BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition by AT&T Communications of the Southern States, Inc., MCI Telecommunications Corporation, MCI Metro Access Transmission Services, Inc., American Communications Services, Inc. and American Communications Services of Jacksonville, 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 DOCKET NO. 960846-TP DOCKET NO. 960916-TP

SECOND DAY -- AFTERNOON SESSION

VOLUME 7

Pages 967 through 1124

PROCEEDINGS:	Hearing
BEFORE:	CHAIRMAN SUSAN F. CLARK COMMISSIONER J. TERRY DEASON COMMISSIONER JULIA L. JOHNSON COMMISSIONER DIANE K. KIESLING COMMISSIONER JOE GARCIA
DATE:	Thursday, October 10, 1996
PLACE:	Betty Easley Conference Center Room 148 4075 Esplanade Way Tallahassee, Florida
REPORTED BY:	CATHY H. WEBSTER C & N Reporters
APPEARANCES:	(As heretofore noted.)

WITNESSES - VOLUME 7

EXHIBITS - VOLUME 7

NUMBER		ID.	ADMTD.
26	(Caplan) deposition DC-1	979	980
27	(Martinez) RM-1, MCImetro/ILEC Interconnection Agreement	1020	1040
28	(Martinez) deposition, RM-2	1039	1040
29	(Martinez) Late-Filed deposition exhibit	1040	1040
30	(Wood) Composite; DJW-1, 2 and 3	1043	
31	(Wood) DJW-4	1043	
32	(Wood) Hypothetical CBG No. 120379701004	1099	
33	(Wood) Hypothetical CBG No. 120379701004 Hatfield Projection	1101	
34	(Wood) Hypothetical CBG No. 120379701004 squares w/houses	1102	
35	(Wood) Hypothetical CBG No. 120379701004 w/mileage	1106	
36	(Wood) Block Group 120110703.012	1107	
37	(Wood) Staff DJW-5 and 6 deposition w/exhibits	1111	

PROCEEDINGS

(Hearing reconvened at 12:45 p.m.)

(Transcript follows in sequence from Volume 6.)

CHAIRMAN CLARK: Call the hearing back to order. Staff.

DREW CAPLAN

resumed the stand, having been previously sworn, testified as follows:

CROSS EXAMINATION

BY MS. CANZANO:

Q Good afternoon, Mr. Caplan.

A Good afternoon.

Q Mr. Caplan, we're going to ask you some questions, even though you have stated in your summary that MCI may have reached agreement on certain elements, we still want to ask some questions. So I just wanted to let you know what we're doing.

In broad terms, given that you may have an agreement in principle, could you please explain MCI's request for a sub-loop unbundling?

A Yes. And, first of all, I want to just reinforce that when I say agreement in principle, that there really is no document that is an agreement. It just means that we've talked and seem to understand each other. And sub-loop wasn't one of those that I would put in that category at all.

What we want is something that is fairly straightforward. In fact, it's a fairly limited initial request. We recognize that not all loops are the same out there in the field, so to speak. They're cases where there is no discrete feeder and distribution component. That's called a home run. Basically, often in an urban area, you can think of a building that's connected directly to its end office without discrete feeder and distribution.

There are other cases where there's old feeder distribution technology that might have been spliced together, encased and put underground and the like. So in either of those situations we're not requesting distribution.

What we're specifically requesting is that we can pick up the distribution component of the loop when there is a feeder distribution interface. It's often called a serving area interface, an SAI. Depending upon what region you're in, there's different lingo attached to this.

Basically it's the famous green box you may have heard about and you may have one in your neighborhood. That has been done. I have a picture of -- Hopefully I'm going to hold this up well enough and you can see it. This happens to be a green box, serving area interface, that is roughly on the border between US West and Northwest Iowa Telephone in Iowa. Those two companies have been meeting in this box and providing distribution to each other's feeder since 1978 in order to --

in that case because they're not competitive, they serve adjacent territories -- in that case they use this to provide foreign exchange service into each other's territories, but technically that's the same thing as a competitor doing it in an overlapping territory. In fact, in this case, their business practice is something well beyond what we're asking for because both companies' technicians are in this box maintaining and installing, where we're asking that BellSouth be responsible, continue to be responsible for install and maintenance on our behalf.

Q With respect to sub-loop unbundling, will BellSouth have to modify its multiplexing digital cross connect in order to hand off traffic to MCI?

A No.

Q Could you explain how the hand off of traffic can occur without any modifications?

A Yeah. The best way to describe it is maybe to use AT&T's chart. Can you hear me okay without using the microphone? Is that okay?

COMMISSIONER KIESLING: No, you have to use the mike because she has to hear it through her earphones.

