



**STATE OF NEW YORK
PUBLIC SERVICE COMMISSION**

Joint Complaint of AT&T Communications of New York, Inc., MCI Telecommunications Corporation, WorldCom, Inc. d/b/a LDDS WorldCom and the Empire Association of Long Distance Telephone Companies, Inc. Against New York Telephone Company Concerning Wholesale Provisioning of Local Exchange Service By New York Telephone Company and Sections of New York Telephone's Tariff No. 900	Case 95-C-0657
Proceeding on Motion of the Commission to Examine Issues Related to the Continuing Provision of Universal Service and to Develop a Regulatory Framework for the Transition to Competition in the Local Exchange Market	Case 94-C-0095
Proceeding on Motion of the Commission Regarding Comparably Efficient Interconnection Arrangements for Residential and Business Links	Case 91-C-1174
Complaint of AT&T Communications of New York, Inc. Against New York Telephone Company Concerning AT&T's Request for Four Collocated "Cages" To Be Provided By New York Telephone Pursuant to Its Optical Transport Interconnection Service II ("OTIS-II") Tariff	Case 96-C-0036

**PANEL TESTIMONY OF BELL ATLANTIC - NEW YORK
ON COSTS AND RATES FOR
PHYSICAL AND VIRTUAL COLLOCATION**

Members of Panel:

**Mr. Robert G. Grenier
Ms. Karen A. Maguire
Mr. Lawrence B. Rath**

March 27, 1998

TABLE OF CONTENTS

I. INTRODUCTION OF THE PANEL..... 1

A. Identification of the Witnesses..... 1

B. Responsibilities of Panel Members 4

II. SCOPE OF TESTIMONY 5

III. MATERIALS INCLUDED WITH THIS TESTIMONY 6

IV. COSTING AND PRICING APPROACH 7

A. Costing Approach 7

B. Pricing Approach..... 9

V. PHYSICAL COLLOCATION COST STUDY 10

A. Non-SAC Physical Collocation Costs 11

1. Fiber Pulling and Splicing 12

2. Cable Racking Support Charge..... 13

3. Cage Construction Costs 14

4. Engineering and Administration Costs 23

5. Building Costs -- Per Square Foot..... 35

6. Power Costs -- Per Amp 37

7. Common Area Room Construction Costs..... 40

B. Service Access Connection (“SAC”)..... 43

1. POT Bay Frame..... 44

2. POT Bay Terminations..... 48

3. SAC Cabling and Terminations..... 50

VI. VIRTUAL COLLOCATION COST STUDY 54

A. Fiber Placement and Splicing	55
B. Entrance and Equipment Fiber Termination Charges.....	56
C. Virtual Serving Arrangement.....	60
D. Interconnection Access Connection Charge	61
1. Cabling	62
2. IAC Frame Terminations.....	64
E. Engineering and Administration Costs	66
F. Monthly Equipment Support Charge.....	71
G. Spare Circuit Pack Cabinet Space Charge.....	72
H. Power Costs -- Per Amp.....	73
I. Training, Equipment Servicing and Escort Charges	73
VII. DOUBLE RECOVERY CONCERNS: PHASE 3 NRCS V. PHASE 1 CCFS	75

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 I. INTRODUCTION OF THE PANEL

2 Q. What is the purpose of this testimony?

3 A. This testimony is submitted on behalf of New York Telephone Company,
4 d/b/a Bell Atlantic – New York (“BA-NY” or the “Company”). It comprises
5 the testimony of the BA-NY Panel on Costs and Proposed Rates for
6 Collocation-Related Services. A separate BA-NY Panel submitted
7 testimony on costs and proposed rates for Phase 3 miscellaneous
8 services on March 18, 1998.

9 A. IDENTIFICATION OF THE WITNESSES

10 Q. Please identify the witnesses who comprise this Panel.

11 A. This Panel consists of Robert G. Grenier, Karen Maguire, and Lawrence
12 B. Rath.

13 Q. Mr. Grenier, please state your full name, position, and current business
14 address.

15 A. My name is Robert G. Grenier, and I am a Staff Director of Service Costs
16 for Bell Atlantic - North. My business address is 125 High Street, Boston,
17 Massachusetts 02110.

18 Q. Mr. Grenier, please describe your telecommunications background.

19 A. I have been employed by New England Telephone and Bell Atlantic since
20 1967. Prior to 1989, I held a variety of positions with New England
21 Telephone in the areas of Network Operations and Central Office
22 Equipment Installation. From 1989 to 1992, I was assigned to the

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 Company's Network Operations Center, with the responsibility for
2 providing expert technical support for the switching network throughout
3 the New England states. Since 1992, I have been responsible for
4 conducting incremental cost studies filed in Massachusetts, Maine, New
5 Hampshire, Rhode Island, and Vermont. In my current position, I am
6 responsible for supervising the development of service cost studies in
7 support of regulatory filings throughout the Bell Atlantic - North region.
8 The cost study presented in this proceeding was conducted under my
9 direction.

10 Q. What is your educational background?

11 A. I received a Bachelor of Science degree in Business Administration -
12 Financial Management in 1986 from Stonehill College.

13 Q. Ms. Maguire, please state your full name, position and current business
14 address.

15 A. My name is Karen A. Maguire. My business address is 375 Pearl Street,
16 15th Floor, New York, NY 10038. I am the Director of Project
17 Management - Large Customer Networks for Bell Atlantic. My
18 responsibilities include the implementation of collocation in New York
19 State.

20 Q. Ms. Maguire, please describe your telecommunications background.

21 A. I began my telecommunications career in 1989 when I joined NYNEX as
22 an Engineer. My responsibilities initially included preparing Requests for

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 Proposals and evaluating network equipment for deployment across the
2 NYNEX region, and later included process improvement in technology
3 selection. In 1994, I joined the Manhattan Market Area's Project
4 Management group where I was responsible for managing the
5 implementation of new services for NYNEX's largest retail business
6 customers. In 1996, I joined NYNEX's Wholesale Operations Team
7 where I currently lead the group responsible for project managing the
8 implementation of large networks for Competitive Local Exchange Carriers
9 ("CLECs") and wireless carriers, including collocation projects.

