BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Petition by Metropolitan Fiber Systems of Florida, Inc. for arbitration with BellSouth Telecommunications, Inc. concerning interconnection rates, terms, and conditions, pursuant to the Federal Telecommunications Act of 1996.	DOCKET NO. 960757-TP
In Re: Petition by AT&T Communications of the Southern States, Inc. for arbitration of certain terms and conditions of a proposed agreement with BellSouth Telecommunications, Inc. concerning interconnection and resale under the Telecommunications Act of 1996.	DOCKET NO. 960833-TP
In Re: Petition by MCI Telecommunications Corporation and MCI Metro Access Transmission Services, Inc. for arbitration of certain terms and conditions of a proposed agreement with BellSouth Telecommunications, Inc. concerning interconnection and resale under the Telecommunications Act of 1996.	DOCKET NO. 960846-TP

SECOND DAY - AFTERNOON SESSION

VOLUME VII

PAGE 930 through 1104

BUREAU OF REPORTING

RECEIVED 2-9-98

PROCEEDINGS:	HEARING
BEFORE:	CHAIRMAN JULIA L. JOHNSON COMMISSIONER J. TERRY DEASON COMMISSIONER SUSAN F. CLARK COMMISSIONER E. LEON JACOBS, JR. COMMISSIONER JOE GARCIA
DATE:	Tuesday, January 27, 1998
TIME:	Commenced at 1:00 p.m.
PLACE:	Betty Easley Conference Center Room 151 4075 Esplanade Way Tallahassee, Florida
REPORTED BY:	NANCY S. METZKE, RPR, CCR

APPEARANCES:

(As heretofore noted.)

I N D E X

WITNESSES

EXHIBITS - VOLUME VII

P R O C E E D I N G S

(Transcript continues in sequence from Volume VI)

COMMISSIONER DEASON: Mr. Self, you may call your witness.

MR. SELF: Thank you, Commissioner Deason. WorldCom calls Mr. Dave Porter. Commissioner Deason, this witness has not been sworn yet.

COMMISSIONER DEASON: Mr. Porter, if you could please stand and raise your right hand.

(Whereupon, David N. Porter was duly sworn by Commissioner Deason)

* * * *

Whereupon,

DAVID N. PORTER

was called as a witness on behalf of WorldCom and, after being first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. SELF:

Q Mr. Porter, can you please give your name and business address for the record, please?

A Yes, sir. My name is David N. Porter. I'm vice president, government affairs, WorldCom, Inc. My office is at 1120 Connecticut Avenue N.W., Suite 400, Washington, DC.

Q And did you cause to be prepared and have filed in this case, direct testimony consisting of 19 pages?

A Yes, sir.

Q And do you have any changes or corrections to that testimony?

A Yes, sir, during my deposition it was brought to my attention that at page 12, line 12 I need to change the number five to the number four.

Q That's on page 12, line 12 of your direct, correct?

A Yes, sir, that's correct.

Q Do you have any other changes or corrections to your direct testimony?

A No, sir.

Q Would that change -- if I asked you these same questions today, would your answers be the same?

A Yes, sir.

Q Did you also cause to be prepared and prefiled in this case rebuttal testimony consisting of 10 pages?

A Yes, sir.

MR. SELF: Commissioners, we have passed out a sheet that describes the sections of Mr. Porter's rebuttal testimony that should be stricken to be consistent with Commissioner Clark's prior ruling regarding OSS costs, and I guess to be consistent with what we have done before, we

should give this an exhibit number.

COMMISSIONER DEASON: Very well. It will be identified as exhibit number 30.

MR. SELF: Thank you.

MR. PELLEGRINI: Commissioner Deason, staff at this time would ask that the packet identified as DNP-4 be identified -- be marked for identification purposes. It consists of Mr. Porter's January 19, 1998 deposition transcript and deposition and late-filed deposition exhibits numbers 1 and 2.

COMMISSIONER DEASON: It will be identified as exhibit number 31.

BY MR. SELF:

Q Mr. Porter, with respect to your rebuttal testimony, other than what we have now identified as exhibit 30, do you have any other changes or corrections to it?

A Yes, sir, I have one word that was repeated in my rebuttal testimony at page 3, line 9, the word "allowed" should be deleted. It appears again later in that sentence.

Q Okay. With that change and the changes on exhibit 30, if I asked you the same questions today, would your answers be the same?

A Yes, sir.

MR. SELF: Commissioner Deason, we would request that Mr. Porter's prefiled direct and rebuttal testimony be inserted in the record as though read.

COMMISSIONER DEASON: Without objection, it shall be so inserted.

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is David N. Porter. My business address is WorldCom, Inc. ("WorldCom"), 1120 Connecticut Avenue, N.W., Suite 400, Washington, D.C. 20036.

Q. BY WHOM ARE YOU EMPLOYED AND WHAT ARE YOUR RESPONSIBILITIES?

A. I am Vice President - Regulatory Economics/Policy for WorldCom, which is the ultimate parent corporation of Metropolitan Fiber Systems of Florida, Inc. I work with senior managers of WorldCom and its subsidiaries to develop its positions on public policy discussions before state, federal and international regulatory and legislative bodies. I oversee WorldCom's filings before the Federal Communications Commission ("FCC") and in state proceedings on economic and technical issues. I also collaborate on our ongoing interconnection negotiations driven by the Telecommunications Act of 1996.

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.

A. I graduated from the University of Illinois in 1968 with a Bachelor of Science degree in General Engineering and from Roosevelt University, Chicago in 1974 with a Masters in Business Administration. I am Registered as a Professional Engineer in Illinois, New Jersey and New York.

I began my telecommunications career in 1967 as an engineer for Illinois Bell. After assignments in traffic, outside plant, local and toll central office and toll facility engineering, I assumed duties as a service cost engineer responsible for designing and completing cost studies to support Illinois Bell rate filings and for establishing the price

of equipment, land and buildings to be sold to or purchased from customers and other utilities. In 1976, I transferred to AT&T and was responsible for supervising numerous studies being completed by academicians and scientists intended to demonstrate the technical and economic harms of interconnecting competing communications networks and equipment. Later, I worked on the AT&T team that negotiated and implemented the breakup of the Bell System. For two years following AT&T's divestiture of BellSouth and the other Bell Operating Companies in 1984, I managed the state and federal regulatory activities for AT&T Information Systems including its attempts to gain state approvals to offer shared tenant services. After that assignment, I was responsible for creating certain AT&T responses in the first triennial review of the Modification of Final Judgment. In the late 1980s, I was responsible for developing policy positions related to state regulatory issues and for managing AT&T's intrastate financial results. For several years thereafter, I advocated AT&T's interests at the FCC on matters concerning enhanced services and wireless services including spectrum management issues. My last position with AT&T was Director - Technology and Infrastructure. I was responsible for advocating AT&T's interests with Members of Congress, the FCC and their staffs on technical matters surrounding local exchange competition.

During the past several years, I traveled in eastern and central Europe and South America with employees of the U.S. State Department and the U.S. Department of Commerce as their industry representative at bilateral and other meetings during which the U.S. encouraged other governments to adopt laws and policies that would foster telecommunications development and competition. I have conducted multi-day training

sessions for State Department embassy trade personnel worldwide. I have spoken before many state regulatory and legislative bodies and have attended and made presentations to numerous industry meetings and training sessions.

In May of 1996, I assumed the position of Vice President of MFS Communications Company, Inc. (parent company of Metropolitan Fiber Systems of Florida, Inc.) and have continued to perform substantially the same duties after WorldCom acquired MFS at the end of last year.

I. INTRODUCTION

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. My testimony evaluates the permanent nonrecurring loop costs for ADSL and HDSL loops proposed by BellSouth Telecommunications, Inc. ("BST") in its Florida loop cost study. My testimony also evaluates the permanent physical collocation costs that BST reported in its Florida physical collocation cost study.

Q. WHY ARE THESE COST STUDIES BEFORE THE COMMISSION?

A. In August 1996, in Docket 960757, the Commission conducted an arbitration between MFS and BST to resolve disputes so that the parties could execute an interconnection agreement pursuant to the Telecommunications Act. I personally testified before this Commission on behalf of MFS in that arbitration. In its December 1996 Order, the Commission set permanent analog voice grade loop rates. Because BST had not offered any evidence regarding its recurring and non-recurring costs for 2-wire ADSL and 2- and 4-wire HDSL loops, the Commission set interim rates for those types of loops equivalent

to the rates it set for 2- and 4-wire analog voice grade loops. I summarize these interim rates below.

Currently priced loops based on equivalent analog loops

		Nonrecurring Rates	
Type	Monthly	(First)	(Add'l)
2-wire ADSL	$17.00	$140.00	$42.00
2-wire HDSL	$17.00	$140.00	$42.00
4-wire HDSL	$30.00	$141.00	$43.00

Q. **PLEASE IDENTIFY THE COST STUDIES BEFORE THE COMMISSION.**

A. Currently, the Commission has before it BST's Florida Unbundled ADSL and HDSL Compatible Loops Cost Study ("Loop Study") and its Florida Physical Collocation Study ("Collocation Study"). These cost studies were filed on February 14, 1997 in Docket No. 960757 to comply with Order No. PSC-96-1531-FOF-TP. I understand that BST is filing new cost studies on the day I am filing this testimony, which may or may not include ADSL, HDSL, and collocation costs that are completely different from those BST reported in its February 1997 Studies. Obviously, I cannot now testify about these new cost studies. Indeed, as this demonstrates for WorldCom and the other parties to this case, BST's costs estimates represent a moving target.

II. ADSL AND HDSL COSTS

Q. **DO YOU HAVE ANY GENERAL OBSERVATIONS ABOUT BST'S ADSL AND HDSL NONRECURRING CHARGES?**

A. Yes. In my opinion, BST's proposed nonrecurring costs are based on a provisioning process that BST does not use for its own loops. BST's study costs a gold-plated provisioning process that yields vastly overstated nonrecurring costs. The nonrecurring costs BST reports in its February study are nearly four times as high as the interim rates the Commission set last November. WorldCom believes the interim rates also are well above costs.

Q. **HOW DO YOU KNOW THAT BST'S NONRECURRING CHARGES ARE GOLD-PLATED?**

A. One way I know this by comparing the nonrecurring costs BST reports to the nonrecurring costs its actually charges its retail customers in its tariff. I also know the costs are inflated by examining BST nonrecurring rates for other carriers.

Q. **WHAT DID YOUR COMPARISON OF BST'S NONRECURRING CHARGES WITH BST'S TARIFF REVEAL?**

A. In BST's Florida General Subscriber Service Tariff, Section A4, BST identifies a "line connection charge" that it charges its retail customers that for"ordering, installing, moving, charging, rearranging or furnishing of" telecommunication services. This charge applies to all classes of Basic Exchange Service, ESSX service, and Centrex. BST charges residence customers $40 for the first line and $12 for each additional line. BST charges business customers $56 for the first line and $12 for each additional line. For the sake of argument, if WorldCom's business customers desired high speed digital loops, WorldCom would pay nearly 10 times the nonrecurring charges to connect the loop than BST's own retail customers would if the Commission adopted the Loop Study costs. WorldCom has

not examined cost studies supporting these tariffed nonrecurring connection charges, so I cannot critique them in detail. I would note, however, that these retail rates are well below the $140 nonrecurring charge that BST proposed in MFS' arbitration, and that the Commission approved on a permanent basis. WorldCom is not in the same position as the typical end user: as a carrier, we perform much of the order taking, engineering and testing functions ourselves. Thus, as a matter of common sense, BST should charge ALECs nonrecurring charges below retail. Federal law supports this view. The Telecommunications Act requires that unbundled elements be based on BST's costs. BST does not incur all of its usual costs when an ALEC purchases an unbundled loop.

Q. **WHAT DID YOUR COMPARISON OF BST'S NONRECURRING CHARGES TO OTHER FLORIDA CARRIERS REVEAL?**

A. In Docket No. 970454, this Commission approved a negotiated interconnection agreement between BST and KMC Telecom, Inc. The nonrecurring charge for Florida unbundled 2-wire ADSL and 2- and 4-wire HDSL loops is $44.80. Note that this was a negotiated agreement reached by a CLEC which is smaller than WorldCom. This rate really represents the outer limit BST could rationally charge any Florida CLEC.

Q. **ARE BST'S TARIFFED NONRECURRING CONNECTION CHARGES FOR BASIC EXCHANGE SERVICE EQUIVALENT TO THE ADSL AND HDSL LOOPS AT ISSUE?**

A. Yes. You may have heard of the saying in the telecommunications industry that "a loop is a loop." It is true. Dry copper loops are similar, whether they are voice grade analog loops, or ADSL and HDSL compatible loops. An end user desiring high speed digital

loops will typically provide a device similar to a modem at the customer premise which enables the end user to send and receive high speed data transmissions over BST's loops to a similar piece of equipment located at a WorldCom location. Thus, the primary difference between voice grade loops from high speed digital loops is equipment that BST does not provide or need to support. As I will describe, the nonrecurring connection charge for basic exchange service can serve as an appropriate benchmark for Commission consideration because little installation is involved in making BST loops ADSL and HDSL compatible, nor is much BST engineering, testing, or travel required to convert a BST customer to high speed digital service provided by WorldCom over BST unbundled loops. In most cases, BST's loops should be of sufficient quality that WorldCom can use them for high speed digital transmission without further conditioning.

Q. **PLEASE DESCRIBE WHAT IS INVOLVED IN CONVERTING A BST CUSTOMER TO WORLDCOM HIGH SPEED DIGITAL SERVICE.**

A. To begin with, let me be clear about what WorldCom desires to do. WorldCom anticipates it often will provide service to end users using BST unbundled loops. WorldCom will provide its own voice or data switches, so this will not be a pure resale arrangement. For most ADSL or HDSL customers, there would be almost no cost associated with the conversion at all. BST would simply reassign a loop serving one of its former customers to WorldCom and that would be the end of the matter. Since WorldCom is a facilities-based carrier, BST just crossconnects one of its loops at its MDF to a tie cable that enters our collocated space. The loop then will be served by

WorldCom's equipment. While there is some cost associated with this operation, it usually is far less than BST assigns to it.

For an efficient ILEC, there are four functions associated with the conversion of a loop to an ALEC: the service order, engineering, connection and testing, and field cross connects. I will describe them in turn. The efficient costs I am describing are summarized in Exhibit 32 (DNP-1).

Service Order

The service order is taken from the customer, in this case from WorldCom. Service orders are supposed to be taken through use of BST's Operations Support Systems ("OSS"). WorldCom personnel will gather customer information and transfer it electronically to BST. No BST manual intervention should be associated with reading an electronic order, but occasionally some may fail. After the electronic systems have been installed and tested, I would estimate that fewer than 5% of orders would require any manual intervention and that intervention would require well under one hour of clerical time; thus, the average time required to manually correct errors would not exceed five minutes on average. No additional time would be required for multiple loops on the same order. I would estimate even less human time would be necessary for BST to process a disconnection order. Such disconnection time would be discounted by the effective cost of money divided by the expected service life of the connection. I have not performed this calculation. For simplicity, I will say the disconnect time is also five minutes.

Engineering

Unlike analog loops that typically require no outside plant engineering associated with establishing service, ADSL and HDSL loops may require some "conditioning" in order to satisfy the appropriate technical specifications. This is not the time spent by a craftsperson to connect a loop at the customer's premises or to complete field cross-connections. Rather, it is the time required to upgrade BST facilities to the ADSL/HDSL transmission standards. This work typically is required only on loops longer than 18,000 feet. About 80% of all loops are shorter than 18,000 feet. Another 5% typically also require upgrades. But, as BST's studies demonstrate, ADSL and HDSL loops are typically much shorter than the average loop. In my opinion, it is a reasonable assumption that 90% of these orders will not require upgrades while 10% will. In other words, I would conservatively estimate that 90% of orders require no outside plant upgrade while 10% of the orders might require some engineering and maintenance time. In other jurisdictions, we have established that an efficient ILEC upgrades multiple loops -- typically one binder group or 25 pairs -- at the same time.

Now, we need to estimate the time required to upgrade these loops. Being very generous, I would estimate four hours of engineering time to identify the binder groups to be modified and to write the field orders. I also would estimate less than four hours per load coil case to disconnect and resplice pairs at three locations and another four hours at the service area interface to change any field cross connections. This totals twenty hours of labor to upgrade 25 pairs.

Taking a weighted average of 25 conversions with my assumption that 10% of loops require this activity, I derive a weighted average of five minutes to perform the typical digital loop conversion. No time is associated with disconnection.

Additional engineering is only necessary for an efficient ILEC for hard orders. On average, I estimate that 90% of orders require no additional engineering, and that 10% of orders require 30 minutes of additional engineering. As a result, I derive a weighted average of 3 minutes per order, whether for the first order or additional orders. No time is associated with disconnection.

Connection and Testing

There are central office and field connection and testing functions an efficient ILEC must perform. I estimate an efficient ILEC spends an average of 5 minutes on Central Office installation and maintenance for the first and additional orders. Special services coordination and testing, and installation and maintenance, may be necessary on approximately 10% of the orders. Again, I estimate 30 minutes per affected order, or a weighted average of 3 minutes per first and additional order. No time is associated with disconnection.

Field

For 10% of the orders, travel time may be necessary for a technician to make field cross-connections. In metropolitan areas where WorldCom is likely to experience demand for digital loops, distances are short. Consequently, I would estimate that an efficient ILEC technician might spend 15 minutes traveling to and 15 minutes crossconnecting service for about 10% of loop conversions. Thus, the weighted average is 3 minutes per

the first order and 1.5 minutes associated with additional orders. No time is associated with disconnection.

Q. **AS YOU HAVE DESCRIBED IT, HOW MUCH SHOULD AN EFFICIENT ILEC CHARGE AN ALEC FOR NONRECURRING COSTS?**

A. Approximately 26 minutes of labor are associated with the average digital loop conversion for the first line, and 14.5 minutes for each additional line. BST's labor rate is proprietary. For the sake of argument, however, if the loaded labor rate is somewhere between $30-$60 per hour, or $45 on average, then the nonrecurring charge for the first order should be approximately $19.50, and for additional orders approximately $10.87. As I mentioned earlier, BST requests nonrecurring charges orders of magnitude higher than this.

Q. **SHOULD THERE BE ANY DIFFERENCE IN THE NONRECURRING CHARGE FOR A 2-WIRE ADSL LOOP AND A 2-WIRE OR 4-WIRE HDSL LOOP?**

A. Theoretically no. A loop is a loop.

Q. **WHY ARE THE PERMANENT NONRECURRING CHARGES THAT THE COMMISSION APPROVED IN MFS' ARBITRATION FOR ANALOG LOOPS SO MUCH HIGHER THAN THE ONES THAT YOU PROPOSE?**

A. The permanent nonrecurring analog loop charges are higher because the rates the Commission approved are the same as the ones that BST sponsored. Those rates were not tested by MFS. When MFS' arbitration was conducted, the FCC's Total Element Long Run Incremental Cost ("TELRIC") was in effect. It was not until the case was submitted to the Commission, and no further briefing or argument was permitted, that the U.S.

Court of Appeals for the Eighth Circuit stayed and later vacated those pricing rules. During MFS' arbitration, BST sponsored a Total Service Long Run Incremental Cost ("TSLRIC") cost study. The cost study method BST used during the arbitration did not conform to the TELRIC standard then in effect during the arbitration. As a result, MFS did not insist that BST justify the charges in that study because the study was plainly defective in its entirety. Now that the costing method that applies in Florida is clear, WorldCom must take BST's cost study as it finds it. Upon close scrutiny of that study, BST's costs are highly inflated.

Q. **WHY ARE THE COSTS REPORTED IN BST'S LOOP STUDY AS HIGH AS THEY ARE?**

A. Generally, BST treats unbundled loops more like special access lines, than like the lines over which it services the majority of its own customers. I have ~~five~~ four criticisms of BST's loop study. First, BST assumes that it must perform a circuit layout for almost every loop. In other words, the provisioning costs of almost every loop include the labor costs of having an engineer personally plot the layout of the loop. For the most part, this procedure is completely unnecessary because the loop is usually to be used for the same purpose, and the same customer, as when BST was the serving carrier. BST certainly does not order a circuit layout for every loop it sells at retail (otherwise, the charge for hooking up a phone in Florida would be astronomically high). The Commission should remove the circuit layout charge from nonrecurring charges for unbundled loops.

Second, BST assumes that it must dispatch a technician into the field for every loop to be provisioned. In this manner, BST inserts expensive "windshield" costs (*i.e.*, costs for

the time that a technician spends behind the windshield driving to a customer premises) into its proposed nonrecurring charges. In general, costs for field installation of unbundled loops should be minimal, because BST should not have to utilize personnel and equipment to accomplish installation functions which, by and large, can be done electronically. On most occasions, BST does not even bother to disconnect loops after customers discontinue service. BST simply blocks calling from the prior customer's line until a new customer subscribes from that location. BST should assess field installation charges as part of the nonrecurring charges for unbundled loops and only for that portion of orders when it actually dispatches a technician into the field to provision a particular loop.

Third, BST treats every loop as if it is ordered alone, passing onto competitors none of the economies of scale and scope that BST realizes on orders of multiple loops. BST considers costs of coordination and labor to be cumulative for all functions, instead of complementary in situations where provisioning tasks overlap. It is completely unrealistic for BST to assume (as it does) that its personnel always work on only one provisioning task for each loop at a time. At a minimum, the coordination charge should apply on a per-order basis, for there is no cost difference between coordinating two, three, four or more loops at the same time. Additionally, the Commission should scrutinize BST's labor costs and consolidate those that would not be incurred in an order of multiple loops.

Fourth, BST intends to provide testing for almost every loop that it provisions, even though it conducts no such testing on loops for its own customers. Indeed, for many loops WorldCom will perform the testing itself without the assistance of BST. BST thus

discriminates against loop purchasers. The Commission should not allow BST to insert such testing costs into nonrecurring charges for loops.

Q. **PLEASE CRITIQUE BST'S FEBRUARY 14, 1997 LOOP STUDY.**

A. Workpapers 850 and 1050 of that study ("Workpapers"), pages 39 and 43 of the filing, are the documentation for nonrecurring TSLRIC nonrecurring costs of 2-wire and 4-wire high speed digital loops, respectively. While the costs of each vary, I believe that there should be little or no difference in the nonrecurring rates for both types of loops.

Service Order

Customer Service Point of Contact

To my mind, lines 16 and 20, column A of the Workpapers which describe the customer service point of contact charge are excessive and duplicative. As I discussed above, this is essentially the charge for manual intervention in BST's OSS system. This is not the charge for the time a carrier customer service representative spends on the telephone with a retail customer. In a truly automated system between ILEC and ALEC, there should be virtually no manual intervention. BST alleged in its Section 271 before this Commission that it has fully automated OSS. While WorldCom does not agree with this view, the costs that BST reports for what are essentially electronic functions do not even remotely resemble an automated operation. Nevertheless, 5 minutes is appropriate. This is the one charge for which I believe a disconnect charge is warranted but, again, only 5 minutes are appropriate, and discounted in the manner I described earlier. BST's charge for disconnection is found on line 22, column B.

Outside Plant Engineering

Line 17 of the Workpapers describe the charge BST feels is necessary for outside plant engineering. I believe that BST has not passed along economies of scale in this number. Most carriers group their outside plant engineering jobs in binder groups of 25 pairs. Carriers typically do not do these jobs individually because they have the volume of orders that batching is economical and efficient. I believe that this number does not reflect batching because it is so high. For the amount of time in line 17, column A to be necessary for a loop order, each order would have to be done individually and it would have to be of substantial complexity. As I described earlier, a more reasonable assumption is that 90% of orders are easy, 10% are hard. According to BST's study, 100% of orders are hard.

Special Services

Line 22, column A demonstrates the special services coordination and testing time that BST reports is necessary for loop conversions. Ordinarily, this is a function that WorldCom would perform for itself. No BST time should be devoted to this task. Line 23, column A is special systems installation and maintenance time. I believe that BST has costed this item as if it were performing this function at the retail customer premise. When WorldCom is the customer this is not the case. Virtually none of this installation and maintenance is necessary when WorldCom is the customer.