A Okay. Sorry. We would -- Pictured behind me, if one starts on the, if one starts on the left where the home or the customer's --

COMMISSIONER KIESLING: We also have a cordless mike

right here; you just have to have something.

A I don't want to make this too hard. I just think maybe I can explain it more clearly if I can use the chart.

We have all sorts of technology. Okay. I'll do this half-turned away from you. Starting on the left in the diagram, you see the customer's location. And then in this case draped aerially is the distribution portion of the loop.

The orange box that is to the right of the telephone pole is the serving area interface or the feeder distribution interface, synonymous terms in this case.

MCI -- And then if one notices the line to the right of that box has become purple now. That's the feeder component. So, today BellSouth brings feeder into that box and meets distribution in that box. We would interface by bringing our own feeder to that box meeting existing distribution in that box.

So, because we'd be coming out with our own feeder back to our network into that box, all the network to the right of that box is no longer part of that loop. So there's no affect there, no modification. It's just that loop no longer is resident on any of that network to the right.

BY MS. CANZANO (Continuing):

Q Would the same reasoning apply to integrated digital loop carrier?

A The IDLC issue is really a different one. That's not

affected. The IDLC takes, happens, the integrated digital loop carrier is picked up here in this gray box labeled "concentrator multiplexer." Because we're essentially removing the service before it gets to that point, that's part of the network on the right that's no longer part of this loop. In fact, this is one of the methods that we could use to be able to successfully swing that customer to us even when they're today on BellSouth's integrated digital loop carrier.

Q Mr. Caplan, could you explain your proposal with regards to next generation digital loop carrier?

A When -- If I can understand your question correctly, because I don't know that we make a specific proposal in my testimony, but I can certainly -- I have some thoughts on that.

Q Or what would you -- Okay. Why don't you just explain your thoughts. This came about as a result of the TELRIC study filed by Ms. Caldwell and she referred to the next generation digital loop carrier and that's the reference we're making.

A Okay. I'll do the best I can or tell you my thoughts on that. In this gray box, imagine this whole loop today, the whole service today is on BellSouth. So let's use that as a starting point. BellSouth may -- And I don't know that they've deployed any of this yet or very much of this. We certainly have. It's a standard feature of our network.

In this gray box called "concentrator multiplexer" might reside what's called a "next generation digital loop

carrier." What that allows is a tremendous amount of flexibility and efficiency in the network. The reason we deploy it is the same reason I imagine they might at some point in the future deploy it. It allows BellSouth to concentrate all the loops that are coming to that device so that far fewer channels have to be pulled back to the switch. So, for instance, for perhaps 100 customers would result in only having to carry one DS-1 or 24 channels back through the network. Why is that? Because that concentration happens in the next generation digital loop carrier.

The bottom line is as it pertains to unbundling the network, we'd have a couple of options there. One is if we were picking up just the sub-loop, then we're removing that circuit off of their next generation digital loop carrier, like I mentioned, and that is not an issue any more. But if alternatively we weren't in a position to pick up that particular customer's loop at the distribution component or desired to purchase the whole loop, BellSouth would have to move that circuit, in essence, off of its existing channel because back at the switch -- Where's the switch? There's the switch. -- back at the switch that individual loop no longer has an individual voice grade appearance. Think of it as the loop and all the others that it's packaged with go directly into the switch. So that has been cited as a problem by perhaps BellSouth and some others saying, well, you can't

unbundle that loop because it goes right into the switch. There's no loop appearance any more at our switch.

And the answer to that is with next generation digital loop carrier there are many options. They can, for instance, avail to us a separate DS-1 from their next generation digital loop carrier that we could provision to our switch and simply then when we wanted to unbundle that loop, we could swing that customer, still within their concentrator, over to a DS-1 that pointed to our switch.

I hope that was clarifying. It's a little technical, I know.

Q That's fine. Thank you. Has MCI reached an agreement with BellSouth on collocation rates and charges?

A I'm not a rates and charges person, but it's my understanding that we have not.

Q Has BellSouth provided a TELRIC based cost study for collocation to your knowledge?

A I wouldn't know.

Q On what previous experience or other basis have you determined that the appropriate time frame to establish collocation is three months for physical collocation and two months for virtual collocation?

A Really it's based on two things. It's based on practical experience, having been in this business for 25 years. It's also based on the fact that we offer collocation

to our customers in MCI sites. And sometimes in a competitive environment our intervals are about a week. Three months, in fact, is I think very generous. Really what BellSouth has to do to offer physical collocation is to build a cage. There's some work that they have to do to provide power to it as well, but if you were, for instance, to have this work done in your home, in your basement by an independent contractor because you wanted to fence off a little portion of your basement, in my opinion it shouldn't take more than a week.

Q When you say that MCI provides collocation, is that virtual or physical or both?