10 Q. What is your educational background?

11 A. I received a Bachelor of Science degree in Electrical Engineering from
12 Manhattan College and a Masters of Business Administration degree from
13 The Wharton School at the University of Pennsylvania. I am also certified
14 as a Project Management Professional by the Project Management
15 Institute.

16 Q. Mr. Rath, please state your full name, position and business address.

17 A. My name is Lawrence Rath. My business address is 230 West 36th
18 Street, 2nd Floor, New York, NY 10018. I am the Director of Power and
19 Common Systems Engineering for Bell Atlantic. My responsibilities
20 include the planning and implementation of central office power, space
21 and frame network elements, and overseeing the engineering and
22 implementation of Physical and Virtual Collocation arrangements.

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 Q. Mr. Rath, please describe your telecommunications background.

2 A. I began my telecommunications career in 1980 when I joined NYNEX as a
3 Real Estate engineer. My responsibilities initially included design and
4 construction of network equipment space alterations. In 1986, I joined the
5 Central Office Engineering organization where I have held various
6 positions managing the planning, design and construction of various
7 network elements such as transmission and power equipment.

8 Q. What is your educational background?

9 A. I received a Bachelor of Science degree in Mechanical Engineering from
10 the Polytechnic University of New York in 1980, and a Master of Science
11 degree in Telecommunications Management from the Polytechnic
12 University of New York in 1986.

13 **B. RESPONSIBILITIES OF PANEL MEMBERS**

14 Q. What role did each Panel member play in the preparation of this testimony
15 and the associated studies?

16 A. While all members of this Panel have reviewed and support this testimony
17 in its entirety, each Panel member assumed primary responsibility for
18 specific segments of the testimony. Each Panel member relies on the
19 facts and analyses developed by the other Panel members in their areas
20 of primary responsibility. Specifically:

- 21 • **Mr. Grenier** had primary responsibility for the development of the
22 costing principles and methodologies used in BA-NY's Physical

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 and Virtual Collocation cost studies.

2 • **Ms. Maguire** had primary responsibility for reviewing the
3 assumptions contained in the cost studies regarding collocation
4 provisioning, and identifying the activities and labor hours required
5 by the Telecom Industry Services (“TIS”) group to implement
6 collocation projects.

7 • **Mr. Rath** had primary responsibility for reviewing the engineering
8 assumptions contained in the cost studies, and identifying the
9 engineering activities and labor hours required to implement
10 collocation projects.

11 **II. SCOPE OF TESTIMONY**

12 Q. What is the scope of the cost studies that will be presented in this
13 testimony?

14 A. The cost studies presented in this testimony address the costs to provide
15 Virtual and Physical Collocation for the purposes of accessing unbundled
16 network elements (“UNEs”) or for interconnection. The costs and rates
17 associated with Virtual and Physical Collocation used in connection with
18 interexchange access are not part of this proceeding and therefore are
19 not included in the filing. The costs associated with collocation by end
20 users likewise is not part of this proceeding.

21 Q. Should the costs and rates for carrier access and end user collocation be
22 based on the same cost studies as are presented in this testimony?

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 A. As discussed below, the costs included in this testimony are based on a
2 cost methodology consistent with the FCC's Total Element Long Run
3 Incremental Cost ("TELRIC") construct which was the basis for the UNE
4 costs studies reviewed by the Commission in prior phases of this case.
5 This Commission has never required that interexchange access or end
6 user services be priced at "cost," much less pursuant to the TELRIC
7 construct. Nor does the Telecommunications Act of 1996 ("Act") require
8 cost-based pricing. Indeed, the FCC and this Commission have
9 consistently recognized that access services may be priced above cost.
10 For example, the administration and related network expenses associated
11 with providing carrier access and end user collocation in general are
12 different from the expenses associated with providing UNEs; accordingly,
13 it would be inappropriate to use the same Carrying Charge Factors
14 ("CCFs") for the two sets of studies.

15 **III. MATERIALS INCLUDED WITH THIS TESTIMONY**

16 Q. Is there an Exhibit associated with the Panel's testimony?

17 A. Yes. It is labeled Exhibit, Part A and consists of the following parts:

- 18 • Section 1, Page 1, contains costs associated with the Non-SAC
19 components of Physical Collocation, including cage, building
20 and power costs;
- 21 • Section 2, Pages 1-3, includes the Company's cost analysis of
22 the Service Access Connection ("SAC") charge associated with

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 Physical Collocation; and

2 • Section 3, Pages 1-2 includes the cost analysis associated with
3 Virtual Collocation.

4 Q. Is the Exhibit supported by workpapers?

5 A. Yes. The testimony is also supported by workpapers. Copies of BA-NY's
6 cost studies and workpapers are being provided both in hardcopy form
7 and on diskettes.

8 Q. How are the workpapers organized and labeled?

9 A. The workpapers attached to this testimony follow the same organizational
10 scheme as the Exhibit. That is, Section 1 provides the cost support for
11 the Non-SAC components of Physical Collocation, Section 2 supports the
12 costs of the Physical Collocation SAC, and Section 3 supports the costs
13 associated with Virtual Collocation.

14 **IV. COSTING AND PRICING APPROACH**

15 **A. COSTING APPROACH**

16 Q. What general costing approach did the Company use in preparing the
17 Physical and Virtual Collocation cost studies?

18 A. BA-NY used a forward-looking, incremental cost construct that is
19 consistent with a TELRIC methodology, and with the principles set forth in
20 this Commission's Subscriber Loop Services Incremental Cost Study
21 Manual (the "Loop Manual") and in its Toll and Carrier Access Service
22 Incremental Cost Study Manual (the "Toll Manual") for forward-looking

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 costs. The methodology used in these studies fully complies with the
2 methodology adopted by the Commission in BA-NY's Phase 1 and
3 Phase 2 filings, except to the extent otherwise required by the orders
4 entered by the Commission in those phases. (General aspects of the
5 costing methodology used herein are described in greater detail in the
6 testimony of Mr. Ralph Curbelo submitted in Phase 1 of this proceeding.)