Engineering

Lines 26 and 27 demonstrate the facilities assignment and circuit provisioning center functions necessary for loop conversions. These BST figures do not appear to

account for 90% easy conversions. The vast majority of the BST loops WorldCom will purchase have already been engineered. Additional engineering should only be necessary when there is a problem, or approximately 10% of the time.

Connect and Test

Line 30 reflects BST's Central Office installation and maintenance time. This figure appears appropriate. Lines 31 and 32 reflect an extraordinary amount of special services testing and installation time. In truth, technicians performing this function are simply testing the cross-connect. This is a matter of minutes, not hours.

Travel

Finally, line 35 reflects BST technician's travel time. This is the "windshield" cost to which I earlier referred. Virtually no technician time is necessary outside of BST's Central Office. Such a charge is more in line with serving retail customers, not ALECs.

Q. **WHAT RATES DO YOU PROPOSE FOR NONRECURRING CHARGES FOR 2-WIRE ADSL AND 2- AND 4-WIRE HDSL LOOPS?**

A. I propose $19.50 for the first loop and $10.87 for each additional loop.

III. COLLOCATION CHARGES

Q. **WHY IS THE COMMISSION CALLED UPON TO SET PERMANENT COLLOCATION RATES AT THIS TIME?**

A. In MFS' arbitration, BST proposed collocation rates from its "Collocation Handbook." The Commission ruled in December 1996 that it could not determine on the basis of that handbook what cost methodology BST used to arrive at the rates. Accordingly, the Commission ordered BST to file a TSLRIC study for collocation, which it did in February

1997. In January 17, 1997, BST and MFS amended their Partial Interconnection Agreement by filing an interim collocation agreement in Docket 960757. Exhibit F of that filing lists the interim rates for physical collocation. For ease of reference, I attach that page as Exhibit 32 COMP (DNP-2) to my testimony. While the parties have interim collocation rates, they do not have permanent rates.

Q. **PLEASE CRITIQUE BST'S FEBRUARY 14, 1997 PHYSICAL COLLOCATION STUDY.**

A. BST's collocation study summarizes the costs in Section 3, pages 13 and 14 of the study. In the interim agreement, Exhibit 32 COMP (DNP-2), the application fee is $3,850.00. Yet in the study, BST costs the application fee significantly higher. While no cost study supports the interim rates, I do note that most of the difference in the February study's cost for the application fee and the interim cost can be attributed to "Business Marketing" as reflected on Workpaper 410. BST does not need to market to WorldCom to get us to collocate in their Central Office. I doubt that they would even allow us to do so if they were not required by federal law to permit collocation. WorldCom cannot serve Florida unless it collocates in BST's Central Offices. This marketing charge is unnecessary and excessive.

The Space Construction charge in the study is almost twice as high as the interim rate. Examining Workpaper 420, BST attributes almost all of this cost to the cost of materials. The material is essentially 40 linear feet of chain link fence with a gate. There is no further backup for this figure and it represents a "black box." BST cannot justify

why the cost of materials in January 1997, when the interim agreement was signed, doubled one month later when the cost study was filed.

I take issue with the nonrecurring cross connect charges that BST includes in its collocation study. One of the study assumptions (Section 6 of the study, page 88) is that the cross connection will always be installed with either an unbundled element or an interconnection order. Given this assumption, BST is getting a double recovery since it is already compensated by nonrecurring charges for the unbundled loop network elements. If this charge is intended to cover intraoffice cabling, that element is recovered separately in our interconnection agreement.

BST also has significantly marked up its labor rate for security escorts in its study as compared to the interim agreement. It is common in the industry to require collocators' technicians to sign in when they enter an ILEC Central Office to do work. Sign in is usually done at the front door. An ILEC would normally have a guard at the front door of its Central Office, whether or not there were collocators. It is also common in the industry that ILEC security guards do not continuously accompany collocator technicians while at the ILEC Central Office, if at all. In some cases, security is simply an electron ic lock. BST is merely attempting to shift some of its sunk labor costs to its competitors. It should not be permitted to do by charging ALECs for escort time that BST does not incur, and certainly does not incur in addition to BST's normal security needs.

Q. **WHAT DO YOU PROPOSE AS THE NONRECURRING RATES FOR COLLATION?**

A. I propose the rates found in Exhibit Comp 32 (DNP-2).

IV. CONCLUSION

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. BST is attempting to charge WorldCom nonrecurring rates for ADSL and HDSL compatible loops which reflect a gold-plated process to provision loops to retail customers, not to ALECs. An efficient ILEC which uses fully automated OSS, as BST constantly claims that it does, would not incur the labor costs that the February cost study claims BST does. Either BST has electronic ordering or it does not. In addition, BST has costed installation, maintenance, testing and related functions as if every order needed special and individual attention. BST cannot possibly be so disorganized or inefficient that it processes orders for its retail customers in such a fashion, much less for a carrier-customer which is collocated at BST's facilities and which performs many technical functions for itself. In any event BST non-recurring charges for ADSL and HDSL loops should not exceed the $44.80 it voluntarily negotiated in the KMC interconnection agreement. Finally, BST has not adequately identified why the charges in its collocation study exceed those charges BST agreed to with MFS in an interim agreement a mere month before the cost study was filed. Surely BST would not have agreed to such an interim arrangement unless those charges covered its costs. WorldCom urges the Commission to give these studies careful scrutiny so that BST do not attempt to cost loops and collocation beyond the costs they actually and legitimately incur.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is David N. Porter. My business address is WorldCom, Inc. ("WorldCom"), 1120 Connecticut Avenue, N.W., Suite 400, Washington, D.C. 20036.

Q. ARE YOU THE SAME DAVID PORTER WHO FILED DIRECT TESTIMONY IN THIS CASE ON NOVEMBER 13, 1997.

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my rebuttal testimony is to critique the new BellSouth Telecommunications, Inc. ("BST") cost studies for ADSL/HDSL-compatible loops and collocation filed November 13, 1997 with its direct testimony in this phase of the case.

Q. PLEASE SUMMARIZE YOUR OPINION ABOUT THOSE COST STUDIES.

A. I have two general comments. First, I believe that a large portion of the costs included in BST's studies are outside the scope of the Commission's inquiry and should be summarily disallowed. Second, I believe that the nonrecurring charges for BST loops and all of the nonrecurring charges for collocation are excessive and should be rejected.

BST has costed high speed digital loops and collocation at Total Service Long Run Incremental Cost ("TSLRIC"), as this Commission has ordered BST to do. BST went beyond this, however, and added to its

TSLRIC costs shared and common cost as well as a "residual recovery requirement." This is beyond what the Commission ordered BST to do. In addition, BST's distinct rates for manual and electronic ordering of loops and some collocation elements are also improper. In my opinion, the Commission should consider neither BST's shared and common costs, nor its separate embedded costs, ~~nor its OSS charges~~.

With respect to the nonrecurring loop costs and the collocation costs, I believe that they are excessive. As I stated in my direct testimony, an efficient ILEC could only reasonably incur nonrecurring costs of approximately $19.50 for the first high speed digital loop and $10.87 for each additional loop. Yet BST asserts that its most recent studies that the TSLRIC cost of electronically provisioning these loops are in the $435-455 range. When BST adds in its alleged shared and common costs, embedded costs, ~~and charges for OSS~~, the total nonrecurring cost well exceeds $600. This is absurd.

As for the collocation costs, I stated in my direct testimony that BST's February 1997 collocation rates were excessive, especially since BST agreed to significantly lower interim collocation rates with MFS only one month prior. BST has just refiled its studies. They suffer the same infirmity. They are as excessive and they include shared and common costs which, as I have said, have no place here. The Commission should reject

the collocation nonrecurring cost studies in their entirety and should adopt the rates that BST negotiated with MFS.

Q. WHY DO YOU DISAGREE WITH BST'S ADDITION OF SHARED AND COMMON COSTS TO ITS BASIC TSLRIC COSTS OF PROVIDING LOOPS AND COLLOCATION?

A. BST purports to perform a TSLRIC study, not a TELRIC study. In normal usage, a TELRIC study may include an allocation of shared and common costs — a TSLRIC study does not. By proposing to include such costs in its TSLRIC analysis, BST is attempting to overstate the ~~allowed~~ costs which the Commission will allow.

Q. WHY DO YOU DISAGREE WITH BST'S ADDITION OF A "RESIDUAL RECOVERY REQUIREMENT"?

A. Because the Commission's orders do not permit it. Let me be clear from the outset: BST's "residual recovery requirement" is a blatant attempt to recover its embedded costs. In fact, the Commission has ruled that BST may not do so. The Commission's ruling in MFS' arbitration case, Order No. PSC-96-1531-FOF-TP, states that under the forward-looking TSLRIC method, BST's studies are to consider the current architecture of the network and future replacement technology. The Commission's ruling in Docket No. 950984, Order No. PSC-96-811-FOF-TP is similar. The Commission said nothing about permitting BST to recover its historical costs. Indeed, if BST is permitted to recover its embedded costs,

unbundled elements will be priced in violation of this Commission's orders and will be artificially high.

Q. WHY DO YOU DISAGREE WITH BST'S INCLUSION OF OSS CHARGES IN ITS COST STUDIES?

A. For two reasons. First, the Commission has ordered BST to bear its own OSS costs. Second, it is disingenuous for BST to attempt to cost OSS when the Commission recently found that BST's OSS is not even operational at this point.

In the AT&T and MCI arbitrations, Order No. PSC-96-1579-FOF-TP, at 87, the Commission ruled that "each party shall bear its own cost of developing and implementing electronic interface systems because those systems will benefit all carriers." This ruling is consistent with that of the Georgia Commission, which recent ruled that BST may not recover OSS charges separately in that state. The ruling is also consistent with that of the New York Commission, which recently ruled that Bell Atlantic may not recover OSS development charges from competitors. In short, BST is improperly attempting to recover OSS development costs from its competitors.

In addition, the Commission recently ruled in BST's Section 271 case, Order No. PSC-97-1459-FOF-TP, that BST has not met its duty under the Telecommunications Act to provide nondiscriminatory access to its OSS functions. I simply do not see how BST can submit OSS costs to

this Commission to which it is not entitled and for functions that it is not yet able to provide.

Q. WHAT DO YOU FIND OBJECTIONABLE ABOUT BST'S OSS CHARGES IF THEY ARE INCLUDED?

A. I find it objectionable that BST is not passing on its efficiencies of mechanization. In fact, BST marks up its nonrecurring loop rates three ways. First, in the November 1997 nonrecurring cost study, pages 526, 532, and 538, BST assumes 100% dispatches for new loop orders. As I stated in my direct testimony, I would expect an efficient ILEC to dispatch technicians to provision only 10% of loop orders. Ninety percent of loops can be provisioned with no technician time outside of the Central Office. Second, BST charges $11.00 per electronic order, and in addition charges approximately $40.00 more for electronic nonrecurring loop charges than for corresponding manual nonrecurring loop charges. Third, nowhere in this calculation do we find that BST discounts its nonrecurring loop charges to account for productivity gains achieved through electronic ordering. BST assumes that 100% of loops are ordered manually. BST passes on no savings due to the efficiency of electronic ordering or provisioning loops which do not require dispatching a technician.

Q. WHAT NONRECURRING RATES DO YOU PROPOSE FOR HIGH SPEED DIGITAL LOOPS?

A. I propose those rates that I sponsored in my direct testimony. I believe that the appropriate nonrecurring rates for an efficient ILEC are $19.50 for the first loop and $10.87 for each additional loop. As I discussed in my direct testimony, there should be no difference in cost to provision any of the three kinds of high speed digital loops.

Q. OF WHAT USE ARE ADSL/HDSL-COMPATIBLE LOOPS?

A. These loops can be used to provide high speed data transmission. ADSL/HDSL technology increases the efficiency of copper loops by increasing their usable bandwidth. As a result, through use of a device similar to a modem, customers can attain download speeds of 30-100 times faster than 28.8 kbps modems, as well as simultaneous voice and data capabilities over a single phone line.

These are exciting possibilities, especially for customers who have been unable to get ISDN lines either because they are not available or too expensive, or for customers for whom a T-1 line does not make sense. All of this is possible over existing copper loops with virtually no additional outside plant provisioning costs. WorldCom expects that there will be great demand for these technologies because they are an inexpensive means to provide higher speed access to the Internet.

Q. IS THIS HIGH SPEED DIGITAL TRANSMISSION CAPABILITY AVAILABLE NOW?

A. Absolutely. WorldCom pioneered ADSL/HDSL technology, with an initial trial in San Jose. BST is just now getting around to offering a trial in Birmingham. Some of BST's promotional materials from its Worldwide Web Home Page heralding its "FastAccess" ADSL trial are attached as Exhibit 32 COMP (DNP-3).

Q. WHAT DOES BST CHARGE FOR ITS ADSL SERVICE?

A. As noted in Exhibit 32 COMP (DNP-3), in its Birmingham trial, BST offers ADSL service to residential customers for $20.00 per month and to business customers for $70.00 per month in addition to its basic monthly rates. There are no nonrecurring charges. BST claims to provision a digital circuit, provision any necessary inside wiring, and provide the ADSL modem free of charge.

Q. HOW DO THESE RATES COMPARE WITH THE COST-BASED RATES BST PROPOSES TO CHARGE ALECS FOR LOOPS TO PROVIDE THE SAME SERVICES.

A. For the recurring rates, they compare reasonably well with BST's reported TSLRIC cost of providing such loops to ALECs. As I discussed in my direct testimony, there is virtually no circuit design, maintenance or testing that BST must perform for an ALEC, because the ALEC performs these functions for itself. Therefore, the $20 per month rate appears to be a realistic proxy for BST's wholesale cost plus expenses it may incur on

behalf of its residential or business retail customers. After all, a loop is a loop, whether it serves an office or one's home.

For the nonrecurring rates, however, BST's retail ADSL rates serve as a useful reality check. BST's November 1997 cost study reports a $435.95 or $466.31 nonrecurring cost for 2-wire ADSL loops, depending upon whether the order is processed electronically or manually. Add in BST's shared and common costs and embedded costs, and the figure goes up to $621.78 or $663.17. I doubt that BST would charge its customers $20 per month in its initial ADSL trial and then charge new customers a $600 set-up fee to initiate service. As I have opined, the recurring charge is more on the order of $19.50. I doubt that BST is absorbing $600 per customer in its ADSL trial. This would be an extraordinary promotional offer even for BST. Rather, I believe they are only absorbing $19.50 per customer. This would be a more realistic figure. Of course, the BST advertisement does not make clear whether BST is using the same pair for ADSL as it uses to provide the customer's basic service. If it is using the same pair, BST would appear to be recovering twice for the local loop. If it is provisioning a second loop, it clearly identifies the maximum ongoing retail cost of the loop -- since the ADSL gear, inside wiring and set-up costs are all "free." In either event, it would seem to confirm WorldCom's assertion that there is little or no cost difference for the loop and almost no nonrecurring cost.

Despite BST's marketing for its ADSL service trial, its cost study demonstrates that high speed digital services are effectively out of the price reach of most consumers. Moreover, BST's cost studies demonstrate that, due to the excessive costs associated with high speed digital loops, there will be no competition for these services either. Florida consumers and the public interest will lose as a result, because new and innovative telecommunications services could be right around the corner, but for BST's excessive costs of providing these services.

Q. WHAT IS YOUR OPINION ABOUT BST'S NOVEMBER COLLOCATION STUDY?

A. In general, this study is similar to the one BST filed in MFS' arbitration case in February except that it now includes the addition of shared and common costs. As I stated in my direct testimony, these rates were excessive as compared to interim rates BST negotiated only a month earlier. As I have stated earlier in this rebuttal testimony, shared and common costs have no place in TSLRIC study.

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. If the Commission accepts BST's cost studies at face value, Florida local exchange competition will be severely impaired. BST's attempts to recover embedded costs, shared and common costs, and OSS charges (multiple times) are improper. The nonrecurring costs BST proposes to charge its competition for high speed digital loops are excessive and would force

competitors to price those services out of reach of most customers. BST's trial pricing seems more accurately to reflect its true cost of providing the elements its competitors require. BST's collocation costs are also excessive as compared to interim rates it negotiated one month prior to filing its initial TSLRIC collocation studies. The Commission should scrutinize BST's cost studies carefully before setting prices for services which represent the future of Florida telecommunications.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

BY MR. SELF:

Q Now also, Mr. Porter, did you have attached to your direct testimony two exhibits that have been identified as DNP-1 and DNP-2?

A Yes, sir.

MR. SELF: And for the record, Commissioners and parties, DNP-2 is a copy of a page from the interconnection agreement amendment between MFS and BellSouth that is a part of Order Number 97-0235 which is one of the orders that the Commission has taken official recognition of already. The copy of the exhibit that most people have cannot be read very well, but I just wanted to let the parties know that that document is already a part of the record by virtue of the official recognition of the order that was previously taken.

BY MR. SELF:

Q Do you have any changes or corrections to those exhibits?

A No, sir.

Q And attached to your rebuttal testimony, did you have one exhibit that has been designated as DNP-3?

A Yes, sir.

Q And do you have any changes or corrections to that?

A No, sir, that's material taken directly from

BellSouth's Web page.

MR. SELF: Commissioner Deason, we would request that Mr. Porter's three exhibits from his direct and rebuttal testimony be identified as the next composite exhibit.

COMMISSIONER DEASON: Yes, composite exhibit 32.

MR. SELF: Thank you.

BY MR. SELF:

Q Mr. Porter, do you have a brief summary of your testimony?

A Yes, I do, thank you.

Q Can you please provide that now?

A Yes.

Commissioners, staff, it's good to be back. We were here about a year ago or actually almost a year and a half ago talking about many of these issues. I'd like to try to bring just a touch of some reality to this proceeding. I'd like to call your attention to the Tallahassee Democrat, front page Wednesday, January 21st. The column one article in this paper is entitled A Speedier Internet in Your Future, and the principle objective that I have in the hearing today is to help you understand, one, that my company would very much like to offer this service in this state and that we have been pursuing that goal for the last two years; and two, that the prices that you are

considering in this proceeding are simply not credible and are so high that they'll prevent us from offering that service. I'd like to take a few minutes and explain to you why I think that is so and will do that in the course of my cross examination, I'm sure, and to give you several references to other sources of information that corroborate what I'm trying to tell you.

MFS, prior to its acquisition by WorldCom a year ago, pioneered this technology, ADSL and HDSL, primarily ADSL, with services that we began offering in the State of California in December of 1996. We have made live presentations of this technology over working local loops before Congress, at the FCC. We have a standing exhibit at the Library of Congress.

I'd very much like to talk to you about local loop recurring prices, but that's not my main concern today. You have ordered that the loop study be a TELRIC -- or excuse me, TSLRIC study, a forward-looking study, and WorldCom is prepared to accept the rates, the recurring rates for the ADSL and HDSL loops that BellSouth proposes here if, in fact, you include only the portion of those costs that are TSLRIC and you exclude the residual recovery cost and the shared and common cost that they have added on top of their TSLRIC cost.

In a TSLRIC study we assume that loops are

properly placed and, therefore, there is no bridge tap, no bad splices, that you have high quality cable. We accept the loop standard that we think BellSouth has proposed, although it's not the loop standard we would propose. We object to the fact that BellSouth has excluded almost half a million loops from their study as their witness described yesterday, loops that would make their loop costs significantly lower than what they are proposing here, but we can live with that even though it's not right.

We think, however, that in their nonrecurring cost they simply have gone way out of line. Their witnesses confirm what I've said in my testimony about the hours that they have included, about the way they upgrade their plant. I'll spend just a moment on that. The numbers that they are asking, from 530 to -- well, excuse me, that is for a second loop. For the first loop they are asking about 660 dollars for a nonrecurring charge. I respectfully suggest to you that the correct number is no more than $19.50, and I provided the staff and will be happy to provide to you the decisions from other very aggressive state commissions, specifically Texas and Illinois, who have said those rates should be --

MR. TWOMEY: Wait. Commissioner Deason, I'm going to object at this point. This witness is supposed to be summarizing his direct and rebuttal testimony. The

information that he is about to put onto the record is not in his direct testimony or his rebuttal testimony or anywhere referred to therein. It's an improper -- it's not a summary of anything, it's new testimony.

COMMISSIONER DEASON: Mr. Self.

MR. SELF: Commissioner Deason, this is an ongoing process. He is summarizing his testimony and relying upon the evidence that you've heard and has been presented and trying to put his testimony in context with what's already been developed so far.

COMMISSIONER DEASON: I understand that. The objection is sustained. I'm going to ask you to limit your summary to what has been prefiled in your direct and rebuttal testimony. If other information -- You have a very resourceful attorney. Perhaps on redirect, if the door is opened, that can be pursued, but not in your summary.

WITNESS PORTER: Thank you. May I ask a clarification? That includes nothing that was in my deposition?

COMMISSIONER DEASON: Only what was prefiled. Deposition cannot be summarized.

WITNESS PORTER: Thank you, I appreciate that.

A So we will skip the numbers that I offered, and those will come up later I hope.

In support of my position, I offer in my direct testimony and in my rebuttal testimony my recalculation of the studies that BellSouth submitted, including the amounts of time and the processes that I believe are required there. I offer from the testimony that I filed language from BellSouth's own advertisements. This was in the exhibit attached to my rebuttal testimony where they advertise that their ADSL service uses their existing telephone line and piggybacks on the existing line, and they offer rates presumably recovering their costs that are as low as 20 dollars a month with free inside wiring, free modems, something that is just not a credible offer that we can compete against.

The BellSouth witness -- That's not in my direct testimony, excuse me.

In conclusion, I would respectfully request that you require them to go with a TSLRIC study as you have ordered, that the costs of upgrading their embedded plant are not an appropriate part of a TSLRIC study, that those costs are recovered as part of the normal maintenance that they do in their local plant and, in fact, we are being asked to double pay for those costs if we pay for them in the maintenance rate and in the nonrecurring charge. I respectfully ask you to adopt the rates that are proposed in my testimony.

Finally, I also ask you to reduce the nonrecurring charges proposed by BellSouth for collocation rates to the levels that have already been adopted in our interim collocation agreement. Thank you.

MR. SELF: The witness is available for cross examination.

COMMISSIONER DEASON: Mr. Twomey.

MR. TWOMEY: Mr. Deason, I'd request at this time that Mr. BellSouth be permitted to cross examine last among the parties other than the staff if that's okay.

COMMISSIONER DEASON: Mr. Hatch.

MR. HATCH: No questions.

COMMISSIONER DEASON: Mr. Bond.

MR. BOND: No questions.

COMMISSIONER DEASON: Mr. Twomey.

MR. TWOMEY: Thank you, Commissioner Deason.

CROSS EXAMINATION

BY MR. TWOMEY:

Q Good afternoon, Mr. Porter.

A Good afternoon.

Q My name is Mike Twomey. I represent BellSouth Telecommunications, Inc.

A Yes, sir.

Q I'm looking at exhibit 30, which are the sections of your testimony that have been withdrawn in light of the

OSS issue. Are you familiar with that?

A Yes, sir, I am.

Q You prepared that?

A Did I prepare the exhibit?

Q Yes.

A The material that is on it, yes.

Q Okay. Did you withdraw any testimony from your direct testimony?

A No, sir, I did not.

Q Okay. Let's go to page 8 of your direct testimony.

A Yes, sir.

Q Are you with me?

A Yes, sir.

Q Do you see the heading "Service Order"?

A Yes, I do.

Q Okay. Do you believe that the information contained beginning on page 8 or on page 8 is encompassed within that which should have been stricken from the testimony?

A No, I do not.

Q Okay. Thank you.

Mr. Porter, you are only proposing rates for ADSL and HDSL nonrecurring and physical collocation, correct?

A I am proposing rates for that, and I'm also

asking that the rates you proposed for the recurring loop charges be the TSLRIC portion of that cost only, not including the residual recovery charge and the shared and common cost.

Q You did not prepare an independent study to submit to the Commission regarding the nonrecurring rates for ADSL and HDSL loops, did you, Mr. Porter?

A Yes, I did.

Q You prepared an independent cost study?

A My exhibit number 1 attached to my direct testimony is my opinion of a nonrecurring cost study that uses the same categories that you used in your study but uses my data, not yours.

Q Okay. You've used BellSouth's study as a starting point and made modifications as you thought were appropriate, correct?

