3.0, Page 1.

XVIII. CAGELESS COLLOCATION OPEN ENVIRONMENT ("CCOE")

Q. What is CCOE?

A. CCOE is a form of physical collocation in which CLECs can place their equipment in Verizon MA central office space. CCOE is available on a first come, first served basis in all central offices where interconnection or access to unbundled network elements is requested by the CLEC.

Q. Please describe what rate elements are included in the CCOE cost study.

A. The CCOE study includes 13 rate elements, only four of which are unique costs to the CCOE offering itself. The rate elements identical to Physical and SCOPE which are discussed above are:

- Space and Conduit Charge

- SPOT Bay Frame Charge
- SAC POT Bay Termination
- SAC Cable and Frame Termination
- Security Access Cards
- Cable Pull and Splice
- DC Power Charge
- Escorting Fee
- Cable Rack Charge

Q. What rate element costs are unique to CCOE?

A. There are four additional rate elements associated with CCOE:

- Application Fee
- Engineering and Administration Fee
- Space and Conditioning Charge
- Cageless Security

Q. Are any of these rate elements new to this offering?

A. No. These rate elements are contained in D.T.E. - Mass. No. 17 and were approved by the Department's Order of March 24, 2000. Only the costs for the rate elements are being updated in this filing.

a. Application Fee

Q. How was the Application Fee determined for CCOE?

A. As with traditional Physical Collocation and SCOPE, CCOE has different Application Fees for an initial, subsequent, or augment of cable only or power cable requests. Each of these Application Fees is an upfront portion of the associated Engineering and Administration Fee. See Exhibit Part CC, Workpapers 1.0, 1.1, 1.2, and 1.3, Page 2.

b. Engineering and Administration Fee

Q. How were the Engineering and Administration Fees developed?

A. Using the same methodology described above for traditional Physical Collocation, the appropriate work groups were queried to provide activities and associated hours necessary to provision CCOE.

Q. Please generally describe the activities associated with the engineering and administration of a CCOE arrangement.

A. The following activities are associated with the engineering and administration of a CCOE arrangement:

- Reviewing requirements and design
- Pulling associated work plans of buildings
- Travelling to and from Central Office
- Conducting a Site Survey
- Order administration and Billing
- Project Management
- Inputting into LFACS, FOMS, and SEPOC databases
- Contact meeting, Method of Procedure meeting, and acceptance.

Q. What are the results of the Engineering and Administration Charges for CCOE?

A. The results are summarized in Exhibit Part CC, Exhibit, Page 1. The hours for the above activities and others are shown in Workpapers 1.0, 1.1, 1.2, and 1.3 Page 2.

c. Space and Conditioning Charge

Q. What is the purpose of the Space and Conditioning Charge?

A. This charge contains two cost components. First, Verizon MA proposes to charge CLECs a building rate per square foot for the space occupied by the CLECs' equipment bays. This allows the Company to reflect costs associated with the building space itself. The other component represents the cost to condition an area in Verizon MA's central offices to accommodate CCOE.

Q. How was the Building Space cost developed?

A. The Building Space cost is the same as the Building Expense Charge developed in the Physical Collocation study and described earlier in this testimony.

Q. How was the Conditioning Cost component developed?

A. The CCOE Conditioning costs are the same as described in the SCOPE section of this testimony. Verizon MA identified the costs per square foot for the related physical collocation space conditioning charges and then added high steel and cable racking for a 200 square foot area of CCOE space. The sum of these costs arrived at a per square foot cost. The resulting figure was added to the CLEC-specific conditioning cost for SCOPE/CCOE bays developed in the SCOPE Construction Charge worksheet. The total of these was then multiplied by 15 square feet and also by 11 square feet. The resulting figures were multiplied by the appropriate ACFs and divided by 12 to arrive at a monthly space conditioning cost per CCOE bay. This amount was multiplied by the common overhead and gross revenue loading factor and the result was added to the Building Expense Charge. This results in a total monthly cost for Space and Conditioning per CCOE bay of either $168.89 for a 15 square foot area, or $147.71 for an 11 square foot area. See Exhibit Part CC, Workpaper 2.0, Page 1.

Q. Why were the figures multiplied by both 11 and 15 square feet?

A. CLECs that use large size equipment bays that are more than 12 inches in depth require 15 square feet of CCOE floor space. In its October 5, 2000 compliance filing in DTE 98-57, as required by the Department's Order on Reconsideration dated September 7, 2000, Verizon demonstrated in Cost Study Part R that 12 inch equipment bays used to house smaller sized equipment require a minimum of 11 square feet of floor space.

d. Cageless Security Charge

Q. What is the purpose of the Cageless Security Charge?

A. The security charge is a monthly rate designed to reflect the forward-looking costs associated with equipping Verizon MA's central offices with monitoring equipment and other security measures necessary to provide reasonable security of the Company's network.

Q. How did Verizon MA calculate its security costs?

A. Using investments provided by Verizon MA's Real Estate department, Verizon MA determined the amount of installed investment in security measures for a central office, and then allocated these costs over the amount of cageless collocation space forecasted for all central offices in Verizon MA.