7 Q. Please explain generally the data used to determine collocation costs.

8 A. The costs are based on general contractor invoices for current collocation
9 projects, investment data from BA-NY engineers, and estimated work
10 times and expenses from the various work groups involved in collocation.
11 Certain cost estimates associated with construction of collocation cages
12 are based on the Company's recent experiences in providing collocation
13 to carriers in New York. This data provides a reasonable estimate of the
14 future collocation costs that will be incurred in New York.

15 Q. How did BA-NY determine the equipment configurations used to
16 determine collocation costs?

17 A. The studies were based on the equipment necessary to provide
18 collocation to CLECs. These configurations were reviewed by Mr. Rath to
19 ensure that they reflected the most efficient technologies currently
20 available.

21 Q. How were the applicable CCFs determined?

22 A. BA-NY used the CCF components adopted by the Commission in Opinion

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 No. 97-2, Attachment C. These CCFs were addressed in the Panel
2 Testimony on Miscellaneous Phase 3 Services filed on March 18, 1998.
3 This Panel is relying on the Miscellaneous Services Panel for the
4 development of those factors.

5 Q. What labor rates were used in BA-NY's Physical and Virtual Collocation
6 cost studies?

7 A. All but one of the labor rates used in the collocation cost studies are
8 addressed in the Panel Testimony filed in this proceeding on March 18,
9 1998 and this Panel is relying on the Miscellaneous Services Panel for the
10 development of this rates. (Exhibit, Part H, Section 1.) The remaining
11 labor rate for the Real Estate Manager was developed using the same
12 methodology described in the Company's January 31, 1997 Phase 2
13 filing.

14 Q. How were other factors developed?

15 A. The Installation & Engineering Factor for circuit digital equipment is
16 addressed in the Panel Testimony filed on March 18, 1998. (Exhibit, Part
17 H, Section 3, Page 1, Line 2.) The Building Investment Factor was
18 adopted by the Commission in Opinion No. 97-19.

19 **B. PRICING APPROACH**

20 Q. What prices are being proposed by BA-NY for Physical and Virtual
21 Collocation?

22 A. BA-NY's proposed prices are set at identified cost, based on the costing

PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 methodology described elsewhere in this testimony. As stated above,
2 these proposed collocation prices are for collocation arrangements used
3 for access to UNEs and for interconnection.

4 **V. PHYSICAL COLLOCATION COST STUDY**

5 Q. Please explain generally the equipment configurations associated with
6 Physical Collocation.

7 A. BA-NY makes space available in its central office buildings to
8 telecommunications carriers for collocation of equipment necessary for
9 interconnection and access to unbundled network elements. The
10 equipment configuration associated with Physical Collocation is laid out in
11 the Diagram contained in Exhibit, Part A, Section 2, Page 2. This
12 equipment includes cabling, cable racking, splicing equipment, wire mesh
13 cage, frame terminations, a POT Bay, and power equipment. These
14 specific components are discussed in more detail below.

15 Q. Is the Physical Collocation cost study based on the most efficient
16 technology currently available?

17 A. Yes. The cost study is forward looking because it is based on the
18 assumption that Physical Collocation will be provisioned using the same
19 facilities and technology that are used today, which represents the most
20 efficient facilities and technologies currently available. It should be noted
21 that the costs associated with Physical Collocation consist in large part of
22 the costs of cage or fencing material, cable racking, nuts and bolts, and

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 other hardware. The prices of such inputs are not likely to fall dramatically
2 over time, and are not likely to experience technology changes. The
3 same is true of the materials associated with the cross-connect elements
4 for both Physical and Virtual Collocation (*i.e.*, termination panels and
5 cable.) In fact, the Company's cost studies are conservative in that they
6 use labor rates which may well increase in the future.

7 Q. Please describe how BA-NY's Physical Collocation cost study is
8 organized.

9 A. BA-NY's Physical Collocation cost study is divided into two sections. The
10 first part addresses the costs associated with building the cage,
11 miscellaneous site preparation in existing collocation rooms, and DC
12 power. The study also calculates the collocator's portion of the central
13 office building costs. This portion of the study is referred to as the "Non-
14 SAC Physical Collocation Costs." The second section of the Physical
15 Collocation cost study addresses the costs and rate elements associated
16 with the Service Access Connection ("SAC") charge.

17 **A. NON-SAC PHYSICAL COLLOCATION COSTS**

18 Q. Please explain the rate elements associated with the Non-SAC portions of
19 the Physical Collocation cost study.

20 A. The Non-SAC portion of the Physical Collocation cost study is comprised
21 of one Time and Material rate element, six non-recurring rate elements,
22 and three recurring rate elements. These rates elements are as follows:

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 • ***Time and Materials***

2 BA-NY will charge on a time and materials basis the time spent by
3 a BA-NY Central Office Technician supervising the
4 collocator's activities associated with pulling and splicing its
5 fiber from the ASA to the collocation cage.

6 • ***Non-recurring***

7 Four non-recurring rate elements cover the costs of constructing a
8 300, 100 and 25 square foot cage, and 20 square foot
9 increments if requested with the initial application (for cages
10 100 square feet or larger). The remaining two non-recurring
11 rate elements cover Engineering and Administration
12 charges.

13 • ***Recurring***

14 The four recurring cost elements include a Cable Racking Support
15 Charge, Building Cost Per Square Foot, and two DC Power
16 Per Amp charges.

17 **1. Fiber Pulling and Splicing**

18 Q. Please explain the Time and Materials cost element associated with the
19 fiber pulling and splicing component of the Physical Collocation cost
20 study.

21 A. The collocator is required to pull its fiber cable from the ASA to the

PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 collocator's cage. The collocator must use a BA-NY approved vendor and
2 must conform to BA-NY's engineering specifications.