A Yes, sir, that's correct.

Q You've criticized the BellSouth study, correct?

A I believe that is a fair statement, yes, sir.

Q And you disagree with the assumptions regarding the degree of manual intervention in the service order function; is that right?

A Among other things, yes, sir.

Q You contend that the assumptions about ALEC use of OSS are incorrect, correct? That's the substance of

what is on page 8 of your testimony?

A Yes, that's correct.

Q Okay.

A At that point, that's right.

Q You have no involvement -- you've never had involvement in developing an operational support system; isn't that right, Mr. Porter?

A Never is not correct. In the last 20 years, that's correct.

Q I'm sorry, is it your testimony that you've developed an operational support system?

A It's my testimony that in my time at Illinois Bell I collaborated on the development of operating support systems.

Q Do you remember giving a deposition in this proceeding?

A That said I was not responsible for creating on my own an operating support system, that's correct.

Q Referring to page 87 of your deposition, "Question --" This is the deposition taken on Tuesday, January 6th, 1998. I believe it's been previously marked for identification; is that correct? Okay, beginning on page 87, line 7:

"QUESTION: In looking at your background, I did not see any reference to your participation in

developing operational support systems. Is that a fair statement?

"ANSWER: Yes, sir, that's a fair statement."

A Yes, that's correct, there is nothing in my background that says that.

Q Mr. Porter, did you have -- you have no involvement in implementing an operational support system, correct?

A That's correct.

Q And you have no familiarity with the design and implementation of the interfaces that are used to operational support systems, correct?

A And the answer to the question was, no, that was not correct.

Q Referring, again, to your deposition which has been previously marked as an exhibit, page 87, line 15:

"QUESTION: And have you had any familiarity with the design and implementation of the interfaces to operational support systems?

"ANSWER: No, there is a working group in our operations organization that is attempting to interface with BellSouth and other operating companies partly through various open forms in the industry to identify those standards, but I have not personally participated in

those."

A That's correct, as to my activities at WorldCom. My activities that I was testifying -- that I answered your question affirmatively a few moments ago was to work many years before that with Illinois Bell; and no, that was not in my vitae.

Q Okay. I'm going to read you the question again, beginning on line 15:

"Have you had any familiarity with the design and implementation of the interfaces to operational support systems?"

Is it your testimony today that when I asked you that question you thought I was limiting it to Illinois Bell?

A No, I thought you were asking me that question with response to WorldCom, and I believe in the context of the answer that's obvious.

Q Have you submitted an errata sheet to your deposition?

A Yes, sir.

Q Did you make any corrections to that answer?

A Not that I recall.

Q Thank you.

Mr. Porter, you've had no involvement in ordering loops, correct, unbundled loops?

A Not with WorldCom, no, sir.
Q Have you ever had involvement in ordering unbundled loops with anybody else?
A No, I have not.
Q You've had no involvement in provisioning loops, correct?
A Provisioning loops?
Q Yes.
A No, sir.
Q Whether at WorldCom or anywhere else, correct?
A That's correct. Well, no, it's not correct if you go back to my Illinois Bell experience, but that's not the context I thought you were asking the question in.
Q At Illinois Bell you were provisioning unbundled loops --
A At Illinois --
Q -- local exchange providers; is that your testimony?
A At Illinois Bell I did outside plant, I spliced cable. Yes, I did that type of work, but that's many years ago.
Q Mr. Porter, you understand that ADSL loops are not the same as a standard residential loop, correct?
A No, I do not understand that.
Q Do you understand that an ADSL loop cannot exceed

18 thousand feet?

A I understand that a properly designed ADSL loop can be designed either revised resistance design method or the carrier serving area method, both of which limit the length of copper, either to 12 thousand feet or to 18 thousand feet, that's correct.

Q Is it your understanding that residential loop has the same limitations?

A It's my understanding that under current forward-looking designs they do. It's my understanding that under embedded designs they may not.

Q It's your understanding that an ADSL loop must be a hundred percent copper, correct?

A It's my understanding that the electronics that are currently available in the marketplace require copper. It's my understanding that there may be introduced today at a trade show in Washington plug-ins that are usable with digital loop carrier that would allow the extension of this technology on digital loop carrier and then on copper; but to date, commercially available has to be on copper, yes, sir.

Q Is it your understanding that residential loops have the same limitation?

A Under forward-looking design standards, yes; under embedded standards, no.

Q You understand that ADSL loops cannot be served over integrated digital loop carrier, correct?

A Under -- on integrated digital loop carrier?

Q Yes.

A It's my understanding that appropriate central office plug-ins are not yet available. It's my understanding that such plug-ins may be available commercially soon.

Q Is it your understanding that residential loops cannot be served over integrated digital loop carrier?

A No, that is not my understanding.

Q You understand that ADSL loops cannot have load coils, correct?

A It's my understanding that neither ADSL loops nor HDSL loops nor forward-looking design residential loops have load coils, that's correct.

Q Now notwithstanding the fact that residential loops can be served over integrated digital loop carrier and ADSL loops cannot, as we have previously established, it's still your testimony that ADSL loops are the same as standard residential loops?

A It's still my testimony that an appropriately designed CSA loop or RRD loop, that digital -- excuse me, ADSL facilities can be provided today only on copper and in the very near future over digital loop carrier.

Q You've testified in your direct testimony at page 9, that 90% of BST's loops will not have to be upgraded to provision them as ADSL loops, correct?

A I beg your pardon, you said page 9 of my direct testimony?

Q Yes.

A Yes, I testified that your studies would appear to demonstrate that ADSL loops and HDSL loops are significantly shorter than the average loop and that in my opinion, if that's true, as many as 90% would not require additional outside plant upgrades, that's correct.

Q What percentage of BST's loops are a hundred percent copper?

A I don't know.

Q What percentage of BST's loops are served over integrated digital loop carrier?

A I believe that your witness testified that some portion was up to 32% I believe your witness said was on fiber. Whether or not that is integrated or universal digital loop carrier, I don't know.

Q What percentage of BST's loops have no load coils?

A Well, that would be a good question to ask your outside plant engineer. My understanding for the industry in general is that it's between 70 and 80% have no load

coils.

Q What percentage of BST's loops are less than 18 thousand feet?

A My approximation would be somewhere between 70 and 80%, but that's material that you have that I don't have.

Q Mr. Porter, you have not worked in outside plant since 1968, correct?

A 1968 or 1969, yes, sir.

Q And you began your telecommunications career in 1967, correct?

A That's correct.

Q Mr. Porter, you did not prepare an independent study for determining physical collocation rings, correct?

A No, I did not.

Q The rates for those that you have proposed are found in the BST/MFS arbitrated agreement, correct?

A That's correct, a voluntarily negotiated agreement.

Q Is it your testimony that the BellSouth/MFS arbitrated agreement contains cost-based rates for physical collocation?

A It's my testimony that the rates you entered in that proceeding were voluntary rates. I don't know as a matter of fact whether they were cost based or not, but I

respectfully suggest that you wouldn't voluntarily have entered or offered an agreement where you lost money.

Q Now Mr. Porter, among other things, one of the complaints you have about the collocation rates proposed by BellSouth is the inclusion of what has been termed business marketing expenses, correct?

A Yes, sir. As I recall, that's right.

Q Have you had an opportunity to read Ms. Redmond's rebuttal testimony?

A Not that I recall, no, sir. I may have read it prior to the deposition, but I don't recall it at this moment.

Q Do you understand that Ms. Redmond filed rebuttal testimony addressing issues that you had raised in this proceeding?

A Yes, I recall that.

Q And you did not bother to read her testimony before coming here today?

A Not since the deposition, that's correct.

Q Well, I just want to be clear, are you saying that you read it before the deposition, or are you saying you didn't read it?

A I believe at the deposition I said that I had read it, and I had prior to the deposition.

Q And you understand that her testimony is that the

expenses that are termed business marketing do not include any expenses other than those associated with BST's employees interacting with the CLECs who order collocation, correct?

A I understand that is your representation of her testimony, yes.

Q You don't have any basis for disputing that, do you?

A No, it's not my testimony.

Q You don't have any independent evidence that would refute Ms. Redmond's testimony on that subject, do you, Mr. Porter?

A No, I do not.

Q One of your chief complaints about the space construction charge in BellSouth's physical collocation rates is that those rates are higher than the interim rates in the BellSouth/MFS agreement, correct?

A That's correct.

Q Is it your opinion that if the rates in the MFS/BellSouth arbitrated agreement are lower than those proposed by BellSouth in its cost studies we should simply defer to the interim agreement?

A It's my opinion that the rates that you offered in the interim agreement were compensatory rates to you or you would not have offered them, and yes, I think my

testimony has been a request that those rates be adopted.

MR. TWOMEY: No further questions.

WITNESS PORTER: Thank you.

COMMISSIONER DEASON: Staff.

MR. PELLEGRINI: Staff has no questions, Commissioner.

COMMISSIONER DEASON: Commissioners.

(NO RESPONSE)

COMMISSIONER DEASON: Redirect.

MR. SELF: I have no redirect.

COMMISSIONER DEASON: Exhibits.

MR. SELF: We would move exhibits 30 and 32.

COMMISSIONER DEASON: Without objection exhibits 30 and 32 ARE admitted.

MR. PELLEGRINI: And staff moves exhibit number 31.

COMMISSIONER DEASON: Without objection exhibit 31 is admitted.

MR. SELF: May the witness be excused?

COMMISSIONER DEASON: Yes. Mr. Porter, you may be excused.

WITNESS PORTER: Thank you very much.

COMMISSIONER DEASON: We are going to take a recess. Before I said promptly, we are going to begin promptly, we didn't make that time; so we are going to

begin at approximately ten minutes after four o'clock.

(BRIEF RECESS)

COMMISSIONER DEASON: Let's call the hearing back to order. Before we call the next witness, we need to review where we are. I have been informed that if we conclude with the panel which is currently scheduled and then Mr. Lynott and then Mr. Wells who has to testify today, that if we reach that stage in the hearing, that everyone is abundantly confident that we will finish tomorrow at a reasonable hour. Is there any negative viewpoint on that assertion?

MR. HATCH: None at all.

COMMISSIONER DEASON: Very well. That is going to be our game plan then. We are going to finish to that point. If we finish at five, we are going home, and if it's eleven o'clock tonight, that's when we're -- but we are going to try to reach that point.

MR. HATCH: I was just going to inform you, Commissioner Deason, that I was going to request that Mr. Wells follow the panel and then go back to Mr. Lynott, but the same three would be done this evening; that would get Mr. Wells out of here sooner.

COMMISSIONER DEASON: Whatever, so that we do need to get -- we realize we need to accommodate Mr. Wells. Very well.

Who is going to be conducting the direct on the panel? Mr. Hatch.

MR. HATCH: AT&T calls Mr. John Klick and Rick Bissell. Have you been sworn?

WITNESS KLICK: No.

COMMISSIONER DEASON: Okay. Would you please stand and raise your right hand?

(Whereupon, Mr. Bissell and Mr. Klick were duly sworn by Commissioner Deason)

COMMISSIONER DEASON: Thank you. Please be seated.

* * * *

Whereupon,

JOHN C. KLICK & RICK BISSELL

were called as witnesses on behalf of AT&T and MCI and, after being first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. HATCH:

Q Mr. Klick, would you please state your name and address for the record please?

A (Witness Klick) My name is John C. Klick, K-l-i-c-k. My business address is --

COMMISSIONER CLARK: I don't think your microphone is on.

A My name is John C. Klick, K-l-i-c-k. My business address is 66 Canal Center Plaza, Suite 670, Alexandria, Virginia, 22314.

Q And by whom are you employed?

A The firm of Klick, Kent, K-e-n-t, and Allen, A-l-l-e-n.

Q And on whose behalf are you testifying in this proceeding?

A On behalf of AT&T and MCI.

Q Did you prepare and cause to be filed in this proceeding direct testimony?

A Yes, I did.

Q Do you have any changes or corrections to be made to that testimony?

A There is one modification that was made, that came up in your deposition and that is to exhibit JCK-2B which deals with virtual collocation.

Q And what would the change be?

A Essentially what we did, and this is discussed at some length in late-filed exhibit number 1, was to add some elements to the virtual collocation, and those were done for two reasons, one was to provide a second planning cost in the event that a subsequent request for virtual collocation was made by somebody that was already in; and the second was to provide nonrecurring charges for

connectivity. And I think Mr. Bissell is prepared to talk about that at some length, but the summary costs were in my testimony, so it's a modification of my exhibit.

Q With respect to your direct testimony, did you have attached to that three exhibits, JCK-1, JCK-2 and JCK-2A -- or 2A and then 2B, I'm sorry?

A That's correct.

Q Were they prepared by you or under your supervision?

A Yes, they were.

Q Mr. Bissell, would you please state your name and address for the record please?

A (Witness Bissell) My name is Rick Bissell. My business address is 13-99 Edgevalley Road, London, Ontario.

Q And by whom are you employed?

A I'm an independent telecommunications consultant.

Q And on whose behalf are you testifying in this proceeding?

A MCI and AT&T.

Q Did you prepare and cause to be filed in this proceeding direct and rebuttal testimony?

A Yes, I did.

Q With respect to your direct testimony, did you have an exhibit RB-1?

A Yes, I did.

Q And with respect to your rebuttal testimony, did you have one exhibit rebuttal, RB-1?

A Yes.

Q Do you have any changes or corrections to your testimony or the exhibits?

A I have a change -- I have changes to the rebuttal testimony.

Q Could you please give --

A On page --

Q I'm sorry, could you please give that?

A Okay. On page 6, line 8, the number 2000 should read 200. Next on page 16, line 19, the first word, "preparation" should read "construction." And similarly, on the RB-1 exhibit, the words -- the word "Cage" should read "space construction."

Q Subject to those corrections, were those exhibits prepared by you and under your supervision?

A Yes, they were.

Q Mr. Klick, if I asked you the same questions as are in your testimony, would your answers be the same today?

A (Witness Klick) Yes, they would.

Q Mr. Bissell, if I asked you the same questions as are in your direct and rebuttal testimony, would your answers be the same today?

A (Witness Bissell) Yes.

MR. HATCH: Mr. Chairman, I would request that the direct testimony of Mr. Klick be inserted into the record as though read.

COMMISSIONER DEASON: Without objection, it shall be so inserted.

MR. HATCH: I would also request that the direct and rebuttal testimony of Mr. Bissell be inserted as though read.

COMMISSIONER DEASON: Without objection it shall be so inserted.

DIRECT TESTIMONY OF

JOHN C. KLICK

ON BEHALF OF AT&T OF THE SOUTHERN STATES AND

MCI TELECOMMUNICATIONS COMPANY AND

MCI METRO ACCESS TRANSMISSION SERVICES, INC.

DOCKET NOs.: 960833-TP/960846-TP/971140-TP

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is John C. Klick. I am President of Klick, Kent & Allen, Inc. (KK&A), an economic and financial consulting firm specializing in cost analysis. My business address is Klick, Kent & Allen, Inc., 66 Canal Center Plaza, Suite 670, Alexandria, VA 22314.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.

A. I received a Bachelor of Science degree in Mathematics from Bates College in 1970. In addition, I have taken graduate courses in accounting, finance, and operations research.

Q. PLEASE DESCRIBE YOUR WORK EXPERIENCE.

A. After graduation from Bates College, I joined the Cost and Statistics Department

of the Southern Railway System. Since that time, I have been continuously involved in cost analyses for a variety of industries. Many of these cost studies have been submitted in administrative proceedings, in court, and in arbitrations. These studies -- which have included analyses of stand-alone costs, short-run and long-run incremental costs and long-run and short-run marginal costs -- often have employed complex, computer-driven cost models incorporating detailed engineering input data and sophisticated discounted cash flow techniques. KK&A has been retained by MCI and AT&T to assist in analyzing the cost evidence being submitted in various proceedings arising out of the Telecommunications Act of 1996.

Q. WILL YOU BRIEFLY SUMMARIZE YOUR RECENT EXPERIENCE THAT IS RELEVANT TO THIS PROCEEDING?

A. I have had extensive experience with large, computerized data bases and cost models. In addition, because many of these models have been presented in the context of litigation, I have had to analyze models sponsored by opposing parties, explain their deficiencies, and defend the model assumptions and techniques that I have utilized. Following are examples of projects that my firm has undertaken in these areas.

During the past year, KK&A has been retained by MCI and AT&T to assist them in presenting and analyzing cost evidence in various state proceedings arising out

of the Telecommunications Act of 1996. We have presented Hatfield Model costs for unbundled network elements (UNEs) in a number of jurisdictions, including Colorado, the District of Columbia, Idaho, Iowa, Minnesota, Montana, Nebraska, New Mexico, North Dakota, South Dakota, Washington, and Wyoming. We have critiqued cost studies submitted by Bell Atlantic in Delaware, the District of Columbia, Maryland, New Jersey, Pennsylvania, Virginia, and West Virginia. We have submitted evaluations of cost studies presented by GTE in Iowa, Minnesota, Nebraska, New Mexico, Oregon, Texas and Washington. We also have submitted testimony in Texas on Southwestern Bell's cost studies, and critiques of the Benchmark Cost Proxy Model (BCPM) in Colorado, Washington and Utah. Most recently, we have conducted a series of cross-model comparisons to help identify for several state Commissions the ways in which various models (*e.g.*, the Hatfield Model, BCPM, the GTE models, and U S WEST's Regional Loop Cost Analysis Program or RLCAP) develop costs and the input variables to which they are particularly sensitive. Results of these cross-model analyses have been presented in Washington and Utah.

KK&A also has considerable relevant experience in other network industries, including the postal, railroad, pipeline, and trucking industries. For example:

- We are the original developers of an annuity-based model for developing the stand-alone costs of railroad operations. This has evolved into a complex, discounted cash flow model that engineers an efficient railroad system on a

forward-looking basis and determines the annual capital and operating costs required for such a system to earn its cost of capital over the life of its assets. This model is used by the Surface Transportation Board (STB, formerly the Interstate Commerce Commission "ICC") to evaluate major pricing complaints by shippers, and I have presented testimony based on this model on behalf of rail carriers in more than 15 proceedings over the past eight years.

- Approximately six years ago, I was retained by a major petroleum products pipeline company to assist it in determining the marginal, incremental, and stand-alone costs of various services that it provides on its system. I worked closely with the pipeline company's engineering and regulatory personnel to design computerized modeling approaches for developing these costs. I have presented several volumes of testimony on behalf of this company before the Federal Energy Regulatory Commission. Since their development, these models have been utilized extensively by company personnel to perform analyses that are not litigation-related, and my firm is frequently asked to oversee the engineering work underlying these applications.

- The Association of American Railroads (AAR) retained me to develop a cost model utilized to determine the incremental right-of-way maintenance and investment costs that would be caused by the passage of heavily-loaded freight trains and lightly-loaded, high-speed passenger trains. In developing this model, I worked closely with the AAR's consulting engineers. I presented and defended

the model results in two proceedings before the ICC and STB, which recently has adopted the model as the best approach to determining these incremental costs.

- The firm was retained by a major railroad to deconstruct and critique a right-of-way grading model that was presented by an opposing party in litigation. This was a PC-based model that relied upon the application of complex engineering algorithms to digitized topographical map data. Under an extremely tight time-frame, we were able to run this model, determine that its internal algorithms were flawed in several respects, re-design a competing model to correct these flaws, and submit testimony critiquing the original and setting forth the proposed alternative.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. I have been asked by MCI and AT&T to describe the costing methodology that should be used to determine the appropriate costs of collocation in the State of Florida. The costing methodology that I am advocating is the Collocation Cost Model (Model) sponsored by MCI and AT&T that uses sound economic costing principles, and complies with the requirements of the Telecommunications Act of 1996, the *First Report and Order* adopted August 1, 1996 addressing interconnection and the *Second Report and Order* adopted June 9, 1997 addressing collocation.

Q. HOW IS YOUR TESTIMONY ORGANIZED?

A. My testimony is divided into three sections. In Section I, I describe the economic costing principles that should guide the development of collocation costs. In Section II, I describe the constituents and operations of the Model and show that the attributes of the Model conform to these principles. In Section III, I present the results of applying the Model to Bell South in the State of Florida.

I. PRINCIPLES

Q. GIVEN THE CRITICAL ROLE OF COSTS IN REFLECTING RELATIVE ECONOMIC EFFICIENCY, WHAT CHARACTERISTICS SHOULD PRACTICAL MEASURES OF THE COSTS OF COLLOCATION EMBODY?

A. Sound economic measures of costs should (1) be forward-looking; (2) reflect the long run; (3) be incremental; (4) incorporate least-cost technologies; and (5) reflect cost-causation to the maximum extent feasible.

Q. DOES THE FCC ORDER INCORPORATE THESE ECONOMIC PRINCIPLES?

A. Yes. The FCC's *First Report and Order* requires the application of each of these

principles, in developing estimates of TELRIC. Specifically, the FCC requires that cost measurement should be "long-run" and reflect "incremental cost." The *First Report and Order* defines long run as: ". . . a period of time long enough so that all of a firm's costs become variable or avoidable." FCC Order ¶677. Incremental costs are defined as "the additional costs (usually expressed as a cost per unit) that a firm will incur as a result of expanding the output of a good or service by producing an additional quantity of the good or service." FCC Order ¶675. The *First Report and Order* also mandates that cost studies reflect the most efficient technology that is currently being installed. FCC Order ¶685. Finally, the *First Report and Order* recognizes the importance of attributing costs to the activities that create those costs. FCC Order ¶691.

Q. HAS THE FCC SPECIFICALLY REJECTED COSTING APPROACHES THAT ARE NOT CONSISTENT WITH THESE PRINCIPLES?

A. Yes. The FCC determined that several of the methodologies advocated by incumbent LECs for cost determination and pricing were unsuitable. In particular, the FCC properly rejected the notion that pricing of network elements and interconnection should reflect embedded costs. FCC Order ¶704-707.

Q. WHAT ARE THE APPROPRIATE ECONOMIC PRINCIPLES THAT SHOULD GUIDE THE DEVELOPMENT OF THE COSTS OF PHYSICAL

COLLOCATION?

A. Charges for collocation -- like those for recurring and non-recurring charges for unbundled network elements -- should reflect the forward-looking, long-run economic costs of collocation. In addition, to satisfy the non-discrimination requirement of the 1996 Act, the *First Report and Order recommends* that cost calculations be based on Total Element Long-Run Incremental Cost (or TELRIC). These are the cost levels that establish prices in competitive markets.

Consistent with these principles, the Collocation Model calculates forward-looking, economic costs. As a result, prices for collocation based on these costs will provide appropriate signals to both producers and consumers, and ensure efficient entry and utilization of the basic local exchange infrastructure.

Q. ARE THERE OTHER ECONOMIC PRINCIPLES THAT SHOULD BE KEPT IN MIND IN CALCULATING COLLOCATION COSTS?

A. Yes, there are two. First, it is important to recognize that the ILECs have greater access to cost information necessary to calculate costs than do other parties. Given this asymmetric access to cost data, it is important that ILECs *prove* the nature and magnitude of any forward-looking costs that they seek to impose on potential entrants. The Collocation Model calculates costs using the best publicly-available data that can be identified, and it permits calculations to be

made based on ILEC-provided data *if* the ILEC can demonstrate that these data accurately represent efficient, forward-looking costs.

Second, economists and cost analysts generally agree that costs must be attributed on a cost-causative basis. Costs are considered causally-related to a particular activity or capability if the costs are incurred as a direct result of providing the item, or can be avoided, in the long run, when the company ceases to provide that activity or capability.

The Collocation Model uses cost-causative principles to associate forward-looking costs with the specific requirements of CLECs seeking to collocate. In particular, the Collocation Model includes the forward-looking costs of capital (debt and equity) needed to support investments required to provide physical collocation efficiently. The principle of cost causation requires that overhead costs be included to the extent that they vary with the output of particular activities or capabilities, whatever their accounting classification. To the extent that there are overhead costs that truly are *common* to two or more activities, these common overhead costs should be recovered from each activity on a competitively-neutral basis in order to ensure that the non-discrimination requirements of the 1996 Act are satisfied.