Q. How did Verizon MA determine the amount of security costs per central office?

A. The Company established the investment per central office building associated with providing the necessary security based on Final Programs of Record ("FPORs") supplied by the Verizon Corporate Real Estate department. These investments are based on actual expenses Verizon MA has incurred to provision cageless security in Massachusetts using 14 central offices as its sample. The amount and types of security varied by central office. These investments were associated with the forecasted square footage of CCOE and then converted into monthly costs by applying ACFs. A common overhead and gross revenue loading was then applied to arrive at a total recurring cost.

Q. How did Verizon MA allocate the above investments on a per bay basis?

A. The costs are recovered on a 15 square foot bay basis ($137.37) and an 11 square foot bay basis ($100.74). See Exhibit Page CC, Workpaper 3.0, Page 1.

XIII. VIRTUAL COLLOCATION

Q. What is Virtual Collocation?

A. Virtual Collocation is an arrangement in which Verizon MA installs CLEC-provided equipment (which is dedicated exclusively to the CLEC) in a Verizon MA central office. Virtual Collocation is provided by means of splicing the CLEC's fiber cable to a Company fiber at a splice point in the central office designated by Verizon MA, or by means of other transport leased from Verizon MA or from a third party.

Q. Please describe the components of Virtual Collocation.

A. Virtual Collocation consists of the following rate elements:

- Application Fee
- Engineering and Implementation Fee
- Equipment Installation/Acceptance Testing Fee
- Interconnection Access Charge ("IAC") Cable and Frame Termination
- Entrance Fiber Termination
- Fiber Distribution Frame
- Equipment Support Charge
- Spare Cabinet Charge
- Training Charge

- Equipment Maintenance Charge

- Cable Pull and Splice Charge

- DC Power Charge

- Escorting Fee

Q. Do any of these rate elements differ from those contained in Verizon MA Virtual Cost Study compliance filing submitted to the Department on May 19, 2000 in D.T.E. 98-57?

A. No. Only the costs for the rate elements have been updated. No new rate elements or changes in cost methodology are contained in this filing.

Q. Are charges that have been previously discussed in this testimony applicable to Virtual Collocation?

A. Yes. The Cable Pull and Splice Charge, DC Power Charge, and Escorting Fee discussed in the Physical Collocation portion of the testimony apply to Virtual Collocation. These rate elements are applied in the same manner for Physical and Virtual Collocation.

Q. Are there rate elements that are specific to Virtual Collocation??

A. Yes. The rate elements that are specific to Virtual Collocation are described below.

a. Application Fee

Q. How was the Application Fee determined for Virtual Collocation?

A. As with other forms of collocation, an Application Fee must be submitted when an application for Virtual Collocation is sent to Verizon MA. Virtual Collocation has three different Application Fees, depending on the type of request. An initial application fee of $2,500 is required when a CLEC first requests access to a particular central office. A subsequent application fee of $1,500 is paid by the CLEC if additional equipment is placed in an existing Virtual arrangement. An augment application fee of $1,000 is for applications requesting additional cabling or equipping of existing Virtual arrangements that were initially installed only partially cabled or equipped. See Exhibit Part CD, Exhibit Page 1.

b. Engineering and Implementation fee

Q. Please describe the Engineering and Implementation fee.

A. The methodology used to determine these costs were discussed in the Physical Collocation section above. There are five different engineering and implementation fees

that may be assessed, based on the following five types of Virtual Collocation requests: (1) initial; (2) subsequent; (3) augment for a rearrangement of equipment; (4) software upgrade; or (5) placement of additional cards. These fees recover the expenses associated with the planning, engineering, application assessment, billing, and project management of the virtual collocation arrangement.

Q. How are these fees assessed to the CLEC?

A. All five Engineering and Implementation Fees are nonrecurring. The initial arrangement fee occurs whenever the CLEC requests access to a particular central office for the first time. If the same CLEC requests the placement of additional virtual equipment, then a subsequent arrangement fee will be assessed. The CLEC will also incur a fee for augmenting or rearranging of existing virtual equipment, as well as a fee for software upgrades or the placement of additional cards in existing equipment.

Q. Please describe generally the activities associated with the engineering and administration of a Virtual Collocation arrangement.

A. The following activities are involved with the engineering and administration of a Virtual Collocation arrangement:

- Receiving and reviewing application
- Forwarding to appropriate work groups
- Obtaining and analyzing existing floor plan data
- Attending a Site Survey
- Compiling results and sending to WNS
- Developing Building Package
- Preparing and issuing a engineering recommendation
- Distributing specification and telephone engineering order
- Developing building design
- Preparing and submitting billing form
- Providing and tracking planning package
- Attending method of procedure meeting

- Verifing DSX locations

- Inputting cable ID and count into databases.

Q. What are the results of the Engineering and Implementation fee for Virtual Collocation?

A. The results are summarized in Exhibit Part CD, Exhibit, Page 1. The hours for the above activities are contained in Workpapers 1.0, 1.1, 1.2, 1.3, and 1.4, Page 2.

c. Equipment Installation Fee

Q. What is the Equipment Installation/Acceptance Testing Fee?

A. This charge represents the costs associated with installing the collocator-provided equipment. The costs are associated with the placement of equipment such as OC-3, OC-12, OC-48, LiteSpan, and DSLAM.