3 Q. What costs are incurred by BA-NY?

4 A. BA-NY incurs costs associated with the activities performed by the BA-NY
5 Outside Plant Technician supervising the CLEC's installation activities.

6 A. How did BA-NY determine the appropriate labor rate?

7 A. The labor rate was developed consistent with the Company's Phase 2
8 filing. (Workpaper 1.0, Part A, Section 1, Page 5.)

9 Q. How does BA-NY propose to recover these labor costs?

10 A. BA-NY proposes to recover this non-recurring cost on a time-and-
11 materials basis.

12 Q. Why is this methodology appropriate?

13 A. The amount of time required to pull and splice the fiber will depend on the
14 collocator, the particular central office and the location of the collocation
15 cage. BA-NY therefore proposes that this cost be based on a time-and-
16 materials basis. This method is reasonable and fair to both BA-NY and
17 the collocator.

18 **2. Cable Racking Support Charge**

19 Q. What costs are included in the Cable Racking Support Charge?

20 A. The Cable Racking Support Charge recovers the costs of the cable
21 racking required to support the collocator's fiber cables from the ASA to
22 the collocator's cage.

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 Q. How were these costs developed?

2 A. BA-NY developed the recurring cost per foot associated with the total
3 installed investment of 300 feet of cable rack, including an average of 3
4 cable slots. (Workpaper 1.0, Part A, Section 1, Page 5, Line 7.) The total
5 installed investment was divided by 300 feet to quantify the investment
6 per foot. The applicable CCFs were applied to derive the monthly cable
7 rack cost per foot (Line 15). The total monthly cable rack per foot was
8 then divided by 12, which reflects the engineering assumption that the
9 cable rack is shared by 12 collocator fiber cables, to arrive at a total
10 monthly cable rack cost per foot per cable (Line 17).

11 Q. How did BA-NY determine the total installed investment for cable racking
12 and cable slots?

13 A. The installed investments were based on engineering estimates.

14 **3. Cage Construction Costs**

15 Q. Please explain the function of the collocation cage, and describe all
16 facilities associated with the cage construction costs.

17 A. The Company provides each collocating CLEC with a wire mesh cage to
18 house its equipment and also to provide an extra measure of security to
19 protect the CLEC's investment in equipment. Additionally, a typical
20 collocation project may include the following:

- 21
 - a sliding door large enough for the CLEC to move
- 22 telecommunications equipment in or out of the cage (for 100

PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 square foot cages or larger);

2 • HVAC duct work dedicated to the cage;

3 • AC outlets;

4 • lighting in the general collocation area;

5 • secure access to the collocation facilities;

6 • access to the central office grounding system to ensure safe
7 and proper grounding of the CLEC equipment;

8 • an ionization detector equipped with a photo-electric cell for
9 safety purposes; and

10 • cable core holes and slots (if necessary).

11 Q. Will BA-NY allow CLECs to hire their own general contractor to provision a
12 collocation cage, including the grounding, electrical outlets, lights and
13 associated wiring?

14 A. Yes. In fact, BA-NY encourages CLECs to do so. The CLECs may
15 contract directly with any BA-NY approved vendor for cage construction
16 work. (Separate Engineering and Administration charges would apply in
17 such a case, as discussed in Section 3 below.) The vendor must perform
18 the work in accordance with BA-NY engineering specifications.

19 Q. How does BA-NY propose to recover cage construction costs?

20 A. BA-NY proposes two rate structures for recovering costs associated with
21 cage construction. For cages to be placed in existing, previously

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 prepared collocation space, BA-NY proposes a specified rate (as more
2 fully described below). This rate includes any incremental site preparation
3 work specific to the existing room. No other room construction charges
4 will apply. However, for cages placed in a central office that has no
5 previously prepared collocation space, or where collocation space has
6 been exhausted, BA-NY proposes to “pass through” the vendor costs for
7 the cage construction for the costs associated with the dedicated cage
8 construction. As discussed in Section 6, room construction charges will
9 be assessed separately. That is, BA-NY will charge the CLEC the exact
10 amount of the vendor’s invoice.

11 Q. Why has BA-NY proposed two different rate structures?

12 A. BA-NY has proposed two different rate structures in order to ensure fair
13 and equitable treatment for both CLECs and BA-NY. BA-NY believes that
14 it makes sense to simply pass on the vendor costs for cage construction
15 to the collocator on a going-forward basis. This method ensures that BA-
16 NY recovers its costs, as well as ensures that each collocator is paying
17 only for those costs specific to its own cage construction. BA-NY should
18 not be required to bear the risk that a particular cage construction will be
19 more complex and therefore more costly. In addition, if BA-NY were
20 required to have a specified rate for all future cage construction, it is likely
21 that BA-NY would always under-recover its costs. That is, if the cage
22 construction costs are more than the specified rate, then the collocator

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 would likely choose BA-NY to perform this work. On the other hand, when
2 a particular cage construction project costs less than the average rate,
3 then the collocator would likely contract directly with a vendor to perform
4 this work at the lower cost.

5 Q. Why then is BA-NY proposing a specified rate for cages placed in existing
6 collocation rooms?

7 A. BA-NY is proposing a specified rate because the costs for cages placed in
8 existing rooms will be much less subject to unanticipated variation since
9 most of the site preparation will have already been completed.

10 Q. How do you respond to the CLECs' concern that they will be unable to
11 create a business plan without a tariffed rate?

12 A. In order to provide collocators with a basis for developing reasonable cost
13 projections for the work that they request, BA-NY will make available to all
14 collocators upon request a representative sampling of the actual costs for
15 cage construction jobs completed in New York. In addition, the collocator
16 has the option of contracting directly with a BA-NY approved vendor.

17 Q. Should the collocators be concerned that BA-NY will choose the highest
18 cost vendor to construct the cage?

19 A. No. First, BA-NY's approved vendors are chosen through a competitive
20 bidding process. More importantly, as stated above, collocators have the
21 option of contracting directly with a BA-NY approved vendor for cage
22 construction and thus can determine for themselves whether BA-NY has

PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 chosen a reasonably priced vendor. A CLEC may recommend that a
2 vendor be added to BA-NY's approved vendor list. BA-NY will consider
3 all vendors that can meet BA-NY's vendor certification requirements.