The Collocation Model incorporates a 10.4% markup to estimate these overhead costs. Statistical evidence and a growing literature on activity-based accounting

systems suggest that many of the costs that have traditionally been considered common overhead costs actually should be considered service-specific or element-specific costs. The method of treating overhead costs in the Collocation Model renders any precise distinction between costs attributable to collocation elements and common overhead costs unnecessary. Insofar as the 10.4% markup captures all of the relevant overhead costs, it includes any element-specific costs *and* a reasonable share of any common overhead costs. Moreover, if regulators set prices for physical collocation equal to the costs that the Collocation Model reports for each collocation element, these prices will allow the ILECs to recover all of their economic costs, including a reasonable profit, but no more. From this perspective, too, the Model approach is reasonable.

Q. WHAT OTHER COSTING PRINCIPLES SHOULD GUIDE THE DEVELOPMENT OF THE COSTS OF COLLOCATION?

A. Any cost model along with full documentation must be publicly available in a format that allows interested parties to fully scrutinize the model and to re-run the model using different input values.

Q. WHY IS IT IMPORTANT THAT COST MODELS BE PUBLICLY REVIEWABLE IN THIS FASHION?

A. Lacking open cost models, regulators and intervenors historically have been

forced to rely solely on cost studies prepared and provided by the ILECs. Not surprisingly, attempts to review, analyze, and verify the input data relied upon and the cost data produced by such models have met with only limited success.

Two sources of frustration have been experienced repeatedly. First, the lack of publicly-available information related to ILEC collocation (and other cost) studies has made a meaningful review difficult or impossible. Many of the inputs and assumptions used by the ILECs have been made available grudgingly, subject to proprietary protection in each jurisdiction in which they are utilized.

The second source of frustration has been the lack of independent cost data for use as a benchmark for evaluating the ILEC-provided data. Without such third-party/independent data sources, it has been impossible for either regulators or intervenors to critically evaluate the reasonableness of ILEC assumptions and the validity of the resulting cost estimates.

In contrast to the difficulty experienced when attempting to evaluate ILEC collocation studies, a review of the Collocation Model is direct and straight-forward. Documentation of the Model is available, including descriptions of the technical inputs and assumptions that are relied upon. Because the Model is publicly-available and its inputs can be varied by the user, it is possible to directly evaluate the Model for accuracy and to measure the sensitivity of the Model to changes in various inputs. The Collocation Model uses clearly documented and

verifiable methodologies and non-proprietary data. Both the inputs and outputs to the Model are open for inspection and analysis. The reviewer thus is in a position to review the Model and to conclude that it produces both reasonable and verifiable results for the costs of physical and virtual collocation.

In summary, a fundamental issue with any cost study is the integrity of the assumptions, calculations and input values used to develop the cost outputs. The only method to test the reliability of the final product is to make the input data, methodology, and assumptions readily- accessible for independent scrutiny and evaluation.

II. CONSTITUENTS AND OPERATION OF THE COLLOCATION MODEL

Q. PLEASE PROVIDE A SUMMARY DESCRIPTION OF THE COLLOCATION MODEL'S OPERATION.

A. MCI and AT&T retained technical subject matter experts to develop the efficient, forward-looking costs associated with physical and virtual collocation. Based upon a central office model layout and a collocation area model layout (described in detail in the testimony of Mr. Bissell), these experts identified the investments that an efficient ILEC would need to make to provide collocation space to potential CLEC collocators (including the engineering, furnish, and installation costs). These investments were used as inputs into the Collocation Model to

estimate the recurring and non-recurring costs associated with physical and virtual collocation as described in Exhibit JCK-1 to my testimony, the Collocation Cost Model Description and Users' Guide.

Q. CAN YOU BRIEFLY SUMMARIZE THE ANALYTICAL APPROACH REFLECTED IN THE COLLOCATION MODEL?

A. The focus of the Collocation Model is to determine the investment and operating costs that would be incurred by an efficient ILEC to provide collocated space in its central office, using forward-looking technology that is currently available.

In doing so, the Collocation Model developers recognized that it would be most efficient in a physical collocation arrangement for ILECs to locate space for multiple collocators together, so that they could more effectively utilize certain of the facilities (such as the DC Power Plant, and common space). On the other hand, requiring *all* collocators to be in contiguous space within a CO would be inefficient, because such a large, single block of space is unlikely to be available within a CO, or it may be located several floors away from the existing ILEC cross-connect systems. Thus, the model layout constructed struck a rational balance, designing and equipping a 550 square-foot area that would provide four 100 square-foot collocation areas.

The Collocation Model developers also recognized that it would be most efficient

in a virtual collocation arrangement for a CLEC to place its own telecommunications equipment in an area of the CO currently used by the ILEC for its own equipment. The equipment is typically mounted in metal telecommunications relay racks that are 2' wide, 1' deep, and 7' high. The racks are placed in "lineups" (rows) located 2' 6" to 3' apart to provide for aisle space in front and back for maintenance purposes. The relay rack footprint (2' by 1') plus 50% of the front and rear aisles (1' 6" + 1' 6" = 3') would require 8 square feet (2' x 4') of floor space. The Virtual Collocation Model assumes that each relay rack uses 9 square feet of floor space, which is sufficiently generous to incorporate end guards and 15" deep frames. Telecommunications relay racks are fabricated with pre-drilled ironwork uprights to permit the installation of equipment shelves on an "as required" basis and many existing relay racks in an ILEC CO will typically have unused space which can be used to mount CLEC equipment shelves. For this reason this technical model recommends that the cost model for virtual collocation develop the cost of floor space for a virtual collocation environment in increments of ¼ relay racks (the equivalent of 2.25 square feet of floor space).

The Collocation Model does not include the costs of retrofitting the CO to meet asbestos removal or ADA requirements, nor does it include other costs that could be associated with repairing or remodeling existing building space, because these costs are not consistent with the forward-looking, least-cost approach of the model.

The Physical Collocation Model also addresses ILEC security concerns by including the cost of security access cards for controlled access by CLEC representatives into the CO in a physical collocation arrangement. The Central Office Model Layout assumes the CO is equipped with an automated security card reading system. Again, this is consistent with the forward-looking, least-cost approach of the model.

CLEC personnel will not normally be required to visit virtual collocated equipment. When a CLEC visit is required, the Virtual Colloction Model assumes that a security escort will be provided for building admittance and exit, and attendance at the equipment location. The Model assumes the security escort labor rate is equal to that of a Frame Technician.

The investment required to construct the collocation space identified in the collocation area model layout was separated by the technical experts into three categories: (1) assets that would be shared by the four potential CLEC collocators and the ILEC (category 1), (2) assets that would be shared by the four potential collocators, but *not* by the ILEC (category 2), and (3) assets that would be used exclusively by only *one* of the collocators. This last category was further subdivided into investments that are reusable when an existing occupant leaves and a new collocator occupies the space (category 3) and assets that cannot be reused (category 4). All investments in categories 1 and 2 can be used by both the first and subsequent occupants of the collocated space.

A major concern with the cost of physical collocation is the substantial barrier to entry that is created if sizable, one-time, up-front expenditures are required of CLECs to obtain physical collocated space -- space that can be used over a period of years by multiple occupants -- at a time when they have relatively few customers and are, therefore, most vulnerable competitively. On the other hand, ILECs express concern that if collocators abandon the physical collocation space before its economic life is exhausted, ILECs could somehow be saddled with an expense that they would be unable to recover over the long run. The Collocation Model developed by MCI and AT&T balances these competing concerns as well.

Investments that are incurred for the benefit of a single collocator *and* cannot be used by subsequent occupants of the collocation space (*i.e.* category 4 investments) are treated by the Model as *non-recurring* costs. Investments that are shared by more than one CLEC and/or can be used by subsequent occupants of the same collocation space (*i.e.* categories 1 through 3) are treated as *recurring* costs that would be paid for on a monthly basis by the collocators. In converting these investments to monthly costs, however, the Collocation Model incorporates a cost of capital that compensates the ILEC for *both* the time value of money and the business risk it incurs. In addition, the Model includes a user-adjustable "occupancy adjustment factor" to explicitly recognize that each physical collocation space provided in the collocation area model layout may not be fully occupied over its economic life. The "occupancy adjustment factor" is fully described in exhibit JCK-1. Use of this factor has the effect of increasing monthly

costs to account for those time periods in which the physical collocation space may not be occupied.

Calculation of both the monthly capital costs and the monthly operating expenses that would be incurred by the ILEC in efficiently providing collocation space on a recurring basis are developed using standard financial techniques. Items such as taxes, general support investment, and common costs are reflected in the cost outputs of the Collocation Model.

The Virtual Collocation Model assumes the CLEC is responsible for directing all maintenance activities associated with the virtual equipment. This includes system surveillance, direction of repair activity, and requests to the ILEC for maintenance assistance. The ILEC is responsible for hardware functions such as circuit pack replacement and changing fuses. Work will be performed by the ILEC upon the request of the CLEC, and will be reimbursed using the labor rate for the appropriate qualified technician, assumed in the Model to be equivalent to that of a Network Terminal Equipment Center technician.

III. COLLOCATION COST MODEL RESULTS

Q. CAN YOU SUMMARIZE THE OUTPUTS OF THIS MODEL FOR FLORIDA?

A. Yes, the Cost Model estimates costs for the following collocation elements (the elements are described in detail in the testimony of Rick Bissell).

- Planning
- Entrance Fiber
- Power Delivery
- Power Consumption
- Voice Grade Connectivity
- DS-1 (DCS or DSX) Connectivity
- DS-3 (DCS or DSX) Connectivity
- Optical Connectivity
- Virtual to Virtual Connectivity (Applies to Virtual Collocation)
- Grounding (Applies to Physical Collocation)
- Realty (Cage Construction - Applies to Physical Collocation)
- Land and Building

The DS-1 and DS-3 connectivity costs are presented in two alternative ways, each modeled with either a DCS cross-connect or a DSX cross-connect. This flexibility permits the output from the Model to be tailored to the collocation requirements experienced by a particular ILEC at a specific CO location.

In addition, the Collocation Model also addresses ILEC security concerns by including the cost of security access cards for controlled access by CLEC representatives into the CO in a physical collocation arrangement. In a virtual

collocation arrangement, the Model includes the cost of a security escort for staffed and unstaffed COs and for different response times.

The costs for Bell South in Florida, reflected in the Model's Summary Cost sheets attached as Exhibit JCK-2A (Physical Collocation Model Output) and Exhibit JCK-2B (Virtual Collocation Model Output), are categorized as either non-recurring or monthly recurring costs. Costs are represented in a cafeteria-style menu format. The total cost for collocation space is dependent upon the requirement for elements such as connectivity, usage of power, and number of cages required by a CLEC at a particular location. For example, a CLEC may request a combination of copper connectivity such as voice grade and DS-1 (DSX), or only voice grade service. It would be inaccurate to sum all of the recurring costs to arrive at a grand total, because several alternative costs are presented for elements such as Power Delivery and Circuitry.

Q. PLEASE SUMMARIZE THE RESULTS OF THE COLLOCATION MODEL FOR THE STATE OF FLORIDA.

A. Exhibits JCK-2A and JCK-2B are printouts that reflect the results of running the Collocation Cost Model for BellSouth in Florida. In addition, an electronic version of the Collocation Cost Model on diskette is included as Exhibit JCK-3.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

DIRECT TESTIMONY OF

RICK BISSELL

ON BEHALF OF

AT&T COMMUNICATIONS OF THE SOUTHERN STATES, INC. AND

MCI TELECOMMUNICATIONS COMPANY AND

MCI METRO ACCESS TRANSMISSION SERVICES, INC.

DOCKET NOs.: 960833-TP/960846-TP/971140-TP

Q. PLEASE STATE YOUR NAME, ADDRESS, AND OCCUPATION.

A. My name is Rick Bissell and my business address is 13-99 Edgevalley Road, London, Ontario, Canada N5Y 5N1. I am a telecommunications consultant.

Q. PLEASE SUMMARIZE YOUR BACKGROUND IN THE FIELD OF TELECOMMUNICATIONS.

A. I have been employed in the telecommunications field for over 30 years. My career began in 1966 with Nortel (Northern Telecom) as a specifications writer for Central Office (CO) Common Systems Infrastructure (i.e. overhead ironwork, cable racking, equipment supporting details, lighting, grounding, cross-connects and cabling). About the year 1974, I moved to Bell Canada to take a position as a Central Office Building and Main Distribution Frame (MDF) Planner, responsible for the creation of "best practice" space planning scenarios for the integration of

new equipment in existing COs; cable routes and equipment connectivity; sizing of new buildings and/or access remotes housings; and developing long term plans for the redevelopment of CO space coincident with Switch and/or Transmission modernization.

I also have worked on international assignments in Jamaica (1972), Antigua (1973), Riyadh, Saudi Arabia (1982-85) and Manila, Philippines (1995). My last position prior to leaving Bell Canada was in the Regulatory Planning Group, where I was responsible for developing Infrastructure and Space Planning proposals for physical collocation (i.e., placing competitive equipment in Bell Canada COs).

Since leaving Bell Canada in March, 1996, I have worked as an independent consultant in the area of telecommunications equipment space planning and installation of common systems infrastructure (overhead ironwork, cable routing, cabling, cross-connects, etc.). I have worked for Bell Sygma as Collocation Project Support Manager, where I developed the process flows and documentation to be used for implementing physical collocation in a uniform manner across the Stentor Operating Companies in Canada. Most recently, I have analyzed collocation cost studies and process proposals filed by various incumbent local exchange companies.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY TODAY?

A. I have been retained by MCI Communications Corporation (MCI) and AT&T Communications of the Southern States, Inc. (AT&T) to lead a team of subject matter experts to develop technical models of: (1) the physical collocation of competitive local exchange carrier (CLEC) equipment in incumbent local exchange carrier (ILEC) Central Offices (COs); and (2) the "virtual" collocation of CLEC-provided, ILEC-owned equipment in ILEC COs, in order to identify all ILEC investments needed to provide collocation. (Collocation also can occur at other places in the ILEC's network, such as at the "telco closet" in a large office or apartment building. This testimony does not address this form of collocation.) For physical collocation, the team constructed a forward looking model central office layout and a forward looking model collocation area layout based upon the use of best practice CO space-planning strategies, efficient suppliers, and competitive processes, and from these identified all relevant investments. A similar process was used to identify investments for virtual collocation. These investments were provided to the consulting firm of Klick, Kent & Allen to develop collocation cost estimates in the Cost Model. A white paper describing in detail the model CO and collocation layouts and all the necessary ILEC investments for physical and virtual collocation is attached to this testimony as Exhibit RB - 1.

The purpose of this testimony is to provide the conceptual basis for the model CO and collocation layouts and to describe the major components of those layouts. Part One addresses physical collocation and Part Two addresses virtual collocation.

PART ONE: PHYSICAL COLLOCATION

Q. WHAT IS REQUIRED FOR PHYSICAL COLLOCATION?

A. Physical collocation is nothing more than an arrangement that allows a CLEC to locate its own telecommunications relay rack equipment in a segregated portion of the CO. The CLEC then pays the ILEC for the use of that space within the CO and is provided with the ability to enter the CO to install, repair, and maintain its collocated equipment. Figure 1 displays the limited number of elements required to establish CLEC collocation areas in an ILEC building. As shown, the only requirements are for fiber connectivity between the first manhole outside the CO and the CLEC's terminal equipment; -48V DC power connectivity between the CLEC equipment and a battery distribution fuse bay (BDFB); and optical and copper connectivity (Voice Grade, DS-1, DS-3) between the collocation area and an appropriate ILEC cross-connect. Each of these is discussed in greater detail below. The physical demarcation point between the ILEC and CLEC for all copper connections is at a point of termination (POT) bay, normally placed in close proximity to CLEC equipment.

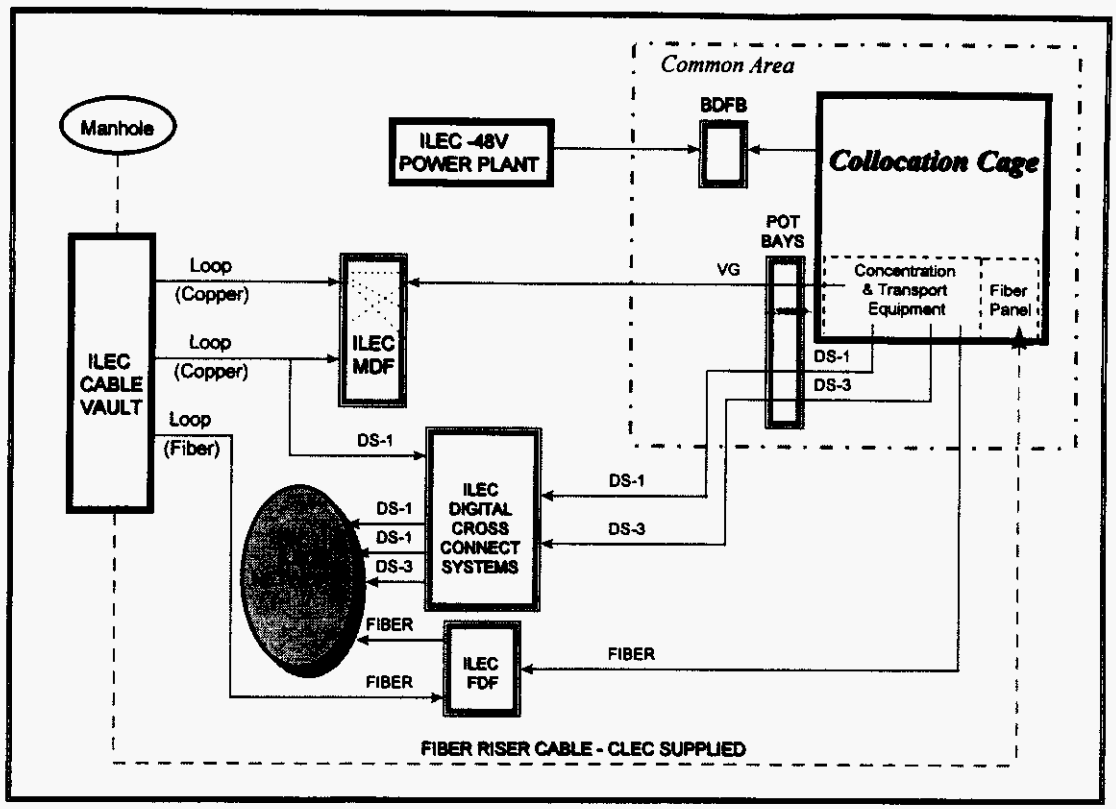


Figure 1

Q. IS PHYSICAL COLLOCATION A HIGH TECHNOLOGY ACTIVITY?

A. No. Physical collocation is a low technology, nuts and bolts activity within a high technology industry. It primarily consists of setting up metal cages to hold CLEC telecommunications equipment, and providing the following connectivity: fiber from the CLEC coming from the manhole into the cable vault and to the collocation cage; copper and optical connections to the ILEC cross-connects to pick up unbundled loops or connect to the ILEC network; and connectivity to the -48V DC power source. This requires building the cage, installing cables on racks, and properly grounding the equipment.

Q. WHAT FACTORS DID YOU CONSIDER IN DETERMINING THE BEST PRACTICES FOR IMPLEMENTING COLLOCATION?

A. Best practices assumes the use of cost efficient technology and only as much building space, labor, and materials as needed to properly place all equipment, including the appropriate amount of space for auxiliary equipment. It also assumes that the ILEC's decisions relating to collocation of a CLEC at the ILEC's CO will be made on the same bases as the ILEC's decisions for placing its own equipment.

Q. WHY IS IT IMPORTANT TO IDENTIFY THE INVESTMENTS ASSOCIATED WITH COLLOCATION BASED ON THE USE OF BEST PRACTICE SPACE-PLANNING STRATEGIES?

A. CLEC collocation at an ILEC's CO is essential for the CLEC to provide local service efficiently with unbundled ILEC loops or other elements. Without collocation, there would be no way for the CLEC to concentrate the traffic coming from the unbundled loops in order to transport that traffic efficiently to the CLEC's switch. Thus, collocation is essential for new entrants who plan facilities-based entry. At the same time, collocation at the ILEC's CO is largely under the control of the ILEC. In a competitive environment, an ILEC will not have the incentive to minimize the costs to CLECs of being collocated. For example, the ILEC will not have the incentive to make space in its CO available to a CLEC on

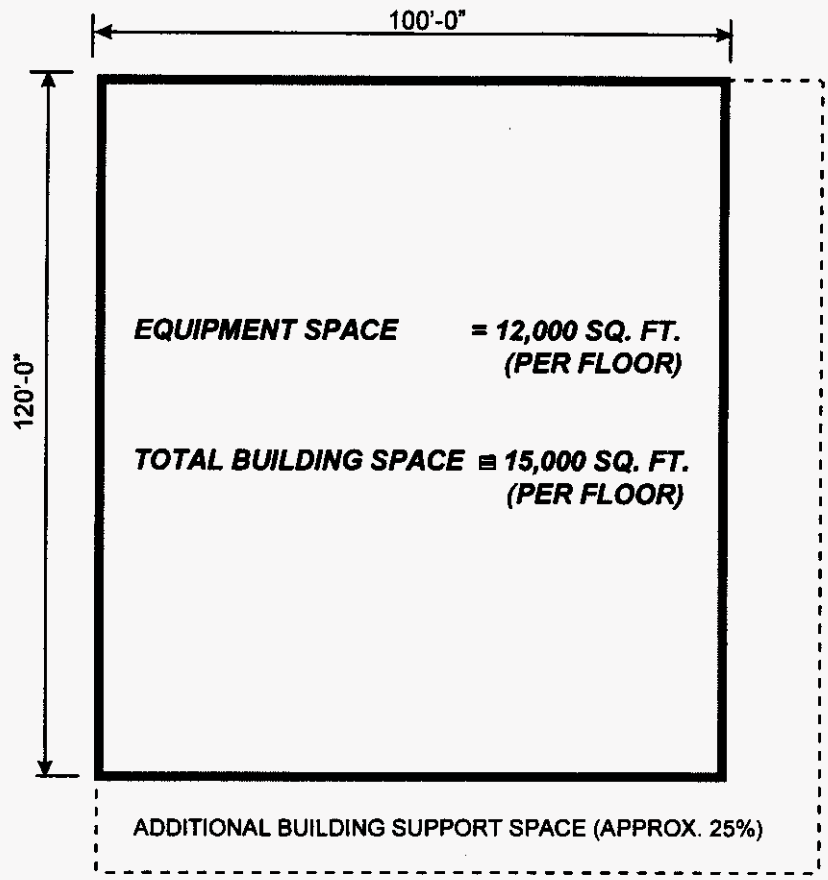
the same basis as it uses for making space available for additional equipment of its own. Basing the model CO and model collocation space -- and thus investments -- on best practice space planning will ensure the inclusion only of costs associated with an efficiently located collocation space.

Q. PLEASE DESCRIBE THE FORWARD-LOOKING CO MODEL LAYOUT.

A. The CO model layout assumes a new urban CO designed for up to 150,000 lines, together with associated transport, power, multi-media, and miscellaneous equipment space. Such an office would need approximately 36,000 square feet (sq. ft.) of equipment space -- or three equipment floors of about 12,000 sq. ft. (100 ft. x 120 ft.) each -- plus a below-ground cable vault. (See Figures 2 and 3.) The CO model layout also assumes an additional 3,000 sq. ft. on each floor and the entire basement (except for the cable vault area) to provide a generous allowance for building support services such as main corridors, elevators, washrooms, lunch rooms, conference facilities, administrative areas, electrical rooms, and mechanical rooms. This results in an overall footprint of 15,000 sq. ft.

The best practice CO planning strategy -- shown in Figure 3 -- provides adequate space for the long-term requirements associated with a forward-looking, urban CO and is representative of central office layouts that would have been constructed in recent years to accommodate growth in a downtown urban environment. New COs designed for areas outside of urban centers would likely

consist of only one or two floors above the cable vault, requiring shorter cable connectivity lengths. Hence, the forward-looking physical central office model layout incorporates conservative assumptions in terms of recent CO telecommunications building deployment and is likely to be significantly larger than the average CO across the ILEC territory.