Q. How were the costs developed?

A. The equipment for Virtual Collocation is provided by the CLEC. While it is impossible to know the exact type of equipment that the CLEC will provide, Verizon MA expects that it will be very similar to the equipment typically installed for its own use. Verizon MA relied on average time estimates from the Central Office Equipment Installation Department ("COEI") for installation activities for equipment installed in its central offices for its own use. The labor rate for a COEI technician was applied to the total labor hours to determine the cost.

Q. What activities are involved in installing Virtual Collocation equipment?

A. The installation activities begin with reviewing the job specifications and drawings and preparing a Method of Procedure ("MOP") plan. When the equipment has arrived on-site, the invoices are reviewed to insure that equipment type and quantities are in accordance with the job specifications. The equipment and associated materials are removed from the shipping packages and the shelves and equipment are mounted and secured into the relay rack.

Once the equipment has been secured in the relay rack, battery and return cables are connected from the equipment power supply units to the power supply panel in the relay rack. Any grounding cables, if required, are also run, connected, and secured. Connecting cables between shelves are run, connected, and secured as appropriate. The cable for any necessary alarms are run to the alarm panel as designated by the engineer and then connected and secured.

After the cabling has been completed, the circuit boards are removed from their protective packing and installed. The appropriate fuses are installed and the equipment is

powered up in accordance with vendor-specified procedures. Operational testing for the voice, data, alarm, and power functions, as specified by the vendor, is performed. The frame and equipment designations are then stenciled.

Upon final completion, the necessary documentation is completed. This would include items such as: Trunk Information Equipment Form, marking up drawings to show placement of equipment or any changes, test results, and the signed-off MOP form.

Q. How does Verizon MA assess these costs?

A. The Equipment Installation/Acceptance Testing fee is a nonrecurring cost per occurrence of $1,140.71. See Exhibit Part CD, Workpaper 1.5, Page 1.

d. Entrance Fiber Termination

Q What is the purpose of the Entrance Fiber Termination?

A. This rate element recovers the costs associated with splicing the CLEC-provided outside fiber to a Verizon-provided inside fiber cable. It also recovers the support equipment such as the splice shelf and associated racking.

Q. How is this rate element charged?

A. This is a monthly charge assessed in units of 12 fibers for a cost of $9.81. The cost development is contained in Exhibit Part CD, Workpaper 6, Page 1.

e. Fiber Distribution Frame

Q. Please explain the FDF rate element.

A. This rate element reflects the cost for the installed investment of a pair of jumpers between the OSP side of the FDF and the virtual equipment side of the FDF as well as the associated support equipment. It also includes the costs for two fibers that are placed from the FDF to feed the CLEC's virtual equipment.

Q How is this charge assessed?

A. This charge ($3.31) is a monthly recurring rate based on two fibers. The cost development is contained in Exhibit CD, Workpaper 7.0, Page 1.

g. Interconnection Access Charge ("IAC") Cable and Frame Termination

Q. Please explain the IAC Cable and Frame Termination.

A. Similar to the SAC charge in Physical Collocation, the IAC provides a physical connection between the CLECs' Virtual Collocation equipment and the Verizon MA

network. The connections consist of cabling and terminations on Verizon MA's frames. This equipment configuration represents the most efficient technology currently available for provisioning Virtual Collocation.

Q. Please describe the components of the IAC.

A. The IAC consists of: (1) cabling necessary to connect the virtual equipment to the Company's frame at a VG, DS1, DS3, and fiber level; (2) the termination block or panel located on the frame; and (3) a portion of the frame itself.

Q. How were the costs for the cable, termination, and frame developed?

A. All charges are based on vendor invoices for Massachusetts collocation projects for cable, terminations, and frames. The material investments are determined on the basis of a full frame, and then apportioned on the appropriate service offering for VG, DS1, DS3, and fiber.

Q. How are these charges assessed?

A. The IAC is charged on a nonrecurring and recurring basis. The cost development is summarized in Exhibit Part CD, Exhibit, Page 1.

h. Equipment Support Charge

Q. What is the Equipment Support Charge?

A. The Equipment Support Charge is a monthly rate designed to recover the costs for the equipment bay which houses the Virtual Collocation equipment and the associated building expense. It is assessed on a half-bay basis.

Q. How did Verizon MA develop this rate?

A. Verizon MA used the installed investment of an equipment bay and divided the figure by two to convert the cost to a half-bay basis. This investment was multiplied by the appropriate ACFs, divided by 12 to obtain a monthly cost and then multiplied by the common overhead and gross revenue loading factors. The resulting figure was added to the Building Expense charge for half the area related to the equipment bay. This results in a total monthly cost of $31.16 for the equipment bay and its associated floor space. See Exhibit Part CD, Workpaper 8.0, Page 1.

i. Spare Cabinet Rate

Q. What is the purpose of the Spare Cabinet Rate?

A. A CLEC with Virtual Collocation may elect to a have Verizon MA install a cabinet in the central office to house spare plug-ins for its the equipment.