4 Q. For cages placed in existing collocation space, how did BA-NY develop its
5 proposed non-recurring costs?

6 A. The non-recurring costs of the 300, 100, and 25 square foot cages and
7 the 20 square foot increments were calculated utilizing 12 recent vendor
8 invoices for the construction of 300 square foot cages in New York. The
9 costs of the 100 and 25 square foot cages and the 20 square foot
10 increments are derived from these 300 square foot cage costs by
11 determining the fixed and variable costs associated with cage
12 construction. (These costs are displayed on Lines 1, 2, 3, and 4
13 respectively in Exhibit, Part A, Section 1, Page 1 of the cost study.)

14 Q. How were these 12 invoices selected?

15 A. BA-NY's Real Estate Department was asked for general contractor
16 invoices for recent collocation projects (1997 or late 1996). Information
17 was provided by 6 Real Estate Managers with collocation responsibilities
18 in the Upstate, Manhattan, and Greater Metro areas of New York. The
19 managers furnished their most recent data. Several of the invoices
20 provided were excluded because they included costs unrelated to the
21 collocation project.

22 Q. Did BA-NY develop cage costs by density zone?

PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 A. No. Cage construction costs include the cost of projects from only one
2 density zone (major cities) because there was little or no recent data
3 available on which to base the cost of projects in the “other” density
4 zones. BA-NY believes that the costs incurred in the major cities density
5 zone are representative of the cost the Company would experience in
6 other density zones.

7 • **300 square foot cage**

8 Q. What is the total cost of a 300 square foot cage?

9 A. The total cost of a 300 square foot cage is \$27,591 as displayed in the
10 Exhibit, Part A, Section 1, Page 1, Line 1.

11 Q. Exactly how was this cost calculated?

12 A. This cost represents the average cost of the 12 vendor invoices included
13 in the cost study. (Workpaper 1.0, Part A, Section 1, Page 2, Lines 1-14.)

14 • **100 square foot cage**

15 Q. How did you arrive at the total cost of a 100 square foot cage?

16 A. The total cost of a 100 square foot cage is \$23,063. (Exhibit, Part A,
17 Section 1, Page 1, Line 2.) This cost was derived from the 300 square
18 foot cage cost based upon a fixed and variable cost model.

19 Q. What variable costs are associated with cage construction?

20 A. The only variable cost is the cage material. That is, cage material cost
21 varies depending on the size of the cage. The vendor invoices clearly

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 identify those costs associated with cage material for a 300 square foot
2 cage. The average variable cost associated with a 300 square foot cage
3 is \$9,843. (Workpaper 1.0, Part A, Section 1, Page 1, Line 28.)

4 Q. How did BA-NY develop the variable cost of a 100 square foot cage?

5 A. To determine the average variable cost associated with a 100 square foot
6 cage, the average variable cost of a 300 square foot cage (\$9,843) is
7 multiplied by a factor of 0.54. The result is \$5,315. (Workpaper 1.0,
8 Part A, Section 1, Page 1, Line 30.)

9 Q. How did you develop the 0.54 multiplier factor for calculating the variable
10 costs for a 100 square foot cage?

11 A. The factor of 0.54 was derived by comparing the relationship of the linear
12 feet of cage material necessary to construct a 100 square foot cage with
13 those of a 300 square foot cage. BA-NY considered existing cage
14 configurations and future projected cage configurations in this analysis.
15 This factor is developed in Workpaper 2.0, Part A, Section 1, Page 3.

16 Q. What are the fixed costs associated with cage construction?

17 A. In addition to the Engineering and Administration fixed cost discussed
18 below, other fixed costs include such items as:

- 19 • **site set up**, which includes transportation of all necessary
20 materials to the central office;
- 21 • **protection of working equipment** (both the CLEC's and BA-

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 NY's);

- 2 • **electrical wiring and conduit placement** from the house
3 service panel for all service outlets and lighting requirements;
4 • **installation of stumble lighting** outside the collocation cage;
5 • **extension of HVAC ducts** to the CLEC's cage (not for the
6 entire common area);
7 • **placement of one ionization detector** per cage;
8 • **placement of a suitable ground bar** for proper grounding of
9 the CLEC's equipment per cage; and
10 • **daily clean-up** of any debris associated with construction.

11 Q. How did BA-NY calculate the average fixed cost of a 100 square foot
12 cage?

13 A. BA-NY subtracted the average variable cost of a 300 foot cage of \$9,843
14 (Line 28) from the average total cost of a 300 foot cage of \$27,591
15 (Line 14) to arrive at an average fixed cost of \$17,748 (Line 29).
16 (Workpaper 1.0, Part A, Section 1, Page 1.)

17 Q. What is the total cost of a 100 square foot cage?

18 A. The variable cost of \$5,315 (Line 30) plus the fixed cost of \$17,748
19 (Line 29) equals a cage cost of \$23,063 for a 100 square foot cage
20 (Line 31). (Workpaper 1.0, Part A, Section 1, Page 1.)

- 21 • **25 square foot cage**

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 Q. What is the cost of a 25 square foot cage?

2 A. The cost of a 25 square foot cage is \$20,405. (Exhibit, Part A, Section 1,
3 Page 1, Line 3.)

4 Q. How did BA-NY calculate the costs of a 25 square foot cage?

5 A. As with a 100 square foot cage, the total cost of a 25 square foot cage is
6 derived from the average 300 square foot cage costs based on a fixed
7 cost and variable cost model.

8 Q. How did you develop the variable cost for the 25 square foot cage?

9 A. To develop the variable cost of a 25 square foot cage, the variable cost of
10 a 100 square foot cage of \$5,315 (Line 30) was multiplied by a factor of
11 0.5, which is the relationship of the linear feet of cage material for a 25
12 square foot cage compared to a 100 square foot cage. Multiplying the
13 variable cost associated with a 100 square foot cage of \$5,315 by a factor
14 of 0.5 yields the variable cost of \$2,658 (Line 33) associated with a 25
15 square foot cage. (Workpaper 1.0, Part A, Section 1, Page 1.)