SUMMARY	
EQUIPMENT SPACE PER FLOOR	= 12,000 SQ. FT.
TOTAL FOOTPRINT PER FLOOR	= 15,000 SQ. FT.
NUMBER OF FLOORS	= 3
TOTAL EQUIPMENT SPACE	= 36,000 SQ. FT.
TOTAL ABOVE GROUND FLOOR SPACE	= 45,000 SQ. FT.
CABLE VAULT AND BUILDING SERVICES	= BELOW GROUND

FORWARD LOOKING URBAN CENTRAL OFFICE

Figure 2

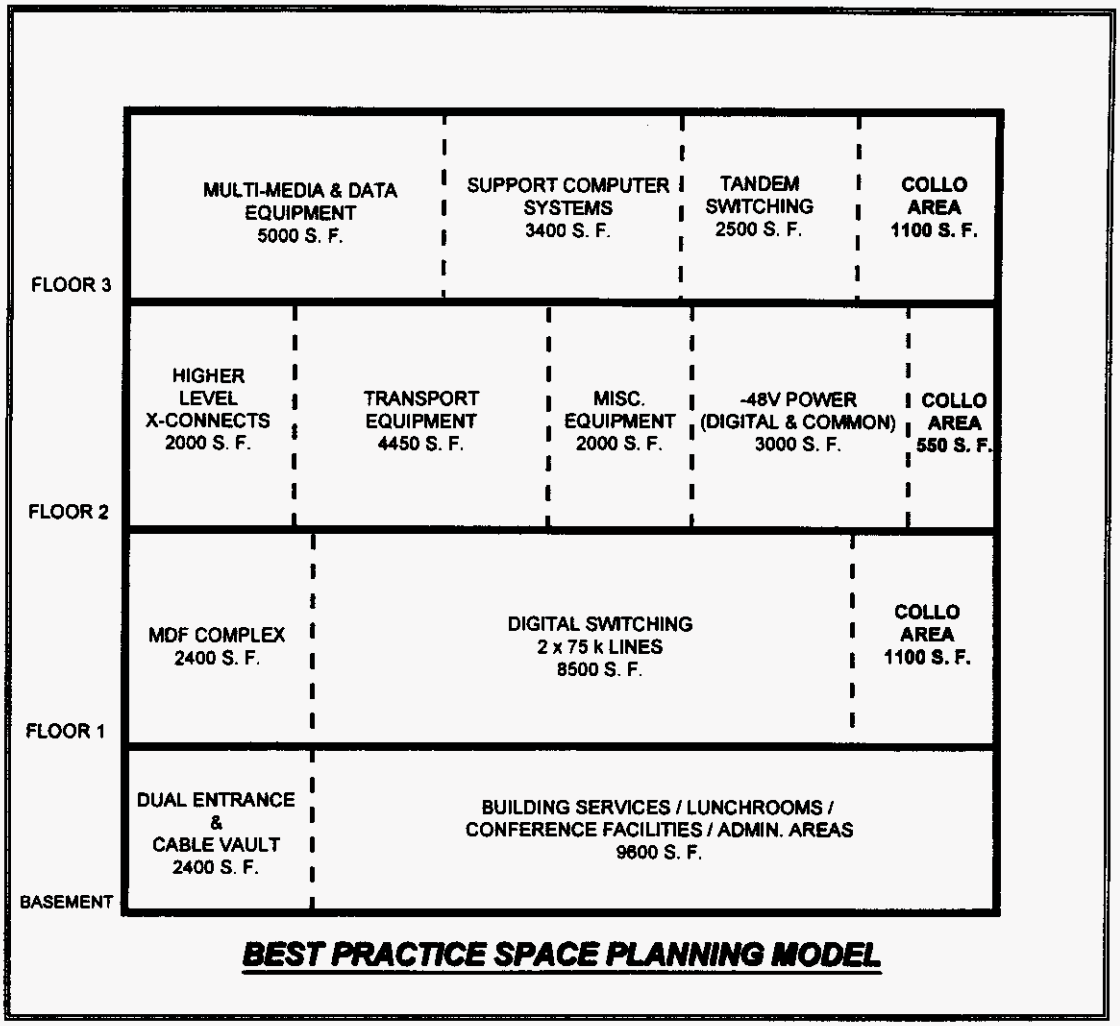


Figure 3

Q. HOW COULD THIS THREE-STORY BUILDING BE USED TO MODEL THE INVESTMENTS NEEDED TO PLACE COLLOCATION AREAS IN EXISTING CENTRAL OFFICES IN URBAN AREAS THAT MAY BE AS MUCH AS EIGHT STORIES?

A. The model CO layout contains enough space to house all the equipment needed in the largest urban COs -- and, indeed, is the general layout used over the past five

years in planning new COs. If the equipment in a particular CO currently is spread out across eight stories, that is because the old analog equipment required lots of space and as that equipment has been replaced by digital equipment, pockets of space have become available throughout the eight stories that can be used for collocation space. If such space is not available, that is due to one of two things: the ILEC has not removed old equipment that it is no longer using or the ILEC is now housing administrative personnel in otherwise available equipment space. If the ILEC needed space for its own equipment, it would not locate its equipment far from the cross-connects, but rather would remove any unused equipment or administrative personnel in convenient spaces in the CO and place its telecommunications equipment there. Thus, use of the model CO layout simply is consistent with the way the ILEC would make space available for itself.

Q. IF THE MODEL CO IS BASED ON A LARGE URBAN SITUATION, CAN IT ALSO BE USED FOR SMALLER URBAN, SUBURBAN AND RURAL COLLOCATION SITUATIONS?

A. Yes. Smaller urban, suburban and rural situations will require less telecommunications equipment, so the CO likely would be only one or two floors plus basement, with approximately the same 15,000 square foot footprint. The connectivity lengths required will be shorter, reducing costs; land costs should be lower; and there may be no costs associated with elevators. Thus, even if there are some structural scale economies in the large urban CO, overall collocation

costs are likely to be lower in smaller urban, suburban and rural locations than in the large urban locations modeled. Thus, the model CO layout provides a conservatively high estimate of collocation investment costs for other areas.

Q. PLEASE DESCRIBE THE MODEL COLLOCATION AREA LAYOUT.

A. The Model Layout assumes a best practice planning strategy that permits more than one collocation area to be assigned in a CO based on available space in close proximity to ILEC cross-connects. This is in contrast to an arbitrary assumption (sometimes made by the ILECs) that the first collocation area in a CO must be sized to accommodate all potential future CLECs, even when that decision results in placement of the collocation area in a remote location far from the cross-connects.

As shown in Figure 4, the collocation area model layout is 550 square feet to take advantage of smaller areas that would be in relatively close proximity to ILEC cross-connects (these pockets of space include those made available by prior replacements of older technologies with more space efficient digital equipment, vacant area, space occupied by administrative staff, or locations occupied by redundant equipment that an efficient ILEC would have removed long ago). This assumption reflects an expectation by the model layout developers that, in terms of placement, the ILEC would employ the same best planning process that it would use when planning efficient equipment space allocations for its own

equipment.

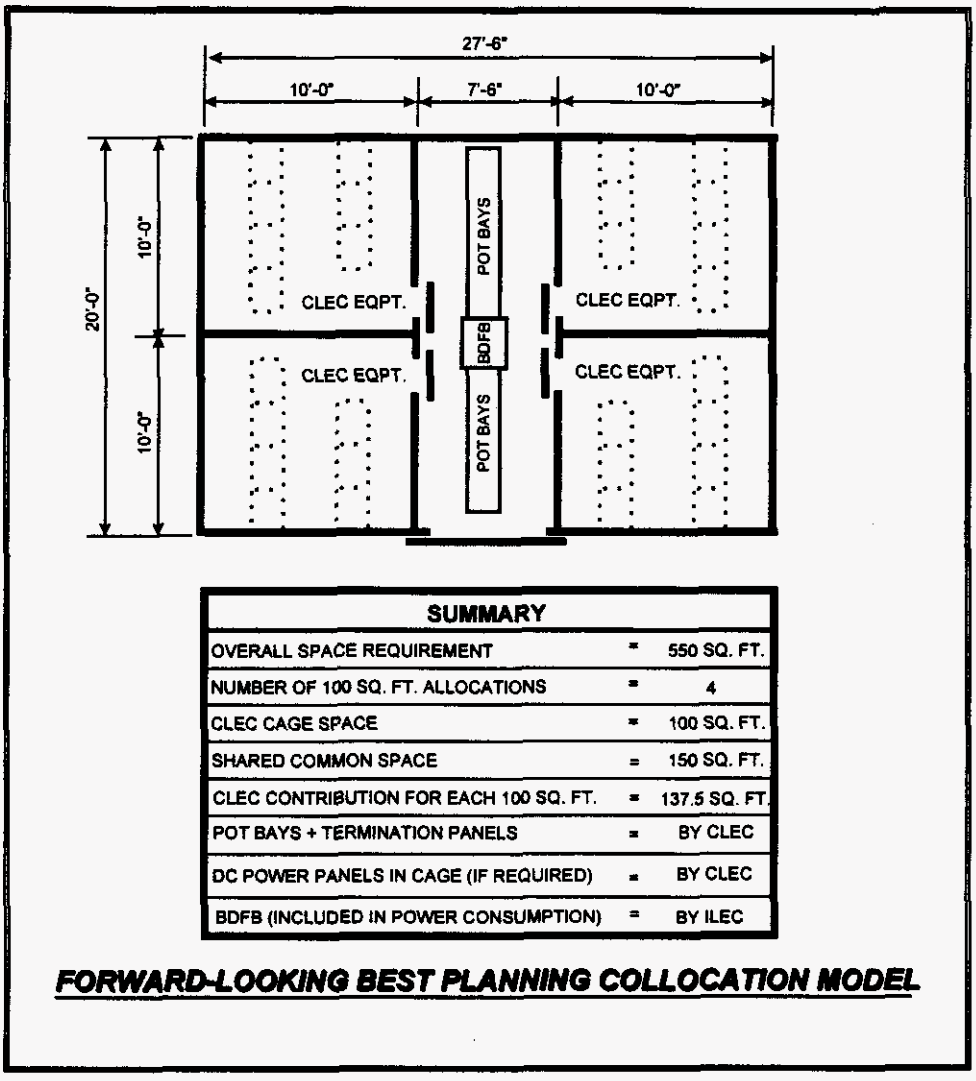


Figure 4

The 550 square feet included in the model collocation layout provides sufficient space to accommodate interface equipment such as point of termination (POT) bays and remote power distribution BDFB equipment, while avoiding the economic disadvantages of exceptionally large collocation areas. For those COs where more than 550 square feet of collocation space is required, a second

collocation area would be selected when necessary. Proceeding in this manner is consistent with the FCC amended Order Part 51.323 (f)(1) (and Paragraph 585), which supports the concept of CLECs obtaining reasonable amounts of space in an ILEC's premises on a first-come, first-served basis.

Within the 550 square foot collocation area, the collocation area model layout assumes the construction of four 100 square foot equipment areas and a common area of 150 square feet (to accommodate ILEC and CLEC point of termination interface equipment bays and a BDFB). The Model anticipates that the cost of the entire common area would be shared by all CLECs (with no contribution from the ILEC) and that CLECs would request collocation space in increments of 100 square feet, without any guarantee of expanding into an adjacent space. If a CLEC requires additional space for expansion, it would have to take the next closest available space in much the same way as an ILEC would. For this type of situation, cage-to-cage cabling for cages occupied by the same CLEC should be permitted.

Q. PLEASE EXPLAIN HOW THE CONNECTIVITY LENGTHS USED TO DETERMINE INVESTMENT NEEDS WERE DERIVED FROM THE MODEL CO AND COLLOCATION LAYOUTS.

A. To ensure efficient connectivity arrangements, similar to those incurred by the ILEC in deploying its equipment, the Model Layout establishes collocation areas

using pockets of existing vacant or administrative space in the CO. To be conservative, the Model calculates the average connectivity lengths based on a minimum and maximum scenario. For the maximum cable length, the model uses a worst case scenario with the collocation area located on the top floor (Floor 3) of the CO layout, the cross-connects located on Floor 1, and the collocation area at the extreme opposite corner of the building from where the cross connects are located. Based on this premise, there would be a two-floor distance between the collocation area and the ILEC cross-connects. For the minimum cable length, the model uses a best case scenario and assumes that the collocation area is located on the same floor and in close proximity to the ILEC cross-connects. However, since physical collocation requires the construction of cages, it is unlikely that a new collocation area could be built directly adjacent to ILEC cross-connects. Therefore, the best case scenario includes a 40 foot minimum length between the collocation area and the ILEC cross-connects. Both scenarios include a 15 foot cable drop (i.e., 7'6" on each end). Hence, the forward looking best practice CO model layout generates **minimum and maximum** copper connectivity lengths of 55 and 275 feet. (These extremes were determined as follows: equipment area width = 100 feet; equipment area length = 120 feet; distance between floors = 20 feet; cable drop to equipment at both ends = 15 feet. So the maximum two-floor distance would be 100' + 120' + 20' + 20' + 15' = 275', and the minimum same-floor distance would be 20' + 20' + 15' = 55'.) The investment generated therefore is based on an average connectivity length of 165 feet for Voice Grade, DS-1, or DS-3 cabling between the CLEC collocation area and the appropriate

ILEC cross-connect. Cabling investments for optical connectivity are based on 190 feet, since no POT bay is used, and the Model uses 25 feet of cabling in the cage and common area.

Q. HAVING CONSTRUCTED THE MODEL CO AND COLLOCATION SPACE LAYOUTS, WHAT INVESTMENT COMPONENTS DID YOU ESTIMATE?

A. We estimated investments associated with the following:

- o overhead common systems infrastructure (cable racks, cable, etc.);
- o power delivery, including backup capability; power consumption; equipment grounding;
- o entrance fiber (bringing the CLEC's fiber from the manhole to the collocation space); The CLEC should be allowed to perform this function, itself, in which case the ILEC's portion of this investment would be limited to costs associated with providing the rack the cable resides on.
- o copper connectivity between the collocation space and the cross-connects at the voice grade level, and at the DS-1 and DS-3 levels (each estimated separately using DSX and DCS technology);
- o optical connectivity between the collocation space and the fiber cross-connect using 12 fiber breakout cable;

- o construction elements associated with building the cage and maintaining the environment in the cage (partitioning, floor covering, electrical distribution panel, HVAC, lighting);
- o land and building.
- o manpower resources to plan both the entire 550 square foot collocation area and each collocation request within that area; and
- o security.

Q. HOW DID YOU ESTIMATE THESE INVESTMENT COMPONENTS?

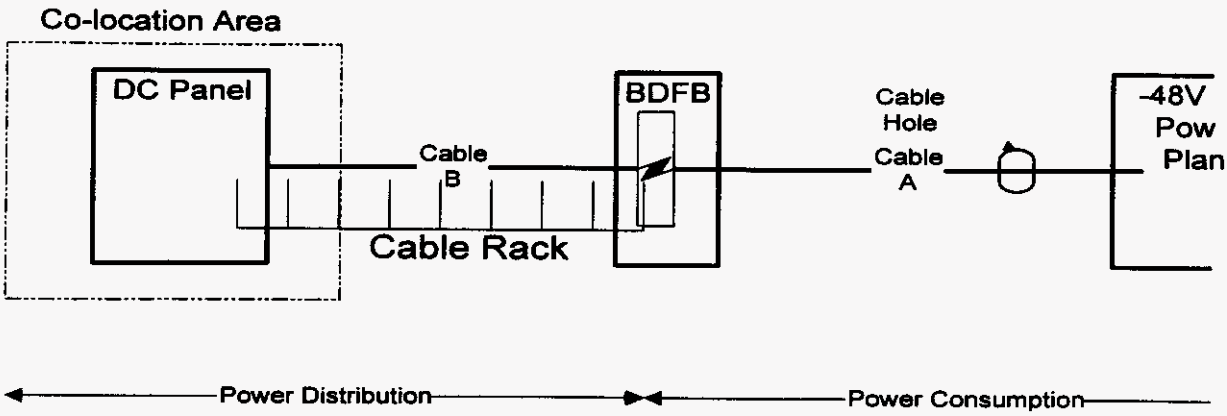
A. The general methodology used was as follows:

- o Identify, end to end, all the specific elements needed to provide the components. (See, for example, the following chart depicting the end-to-end requirements for power delivery. Similar charts are provided in the White Paper for each investment component.)

- o Obtain quotes (in hours or dollars, as appropriate) for the engineering, furnishing, and installation of these elements.

- o Based on the judgment of the subject matter experts, select the quotes to use as input values and calculate the investment costs.

COLLOCATION MODEL - -48V DC POWER DELIVERY



1
2

-48V DC Power Panel	Located in Cage	CLEC	--	CLEC installs -48V DC panels in cage and terminates ILEC provided feed
Cable 'B'	4 x #6 Cable between Cage & Collo BDFB	ILEC	35'-0"	One time charge for 40 Amps (20 Amp A & B feeds + return) as requested by CLEC -Includes 20'-0" drop in cage
Cable 'B'	4 x #2 Cable between Cage & Collo BDFB	ILEC	35'-0"	One time charge for 100 Amps (50 Amps A & B feeds + return) as requested by CLEC - Includes 20'-0" drop in cage
Cable 'B'	4 x 2/0 Cable between Cage & Collo BDFB	ILEC	35'-0"	One time charge for 200 Amps (100 Amps A & B feeds + return) as requested by CLEC - Includes

Cable Rack	15' CLEC specific	ILEC	5'-0"	20'-0" drop in cage
BDFB	Located close to Collocation Cages	ILEC	--	Included in cage investment
Cable Rack Occupancy	Shared support for Cable 'A' below	ILEC	--	Included in -48V DC Power Consumption Charge
Cable 'A'	Cable betw –48V Power Plant & DFB	ILEC	--	Included in -48V DC Power Consumption Charge
-48V DC Power Plant	Shared use between CLEC's & ILEC	ILEC	--	Included in -48V DC Power Consumption Charge
Auto-start Diesel Fuel Tanks, etc.	Required for Battery Back-up	ILEC	--	Included in -48V DC Power Consumption Charge
AC Energy	Required for AC Energy used	ILEC	--	Included in -48V DC Power Consumption Charge

Q. DID YOU USE MAJOR SUPPLIERS, SUCH AS LUCENT AND NORTEL, FOR YOUR QUOTES ON PRICES AND HOURS?

A. No. The common systems infrastructure components and the magnitude of the construction project associated with physical collocation are relatively minor and can be handled by many smaller contractors at competitive rates. Indeed, even if larger suppliers, such as Lucent and Nortel, were price competitive, they are unlikely to be able to meet the short time intervals required for these very small

jobs. For that reason, ILECs typically have various smaller contractors who specialize in ironwork, cabling, etc., authorized to complete short interval installations. The same is true with regard to the construction elements associated with preparing the cage. The use of a telecommunications giant or a major construction company for collocation components is akin to using a Big Eight accounting firm to handle a simple income tax return or using a major law firm in small claims court.

Q. DID YOU ASSUME THAT THE ILEC PROVIDES ALL THE EQUIPMENT?

A. No, it is assumed that the CLEC provides its own equipment wherever possible. This provides another protection against inflated costs to CLECs by providing them the opportunity to purchase their own equipment whenever they believe they can do so more cheaply.

Q. YOU INDICATE THAT YOU INCLUDED AN INVESTMENT ASSOCIATED WITH BUILDING SPACE AND, SEPARATELY, THE INVESTMENTS ASSOCIATED WITH HVAC, FLOOR COVERING, SECURITY AND OTHER ITEMS THAT OFTEN ARE PROVIDED AS PART OF THE CHARGE FOR SPACE IN A BUILDING. WHY DID YOU DO THIS?

A. We did this to ensure that all investment costs were included, although we believe as a result we provide a conservatively high estimate of investment requirements. The source that we use for the per square foot cost of building space, R.S. Means, is a data sourcebook widely used in the industry. The data provided are compiled from submissions from ILECs who actually have constructed central offices, but there is no explanation of what costs are included in those submissions. It is likely that these estimates include costs associated with sufficient air conditioning, floor covering, etc. to fully support the collocation space, and thus by including these items separately our investments may conservatively overstate investment requirements.

Q. DO THE INVESTMENTS GENERATED BY YOUR MODEL CO AND COLLOCATION LAYOUTS INCLUDE THE COSTS ASSOCIATED WITH BUILDING MODIFICATIONS THAT FREQUENTLY ARE INCLUDED IN ILEC COLLOCATION COST STUDIES?

A. The model layouts generate all investments necessary for the provision of collocation, but not for building modifications an ILEC would have to undertake just to bring space in the CO up to the level needed to house equipment. For example, our model incorporates the appropriate share of costs associated with meeting all regulatory requirements by including in the building cost per square foot used in the investment calculation the costs associated with full regulatory compliance. But it does not add to those costs any special costs associated with

bringing a particular building or portion of a building to compliance. Building modifications to remove unused equipment also are not included as they represent additional costs to make a specific building space up to standard. Also, building modifications allegedly required to provide a "secure environment," such as the addition of costly new external entrances, are not included because they are not part of a cost efficient, forward looking solution to security problems.

Q. WHAT SECURITY REQUIREMENTS DID YOU INCLUDE FOR YOUR MODEL CO AND COLLOCATION LAYOUTS?

A. COs today are constructed with electronic security card systems to monitor access and egress. Each doorway will have an electronic card reader that will only admit the holders of pre-screened cards. These costs are included in the basic per square foot cost of a CO building just as the cost of locks on outside doors are included in the rent for office or apartment space. Thus, our model assumes the cost of the security card system is included in the per square foot cost in R.S. Means. The costs of purchasing individual cards and associated system maintenance, on the other hand, are assumed to be costs that each CLEC should bear.

PART TWO: VIRTUAL COLLOCATION

Q. WHAT IS VIRTUAL COLLOCATION?

A. Virtual collocation is an arrangement that allows a CLEC to place its own equipment in an area of a CO currently used by the ILEC to house its equipment (and not segregated from ILEC equipment). Typically, the CLEC purchases the equipment to be dedicated for its use on the ILEC's premises and sells the equipment to the ILEC for a nominal $1.00 sum while maintaining a repurchase option. The equipment is then installed in vacant space beside the ILEC's equipment. Typically, the ILEC handles day-to-day maintenance activities and is reimbursed by the CLEC. The CLEC is permitted to enter the CO upon request, but requires a security escort.

Q. WHY IS VIRTUAL COLLOCATION IMPORTANT?

A. Like physical collocation, virtual collocation provides a means by which new entrants can concentrate traffic from unbundled loops (or other elements) in order to transport that traffic to the CLEC's switch. A CLEC may wish to use virtual collocation if it lacks sufficient market share to justify a physical collocation arrangement, or because physical collocation cage construction costs render that method of collocation too costly. In addition, Section 251c(6) of the Telecommunications Act of 1996 requires that virtual collocation be provided when physical collocation is not practical for technical reasons or because of space limitations.

Q. DID YOU IDENTIFY INVESTMENT COMPONENTS AND INSTALLERS FOR VIRTUAL COLLOCATION USING THE SAME BEST PRACTICES DESCRIBED ABOVE?

A. Yes, the same approach was used. The investment differences simply reflect the different nature of virtual as opposed to physical collocation. Most significantly, since virtual collocation provides for CLEC equipment to be located within existing ILEC equipment areas and maintained by ILEC personnel, there are no cage construction components. Further, since most of the equipment associated with virtual collocation is provided by the CLEC, the scope and magnitude of initial investments for which the ILEC is responsible is greatly reduced.

Q. DOES THE VIRTUAL COLLOCATION MODEL INCLUDE INVESTMENTS FOR INITIAL CABLING?

A. No. Cabling is an integral part of most telecommunications installations, necessary to ensure continuity prior to (collocator) acceptance. Indeed, collocators typically require completion of systems readiness and operational tests prior to acceptance of a virtual collocation installation. Thus, suppliers normally include the cabling as part of the overall cost of installing telecommunications equipment components. The ILEC will not incur initial cabling costs since the CLEC is responsible to the installer for the invoice associated with the equipment installation. (This includes cabling for connectivity, as well as power and

grounding.)