Q. How is this charge assessed?

A. This is a monthly recurring rate of $14.07 that recovers the building floor space associated with the footprint of the cabinet. See Exhibit Part CD, Workpaper 8.0, Page 1.

j. Training Charge

Q. What is the Training Charge designed to recover?

A. The Training Charge is designed to recover costs to train Verizon MA Equipment Installers to service collocator specified equipment that is not used by Verizon MA in the specified central office. Charges cover all costs incurred by Verizon MA and its technicians, including training fees, material, lodging, meals, etc., if required. This is billed back to the collocator on a nonrecurring case-by-case basis and is based on the labor rate of the equipment installer per half-hour ($23.99) for the first half-hour and on an additional quarter-hour ($11.99) thereafter, if applicable. See Exhibit Part CD, Exhibit, Page 1. Charges other than technician's time are based on actual expenses incurred by Verizon MA.

k. Equipment Maintenance Charge

Q. Please explain the Equipment Maintenance Charge.

A. The Equipment Maintenance Charge recovers the labor hours associated with performing maintenance activities on the Virtual Collocation equipment. Maintenance or trouble in the equipment is determined and evaluated by the CLEC. When notified by the CLEC that maintenance is required, Verizon MA technicians will perform the instructed activities on the equipment as specifically directed by the CLEC.

Q. How is this charge assessed?

A. This charge is made on a nonrecurring basis, per occurrence. The charge is based on the labor rate of the central office technician and is assessed per half-hour ($23.99) for the first half-hour and on an additional quarter-hour ($11.99) thereafter, if applicable. See Exhibit CD, Exhibit, Page 1.

1 DEDICATED TRANSIT SERVICE ("DTS")

Q. What is DTS?

A. DTS is the establishment of a connection between two collocation arrangements (the same CLEC, or other CLEC arrangements) at the DS1, DS3, or optical level.

Q. What costs are applicable to DTS?

A. There are four nonrecurring rate elements unique to DTS, as well as nonrecurring and recurring SAC charges. The nonrecurring rate elements recover the service order and provisioning costs of such an arrangement. The recurring and nonrecurring SACs are the same SAC charges described above in the Physical Collocation section at a DS1, DS3, and optical level.

Q. How were the nonrecurring rate elements developed?

A. These rate elements were developed in the NRC study filed in this proceeding. See NRC Exhibit I.

Q. What other costs apply if a CLEC requests DTS?

A. The CLEC will be assessed the cost of two cross-connects at a DS1, DS3, or optical level. Because DTS is a cross-connection between two collocation arrangements, Physical or Virtual, CLECs are billed for two cross-connects - one from the collocation arrangement to Verizon MA's network and one from Verizon MA's network to the second collocation arrangement. See Exhibit Part CE, Exhibit, Page 1.

II. DEDICATED CABLE SUPPORT ("DCS")

Q What is DCS?

A. DCS permits a CLEC to connect directly its physical collocation node to the Physical Collocation node of itself or another CLEC in the same central office via CLEC-provided distribution facilities. The CLEC must establish a collocation node and interconnect to Verizon MA.

Q. Please identify the costs associated with providing DCS.

A. The CLEC requesting the service is responsible for all material and installation costs of the DCS cable support. A nonrecurring Engineering and Administration Fee is assessed to recover the expenses associated with Verizon MA's engineering and administration time for each DCS request.

Q. Please identify the Verizon MA organizations involved in this process.

A. As with other forms of collocation, the Wholesale Network Services organization performs the same functions related to reviewing and distributing the application and establishing the project record, as well as performing the billing process. After reviewing the application and pulling building plans for the central office, the COE makes a site visit to locate the CLECs arrangement to determine alternate routes. The COE also considers cable rack paths in relation to core holes and connections needed between different floors or areas. A final cable route is determined, and the results are forwarded to the WNS organization, which coordinates with the requesting CLEC.

Q. What are the results of the Engineering and Administration Fee for DCS?

A. The results are summarized in Exhibit Part CF, Exhibit, Page 1. The hours for the above activities are contained in Workpaper 1.0, Page 1.

III. ADJACENT ON-SITE COLLOCATION

Q. Please explain the Adjacent On-Site Collocation offering.

A. Adjacent On-Site Collocation provides CLECs an alternative method of collocating on a Verizon MA premises when physical space within the central office has been exhausted. Adjacent On-Site collocation, where technically feasible, permits CLECs to construct (or otherwise procure) a Verizon-approved above or below ground structure. This structure will be located on Verizon MA's central office property and will be used to house the CLECs' equipment and to connect to Verizon MA's network.

Verizon MA filed a tariff for Adjacent On-Site Collocation on May 19, 2000 and that proposal is currently pending a ruling by the Department. In this filing, the costs previously presented to the Department have been updated, where appropriate, and in addition, Adjacent On-Site-specific SAC costs have been developed.

Q. Please describe the costs associated with Adjacent On-Site Collocation.

A. The costs associated with Adjacent On-site include costs that are incurred directly by the CLEC, i.e., the adjacent structure, and also those incurred by Verizon MA.

Q. What rate elements are appropriate for Adjacent On-Site Collocation?

A. There are seven rate elements required for Adjacent Onsite, two of which are the same as Physical Collocation and detailed above.