16 Q. How did you calculate the total cost for a 25 foot cage?

17 A. The variable cost (Line 33) is added to the fixed cost of \$17,748 (Line 29)
18 to yield a cage cost of \$20,405 (Line 34). (Workpaper 1.0, Part A,
19 Section 1, Page 1.)

20 • **20 square foot additions**

21 Q. What if a CLEC wants to build a 120 square foot cage?

22 A. BA-NY has calculated the cost of including additional 20 square feet

PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 increments of collocation cage space, which a CLEC may request for 100
2 square foot cage sizes or larger. The additional 20 square foot increment
3 of cage will cost \$532, and is available provided that the CLEC requests
4 the additional square footage with the original application for a cage.

5 Q. How did you develop the cost for 20 square foot additions?

6 A. This additional cost was calculated by simply adding two additional linear
7 feet of cage material (on average), which is 10 percent of the linear feet
8 required for a 100 square foot cage. The variable cost of a 100 square
9 foot cage of \$5,315 (Line 30) was multiplied by 0.1 (the ten percent) to
10 yield a cost of \$532 (Line 32). (Workpaper 1.0, Part A, Section 1, Page 1,
11 Line 32.)

12 **4. Engineering and Administration Costs**

13 Q. What are the Engineering and Administration costs for each Physical
14 Collocation cage construction project?

15 A. There are two Engineering and Administration fees associated with an
16 initial application submitted by a CLEC for Physical Collocation. A fee of
17 \$7,508 is charged to the collocator whose cage is the first one placed in a
18 particular collocation common area. (Workpaper 1.0, Part A, Section 1,
19 Page 2, Line 4.) BA-NY has developed a separate fee of \$6,898 for
20 subsequent collocators in the same collocation common area, reflecting
21 the fact that less time is required to engineer a second collocation project.
22 (Workpaper 1.0, Part A, Section 1, Page 2, Line 8.) The Engineering and

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 Administration charges are the same regardless of the cage size or
2 density zone in which the requested collocation space is located.

3 Q. How does BA-NY propose to assess these fees?

4 A. The costs associated with Engineering and Administration expenses will
5 be assessed in two parts. One part of the fee will be assessed at the time
6 of the application ("Application Fee"). The remaining portion of the fees
7 will be assessed at the time the CLEC occupies the cage. These fees are
8 structured as follows:

9 Initial Application

- 10 • Application Fee: \$5,000
- 11 • Engineering and Administration Fee due upon occupancy:
12 \$2,508

13 Subsequent Application

- 14 • Application Fee: \$5,000
- 15 • Engineering and Administration Fee due upon occupancy:
16 \$1,898

17 Q. How does BA-NY propose to recover costs associated with requests to
18 augment existing Physical Collocation arrangements?

19 A. BA-NY proposes three rate structures to recover each of the following
20 costs:

- 21 • Cage Expansion and Additional Cabling (contiguous space

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 only; a non contiguous cage expansion is treated as a new
2 cage construction subject to fees specified above);

- 3 • Additional Cabling only; and
- 4 • Power Augment only.

5 Q. How does BA-NY propose to assess these fees?

6 A. The costs associated with Engineering and Administration expenses will
7 be assessed in two parts. One part of the fee will be assessed at the time
8 of the augment application (“Augment Fee”). The remaining portion of the
9 fees will be assessed at the time the CLEC accepts completion of the
10 project. These fees are structured as follows:

11 Cage Expansion and Additional Cable

- 12 • Augment Fee: \$2,500
- 13 • Engineering and Administration Fee due upon completion:
14 \$3,542

15 Additional Cabling Only

- 16 • Augment Fee: \$2,500
- 17 • Engineering and Administration Fee due upon completion:
18 \$1,334

19 Power Augment Only

- 20 • Augment Fee: \$2,500
- 21 • Engineering and Administration Fee due upon completion:

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 \$1,334

2 (Workpaper 1.0, Part A, Section 1, Page 2, Lines 12, 16 and 20.) Any
3 augment to an existing collocation arrangement that can not be classified
4 in one of the categories mentioned above will be charged on an individual
5 case basis.

6 Q. How were the Engineering and Administration charges calculated?

7 A. These costs are comprised of three components:

- 8 • TIS labor hours;
- 9 • Common Systems Engineering labor hours; and
- 10 • Real Estate Management labor hours.

11 Q. In general, how were these labor hours developed?

12 A. First, the functional organizations involved in the service provisioning
13 process were identified. All necessary work activities conducted in the
14 identified organizations were then evaluated in relation to the forward-
15 looking technology and operations environment. Finally, the work times
16 were determined for these activities and the times were multiplied by
17 applicable labor rates to produce the non-recurring costs.

18 Q. How were the activities to be studied determined?

19 A. The determination of the activities to be studied was based on use of a
20 work flow analysis to identify the manual work steps, by work group,
21 necessary to satisfy carriers' requests for service. All of the work steps

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 that would be required on a forward-looking basis, assuming most efficient
2 practices, were identified and quantified in the non-recurring cost studies.
3 It should be noted that the activities performed to implement collocation
4 projects are generally performed by the same group of subject matter
5 experts throughout New York. All of these collocation subject matter
6 experts were involved in developing the work times. They first determined
7 the work activities required to implement a collocation request, and then
8 determined how much time was involved in each activity.

9 Q. Are the work times included in the studies forward looking?

10 A. Yes. The work activities included in the Engineering and Administration
11 fees are for engineering and project managing the collocation project and
12 therefore involve manual tasks such as making phone calls, visiting sites,
13 and planning cable routes and power needs. These activities are not
14 based on a particular technology and will be performed in the same
15 manner on a going-forward basis. Accordingly, these activities represent
16 the most efficient technology currently available and are forward looking.
17 Moreover, BA-NY ensured that all the labor hours were based on the use
18 of the most efficient practices available. For example, BA-NY did not
19 include the time associated with teaching new employees the tasks
20 involved in implementing collocation.