Q. HOW WERE CONNECTIVITY LENGTHS USED TO DETERMINE INVESTMENT NEEDS FOR THE VIRTUAL COLLOCATION MODEL?

A. Although there is no ILEC investment for initial cabling, investment is included for occupancy of cable racks on which the cables ride (as well as occupancy of ILEC inter-floor cable holes and terminations on ILEC cross-connects). To estimate the investment associated with cable rack occupancy, the Virtual Collocation Model uses the same connectivity lengths used to estimate investments for physical collocation. Since the CLEC-provided, ILEC-owned equipment is placed in the same equipment areas that the ILEC uses for its own equipment, it is likely that connectivity investments for virtual collocation will be **less** than those required for physical collocation. Thus, using the same connectivity lengths for virtual collocation as those used for physical collocation provides a conservative estimate.

Q. DID YOU INCLUDE INVESTMENTS ASSOCIATED WITH BUILDING SPACE FOR VIRTUAL COLLOCATION?

A. Yes. The overall method of estimating the building space investment for virtual collocation is the same as that used for physical collocation. In contrast to physical collocation, however, virtual collocation merely requires payment to the

ILEC for floor space; there are no additional building-related costs (such as for cage construction).

Q. HOW DID YOU APPROACH ESTIMATING THE BUILDING SPACE INVESTMENT FOR VIRTUAL COLLOCATION?

A. We used a best practice space planning approach to ensure that ILEC equipment space, and hence CO floor space, is used efficiently. ILEC equipment space is comprised of rows (called "lineups") of relay racks that, when installed, resemble empty metal bookcases without shelves. Relay racks are fabricated to permit the installation of equipment shelves on an "as required" basis. Thus, many existing racks in ILEC COs have unused space which can be used to mount CLEC equipment shelves. The telecommunications equipment in use today comes in various sizes (heights) and thus requires varying amounts of vertical "shelf space" on a relay rack. While this conceivably permits relay racks to be administered by the "rack inch," for administrative simplicity, the Virtual Collocation Model develops the investments for building space based on units of ¼ relay rack. Using units of ¼ relay rack ensures that ILEC equipment space is used efficiently and allows CLECs to pay only for the space used. In many instances relay racks with empty space will be available. In some cases, however, a new relay rack may need to be installed for a CLEC to place its equipment. The Virtual Collocation Model is designed to accommodate either situation by including the additional investment for a rely rack, if a new installation is required.

Q. HOW DID YOU CALCULATE THE AMOUNT OF BUILDING SPACE INVESTMENT ASSOCIATED WITH ¼ RELAY RACK?

A. The telecommunications relay racks used to house equipment in a CO are typically 2' wide, 1' deep, and 7' high. The racks are placed in "lineups" (rows) located 2' 6" to 3' apart to provide for aisle space in front and back for maintenance purposes. Including the relay rack footprint (2' by 1') plus 50% of the front and rear aisles (1' 6" + 1' 6" = 3') would require 8 square feet (2' x 4'). The Virtual Collocation Model assumes that each relay rack uses 9 square feet of floor space, which is sufficiently generous to incorporate end guards (which are only used when a relay rack is at the end of a lineup) and 15" deep frames. Thus, the Virtual Collocation Model develops the investment for floor space based on units of ¼ relay racks, the equivalent of 2.25 square feet of space.

Q. HOW IS MAINTENANCE HANDLED IN THE VIRTUAL COLLOCATION MODEL?

A. The CLEC is responsible for directing all maintenance activities associated with the virtual equipment. This includes system surveillance, direction of repair activity, and requests to the ILEC for maintenance assistance. The ILEC is responsible for hardware functions such as circuit pack replacement and changing fuses. Work will be performed by the ILEC upon the request of the CLEC, and will be reimbursed using the labor rate for the appropriate qualified technician.

Q. ARE SECURITY REQUIREMENTS NECESSARY FOR VIRTUAL COLLOCATION?

A. Yes. While CLEC personnel will not normally visit virtually collocated equipment for day-to-day operations, there may be instances when it is necessary for CLEC engineering or maintenance personnel to visit the ILEC CO. Since virtual equipment is located in ILEC equipment areas and not segregated from ILEC equipment, it is reasonable to expect that an ILEC security escort be in attendance during the entire time during a CLEC visit.

It is also reasonable to establish maximum response times for the elapsed interval between when a CLEC requests an appropriately qualified ILEC technician at a particular CO, and when a technician arrives and makes contact with the CLEC. The response times and charging increments for both maintenance and security escort requests vary depending on the type of CO. That is, whether a CO is staffed (technicians scheduled to work at the CO), attended (the hours during which technicians are required to be at the CO), and whether the request is during normal business hours (usually Monday to Friday, 8 am to 5 pm) or not. The charts below indicate appropriate response times and charging increments. Note that the ILEC must identify for CLECs which COs staffed, attended and the actual attended hours of any staffed CO.

Staffed and Attended	1 hour
Staffed and Unattended	4 hours
Not staffed and NBD	2 hours
Not staffed and non-NBD	4 hours

Definitions:

Staffed-technicians are scheduled to work in the location.

Attended-hours during which technicians are required to be at the CO.

NBD (Normal Business Day)-usually Monday to Friday, 0800h to 1700h.

Staffed and Attended	¼ hour	¼ hour
Staffed and Unattended	4 hours	¼ hour
Not staffed and NBD	¼ hour	¼ hour
Not staffed and non-NBD	4 hours	¼ hour

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, at this time.

REBUTTAL TESTIMONY OF

RICK BISSELL

ON BEHALF OF

AT&T COMMUNICATIONS OF THE SOUTHERN STATES, INC., AND

MCI TELECOMMUNICATIONS CORPORATION, AND

MCI METRO ACCESS TRANSMISSION SERVICES, INC.

DOCKET NOs.: 960833-TP, 960846-TP, 971140-TP, 960757-TP, 960916-TP

Q. PLEASE STATE YOUR NAME, ADDRESS, AND OCCUPATION.

A. My name is Rick Bissell and my business address is 13-99 Edgevalley Road, London, Ontario, Canada N5Y 5N1. I am a telecommunications consultant.

Q. ARE YOU THE SAME RICK BISSELL WHO FILED DIRECT TESTIMONY ON NOVEMBER 13, 1997?

A. Yes I am.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY TODAY?

A. I have been retained by MCI Communications Corporation (MCI) and AT&T Communications of the Southern States, Inc. (AT&T) to review and comment on the investment inputs contained in the BellSouth Telecommunications (BST) TELRIC Calculator used to develop the costs for Physical and Virtual Collocation in the state of Florida.

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. The BST TELRIC Calculator is replete with examples of excessive investments and

incorporates regressive and inefficient planning scenarios with little regard for parity between incumbent local exchange companies (ILECs) and competitive local exchange companies (CLECs). The overstated investments result in higher than necessary charges for CLEC collocation. My testimony will focus on BST's space planning and engineering strategies, common systems infrastructure components, and cage construction strategies and manpower requirements. I have not, however, adjusted BST's proposed cost studies, as reflected in its TELRIC Calculator. A summary of my conclusions follows. (A number of these issues relate to both physical and virtual collocation, while others are associated with physical collocation only.)

⇒ *First, the BST study incorporates an undefined Space Preparation Charge based on an Individual Cost Basis (ICB) approach, which can easily be manipulated to increase CLEC costs. This ICB approach is not only discriminatory toward CLECs, but also permits double recovery by BST for the delivery of –48V power.*

⇒ *Second, cage and construction related costs are excessive.*

⇒ *Third, average cable lengths are drastically overstated and represent existing worse case scenarios and regressive planning strategies.*

⇒ *Fourth, the study includes unnecessary mid-span repeater equipment for physical collocation.*

⇒ *Fifth, the length of cable racking is significantly overstated.*

⇒ *Sixth, the utilization factor for cable racking (expected number of cables to be placed on a rack) is significantly understated.*

⇒ *Seventh, cable rack investments are overstated because they do not take into account shared use by BST and CLECs.*

⇒ *Eighth, investments for joint use Point of Termination (POT) bays are unusually high and can only be purchased through BST.*

⇒ *Ninth, BST manpower requirements included in the application charge for physical collocation do not take into account that some planning activities only apply to the first collocation request in a particular central office (CO).*

⇒ *Lastly, using security escorts does not reflect a forward-looking approach to physical collocation.*

Q. CAN YOU EXPLAIN YOUR CONCERNS REGARDING THE SPACE PREPARATION CHARGE?

A. Yes. The BST study includes an ICB for space preparation. This type of undefined charge can easily be manipulated to discourage new entrants, which already face substantial up-front investments. Not only does this approach create a barrier to entry, it also discriminates against the first collocator, because no competitor will want to be the first to collocate in a BST CO for fear of having to pay huge space

preparation fees. And since this charge is only identified on a case by case basis, it is very difficult for a CLEC to forecast its collocation costs or prepare a business case to enter BST local markets. This situation is aggravated by the fact that BST retains exclusive control over the placement, size, and design of collocation areas. In effect, BST has "carte blanche" to dictate the building construction charges a collocator must pay, with absolutely no requirement to define these costs in advance. As long as BST has arbitrary control over the placement and sizing of a new collocation area, the opportunity to inflate costs will exist. Moreover, BST will have strong incentives (and the ability) to exploit this opportunity by over provisioning the amount of space and facilities required to accommodate future collocators.

For example, in a particular BST CO adequate space may in fact be available to accommodate up to four CLECs in existing convenient equipment space in close proximity to BST cross-connects with almost no requirement for building renovations. However, if BST arbitrarily chooses to size the collocation area for more than four CLECs it may have to locate the collocation area five floors away in some remote area of the CO -- perhaps in an area that requires extensive building renovations and is far from the cross-connects, creating the need for excessive and costly cable lengths.

The issue of sizing a collocation area and its impact on the space preparation ICB is of particular concern in light of the fact that Section 4 of BST's Property Management Guidelines for Physical Collocation indicates that collocation areas should be sized using a tentative rule of thumb of at least 3000– 5000 square feet.

Assuming an average of 270 square feet per CLEC request (200 square foot requirement, plus 70 square feet for common space), a collocation area sized at 3000 -- 5000 square feet is likely suitable for between 11 and 18 CLECs. On the surface, a long-term space planning strategy for collocation may appear sound. However, in most cases, it will result in larger than necessary spaces being prepared for collocation in BST COs and billed to the CLEC under an ICB charge.

In short, this type of undefined space preparation charge creates the opportunity for barriers to entry and can be used to unreasonably discriminate against collocation in BST COs. It also rewards BST for over-estimating the number of competitors that will collocate in their COs with higher than necessary collocation charges.

Q. WHAT IS YOUR POSITION REGARDING THE ESTABLISHMENT OF CLEC COLLOCATION AREAS?

A. In my opinion the best planning practice strategy for establishing new collocation areas in existing COs is to size the collocation area to ensure optimum placement in relation to cross-connects. This can be accomplished with smaller collocation areas placed as close as possible to cross-connects. Most COs have various sized pockets of space which are convenient and can be made available for CLEC collocation by adopting best practice space planning strategies. In a CO environment these smaller pockets of space are typically made available by:

⇒ *Ongoing equipment modernization and/or removals;*

⇒ *Staff reductions due to remote testing and surveillance;*

⇒ *Relocation of administration staff to areas of the CO that are less convenient for equipment.*

While the exact size of any specific collocation space may vary from case to case, when estimating the investments associated with collocation, a good basic assumption would be a collocation space of 550 square feet, which would be applicable for four small collocators (of 100 square feet each), two average collocators (of ~~2000~~ 200 square feet each) or one large collocator (of 400 square feet)– that is, for virtually all collocation scenarios. However, as I indicated above, 550 square foot spaces are likely to be consistently available in BST COs.

In summary, the dynamics of a progressive switching center is one of constant change. Therefore, to establish large and costly collocation areas in locations that are less than optimum represents regressive planning practice. Collocation areas should be sized small enough to take advantage of existing convenient space and allocated on a first come first served basis as directed by FCC guidelines Para. 585 and 5.323 (f). Proceeding in this manner would promote parity by providing CLECs with the same opportunity to benefit from the ongoing dynamics of a constantly changing CO rather than being located in a remote area of the CO with large initial ICBs and ongoing cost penalties for connectivity.

Q. DO YOU BELIEVE THAT DEMOLITION AND OTHER CONSTRUCTION COSTS TO PREPARE CO SPACE FOR CLEC EQUIPMENT SHOULD BE CHARGED TO COLLOCATORS?

A. No. Central offices were originally constructed to house telecommunications

equipment. Therefore, the best practice planning strategy used by most ILECs is to ensure that any non-equipment group placed in the CO understands its tenure is only until the space is required for equipment growth. The reason for this is two-fold. First, CO equipment space costs much more to build than administration buildings. Second, placing equipment in a space that is less than optimum in terms of connectivity (that is, far from cross connects) results in ongoing cost penalties for longer cable lengths.

While it may have been in BST's best interest to temporarily defer the cost of expanding administrative space elsewhere by using portions of its COs for non-equipment functions or by leaving redundant technologies in place, it should be the responsibility of BST to restore that space for equipment use prior to renting it to a CLEC. This is no different from any tenant/landlord relationship in which the landlord assumes the responsibility to provide a tenant with 'clean space' suitable for whatever use for which it is being leased. For example, if a landlord was temporarily using one apartment in a large complex to store unused appliances and decided to lease it as a residence, it would have to be restored to its original use by the landlord. This would likely include removing redundant appliances, demolishing temporary shelving units, painting, fixing damaged floor tiles, etc. Furthermore, if the landlord had temporarily located an administrative employee in that apartment space this person would have to be relocated to some other space in the complex. But the new tenant would not bear the associated costs, and would only pay the fair market determined rent.

In summary, the CLEC should not be required to bear the burden of space

preparation expenditures associated with restoring space to its intended use or for the costs required to make CO equipment space suitable for the purpose for which it is being rented. Indeed, BST includes a rental charge for building space that effectively includes any such costs.

Q. DO YOU HAVE CONCERNS REGARDING THE POTENTIAL FOR DOUBLE RECOVERY UNDER BST'S SPACE PREPARATION ICB?

A. Yes, BST's Property Management Guidelines for Collocation highlight numerous scenarios when the CLEC may be assessed substantial space preparation charges for items such as new walls, corridors, Heating, Ventilation and Air Conditioning (HVAC) expansion, -48V Power Plant extensions, etc. While BST should not be permitted to burden the CLEC with any unidentified ICB charges, the proposal to assess CLECs an ICB to expand the –48V power plant (as outlined in the Power Section of BST's Property Management Guidelines) is of particular concern since, if implemented, it would result in double recovery.

BST's proposed monthly power price of $7.64 per ampere for physical collocation is developed in part based on an investment of $165.80 per ampere for DC power equipment plus a per ampere component for AC usage. Since the $165.80 per ampere investment is sufficient for a complete new –48V power plant, permitting BST to also charge CLECs an ICB to expand the power plant would allow for double recovery of power costs. The impact of collocation on the–48V power plant is no different than the impact of any other tariffed service on BST equipment, such as the switch or network equipment. In short, since BST has chosen to recover its –48V power investment via a monthly per ampere charge any expansion of the –48V

power plant cannot be passed on to CLECs.

Q. CAN YOU SUMMARIZE YOUR POSITION REGARDING ICBs FOR –48V POWER AND HVAC EXTENSIONS?

A. Yes. BST should eliminate all references to ICBs associated with power plant expansions from its Property Management Guidelines for Collocation. In fact, by pricing –48V power according to the number of amperes delivered, the CLEC is already paying BST a 30% premium for power. This is because manufacturers of telecommunications equipment, like manufacturers of all types of household electrical appliances, typically recommend that their equipment be fused about 30% higher than its expected drain at full capacity.

With regard to HVAC expansions, the Commission should instruct BST to develop a pre-determined cost for HVAC rather than using an undefined ICB. This can be accomplished, for example, by including a separate HVAC rate element. Since almost all the DC power used to operate telecommunications equipment in a CO environment is dissipated in heat, this new rate element should be tied to the amount of power requested by a CLEC. The design options for CO mechanical systems can vary between large building systems that are typically used to cool multiple areas of the CO and smaller stand-alone units to cool a specific area. However, according to a mechanical systems design consultant used during the development of the MCI/ATT&T collocation cost model, the average 'installed' cost of providing HVAC in a telecommunications environment is $1785.00 per ton of air-conditioning, or $24.41 per DC ampere. By using this all-inclusive investment figure of $24.41 per DC ampere to develop a new rate element for HVAC, BST would

always be remunerated proportionally for the HVAC used by CLECs while at the same time ensuring that it retains optimum flexibility in terms of CO air conditioning designs. The Commission should therefore instruct BST to develop a rate element for HVAC using the investment of $24.41 per DC ampere requested by the CLEC. HVAC costs would then be tied to the amount of power and associated heat dissipation generated by CLEC equipment. CLECs with large installations would correctly pay more for HVAC while smaller CLECs would pay less. Most important, however, all CLECs would know in advance how much HVAC would cost, rather than being assessed an arbitrary ICB.

Q. CAN YOU PROVIDE COMMENTS REGARDING BST'S PROPOSAL TO PERMIT CLECs TO ARRANGE THEIR OWN CAGE CONSTRUCTION?

A. Yes. BST Property Management Guidelines permit CLECs to accept responsibility for constructing their cages. However, in choosing this option, the CLEC must agree to construct to BST specifications. For example, CLECs must use an area of the CO that has been arbitrarily selected by BST and hire a BST approved contractor.

The use of a single approved contractor is of particular concern since BST does not utilize competitive tendering. Rather, it selects a number of contractors and places them on its exclusive master agreement. This type of arrangement does not reflect today's competitive environment and can only lead to higher costs for CLECs, whether they assume responsibility for the work themselves, or allow BST to manage the project for them. Interestingly enough, there is no mention of any reduction in BST manpower if the CLEC assumes responsibility for arranging

construction. In short, there appears to be absolutely no advantage to the CLEC whatsoever.

Q. WHAT IS YOUR POSITION REGARDING CLECs ARRANGING THEIR OWN CONSTRUCTION WORK?

A. The best practice and least cost approach for arranging building renovations in a competitive environment is to tender the project to a number of competing contractors. It is difficult to conceive why BST does not want collocation projects to be tendered in order to ensure a least cost installation. Furthermore, BST's argument that tendering would drastically increase intervals is inaccurate since this type of project is quite small (and "low tech") in terms of building construction work and competitive tenders should not add more than a few weeks to the overall project. If fact, it is conceivable that in addition to lower costs, competitive tendering to multiple contractors could very well reduce the overall interval. For example, if one of the contractors has a temporary surplus of resources it wishes to keep busy pending some larger project, it may agree to a shorter interval or a lower cost.

It has been my experience that master agreements tend to create longer intervals since the need to be competitive is eliminated from the process. The Commission should therefore instruct BST to tender collocation projects to a minimum of 3 reputable contractors on BST's approved contractor list. In addition, if the CLEC chooses to arrange for the construction work, BST should be instructed to reduce its manpower requirements to reflect this reduced involvement.

Q. PLEASE EXPLAIN WHY THE ENCLOSURE INVESTMENT IS EXCESSIVE.

A. The space construction investment shown in the BST study identifies an input of _____ for materials (using drywall) and contract labor associated with the first 100 square foot and a further investment of _____ for each additional 50 square feet. This results in an overall investment input of _____ for a CLEC that requests 400 square feet of collocation space.

Since the vast majority of ILECs across the country use metal cages at a fraction of this cost, I must conclude that BST has consciously ignored this least cost solution. Indeed, a cage can be provided at a cost of $2738.00. (The $2738.00 figure uses price information from Wireway/Husky Company, Inc. of Sterling, Massachusetts for a 400 square foot (20x20) four-sided, 8-foot high cage, with sliding door and lock, together with an installation component of 16 hours labor.) The _____ difference between a 400 square foot metal cage at $2737.81 and BST's _____ space construction investment for a 400 square feet area is therefore directly attributable to BST's proposed method of providing collocation enclosures using drywall.

Q. IS BST'S METHOD OF PROVIDING ENCLOSURES FOR PHYSICAL COLLOCATION EFFICIENT AND COST EFFECTIVE?

A. No. BST proposes an approach to physical collocation that adds substantial unnecessary costs through the use of drywall. For example, BST's proposal to install drywall with gaps at the top and bottom of walls closed off with security mesh restricts the overall ambient lighting and air conditioning. Although openings are provided, air flow is restricted, resulting in the need for increased air conditioning capacity and ducting. Similarly, the installation of drywall restricts the

overall ambient level of light, resulting in the need for additional light fixtures. Using drywall construction materials also requires mandatory processes that add to the overall cost of providing collocation. For example, the use of drywall requires that a plaster-like compound be placed on all seams and joints. This compound must then be wet sanded and the entire wall painted with more than one coat of paint. Anyone who has worked with new drywall can attest to the fact that this compounding, sanding and the requirement for multiple coats of paint is not only extremely messy but also time-consuming and dictates lengthy construction intervals.

BST also proposes to install a security mesh to close off the space between the top of the drywall and the concrete ceiling. The use of a security mesh above 8'-0" is completely unnecessary. Most of the collocation areas I've visited in ILEC COs use 8'-0" cage material with no additional security mesh requirement above that level. It is unlikely any individual will attempt to scale an 8'-0" drywall (gypsum) partition. In addition, the use of mesh above 8'-0" interferes with cable rack installations and makes ongoing equipment cabling activities more complex.

Q. DOES BST PROVIDE ANY REASON FOR BUILDING ENCLOSURES WITH DRYWALL RATHER THAN WIRE MESH?

A. BST has stated that its decision to use drywall enclosures was made in the interest of safety and telecommunications equipment performance. However, safety concerns and equipment performance do not require drywall.

According to BST, one of the factors that influenced its decision to require

drywall enclosures was the potential placement of switching equipment in CLEC collocation space. BST contends that most switching modules require an isolated ground plane and, in the interest of safety and network protection, wire mesh should not be placed within the central office.

BST is correct in its statement that switching equipment must be connected to an isolated ground. However, this is only one of the ground planes included in the isolated bonding network recommended by major suppliers of switching equipment. The overall design of an isolated bonding network as proposed by major switching suppliers such as Nortel incorporates the following:

⇒ *Metal equipment relay racks isolated from both the floor and overhead superstructure*

⇒ *Isolated (separate) ground leads for equipment and ironwork (relay racks) using the battery return bar of the BDFB or DC power plant*

⇒ *All ironwork such as cable racks, framing bars, ventilation ducts, etc. within seven feet of equipment are grounded to an integrated collector bar which is also connected to the single point ground*

This seven foot rule ensures the safety of maintenance personnel by eliminating the possibility of anyone coming in contact with two different ground planes. With a wire cage installation the cage material would be grounded in the same manner as the overhead ironwork and cable racks. If grounded correctly the installation of

wire mesh poses no more risk to personnel than the cable racks and overhead ironwork technicians come into contact with constantly when running cable.

Q. DO YOU HAVE ANY ADDITIONAL COMMENTS REGARDING THE USE OF GYPSUM DRYWALL FOR COLLOCATION ENCLOSURES?

A. Yes. The use of drywall enclosures requires the use of a temporary dust partition to protect adjacent equipment during construction. BST intends to use a short-term type of partition to protect working telephone equipment from airborne contamination during construction. This costly temporary dust partition (consisting of metal studs covered with fire retardant anti static polyethylene) would not be required with a wire mesh cage. BST has indicated this dust protection will cost _____ per linear foot. To demonstrate the excessiveness of BST's estimate, I developed the cost of a permanent drywall partition using the latest (1997) RS Means Building Construction Cost Data (RS Means) publication. (RS Means is an estimating tool commonly used in the construction industry throughout the United States and Canada. In fact, BST uses RS Means in the preparation of its own cost model.) Using RS Means, the cost of a permanent eight foot high wall constructed with 25 gauge, 3 5/8" wide metal studs, with 1/2" drywall taped and sanded on both sides would be $18.08 per lineal foot. Thus, the _____ cost input for a BellSouth 'temporary' dust partition made from polyethylene is more costly than a "permanent" drywall partition.

Q. CAN YOU EXPLAIN HOW METAL CAGES OFFER GREATER FLEXIBILITY?

A. Yes. Cage material is manufactured in various sizes that correspond to the enclosure sizes CLECs might use to house their equipment. It is supplied in

prefabricated modules, which include all the required installation hardware. Systems can be shipped as a complete unit, including sliding door with lock. This material can be installed in short intervals with no requirement for dust partitioning. In addition, wire mesh cages offer much better security since it provides increased visibility over solid drywall installations.