Q. What two rate elements are the same as Physical Collocation?

A. The Cable Rack Support Charge and the Space and Conduit Charge are the same as Physical Collocation.

Q. What unique costs are associated with Adjacent On-site Collocation?

A. The five remaining rate elements are:

- Application Fee
- Engineering and Administration Fee
- OSP Entrance Facility Fee

- SAC Cable and Frame Termination

- Contract Work Inspector Fee.

Q. Please describe the Application Fee.

A. The Application Fee is a nonrecurring charge of $2,500 and is a portion of the Engineering and Administration Fee discussed below. See Exhibit Part CG, Exhibit, Page 1.

Q. Please describe the Engineering and Administration Fee.

A. The Engineering and Administration Fee covers Verizon MA's costs for processing and implementing the CLECs' request for Adjacent On-Site Collocation. These activities include:

- Reviewing the application for completeness and to determine or clarify the CLEC's requirements

- Distributing the application to the CRE and OSP organizations

- Establishing a project tracking record

- Recording the required information and determining the timeline required for the feasibility site survey

- Determining feasibility and restrictions or constraints on feasibility

- Conducting pre-site survey tasks, *i.e.*, reviewing building plans, determining bay availability and new bay location, developing a list of feasible locations, and coordinating and arranging the site survey, etc.

- Conducting the site survey, *i.e.*, traveling to and from the site, evaluating all potential locations, determining the final solution for accommodating the structure and cable terminations, and developing a rough sketch of the arrangement

- Reviewing and approving the CLEC's easement or right-of-way ("ROW")

- Finalizing bay assignments

- Updating databases with new termination information

- Sending assignments to the OSP engineer

- Developing formal documentation for communication to stakeholders

- Providing the results of the site survey to the CLEC

- Arranging for final billing

- Inputting billing data for bill issuance

Q. Please identify the Verizon MA organizations that are involved in this process.

A. The Wholesale Network Services, Corporate Real Estate, OSP Engineering, and Central Office Engineering organizations are involved in reviewing and distributing the application and establishing the project record, as well as in the billing process. Engineers and other managers are involved in the actual site survey and determination of feasibility and locations. Hours are associated with activities performed by the OSP engineering organization for pre-engineering the SAC cable placement from the CLEC's structure to Verizon MA's network. The Engineering and Administration Fee is $1280.40 as shown in Exhibit Part CG, Exhibit, Page 1.

Q. Please describe the OSP Entrance Facility Fee.

A. The OSP Entrance Facility Fee recovers three costs. The first is the cost of breaking-out the manhole of $325.00 for a one-to-six duct structure so the CLEC may establish a connection from its adjacent structure to the central office. See Exhibit Part CG, Workpaper 2.0, Page 1. Verizon MA must break the concrete casting on the manhole to allow the CLEC's conduit and new ducts to access the manhole. After the ducts are connected to the manhole, additional cement is poured to encase the new area so no leakage will occur. This portion ($325) is based on a contracted charge that Verizon MA has negotiated with its vendors for Verizon MA's own manhole break-out activities.

The second cost is for a contract work inspector ("CWI"), a Verizon MA employee who inspects work for safety requirements, restoration, and construction standards. For instance, while Verizon MA's contractor breaks through manhole-zero and connects the CLEC's duct structure to the Verizon MA's entrance facility, a CWI will be present for an average of three hours. As described below, a similar, but separate fee is assessed for a CWI's supervision of CLEC work.

The third cost is for the OSP engineering design. OSP engineering is responsible for designing, issuing, distributing, and posting a work order detailing the work activities required and associated responsibilities that breaks out manhole-zero and connects the CLEC's conduit from the adjacent structure to Verizon MA's entrance facility. The cost for this portion of the charge is based on an average of five hours for OSP Engineering to travel to and from the central office, sketch a detailed plan of work involved, enter work order into engineering systems, distribute work order to appropriate departments/contractors, and post final work plans to OSP plats.

As shown on Exhibit Part CG, Workpaper 2.0, Page 1, the total cost for these services is estimated at $731.19 and is recovered on a nonrecurring basis.

Q. Please describe the SAC Cable and Frame Termination.

A. The SAC provides the physical connection between the collocator-provided demarcation within the adjacent on-site structure and the Verizon MA network. It consists of cabling, protection, and terminations on Verizon MA frames. The SAC for voice grade elements terminate on a main distribution frame; DS1 and DS3 services terminate on a digital cross-connect bay. The fiber termination SAC terminates on a Fiber Distribution Frame.

Q. Are the Adjacent On-Site SAC costs the same physical collocation SAC costs presented earlier in your testimony?

A. No. Specifically, the SAC cabling associated with Adjacent On-Site Collocation will come from Verizon MA's frames in the central office and go through the vault to manhole '0' and follow a route through the CLEC connection to the demarcation point within the adjacent structure. OSP engineering must determine the path the SAC cables will take from the adjacent structure to Verizon MA's network. OSP technicians will also place and splice the associated SAC cables.

Verizon MA is responsible for all of this required work, with the exception of terminating the connection within the CLEC's structure. The CLEC is responsible for the demarcation termination, as well as terminating the SAC cables to this termination.