21 • **TIS**

22 Q. What activities are performed by TIS?

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

- 1 A. For an average collocation project, the TIS collocation team -- lead by
2 Ms. Maguire -- performs the following activities:
- 3 • administrative duties associated with processing a carrier's
4 collocation application;
 - 5 • filing requests for a Common Language Code Identification
6 number ("CLLI"), a number by which the CLEC will be
7 recognized in the Company's provisioning systems;
 - 8 • conducting procedural discussions with the applicant;
 - 9 • arranging and attending method of procedure ("MOP") meetings
10 with the CLEC; and
 - 11 • acting as the point of contact within BA-NY for implementing
12 collocation projects, including arranging and attending meetings
13 to discuss the specific details of the CLEC's collocating needs.
- 14 Q. How many labor hours are included in the study for these activities?
- 15 A. TIS spends an average of 27 hours on a collocation project.
- 16 Q. How were these labor hours obtained?
- 17 A. The 27 labor hours included in the study were developed by Karen
18 Maguire and the four experienced managers under her supervision who
19 actually perform these activities. Thus, the entire universe of people who
20 actually perform these functions was surveyed.
- 21 Q. How did BA-NY determine the costs associated with these TIS activities?

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 A. TIS expenses were derived by multiplying the work time (27 hours) by the
2 appropriate labor rate. The total expense for this work function is
3 displayed in Workpaper 1.0, Part A, Section 1, Page 2, Line 1.

4 Q. How did BA-NY calculate the labor rate?

5 A. The labor rate was calculated using the same methodology used in BA-
6 NY's Phase 2 filing. BA-NY's labor rates are addressed in the Panel
7 testimony filed on this proceeding on March 18, 1998, and this Panel is
8 relying on the Miscellaneous Panel for the development of those rates.

9 Q. Are the TIS expenses the same for subsequent collocation requests for
10 the same collocation common area?

11 A. Yes. The TIS expenses are the same regardless of cage size and
12 regardless of whether it is an initial or subsequent application.

13 • **Common Systems Engineering**

14 Q. What is the second component of the Engineering and Administration
15 charge?

16 A. The second component is comprised of the expenses associated with
17 Engineering activities.

18 Q. What activities are performed by the Common Systems Engineer?

19 A. The Common Systems Engineer performs such activities as:

- 20 • reviewing the application and evaluating the technical
21 requirements;

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

- 1 • processing all project authorization forms to allocate investment
- 2 dollars to the project;
- 3 • verifying the proper input of the applicant CLLI code in all of the
- 4 Company's provisioning databases;
- 5 • obtaining the building floor plan, reviewing space for cage
- 6 construction and evaluating cable routes and termination
- 7 capacity;
- 8 • conducting the site survey;
- 9 • preparing the building requirements package used by BA-NY's
- 10 real estate group detailing cage configuration, heat load, and
- 11 electrical requirements;
- 12 • attending and conducting MOP meetings with the CLEC and
- 13 Company personnel;
- 14 • providing technical assistance during installation; and
- 15 • visiting the site to ensure job progress and project managing
- 16 installation of cage, point of termination bay and cabling.

17 Q. Please explain in more detail what activities are involved in the site
18 survey.

19 A. A central office site survey is conducted at the beginning of each
20 collocation project by personnel from the Common Systems and Central
21 Office Engineering Departments. The survey requires 8 hours on average

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 and includes activities such as verifying spare termination facilities at the
2 main distributing frame (“MDF”), digital signal cross-connect (“DSX”)
3 frames and fiber termination frames.

4 Q. What other activities take place during this site survey?

5 A. BA-NY must plan cable routes for the proposed collocation site to provide
6 racking to the cable vault, power facilities, and switchboard cable to the
7 above mentioned MDF and DSX frames as necessary. BA-NY also
8 verifies spare power plant facilities to make sure that spare battery
9 distribution fuse bay (“BDFB”) or power distribution board capacity is
10 available. BA-NY also determines where to place the CLEC cage,
11 identifies any major building alterations that may be required, and
12 performs a preliminary evaluation of existing air conditioning capability.
13 Following the site survey, the equipment engineer will order the
14 equipment necessary to accommodate the needs of the collocator.

15 Q. How were the Common Systems Engineering labor hours calculated?

16 A. As with TIS expenses described above, these expenses do not vary with
17 the size of the cage. However, they do vary depending on whether a
18 request for collocation space is an initial request in a central office or a
19 subsequent request in a central office with existing collocation space. BA-
20 NY estimates that 37.5 hours of engineering time is required to implement
21 an initial collocation request for a particular central office. For subsequent
22 collocation requests in the same collocation area, BA-NY estimates that

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 33.5 hours of engineering time are required. (Workpaper 1.0, Part A,
2 Section 1, Page 2, Lines 2 and 6, respectively.)

3 Q. Why does it take less time to engineer a second collocation request?

4 A. The site survey associated with a second application requires less time
5 because BA-NY does not require as much time to plan the layout of the
6 collocation space, compared to an initial application.

7 Q. Do the labor hours include the activities performed by the equipment
8 engineer?

9 A. Most of the labor hours associated with the equipment engineer are
10 included in the installation factor for circuit equipment. These estimates
11 do, however, include several hours of equipment engineering time to
12 participate in the site survey.

13 Q. How were these labor times obtained?

14 A. Mr. Rath has direct responsibility for common systems engineering for
15 collocation. The entire common systems engineering group for New York
16 consists of a manager who reports directly to him and six engineers who
17 in turn report to the manager. This team has direct experience in project
18 managing all of the Physical Collocation applications in New York. This
19 team was responsible for completing approximately 100 Physical
20 Collocation cages in the last two years. This team identified all of the
21 major work activities involved related to common systems engineering for
22 Physical Collocation and assumed the most efficient practices were

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 deployed. At a group session, the team reviewed their work activities and
2 collectively determined an average interval for each work activity based
3 on their actual work experience. Mr. Rath and the manager of the
4 common systems group were part of this effort and verified all estimates.