Q. PLEASE SUMMARIZE YOUR POSITION REGARDING THE USE OF DRYWALL, RATHER THAN WIRE MESH ENCLOSURES.

A. Wire mesh is cleaner, easier to install, safe, and is the most cost efficient method of providing for collocation. If grounded correctly, wire mesh poses no more risk than the overhead ironwork that is within a few inches of the top of equipment racks and in contact with technicians each time they run cables. ILECs such as Bell Atlantic and Nynex have been using wire mesh collocation enclosures in their COs without any reported safety or transmission problems. The Commission should therefore instruct BST to use least cost wire mesh cage enclosures for physical collocation. However, if the Commission chooses to allow BST to proceed with its costly proposal to use drywall for collocation enclosures in its COs, then at the very least, BST should be directed to replace its existing Space ~~Preparation~~ Construction investments with least cost cage investments. Suggested costs based on a price list from Wireway/Huskey of Sterling Massachusetts are as follows:

100 SQUARE FOOT CAGE:	***$1678.84***
200 SQUARE FOOT CAGE:	***$2208.31***
300 SQUARE FOOT CAGE:	***$2520.98***

400 SQUARE FOOT CAGE: ***$2737.8***

Q. ARE THERE ANY OTHER CONSTRUCTION COMPONENTS IN BST'S COST MODEL YOU QUESTION?

A. Yes. BST refers to a spreadsheet of estimated charges used by its Property Management Services Personnel to establish physical collocation spaces. After examining these cost figures, I find the costs estimated by BST to be excessive. For example, BST uses a cost figure of _____ per lineal foot for a 1-hour fire rated gypsum wall. This is high in comparison to a figure reflected in RS Means, which indicates that an 8'-0" high, 1½ hour rated wall with 25 gauge metal studs, spaced at 16" centers and covered with 2 layers of 1½ hour rated gypsum board, costs $3.39 per square foot, or $27.12 per lineal foot, including an overhead profit margin of 38 percent. BST is suggesting that a 1-hour rated wall costs more than four times the national average in RS Means for a 1 ½ hour rated wall.

Other examples of BST's high pricing practices include a gypsum wall at a cost of _____ per lineal foot and a fluorescent light fixture at _____. RS Means suggests a similar gypsum wall should not cost more than $2.17 per square foot, or $18.08 per lineal foot, including a 41% overhead and profit markup and a pendent type (chain hung) 4'-0" long, 2 tube fixture should cost $95.47.

Using the same spreadsheet, BST's Property Management Services Personnel indicate the cost to replace vinyl flooring is _____ per square foot. This figure is much higher than the $1.78 per square foot shown in RS Means. Again the RS

Means figure of $1.78 incorporates a more than reasonable overhead and profit margin of 21 percent. With regard to floor repair, it has been my experience that replacement/repairs are only necessary after the removal of telephone equipment. In a telecommunications environment floor repairs rarely involve the installation of a complete new floor. Typically only those tiles with extensive damage due to the removal of anchor bolts from previous technologies are replaced. As previously noted, this type of repair undertaken simply to return equipment space to an acceptable level prior to renting to the CLEC should remain an ILEC responsibility, and would already be paid in the building rental charge.

Q. PLEASE EXPLAIN WHY YOU USE RS MEANS TO ANALYZE BST'S CONSTRUCTION COST INPUTS?

A. RS Means publications consist of a series of text publications commonly used to produce building construction estimates by engineers, architects, and estimators in the construction industry. The national average figures contained in this in-depth publication are based on inputs from ILECs and other companies across North America and updated yearly to ensure cost components remain current. In fact, BST also refers to RS Means publications in its cost study. However, it is clear through interrogatory responses that BST fails to use RS Means for estimating the cost of collocation construction components such as gypsum wall, vinyl flooring, and fluorescent light fixtures. In short, the best and most commonly used construction-estimating tool demonstrates that BST has used inflated estimates to exaggerate the costs associated with providing physical collocation.

Q. WHAT IS YOUR PROPOSAL FOR ESTIMATING BUILDING CONSTRUCTION COMPONENTS?

A. Since RS Means is recognized as the foremost construction estimating tool in the construction industry across North America, and its figures incorporate substantial profit and overhead margins, it is the best way to develop estimates for building construction components for a forward looking competitive environment.

BST should replace all its historical estimates for building construction components with the costs shown in the 1997 publications of RS Means entitled "Building Construction Data" and "Electrical Cost Data". Proceeding in this manner would provide all parties with the assurance that a degree of parity has been incorporated into the process while at the same time ensuring that BST is provided with a level of remuneration that accurately reflects current market conditions.

Q. CAN YOU EXPLAIN WHY YOU FEEL CABLE LENGTHS HAVE BEEN OVERSTATED IN THE BST STUDY?

A. Based on my experience in planning and provisioning cable routes for telecommunications buildings, the cable lengths shown in BellSouth's study are excessive and the result of regressive and not forward-looking planning strategies - planning strategies that support the establishment of huge collocation areas in locations far from the cross-connects. Cable lengths in BST's study should be forward looking and incorporate progressive best practice planning strategies that include:

⇒ *Using vacant pockets of space in close proximity to cross-connects*

⇒ *Relocating administration staff and other non-equipment entities to areas of the CO less convenient for equipment use*

⇒ *Removing redundant equipment temporarily retired-in-place*

Furthermore, the lengths shown in this study are not even representative of the 'average' cable lengths likely to be encountered for collocation in BellSouth COs. Based on my 30+ years experience planning and provisioning cable routes in ILEC COs, it is obvious to me that BST has developed its average cable lengths using only existing large downtown COs. Thus, CLECs will be forced to bear the cost of connectivity to BST cross-connects based solely on a blend of worse case scenarios. The following table provides a summary of BST cable length assumptions.

SUMMARY OF AVERAGE CABLE LENGTHS IN BELLSOUTH STUDIES		
DESCRIPTION	***PHYSICAL***	***VIRTUAL***
Entrance Cable – Manhole to Collocation Area	400 feet	350 feet
2 Wire & 4 Wire Cross-connects	400 feet	300 feet
DS-1 Cross-connects	300 feet	300 feet
DS-3 Cross-connects	300 feet	300 feet
Repeaters for DS-1	600 feet	NA
Repeaters for DS-3	400 feet	NA

Recent studies I have undertaken to develop forward-looking average cable lengths identified that a three floor central office with an equipment footprint of 120 feet x 100 feet produced average cable lengths of 165 to 175 feet. An explanation of the process used to develop these forward-looking average cable length recommendations is included in my pre-filed testimony dated Nov. 13, 1997. BST's 'average' cable lengths of 300 and 400 feet (if these are proprietary, so is the chart above) could only be produced by using extremely large telecommunications buildings exclusively. Typically most cities will have one, and possibly two, large multi-floor buildings in the major downtown core. Outside the downtown core, however, the size of telecommunications buildings is dramatically smaller. In fact, most COs located in urban communities immediately adjacent to the downtown core have only one or two floors. Therefore, it is obvious that BST has developed its average cable lengths based on a few existing worse case building scenarios while ignoring the remaining 95%+ buildings in its network. This is particularly disturbing since these existing downtown buildings are oversized because they were built to house less space-efficient technologies that in most cases are no longer used, so vacant space exists in these COs. The resultant cable lengths are therefore much longer than would be required in a forward looking building which was correctly sized for technologies currently being deployed. It is simply unreasonable for BST to develop cable lengths based on these over-sized downtown buildings while ignoring the vast majority of one and two floor buildings in its network – or the available space within the downtown buildings.

Q. WHY DO YOU DISAGREE WITH INCLUDING REPEATERS IN THE PHYSICAL COLLOCATION STUDY?

A. Repeaters are only required to regenerate the signal for cable lengths longer than 450 feet for DS-3 and 655 feet for DS-1.Even the excessive average cable lengths contained in the BST study do not extend beyond these trigger points. Furthermore, the fact that repeaters are not included in BST's virtual study provides evidence that BST anticipates no situations where repeaters would be required for its own equipment areas. Therefore, to include any repeaters for signal regeneration in the physical collocation study is discriminatory -- particularly since BST has arbitrary control over placement of the collocation area within the CO. Furthermore, the FCC found, in its Second Report and Order on Physical Collocation, dated June 13, 1997, that it was unreasonable for LECs to charge interconnectors the cost of repeaters in a physical collocation arrangement.

It should also be noted that the overall investment as a result of including repeaters is significant since it includes a repeater bay and a repeater shelf, as well as the actual repeater. In addition, BST includes another 400 feet of cable for DS-3 cross-connects and 600 feet for DS-1 cross-connects when a repeater is used. Naturally, these longer cable lengths also increase associated cable rack support charges.

Q. WHAT IS YOUR POSITION REGARDING REPEATERS?

A. BST should remove all investments associated with the use of mid span repeaters from its physical collocation cost study.

Q. CAN YOU PROVIDE AN ESTIMATE OF THE CABLE LENGTHS THAT SHOULD BE USED TO CALCULATE COLLOCATION COSTS?

A. Yes. As explained in my pre-filed testimony, dated Nov. 13, 1997, before this Commission, the average cable lengths should be developed using a forward looking three floor CO layout with best practice space planning strategies. Even this typical three floor building layout is likely much larger than the 'average' BST CO, making resultant average cable lengths extremely generous toward BST. The Commission therefore should instruct BST to replace its excessive average cable lengths with the following forward looking average lengths.

SUMMARY OF FORWARD LOOKING AVERAGE CABLE LENGTHS		
DESCRIPTION	***PHYSICAL***	***VIRTUAL***
Entrance Cable – Manhole to Collocation Area	300 feet	300 feet
2 Wire & 4 Wire Cross-connects	165 feet	165 feet
DS-1 Cross-connects	165 feet	165 feet
DS-3 Cross-connects	165 feet	165 feet
Repeaters for DS-1	0 feet	0 feet
Repeaters for DS-3	0 feet	0 feet

Q. DO YOU AGREE WITH THE CABLE RACK LENGTH AND UTILIZATION INPUTS INCLUDED IN THE BST STUDY?

A. No. First, BST's cable rack lengths are identical to their cable lengths. This is not possible since point to point telecommunications cabling must always be longer than the cable rack to account for the cable that descends ("drops") from the overhead cable rack to the equipment. For new 7 foot telecommunications

equipment, this distance is typically calculated at 15 feet (7'-6" at each end). Therefore, the cable rack input must be at least 15 feet less than the cable input. Second, the utilization factors (estimated number of cables that will be placed on a rack) is too low. The following table provides a summary of the cable rack utilization factors used by BST.

BELLSOUTH CABLE RACK UTILIZATION INPUTS	
DESCRIPTION	***UTILIZATION***
_____	_____
_____	_____
_____	_____
_____	_____

Having spent much of my career in ILEC COs designing new cable routes and developing recommendations to alleviate existing overhead cable congestion, I can attest to the fact that the average utilization of cable racks in the CO is significantly greater than the figures reflected in the BST study. (In fact, in some areas of the CO, such as above the cross-connects, one can routinely find cable pile-up on the order of 12" to 18", which represents a utilization exceeding 100%.) BST should be required to increase the cable rack utilization factors to be consistent with a best practices engineering approach -- at least 80-85% in both the physical and virtual studies.

Q. DO YOU HAVE ANY ADDITIONAL CONCERNS WITH REGARD TO CABLE RACK INVESTMENTS?

A. Yes. First, the investments used for cable racking are about twice what they should be in a competitive environment using least cost suppliers. BST uses an investment of _____ per linear foot for cable racking. Recent studies and actual projects performed by me indicate that the average price for cable racking should be in the $17.00 to $18.00 per linear foot range for the material alone. In fact, I have received quotes and estimates from contractors and suppliers to support an all-inclusive cost of about $40.00 per linear foot to Engineer, Furnish and Install. These figures were developed using quotes from Central Steel Fabricators, a supplier of cable racking to numerous ILECs, and Primal Communications, a contractor specializing in overhead ironwork, cable rack and telecommunications power equipment installations, and include all necessary labor time in addition to the material price alone.

Second, the modeling of cable rack investments in the BST study does not incorporate the fact that BST will also use these same cable racks once the cabling extends beyond the collocation area. Anyone who has visited a CO can attest to the fact that it is very difficult and not economically viable to provide dedicated cable racks – particularly in areas where cross-connects are installed. Therefore, except for a small portion of the cable rack within the collocation common area, cable racking between the collocation area and BST cross-connect equipment will be used by BST as well as CLECs.

Q. WHAT ARE YOUR RECOMMENDATIONS WITH REGARD TO CABLE RACK INVESTMENTS?

A. BST should be required to reduce its cable rack investments in both the physical

and virtual studies costs by about 50% to reflect the use of least cost suppliers and a competitive environment. Since the BST model charges CLECs the entire amount for cable racking, when in fact BST will use a portion of this same cable racking, BST should also be required to incorporate an occupancy factor of at least 25% in the modeling of cable rack investments to reflect a portion of the rack used by BST for its own cabling.

Q. DO YOU AGREE WITH THE INVESTMENTS ASSOCIATED WITH THE POINT OF TERMINATION BAY INCLUDED IN THE BST PHYSICAL COLLOCATION STUDY?

A. No. BellSouth proposes that the demarcation point between the ILEC and CLEC in a physical collocation arrangement will be at a Point of Termination Bay (POT). While I concur with the use of a POT bay as a means of isolating troubles and re-routing circuits, the _____ for a DS-0 and _____ for a DS1 or DS-3 POT bay included in this cost study is excessive for a simple relay rack to house passive cross-connect equipment. This relay rack is no different from the many relay racks used by BST to mount DSX panels and other miscellaneous equipment shelves. It has been my experience that this type of relay rack can be obtained from numerous least cost suppliers for less than $200.00. Indeed, while preparing my technical report for collocation I received an all-inclusive quote of $390.00 from a contractor to Engineer, Furnish and Install this type of relay rack.

BST also uses extremely low utilization figures that further increase POT bay costs in the study. For example, the projected utilization for 2 Wire and 4 Wire POT bays, DS-1 POT bays, and DS-3 POT bays is _____ respectively.

Incorporating these utilization factors has a dramatic effect on increasing the ultimate cost for the POT bay. In addition, BST does not provide the CLEC with an opportunity to install its own POT bays. The result is that CLECs are forced to absorb excessive POT bay charges with no alternate.

Q. WHAT IS YOUR POSITION REGARDING POT BAYS?

A. BST should be required to provide CLECs with the option of installing their own POT bays in the common space selected by BST.This will permit CLECs to pursue a least cost installation using suppliers who specialize in ironwork and miscellaneous relay rack equipment.

Q. DO YOU FEEL THAT THE MANPOWER INPUTS INCLUDED IN BST'S APPLICATION CHARGE FOR PHYSICAL COLLOCATION IS REASONABLE?

A. No. The concern I have with both the physical and virtual application charges is that neither addresses the reduced manpower required for subsequent requests in the same CO. I will deal with each separately. With a physical collocation arrangement, the manpower required to implement a second collocation request in the same CO will be much lower since many of the overall planning activities are completed with the first request. For example, once the first CLEC is in place in a CO the overall collocation area has already been established, cable routes providing connectivity to cross-connects are installed, the entrance fiber route has been established, and ILEC processes are in place. The BST application charge has been developed using a single manpower input of 87.5 hours. Thus the same 87.5 hour application charge will be levied over and over on each CLEC.

Q. DO YOU HAVE SIMILAR CONCERNS WITH THE APPLICATION CHARGE PROPOSED BY BST FOR VIRTUAL COLLOCATION?

A. Yes. The virtual application charge includes a 45.0 hour BST manpower requirement for each virtual request even though it is likely that many subsequent requests by CLECs will only be to install additional cable between previously installed virtual equipment and BST cross-connects. If BST estimates that the manpower required to provide for the first collocation arrangement by a CLEC includes equipment, plus power and equipment connectivity to BST cross-connects, it is only reasonable that subsequent requests for cable only would require less manpower.

Q. DO YOU HAVE A SOLUTION TO THESE PHYSICAL AND VIRTUAL APPLICATION PROBLEMS?

A. Yes. For physical collocation, BST should be required to determine what percentage of the 87.5 hours is for planning activities that will not be required once the first collocator is in place in a particular CO. BST should then be required to incorporate a second application fee into its physical study for subsequent collocation requests to reflect the reduced BST involvement for subsequent requests in the same CO. Based on my experience planning CO space I would suggest a 30% reduction would be reasonable.

For virtual collocation, BST should be instructed to incorporate an application fee to reflect the reduced manpower requirement associated with smaller virtual requests for additional cable only. Based on experience I would suggest that the manpower requirements associated with engineering a small cable installation as opposed to

an installation involving equipment, power and cabling would be on the order of at least 50% less

In summary, the Commission should instruct BST to include a second application charge in both their physical and virtual collocation studies to be implemented as follows:

Physical: *The second application charge consisting of a 30% reduction in manpower would be assessed to all subsequent CLECs requesting physical collocation in a specific CO*

Virtual: *The second application charge consisting of a 50% reduction in manpower would be assessed to any CLEC requesting a simple cable installation to provide connectivity for previously installed virtual equipment*

Q. IS BELLSOUTH CORRECT TO INCLUDE SECURITY ESCORTS IN ITS COST STUDY?

A. Security escorts are perfectly acceptable with virtual collocation, since CLEC equipment is located in the same space as BST equipment. However, with physical collocation CLECs are separated from BST equipment and in a best practice planning strategy should be located off a corridor. Therefore, in a forward looking study the use of security access cards should be included rather than escorts. Access card readers have become the preferred method of providing security in the telecommunications industry.

To ensure that this study is forward looking the Commission should instruct BST to

eliminate security escorts from its physical collocation study and replace it with a one-time charge for access cards. If the Commission chooses not to instruct BST to eliminate security escorts from its physical collocation study, then at thevery least BST should be required to submit a list of COs where security card readers have been installed. Security escort charges would then only be valid for COs not on the list. Naturally, a process would also have to be put in place to ensure this list is updated on an ongoing basis as additional COs are fitted with card readers.

Q. PLEASE SUMMARIZE YOUR TESTIMONY

A. In summary, I recommend that the Commission adopt the MCI/AT&T collocation model layout investments and cost model as presented in pre-filed testimony by myself and Mr. John Klick on Nov. 13, 1997. However, if the Commission does not decide to choose the MCI/AT&T study in its entirety, it must at the very least, adjust the BellSouth physical and virtual collocation model to correct the obvious flaws summarized in Exhibit RB-1 of this testimony.

Q. DOES THAT CONCLUDE YOU TESTIMONY?

A. Yes it does.

BY MR. HATCH:

Q Mr. Klick, you have a summary of your testimony?

A (Witness Klick) I do.

Q Could you please give that?

COMMISSIONER DEASON: Mr. Hatch, before we get to the summary, do you want the exhibits identified?

MR. HATCH: Oh, I'm sorry. Yes, I apologize. Could I get Mr. Klick's exhibits identified, marked for identification?

COMMISSIONER DEASON: Yes, composite exhibit 33.

MR. HATCH: And could I have Mr. Bissell's direct and rebuttal exhibits marked for identification?

COMMISSIONER DEASON: Yes, composite 34.

BY MR. HATCH:

Q Now, Mr. Klick, could you give your summary please?

A (Witness Klick) Yes, I'll be very brief.

My job in this tag team we have here today is to take the investments that come from Mr. Bissell's analysis and convert them into costs. In doing that, we've tried to follow four principles. One, the first is that our costs are forward-looking and do not reflect the embedded plant that exists today.

Secondly, we have tried to design a model and a set of costs that are flexible. They can be used in a wide

variety of situations and a wide variety of central offices in a nondiscriminatory way.

Third, we have tried to follow costing principles in terms of dealing with the long run and in terms of trying to reflect cost causative principles, so the costs, we have a particular item reflect the activities actually required to construct and operate that particular item.

The fourth principle that we have tried to follow in my effort is to provide a very open model. I think we have a collocation cost model that does these calculations, and we have tried to make it easy to use and very easy to follow what is going on.

In terms of the effects of our costs, there are really two points I want to emphasize for you in my summary. One is that we believe the costs we have developed provide for full recovery of the costs that would be incurred by an efficient provider of collocation, and that includes return on debt and equity capital or what is sometimes thought of as profit.

The second point is that we believe our approach balances the risk between the incumbent, BellSouth, and the ALECs, and there are a couple of ways in which we have tried to do that. Mr. Bissell will probably talk about one, which is the way in which we have developed a cost in terms of where in the CO, in the central office, the

collocation space is located; but from my perspective, we have not developed our costs under the assumption that this space will be fully occupied over its economic life, and we have provided for empty time, time when BellSouth will not be being compensated by anybody because the space is unoccupied.

The fourth thing I want to talk about very briefly is that we have developed our costs on both a recurring and nonrecurring basis, and the essential difference there is that to the extent these items can either be shared between the incumbent and the alternative LECs or to the extent they can be reused by subsequent collocators, we have developed our costs on a recurring basis after making some provision for downtime or nonuse.

For items that are going to be used by a single alternative LEC or CLEC and then can't be reused by subsequent collocators, we have developed on a nonrecurring basis, one-time charge. That is all I want to say in my summary. I'll turn it over to Mr. Bissell.

MR. HATCH: Mr. Bissell --

Commissioners, I had previously passed out a color chart. This will be involved in Mr. Bissell's summary.

BY MR. HATCH:

Q Mr. Bissell, did you prepare this chart, or was

it prepared by you or under your supervision?

A (Witness Bissell) I prepared it.

MR. HATCH: Commissioner Deason, could we request that this be marked for identification.

COMMISSIONER DEASON: Yes, exhibit 35.

BY MR. HATCH:

Q Could you give your summary, Mr. Bissell?

A (Witness Bissell) Sure. Good afternoon, my name is Rick Bissell, and because of my central office planning experience, MCI and AT&T requested that I lead a team of consultants to accomplish two tasks. First, create a forward-looking central office model as well as a collocation model for physical and a collocation model for virtual collocation. Second, develop the investments required to implement both physical and virtual collocation. These investments were turned over to Mr. Klick.

The technical model we created includes all inclusive schematics for each connectivity arrangement. It's sufficiently flexible to be used in urban, suburban and rural environments, and where investments could not be supported by supplier quotes or subject-matter expertise, we chose to err on the conservative side towards BellSouth.

Optimum flexibility has been incorporated in the

model by sizing it at only 550 square feet, the amount typically used for roughly four to six desks in an office environment. At 550 square feet the collocation model provides sufficient space for between one and four CLECs, together with common space to install interface equipment. Common space is completely paid for by the CLECs, and the aisle spacing is completely consistent with BellCore practices and those found in any ILEC equipment area. Placement of the collocation area is on the first come, first serve basis which in a nutshell means placing the equipment as close as possible to the cross connects. From the point of view of collocation, that is the ILEC cross connects whether it be voice grade or DS-1 and DS-3.

For those few major COs where a subsequent collocation area may be required, it would, again, be allocated in the next closest location with respect to the cross connects, basically using the same planning strategies that BellSouth would use for itself if it were wanting to expand and looking for new equipment space. In short, the planning philosophies I've used in this model are no different than what I would use working for any ILEC, and I would be more than happy to discuss questions with regard to my planning experiences related to isolated grounding, et cetera.

Both BellSouth and the MCI model use average

cable lengths to develop their connectivity investments. Our cable lengths are 165 feet, and they are derived from the worst case and a best case blend of scenarios based on our forward-looking three-floor model. This approach is generous compared to the shorter distance that would have been generated had we used a blend of urban, suburban and rural central offices in the BellSouth territory. BellSouth, on the other hand, chose to use three to 400 feet lengths which, based on my experience, had to be derived using only worst case downtown buildings.

While visiting Florida and other BellSouth states, I've had the opportunity to see some of the territory, and I don't see -- in terms of building deployment, I don't see anything different than any other Bell serving territory. I have seen one- and two-floor buildings, the majority of them. Yes, there are one or two large COs in the downtown area, but by and large the majority of the buildings are one and two floors.

For BellSouth to base the collocation investments solely on downtown buildings is fundamentally incorrect. These buildings are oversized. They were originally built for older and less space-efficient technologies, and they represent a very small percentage of BellSouth offices. MCI's model will fit nicely into some of the smaller pockets of space in BellSouth's COs.