Q. How were the SAC costs calculated?

A. Verizon MA surveyed four central offices representing the different Massachusetts density zones. For each offering (VG, DS1, DS3, and fiber), Verizon MA's engineering organization provided SAC lengths for each office between the relevant points within the office - MDF to the vault and the vault to manhole '0' - and outside the office - from manhole '0' to the hypothetical adjacent structure located outside the central office.

The information was input into a Verizon MA engineering system to yield the installed costs associated with these cross connects, including costs for OSP construction and the associated engineering and material costs.

Using these installed costs, Verizon MA developed a single statewide average for each service (VG, DS1, DS3, and fiber) by weighting the costs for the various density zones. Verizon MA then added the installed costs for the associated protection, termination panels and frames. Finally, Verizon MA applied the appropriate ACFs, investment factors, and overhead loadings to these installed costs.

Each service offering's cost is detailed in Exhibit Part CG, Workpapers 3.0, 4.0, 5.0, and 6.0, Page 1.

Q. Please describe the Contract Work Inspection Fee.

A. As noted above, a CWI must periodically be present for all construction work done on Verizon MA premises, whether this work is performed for Verizon MA or the CLEC. While the CLEC (or its vendor) digs the hole for the controlled environment vault ("CEV"), places the CEV, digs the trench for the conduit from the CEV to manhole-zero, and lays the conduit, a CWI must periodically inspect the construction work for safety reasons and to ensure that standards are met. This charge is assessed on an hourly basis and is determined by the time the CLEC takes to complete its portion of the work required. To be clear, this activity is associated with the placement of the CLEC's structure and associated conduit and is in addition to the work performed by the CWI as part of the Entrance Facility Fee.

Assessing this charge on an hourly basis is reasonable because the time will vary greatly with each arrangement. More important, the amount of time the CWI spends monitoring the construction work is controlled by the CLEC, *i.e.*, when their vendors are available, whether they perform activities concurrently or successively, and so forth.

XVI. COLLOCATION AT REMOTE TERMINAL EQUIPMENT ENCLOSURES ("CRTEE")

Q. What is CRTEE?

A. Verizon deploys Digital Line Carrier ("DLC") Remote Terminal ("RT") equipment in its loop network using four types of Remote Terminal Equipment Enclosures ("RTEEs"). The RTEEs options used are CEVs, Huts, cabinets, and leased space in customer owned buildings. Where space exists and the easement, right-of-way (ROW) or lease permits, a CLEC may install transmission equipment in the RTEE for interconnection to Verizon MA UNE elements or services.

Verizon MA filed a CRTEE tariff with the Department on May 17, 2000, and a ruling is pending. In this filing, costs for three rate elements previously filed as ICB have been developed.

Q. What rate elements related to CRTEE are contain in this testimony?

A. The cost for three rate elements have been developed. They are:

- Remote Terminal Serving Address Inquiry Fee
- Preliminary Engineering Records Review Fee
- Site Survey for Space Availability Fee

Q. Please describe the Remote Terminal Serving Address Inquiry Fee.

A. Upon request of a CLEC, Verizon MA will provide a list of the addresses served by an RT location. The response will identify each feeder distribution interface ("FDI") served

by the RT and a list of serving addresses for each of the FDIs. A nonrecurring charge will be assessed for processing each Remote Terminal Serving Address Inquiry.

Q. How were the costs for a Remote Terminal Serving Address Inquiry Fee developed?

A. Representatives of the two organizations involved, Wholesale Network Services and Outside Plant Engineering, provided detailed descriptions of the work activities required to conduct the inquiry.

Q. What work activities are related to the Serving Address Inquiry Fee?

A. The general work activities are related to:

- Reviewing application and requirements
- Distributing the application to OSP
- Determining the wire center and LFACs address of RT location
- Running reports in OSP database
- Capturing terminal addresses to add to Final Report
- Providing completed Inquiry to WNS
- Providing results to CLEC
- Arranging for final billing and input billing data.

Q. What are the results of the Remote Terminal Serving Address Inquiry Fee?

A. The results ($403.31) are summarized in Exhibit Part CH, Exhibit, Page 1. The hours for the above activities are contained in Workpaper 1.0, Page 1.

Q. What is the purpose of the Preliminary Engineering Records Review Fee?

A. Verizon MA will provide a Preliminary Engineering Records Review for a RT location identified to Verizon by the CLEC. In response to the request, Verizon MA will conduct a search of its OSP records and identify for the CLEC the type of RT enclosure and the number of lines served. In addition, Verizon MA will identify whether the site is on a private or public easement.

Q. What work activities are related to the Preliminary Engineering Records Review?

A. The WNS organization and OSP Engineering perform the following tasks:

- Reviewing application and requirements
- Distributing to OSP Engineering
- Reviewing request and log application for tracking
- Determining wire center, type of RT, and LFACS name
- Determining RT common language and geographic location codes
- Researching RT property site legal documentation
- Collecting information and create formal report
- Providing WNS and CLEC with results
- Arranging for final billing and bill issuance.