5 Q. How did BA-NY develop the common systems engineering costs for initial
6 and subsequent applications?

7 A. The costs were calculated by multiplying the labor hours by the
8 appropriate labor rate for a Common Systems Engineer. (Workpaper 1.0,
9 Part A, Section 1, Page 2, Lines 2 and 6.)

10 • **Real Estate Management**

11 Q. What is the last component of the Engineering and Administration
12 charge?

13 A. The final component of the Engineering and Administration charge
14 consists of the labor expenses associated with the Real Estate
15 Department's Program Manager work activities. These expenses apply
16 regardless of cage size and regardless of whether it is an initial or
17 subsequent application.

18 Q. Describe the activities performed by the real estate manager.

19 A. The real estate manager performs the following activities:

- 20 • site selection for the collocation area (jointly with common
21 systems engineering);

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

- 1 • walk through of project requirements with architect and/or
2 vendor;
- 3 • attendance at MOP meetings;
- 4 • administrative duties associated with project authorization and
5 building acceptance following the project completion; and
- 6 • conducting a building acceptance review with the vendor
7 following completion of the collocation project.

8 Q. How many hours are included in the cost study for this activity?

9 A. To provision collocation, Real Estate Program Management estimates
10 that that on average 13 hours of labor are required in Manhattan and in
11 the Upstate regions. In the Greater Metro area, the estimated time is 20
12 hours.

13 Q. How were these labor hours obtained?

14 A. The universe of real estate program management in New York with direct
15 responsibility for collocation was surveyed regarding the time required to
16 provision the average collocation project. This team has been involved in
17 virtually all of the collocation projects in the State of New York. Major
18 activities related to collocation were identified, and the teams from each
19 area agreed by consensus on the average hours per area in the state.

20 Q. How were the costs calculated?

21 A. A weighted average cost was calculated based on the number of access

PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 lines in each region. The costs were calculated by multiplying the labor
2 time by the appropriate management salary labor rate. The labor rate
3 was developed using the same methodology followed in BA-NY's Phase 2
4 filings. The costs are shown on Workpaper 1.0, Part A, Section 1, Page
5 2, Lines 3 and 7.

6 • **Augment to existing Physical Collocation arrangement**

7 Q. Did BA-NY develop the costs associated with a request to augment an
8 existing Physical Collocation arrangement?

9 A. Yes. BA-NY developed the costs for the 3 augment scenarios discussed
10 above. These costs are displayed in Workpaper 1.0, Part A, Section 1,
11 Page 2.

12 **5. Building Costs -- Per Square Foot**

13 Q. What is the purpose of the per-square foot building charge in the
14 collocation cost studies?

15 A. The per-square foot building charge is the rate BA-NY proposes to charge
16 the CLEC for the space occupied by its collocation cage to recover BA-
17 NY's expenses associated with building space. (See Exhibit, Part A,
18 Section 1, Page 1, Line 10.)

19 Q. How did BA-NY calculate its building costs?

20 A. BA-NY used data recorded in the Company's real estate department
21 database for New York central offices.

22 Q. Explain the information contained in these databases.

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

- 1 A. The Company's real estate department database contains information
2 such as building-related gross investments, total and assignable square
3 feet per building, tax information, and maintenance expense by area. For
4 purposes of these studies, only investment and assignable square foot
5 information were used.
- 6 Q. How are the terms gross investment and assignable square feet defined?
- 7 A. Gross investment is defined as booked investments, including capital
8 improvements, less retirements. Assignable square feet is defined as
9 total square feet in the building less "core areas." Core areas include
10 such items as common entrances and exits, restrooms, janitors closets,
11 elevator shafts, stairwells, air conditioning rooms, and boiler rooms. A
12 core area is thus a part of the building from which all tenants of that
13 building derive a benefit.
- 14 Q. How were the Building Costs Per Square Foot calculated?
- 15 A. The recurring cost per square foot (Exhibit, Part A, Section 1, Page 1,
16 Line 10) was calculated by dividing gross investment in each central office
17 by the assignable square feet available in that building to yield an
18 investment per assignable square foot. The investment was multiplied by
19 a carrying charge factor ("CCF"), to yield a cost per square foot and
20 weighted within the specific density zone to yield a weighted cost per
21 assignable square foot (discussed below).
- 22 Q. What CCF was used in developing building costs?

CASES 95-C-0657, 94-C-0095, 91-C-1174, AND 96-C-0036
PANEL TESTIMONY OF BELL ATLANTIC – NEW YORK
ON COSTS AND RATES FOR PHYSICAL AND VIRTUAL COLLOCATION

1 A. BA-NY used the CCF adopted by the Commission in Opinion No. 97-2.
2 (Workpaper 2.0, Part A, Section 1, Page 1, Line 8.)

3 Q. How were the building costs weighted?

4 A. The average investment is multiplied by a weighting of 0.6933 and 0.3067
5 (representing the percentage of access lines per density zone) to yield
6 weighted average investment per zone. (Workpaper 1.0, Part A,
7 Section 1, Page 3, Line 5.) The total weighted investment is multiplied by
8 the appropriate carrying charge factors and the result is divided by 12 to
9 yield a weighted average monthly building expense per square foot of
10 \$2.21. (Workpaper 1.0, Part A, Section 1, Page 3, Line 9.)

11 **6. Power Costs -- Per Amp**

12 Q. What power costs are included in the Physical Collocation cost study?

13 A. BA-NY proposes two DC Power Per Amp rates:

- 14
 - \$19.56 for DC power requirements of greater than 60 amps;

15 and

 - \$19.64 for DC power requirements of 60 amps or less.

17 (Exhibit, Part A, Section 1, Page 1, Lines 11 and 12 respectively.) The
18 costs are developed in Workpaper 1.0, Part A, Section 1, Page 4,
19 Lines 63 and 71.

20 Q. How did BA-NY calculate the DC Power Per Amp charges?

21 A. The costs were calculated utilizing the most recent vendor discounted