I would like to conclude this summary by referring to the handout passed around by Mr. Hatch. The first page, the schematic drawing on the first page is -- shows a few components necessary to implement collocation. What is required is a segregated space in the CO for CLEC equipment. That is on the top right-hand side. Fiber connectivity between the first manhole, top left-hand side, and that CLEC collocation area is provided by a riser cable. Third, power requirements are required to provide power to the CLEC equipment. And lastly, connections are required to BellSouth cross connects. And that's all there is to physical collocation. Virtual collocation is identical except that the equipment would be located adjacent to BellSouth equipment.

Page 2 of the handout shows some of the collocation components and demonstrates why I refer to them as low technology. As you can see, we are dealing with nuts and bolts here. We are dealing with cable rack, iron work, all items which are readily available by competitive suppliers. Page 3 and 4 demonstrates -- shows two metal enclosures being used by other incumbents. One is an MCI installation in a Bell Atlantic central office. The other is a Southwestern Bell collocation in a GTE central office.

Again, as you can see, these enclosures are not

high tech., but more important they provide a secure environment that can be installed quickly, economically, without the dust that we see just down the hallway here, and it minimizes the size and the complexity of the air conditioning.

The last page of the handout and perhaps the most important provides the Commission with an example of our conservative approach in developing this model. The investments were based on four 100 square foot areas plus a common area completely paid for by the CLECs. However, as the configuration changes to accommodate larger CLECs, the investments become even more generous to BellSouth because, as you can see, there are fewer panels, fewer gates, fewer locks, et cetera. A few other examples of the same types of strategy, we included HVAC in our investments which we turned over to Mr. Klick, even though it can very well be argued that we also have -- we also have the cost of a complete new building, which likely includes HVAC. We have used battery reserves of four hours which is roughly 25% higher than what BellSouth would actually incur with an on-site diesel generator. We have also based our power consumption on fuse capacity, which is probably 30% higher than actual load. For example, telecommunications providers typically recommend 30% higher fusing. If you want to compare that to a situation at home, your toaster

would likely take 11 amps, but the manufacturer would say place it on a 15 amp fuse. We assumed the 15 amp fuse, not 11 amps.

I believe this model is comprehensive, reasonable and an excellent tool to model costs. For that reason I'm here to testify in support of the planning and investment recommendations. Cost modeling investments will be responded to by Mr. Klick. Thanks very much.

MR. HATCH: Tender Mr. Klick and Mr. Bissell for cross.

COMMISSIONER DEASON: Mr. Self.

MR. SELF: I have no questions.

COMMISSIONER DEASON: Oh, it's your witness, Mr. Bond.

MS. KEATING: Commissioner Deason.

COMMISSIONER DEASON: Yes.

MS. KEATING: Before you move to cross, staff would ask that its exhibits for these witnesses be marked at this time.

COMMISSIONER DEASON: Very well.

MS. KEATING: The first exhibit that we have, staff exhibit JCK-4, and it is the deposition transcript and the deposition exhibits and late-filed deposition exhibits from Mr. Klick's and Mr. Bissell's January 16th deposition.

COMMISSIONER DEASON: That would be exhibit 36.

MS. KEATING: Staff's next exhibit is exhibit JCK Con., and it contains confidential portions from that deposition.

COMMISSIONER DEASON: Exhibit 37.

MS. KEATING: Thank you.

COMMISSIONER DEASON: BellSouth.

MS. WHITE: Thank you, Commissioner Deason.

CROSS EXAMINATION

BY MS. WHITE:

Q Good afternoon, Mr. Klick and Mr. Bissell.

A (Witness Klick) Good afternoon.

A (Witness Bissell) Afternoon.

Q My name is Nancy White, and I represent BellSouth Telecommunications, and I have some questions for you today about the model that you are sponsoring on behalf of MCI and AT&T.

Now is it true that what the MCI/AT&T cost model for physical collocation does is assume a brand new central office?

A (Witness Klick) The costs that it develops are based on a brand new central office. It's our view, very strong view that those costs are appropriate for establishing collocation prices in existing central offices.

Q Now would you agree that BellSouth has an obligation under the Telecommunications Act to provide physical collocation?

A It has an obligation, yes.

Q And are there any exemptions or exceptions to that obligation?

A I believe there are.

Q Would you agree that one of them includes whether there is space available?

A Yes.

Q Would you agree that the space available that they are talking about is the space available in an existing central office?

A Yes.

Q Okay. And by the way, either one of you who can answer these questions is fine. I'm not going to address them to necessarily one or the other.

Now your cost model does not design an optimal collocation layout using existing BellSouth central offices; is that correct?

A I think we had this question at the deposition, and both Mr. Bissell and I chimed in, but it does -- we believe that it is applicable to existing central offices, but it does not rely on the embedded plant in the existing central offices.

Q Well, you didn't look at any existing BellSouth central offices in Florida in order to design the central office in your model, did you?

A (Witness Bissell) No, and based on my planning experience, I don't think that that's necessary. I think that what we have to understand here is that the central offices are all similar. They all use the same types of equipment. They've all had modernization in the same way. They have all replaced switches, et cetera, et cetera. And in fact, I think what we are saying is that there are pockets of space, and I believe that BellSouth testimony attests to the fact that there are, in fact, pockets of space; and this layout would fit into those smaller pockets of space without creating the need for an extremely large collocation area.

Q Well, once again, your cost model for physical collocation assumes that you are going to build a brand new central office; isn't that right?

A It assumes the cost of building a brand new central office, but Mr. Klick could probably address more the economic implications of that.

A (Witness Klick) Yeah, what we are saying basically is in a competitive environment, if collocation were being offered in a competitive environment, you could charge no more for --

MS. WHITE: Excuse me, Mr. Deason, I know we are trying to get through this, and I thought my question was a yes or no one about whether their model assumes that the cost of building a brand new central office; and I think that's been answered, so I'm not sure that an explanation is needed.

COMMISSIONER DEASON: Well, we generally allow the witnesses to explain their answer, but I would encourage them to be extremely brief in their explanations

A (Witness Klick) I just wanted to say that in a competitive environment you could charge no more for collocation than the cost of constructing it new, and that's what our model develops.

Q Now would you agree that when an incumbent LEC or any company decides to go out and build a brand new central office that they take into account factors other than collocation space in making that decision?

A I would assume so.

Q Have either one of you performed any analysis to determine whether the central office in your model would be more efficient than BellSouth's existing Florida central offices?

A (Witness Bissell) It's just common sense that a brand new building designed for today's technology would, in fact, be more efficient than a building that is designed

for previous technologies.

Q So is your answer really based on, in with the new, out with the old just because it's old?

A No, my answer was that if you -- if one builds a brand new switching center it's going to be a lot more efficient than a switching center that was built for technologies a long time ago.

A (Witness Klick) I believe Ms. Redmond agreed with that in her deposition.

Q Does the cost model include any costs associated with demolishing or renovating BellSouth's existing central office space?

A No, the cost model reflects the cost of constructing it new.

Q Does the model include any costs of moving existing office space from an existing BellSouth Florida central office?

A No, nor should it.

Q Does your model assume that 68 days -- that a time period of 68 days from the time that the ALEC requests physical collocation until the time it is implemented?

A (Witness Bissell) Our model assumes 68 business days.

Q 68 business days?

A That's right, 14 weeks roughly.

Q Okay. And does that 68 business days include the obtaining of a building permit if one is needed?

A If one is needed. Likely, if we were to use metal cages in many cases and if we were also to use the existing equipment spaces at 550 square feet, there likely in many cases would not be requiring -- we would not require a permit. We may need an electrical permit, but we likely would not need a building permitting. If --

Q But would you -- I'm sorry.

A If in case -- There would be some cases, naturally, where you would, in fact, have to move administration people out, et cetera, like what's going on down the hall here, and you would likely need a building permit for that. And yes, we assumed that in those cases the building permit would be done right at the front end, as soon as the drawings were done, simultaneous to doing the tendering.

Q So is the obtaining of a building permit included in the 68 days?

A If necessary, yes.

Q Okay. And do you have any direct knowledge of the permitting process in Florida, particularly in south Florida?

A No, I don't. I would assume it would be roughly between four to five weeks to get a building permit.

Q But you don't have any direct knowledge of the permitting process?

A No, I don't.

Q Does the cost model take into account the permitting requirements found in Florida, particularly south Florida?

A The cost model takes into account the obtaining of a building permit not specific to south Florida.

Q Does the cost model include the cost of purchasing the land for the new central office?

A (Witness Klick) Yes.

A (Witness Bissell) Yes, it does.

Q And does the model, does your model assume a $20 per square foot price for land?

A (Witness Klick) In the runs that we have made for Florida, it does. That is an adjustable input, but we have used a $20 per square foot figure.

Q Okay. Now is that figure derived without any reference to where the building will be located? And by that I mean whether it will be located in a rural area, a major metropolitan area or a suburban area.

A As the Florida run was made, yes. Obviously it can be adjusted if it needs to be.

Q In fact, does this land value come from the Hatfield model?

A I believe it's consistent with the Hatfield model, I'm not sure though; it may not be.

Q Okay. So don't know whether this figure is taken from the Hatfield model?

A I don't recall.

Q Okay. Does your model include the cost of installing security access card arrangements for buildings that don't have them?

A (Witness Bissell) The model includes the complete construction of a brand new building, which would include security access arrangements.

Q Does your model use Florida specific tax rates?

A (Witness Klick) The run -- again, the runs we made use a 5% default value for Florida, and those are adjustable as well.

Q And the default values that you talk of about the model, did they come from subject-matter experts?

A I guess in a way they did, but we have just used a 5% other tax number as an approximation.

Q Does the model use a Florida specific rate for electricity, for power?

A Again, we have used a default value of what, five cents an amp?

A (Witness Bissell) We have used five cents. The testimony includes the five cents as a method of showing

how we would develop the AC energy cost.

A (Witness Klick) Obviously -- Go ahead.

A (Witness Bissell) If that were six cents here --

A (Witness Klick) We'd plug in six cents.

A -- it wouldn't matter.

Q And the five --

A The intention was to show how we would develop it.

COMMISSIONER DEASON: Wait a second. We have got a panel here. We only have one court reporter, we don't have a panel of court reporters, so you all have to hesitate between your answers so she can keep track.

And Ms. White, you need not to interrupt during their answers. Only one person at a time.

MS. WHITE: I apologize, Commissioner Deason.

A (Witness Klick) As do I.

Q Would you like -- Now nobody wants to talk. Would you like to continue your answer?

A Go ahead.

A (Witness Bissell) What I was saying was that the example of the five cents was to depict how we would achieve the cost for AC energy. This cost could be five cents or six cents or seven cents, whatever the local rate would be.

Q But the model that you filed here used the

default rate of five cents, correct?

A (Witness Klick) The model run we have filed used the default. The model that we have filed provides for that to be adjustable by the user.

Q Now your model assumes that collocation space is requested in increments of a hundred square feet; is that correct?

A (Witness Bissell) Yes, it does.

Q Okay. And I'm looking at, I guess it's the last page of your handout, which is exhibit 35. Is a hundred feet -- a hundred square feet, excuse me, is that the smallest collocation space assumed by the model?

A Yes, it is.

Q Okay. And the model assumes that collocation cages will be built of wire mesh?

A Yes, it does.

Q Does the model assume that the economic life of this wire mesh cage is 40 years?

A (Witness Klick) I believe it's actually 50 years.

Q 50 years, okay. And the model assumes that the cost of this cage will be recovered via a recurring rate?

A Yes.

Q Now let me give you a hypothetical that might sound familiar, but if a company comes into BellSouth's -- a BellSouth central office and takes one hundred feet for

collocation, for physical collocation and leaves after one year, will BellSouth recover the cost of the cage?

A It depends on what happens after that one year, whether another collocator comes in to use the space or not, so it depends.

Q If another collocator comes in and stays for 49 years, then BellSouth will recover the cost?

A If the second collocator comes in and stays for 49 years, BellSouth will over recover cost because we have built into the model an allowance for a time when the cage would be empty; so if the cage is, in fact, occupied for the full 50 years, BellSouth would over recover by about 35 percent.

Q And is this an occupancy factor?

A Yes, ma'am.

Q And in the cost model, I believe you use 75%?

A That's correct.

Q And does that mean that the model assumes that three out of the four years it will be occupied?

A Not necessarily. The 75% reflects a time value of money calculation so occupancy early in the cage's life accounts for more than occupancy late in the cage's life. So it reflects an assumption that on a present value basis you will obtain payment in three quarters of the years; but in fact, as we discussed in the deposition, if the cage

were occupied for the first 14 or 15 years and then empty thereafter, BellSouth would break even.

Q And if the cage is not occupied for the first 14 years, will BellSouth break even?

A It depends on what happens in the following 35 years.

Q Well, if your assumption, if your 75% occupancy factor is wrong, who bears that financial risk?

A It depends. If the 75% occupancy factor is too low, then the collocators are paying too much. If the occupancy factor is too high, then the collocators are paying too little, and that's why I referred to in my presentation, in my summary, a process of trying to balance that risk.

Q All right. Now was the occupancy factor based on any forecast of demand by BellSouth of ALEC demand for physical collocation in Florida?

A No, it's a default value. It's an estimate. It reflects our thoughts about what's appropriate, I guess, based on a number of factors, including the fact that the collocation space is relatively small which should improve the likelihood of its being occupied over its life. But it was not based on any kind of demand forecast per se.

Q Now does not the model assume that all common space is built out with the first ALEC order? And by

common space, looking at the last page of exhibit 35, is that the space in these diagrams without the blue dots?

A (Witness Bissell) Yes, it is.

Q Okay. It was the easiest way I could think to describe it. And that's common space that everyone will use or all the collocators will use?

A Yes, it is.

Q Okay. Now the model assumes that the incumbent local exchange company and the alternate local exchange company will share cable racks; is that correct?

A Yes, it does.

Q And are you aware of whether the ALECs in Florida are willing to share cable racks?

A No, I'm not, but they wouldn't have a choice because in a central office, once you get close to the cross connects which has all the cabling from every piece of equipment in there, it would be physically impossible to have every ALEC have its own rack on the floor going, approaching the cross connects.

Q And it looks in this diagram, and I guess you can also see it on page 1 of exhibit 35, the rectangle called, labeled POT bays, P-O-T, POT bays. It's on the last page of exhibit 35 and the first page.

A Yes.

Q What is a POT bay?

A POT bay is a relay rack of equipment. If you look on the third picture, that would be a relay rack there; and what would happen was the POT bay would have the terminations of the CLEC as well as the terminations coming from the ILEC, BellSouth, and there would be a cross connection made. So it is the point of termination bay, and it's a demarcation between the CLEC and the ILEC.

Q And your model envisions that the ALECs will share this relay rack or POT bay?

A No, the model assumes that each ALEC would have its own POT bay.

Q Okay.

A But in the same common area.

Q I see. So in your model the POTS bay would be to serve all four of the collocators if there were four one-hundred square feet collocators?

A The POT bay lineup would be used to serve them all. But as you can see on the picture, on the figure on -- on the third page you can see that this POT bay is roughly two feet wide. Now in the lineup you can place ten of those in there. So they would all be placed one after another in there. Similar, exactly the same as equipment lined up in BellSouth territory.

Q Okay. Now do you recall testifying in Alabama, Mr. Bissell, regarding this same cost model?

A Yes.

Q And do you recall Mr. Twomey asking you whether MCI had rejected collocated space because the POTS bay was located where other collocators besides MCI could get to it?

A Vaguely.

Q Okay. And in your vague recollection, do you remember whether you said you knew nothing of the situation?

A I would have said that because I don't.

Q After your testimony in that case, did you follow up with your client to determine whether MCI had indeed rejected collocated space in Alabama because the POTS bay was exposed?

A No, I did not.

Q Now Mr. Klick, you filed testimony in Alabama and I believe Mr. Natalli substituted for you; is that correct?

A (Witness Klick) I recall that he did, yes.

Q And Mr. Natalli works for you or works with you?

A Yes.

Q Did you read the transcript and see the questions that were asked about the exposed POTS bay in Alabama?

A I actually tried to read the transcript, and the copy I had was every other page so I gave up.

Q So can I assume --

A The answer is, no, I have not read it.

Q I'm sorry. So can I assume that you did not make an inquiry of MCI after the Alabama hearing to determine whether MCI had, in fact, rejected collocated space where the POTS bay was exposed?

A I have not made any such inquiry.

Q Do either of you know a Mr. Ron Martinez or Martinez who is an executive staff member two of law and public policy group with MCI?

A (Witness Klick) No.

A (Witness Bissell) No, I don't.

Q Okay. Will you accept subject to check that Mr. Martinez is an executive staff member two of the law and public policy group of MCI?

A (Witness Klick) I guess so.

A (Witness Bissell) Sure.

Q Okay. Would it surprise you to learn that if other ALECs have access to the POTS bay in the common area that MCI uses that as a matter of policy MCI will not accept that space or that at least it would require a vice president's approval to do so?

A (Witness Bissell) I would be very surprised at that because I have seen POTS bays located in a common area. For example, Franklin Street in Boston, Massachusetts, the POTS bays are, in fact, located in a

common area, so I would be surprised. I don't know for a fact though.

MS. WHITE: Commissioner Deason, I'm going to hand out a copy of volume 12 of the transcript from the North Carolina 271 proceeding. It was Docket Number P-55, SUB1022, and ask that it be marked for identification.

COMMISSIONER DEASON: It will be identified as exhibit 38.

MS. WHITE: And I would ask that once the witnesses have it they turn to page 267 of that transcript. Well, let me do it this way.

BY MS. WHITE:

Q You might want to start -- you can look at page 6 of the transcript and see that Mr. Martinez's testimony begins on page 109. And if you would both look at page, the bottom of page 267, line 17 through 24, and page 268, lines 1 through 7; and I understand if you'd like to read some before and some after. Assuming that Mr. Martinez -- Have you both had a chance to look at it?

A (Witness Bissell) Yes.

Q Assuming that Mr. Martinez is being accurate and it would require a vice presidential level waiver in order to accept a collocation area with an exposed POTS bay, are you asking this Commission to accept a model and to approve

costs based on that model when your own client, MCI, won't take space configured that way?

A (Witness Klick) I don't read this the way you appear to be reading it, and I think --

Q All right. Well, let's look at pages --

A Let's --

Q I'm sorry.

A (Witness Bissell) I read it as if -- I read it as if he's saying that he would not want other ALECs to have -- to be able to work on the MCI POTS bay, to have access to the MCI POTS bay, not the fact that it were there.

Q All right. Well, let's try it this way. When you've got this --

A (Witness Klick) May I answer the question?

Q Oh, I'm sorry, go ahead.

A As I read this transcript on 263, Mr. Martinez says he has no personal knowledge of any such situation, so I'm not sure -- I thought your question had to do with him having testified about MCI's having rejected such space; and I read page 263 of this transcript as saying he wouldn't know about it.

Q I'm sorry, page what?

A 263 lines 16 through 20, or 16 through 22.

Q Well, let's go back to page 267. Why don't

you --

A Well, I'm trying to read it in context, and the context starts out with him being asked if he knew anything about this, if he had any personal knowledge, and he says no. Now I understand you to be asking us what -- to confirm that Mr. Martinez said something that I read in this thing he has no personal knowledge about.

Q I'm not asking you to confirm that Mr. Martinez said that. Why don't you read, please read page 267, lines 17 through 19? That's the question. Could you please read that aloud?

A Which lines please?

Q Lines 17 through 19 on page 267.

A I can read those lines. "If other LECs have access to the POTS bay that MCI uses, as a matter of policy, MCI would not accept this space for collocation?" That's a question.

Q And would you please read the answer?

A The answer is, "As a matter of policy, that would -- it would require a vice president's approval to do otherwise. Remember that the POTS bay termination is exposed termination where improper solder falling on the tips and rings could not only dis -- disable a customer, but because of the nature of the equipment, multiple customers could be affected; and it would be a very

difficult isolation problem to be able to discern that that's, in fact, what had happened. It would waste a lot of time and have a lot of customers out of service waiting for that."

And I think that goes to what Mr. Bissell was talking about.

Q Well, in your hypothetical, say you have four collocators and you've got -- I mean, I'm sorry, in your model you've got four collocators and you've got four POTS bays lined up in the common area.

A Lined up side by side.

Q That's what you said that your model shows, right?

A I said solder --

A (Witness Bissell) Yes.

A (Witness Klick) -- solder wouldn't be falling down from one --

A (Witness Bissell) Yes.

A (Witness Klick) -- onto somebody else's, would it, if they are side by side?

Q All right. Now are those POTS bays -- Let's say that you've got an MCI POTS bay, an AT&T POTS bay, and an MFS WorldCom POTS bay?

A Side by side?

A (Witness Bissell) Yes.

Q Side by side.

A (Witness Klick) Okay.

Q Now in the common space, is there anything that would protect that POT bay -- strike that. Let me start over again.

Is there anything that covers that POT bay as a protection? Is the POT bay covered with wire mesh?

A (Witness Bissell) Our model assumes that the CLEC purchases the POT bay; so, yes, it could be, if need be. For example, there are POT bays that have doors on them, and if that were the case, then they would purchase a POT bay with the doors on it. Similarly, if you go through BellSouth offices, you'll see some of the transmission -- some of the transmission equipment does, in fact, have doors on it, and if they were worried about that, they could have doors on it with little locks as well.

Q Do you know whether MCI's POT bays have doors on them?

A No, I don't.

Q If MCI has POT bays without doors in this lineup of MCI POTS bay, AT&T POTS bay, and MFS WorldCom POTS bay, if a renegade MFS WorldCom employee wanted to do something to MCI's POTS bay, would there be anything to stop it if it didn't have any doors on it?

A Well, if it were wire mesh, someone would probably see them; but other than that, probably not.

Q Now I'm confused. I thought we were talking about a POTS bay that didn't have any doors on it.

A Pardon me?

Q You said you didn't know whether MCI has POTS bays with doors or without doors.

A Well, you can buy a POTS bay with doors or without doors.

Q I understand.

A So if they were concerned about it, they would likely buy -- whoever was concerned about it, would likely buy one with doors.

Q But you think that this statement by Mr. Martinez is that they don't want -- Repeat for me again please what you think this statement by Mr. Martinez means.

A I interpret this as him saying that they wouldn't want anyone having access to their POT bay, i.e., sharing the POT bay, working on the same POT bay; and that's not what we are saying. We are saying each one has its own POT bay.

Q Now in your model, does the cost model assume that -- does your cost model configuration of the collocation space leave room for collocators to expand their collocation space in a contiguous manner?

A No, our model assumes that the CLEC would be -- it would behoove the CLEC to provide sufficient space for

itself in much the same way that BellSouth has to. It would have to forecast the amount of space it required, and if it did not forecast correctly, it would have to purchase another one hundred square feet.

Q And even if that additional hundred square feet was on another floor?

A If, if --

Q Or on the opposite side of the building?

A If that were the case, yes.

Q Okay. Are you familiar with the FCC's rules on collocation?

A Not, not --

A (Witness Klick) Generally.

A (Witness Bissell) Generally, but not intimately, no.

MS. WHITE: Commissioner Deason, I'm handing out the FCC rules, Section 51.323, standards for physical collocation and virtual collocation, and I'd ask that this be marked for identification.

COMMISSIONER DEASON: Exhibit 39.

BY MS. WHITE:

Q Would you take a look at (f)(2) of those rules, 51.323(f)(2)?

(Witnesses reviewed document)

Q Do those rules state that to the extent possible

an incumbent LEC shall make contiguous space available to requesting telecommunication carriers that seek to expand their existing collocation space?

A (Witness Bissell) Yes, that's what it says. It doesn't say at all cost though.

Q I understand, but it does say that to the extent possible?

A And so does this model, to the extent possible. If there were only one collocator in this model, there would be three left, or if you had a -- if BellSouth had a forecast for more than four hundred square feet, they would construct two models adjacent to each other, but it would be costed on a hundred square feet; that's all we are saying.

MS. WHITE: I have nothing further. Thank you.

COMMISSIONER DEASON: Staff.

(Transcript continues in sequence in Volume VIII)

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