Q. What are the results of the Preliminary Engineering Records Review Fee?

A. The resulting nonrecurring cost of $492.07 is summarized in Exhibit Part CH, Exhibit Page 1. The hours for the above activities are contained in Workpaper 2.0, Page 1.

Q. What is the purpose of the Site Survey for Space Availability Inquiry Fee?

A. This fee is designed to recover the costs of performing a field survey to determine if there is adequate space in the RTEE to accommodate the application.

Q What activities are performed associated with a site survey for space availability?

A. The following tasks are performed by the WNS organization and Outside Plant Engineering:

- Reviewing application and requirements
- Establishing a tracking number
- Distributing information to OSP
- Travelling to site to perform site survey
- Examining interior site space for placement of CLEC equipment
- Determining if commercial power has to be augmented

- Determining if CLEC equipment will impact HVAC systems

- Collecting site survey information and retaining in log

- Researching if there are any current or scheduled jobs in progress

- Creating a formal report

- Providing results to WNS and CLEC

- Arranging for final billing and issuance.

Q. What are the results of the Site Survey for Space Availability Inquiry Fee?

A. The resulting nonrecurring cost of $758.34 is summarized in Exhibit Part CH, Exhibit, Page 1. The hours for the above activities are contained in Workpaper 3.0, Page 1.

XIII. ADJACENT OFF-SITE ARRANGEMENT ("AOSA")

Q. What is AOSA?

A. AOSA is offered in an urban or metro central office where space for all forms of physical collocation and Adjacent On-site Collocation has been exhausted. AOSA enables a CLEC to access UNEs from space which a CLEC has acquired on third-party premises when that property is adjacent to or located within a city block of the effected central office.

AOSA was previously filed on October 5, 2000, with the Department a decision is pending. In this filing, the costs previously presented to the Department have been updated, where appropriate.

The CLEC is responsible for all construction work up to Verizon MA's designated manhole, except for any potential make-ready work associated with Verizon MA-owned conduit and duct structures. In this latter case, Verizon MA is responsible to complete the work, and the CLEC bears the costs. Verizon MA will pull and splice the CLEC-provided fiber cable from the designated manhole to a Verizon MA point of interface in unconditioned central office space near the vault designated by Verizon MA.

Q. What rate elements are associated in AOSA?

A. There are eight rate elements required for AOSA, two of which are the same as Physical Collocation.

Q. What two rate elements are the same as Physical Collocation?

A. The SAC Cable and Frame Termination Charge and the Cable Pull and Splice Charge. The charges for these two rate elements are the same for AOSA as detailed in Physical Collocation.

Q. What unique rate elements are associated to AOSA?

A. The remaining six rate elements are:

- Application Fee
- Engineering and Administration Fee
- OSP Entrance Facility Fee
- Contract Work Inspection Fee
- Physical Connection Interface ("PCI") Equipment Support Bay Charge
- Physical Connection Interface Shelf Charge

Q. What is the Application Fee?

A. As explained previously, this is a nonrecurring costs associated with processing the CLEC's application. It is $500 of the total Engineering and Administration Fee. See Exhibit Part CI, Exhibit, Page 1.

Q. Please describe the Engineering and Administration Fee.

A. The Engineering and Administration Fee covers Verizon MA's costs for the following tasks:

- Reviewing the application for completeness and to determine/clarify the CLEC's requirements
- Distributing the application to Central Office and Outside Plant Engineering
- Establishing a project tracking number
- Engineering reviewing the application and determining the requirements
- Engineering conducting the presite survey tasks
- Conducting the site survey
- Finalizing bay assignments

- Updating databases with new termination information

- Determining path and location of cable terminations

- Verifying Manhole location and cable routing

- Providing costs estimates and results to the CLEC

- Arranging for final billing and notification to the billing staff

- Inputting of final billing data for bill issuance

A time estimate for each individual task is detailed in the Company's AOSA Cost Study. See Exhibit Part CI, Workpaper 1.0, Page 1.

Q. Which Verizon MA organizations are involved in this process?

A. As with the Adjacent On-Site offering, the WNS organization is involved in reviewing and distributing the application and establishing the project record, as well as performing the billing process. The COE organization is involved in conducting pre-site survey tasks, reviewing requirements, making bay assignments, and attending a site survey at the central office. The Outside Plant organization is involved in verifying the designated manhole location and availability of spare ducts, verifying cable path from the manhole to the AOSA area, developing an engineering design to path the fiber cable, and providing COE with structure requirements. See Exhibit Part CI, Workpaper 1.0, Page 1.

Q. Please describe the OSP Entrance Facility Fee.

A. The OSP Entrance Facility Fee recovers three investments. First, this fee recovers the investment of $325 for breaking-out the manhole if the CLEC requires a connection from its conduit to the designated manhole. Second, a fee for the CWI is assessed to recover the investments related to the manhole breakout inspection by a Verizon MA employee of safety and restoral requirements. Third, investments associated with OSP engineering design are recovered.

As shown on Exhibit Part CI, Workpaper 2.0, Page 1 the total cost for these services is estimated at $731.19 and is recovered on a nonrecurring basis.

Q. Is this the same OSP Entrance Facility Fee that was described earlier in connection with Adjacent On-site Collocation?

A. Yes.

Q. What is the purpose of the Cable Pull and Splice Charge?

A. Similar to Physical Collocation, Verizon MA will place the CLEC-provided cable from the designated manhole to the AOSA area to access the appropriate SAC cables. This charge is assessed on a time and material basis and hourly rates apply per Verizon MA technician for placing and splicing the CLEC's cable, as well as for the associated engineering time.

Q. Please describe the SAC Cable and Frame Termination Charge.

A. The SAC provides the physical connection between the Verizon-provided demarcation within the AOSA area and the Verizon MA network. It consists of fiber cabling and terminations on Verizon MA fiber distribution frames. The SAC cabling will terminate on Verizon MA's frames and follow a route to access the CLEC-provided cable that has been pulled through the vault to the AOSA area. The SAC cable will terminate on a Verizon-provided fiber splice shelf.

Q. Are the AOSA SAC costs the same Physical Collocation fiber SAC costs described previously in this testimony?

A. Yes. The SAC Cable and Frame Termination charge for AOSA is the same fiber charge that has been assessed with other forms of Physical Collocation discussed earlier.

Q. Please describe the Contract Work Inspection Fee.

A. As noted earlier, a CWI must periodically be present for all construction work done on Verizon MA premises or when connecting to Verizon MA's designated manhole, whether this work is performed by Verizon MA or the CLEC. If the CLEC is required to place conduit to access the designated manhole, a CWI must periodically inspect the construction work for safety reasons and to ensure that standards are meet. This charge is assessed on an hourly basis and is determined by the time the CLEC takes to complete its portion of the work required.

Q. Are there any costs unique to AOSA?

A. Yes. Two unique rate elements are necessary to provide this offering. They are the PCI Equipment Support Bay Charge and the associated PCI Shelf Charge. The purpose of these charges is to provide the point of demarcation between the CLEC-provided, Verizon-installed fiber cable and Verizon MA's fiber SAC cable.

Q. Please explain the PCI Equipment Support Bay Charge.

A. The PCI Equipment Support Bay Charge is a recurring charge that reflects the forward-looking costs of Verizon MA's investments associated with providing and installing an equipment bay. The bay is used to house the shelf that serves as the demarcation point between Verizon MA and the CLEC.

The investment for the bay is divided by the maximum number of fibers that can be terminated and then multiplied by the minimum number of 12 fibers that can be ordered. The resulting figure is multiplied by the circuit digital installation factor and then multiplied by two, *i.e.*, per 12 fibers for the CLEC and per 12 fibers for Verizon MA. The resulting figure is then multiplied by the appropriate ACFs, land and building investment factors, and overhead loadings resulting in a monthly cost per 12 fibers of $.57. See Exhibit Part CI, Workpaper 3.0, Page 1.

Q. Please explain the PCI Shelf Charge.

A. The PCI Shelf Charge is a nonrecurring charge to reflect the forward-looking costs associated with the shelving required to terminate the CLEC's fiber cable to access Verizon MA's fiber SAC cable. The CLEC cable is terminated in a cabinet and then connected to Verizon MA's fiber SAC cable.

The investments associated with the fiber cabinet is divided by the number of fiber terminations, *i.e.*, 72, and then multiplied by 12 fibers. The resulting figure is multiplied the circuit digital installation factor and overhead loadings to arrive at a total nonrecurring cost per 12 fibers of $273.61. See Exhibit Part CI, Workpaper 4.0, Page 1.

Q. Please describe the Maintenance Charg**e.**

A. The Maintenance Charge is a labor rate to cover the technician's time associated with responding to a CLEC report of a trouble that proves to be outside of the AOSA. The technician's time will be determined on a per occurrence basis.

XXXI. SITE SURVEY/REPORT FEE

Q. Please explain the Site Survey/Report offering.

A. Verizon MA will make available to any requesting CLEC, pursuant to a signed confidentiality agreement, a report detailing the space available for physical collocation in a given central office. The report will state the number of carriers currently collocated in that office, any space modifications made since the last report, and any measures being taken to make additional physical space available. The Site Survey/Report is strictly optional and is initiated only at the request of a CLEC in association to a particular central office.

Q. How was the cost for the Site Survey/Report developed?

A. The cost for the Site Survey/Report is based on the labor hours required for various organizations to collect the data necessary to populate the report. Four organizations are involved: WNS, LCC, Space & Frame Engineering, and CRE.

Q. How were the labor hours developed?

A. Subject matter experts from the four departments identified and documented the necessary work activities. The work times they identified for these activities were multiplied by the appropriate labor rates to produce a nonrecurring cost of $651.76. See Exhibit Part CJ, Exhibit, Page 1.

Q. Are any of the costs associated with the Engineering and Administration Fees discussed above included in the costs for the Site Survey/Report Fee?

A. No. The Site Survey and Reporting functions are performed only when the CLEC requests that a survey be performed to check for available central office space for a future Physical, SCOPE, or CCOE arrangement. This Site Survey and Reporting work is separate and distinct from the engineering site survey work and other functions done later when an actual request for collocation is designed and planned.

Q. Does this conclude your testimony?

A. Yes.