A It's different, but the best answer is it's akin to physical. I want to qualify that. MCI doesn't cage off a separate space for the customer, but we do dedicate them a space. The concept of needing it caged off and the like, it's a little different because that's a competitive vendor/customer relationship, not a competitor/competitor relationship.

Q Has BellSouth proposed a time frame to MCI for establishing collocation?

A I'm not aware of one. I imagine their existing tariffs have a time frame for virtual but I don't know it offhand.

Q Is MCI virtually collocated with BellSouth Florida?

A Yes, we have a collocate in Miami; so we have at least that one.

Q In your opinion which company should bear the costs for MCI's conversion from virtual collocation to physical collocation?

A I know as a businessman what my answer would be, but I think that's really left to the costing witnesses that MCI is bringing to this proceeding.

Q And could you -- Okay. Thank you. Mr. Caplan, have you had a chance to review a document that Staff has put together as DC-1, consisting of your deposition transcript?

A I have received that document. Because I've been virtually on the road for the last three weeks, I haven't yet reviewed it thoroughly enough to have completed the errata sheet.

MS. CANZANO: Perhaps what we could do is Staff would like to mark this for identification and before the end of the proceeding, you know, indicate for the record any changes you have to this.

MS. McMILLIN: That will be fine.

MS. CANZANO: Thank you.

CHAIRMAN CLARK: We'll mark DC-1 as Exhibit 26, with the understanding that an errata sheet, if any, will be provided. How long do you need?

MS. McMILLIN: I'm sorry, I didn't hear what you said, Madam Chairman.

CHAIRMAN CLARK: How long would it take you to review

this and provide the errata sheet?

MS. McMILLIN: By the end of tomorrow.

CHAIRMAN CLARK: Great. So, we'll include in item 26 the errata sheet.

(Exhibit No. 26 marked for identification.)

BY MS CANZANO (Continuing):

Q And subject to check with the errata sheet, after you review that, I'll assume you'll let us know if this isn't true or correct to the best of your knowledge; correct?

A Yes. We'll work out the logistics for doing that, but, yes.

MS. CANZANO: With that, Staff has no further questions.

CHAIRMAN CLARK: Commissioners?

Redirect.

MS. McMILLIN: Just one, Madam Chairman.

REDIRECT EXAMINATION

BY MS. McMILLIN:

Q Mr. Caplan, you were asked some questions on cross by Staff that pertain to sub-loop unbundling, which brings me to a question of why does MCI want unbundled distribution?

A MCI has invested quite speculatively and quite heavily in building fiber rings. These rings nationally pass tens of thousands of buildings. By pass, I mean literally pass by the front door. In Florida I'd estimate our rings pass by at least

a thousand buildings; that's an estimate. Despite passing by so many buildings, we're really only able to get into very few of them because our ability to provide the facility based service end to end to the customers in those buildings becomes a building-by-building negotiation exercise with the landlords. And that's MCI's problem; that's not, you know, for the Commission to worry about our woes in negotiating with landlords, but, nonetheless, left to that it's a real inhibitor to effective competition taking root.

Now, if we've already built these high capacity fiber facilities and they're passing by distribution points, it makes great sense from a network perspective and from an efficiency and economic perspective for us to be able to get into the green box and pick up the distribution that's served by that serving area interface. It's a good efficient design and it's clearly feasible.

MS. McMILLIN: I have no further questions. May Mr. Caplan be excused?

CHAIRMAN CLARK: Staff, would you like to move that Exhibit?

MS. CANZANO: Yes, Staff moves 26.

CHAIRMAN CLARK: All right. Exhibit 26 will be entered in the record without objection.

(Exhibit No. 26 received into evidence.)

CHAIRMAN CLARK: And you are excused, Mr. Caplan.

Thank you.

WITNESS CAPLAN: Thank you.

MS. McMILLIN: MCI calls Ron Martinez as our next witness.

RONALD MARTINEZ

having been duly sworn, testified as follows:

DIRECT EXAMINATION

BY MS. McMILLIN:

Q Please state your name and business address.

A My name is Ronald Martinez and I work at 780 Johnson Ferry Road in Atlanta, Georgia.

Q By whom are you employed and in what capacity?

A MCI Telecommunications in the role of carrier relations for MCI.

Q Mr. Martinez, are you adopting the Direct Testimony of Terry Farmer, which was filed in this docket on August 22nd, 1996, and consists of 17 pages?

A Yes, I am.

Q And on September 4th, 1996 did you cause to be filed a replacement for page 1 of Ms. Farmer's testimony, which substitutes information about your background and experience for that of Ms. Farmer?

A Yes, I did.

Q With that substitute page 1, do you have any changes or corrections to make to that testimony?

A No, I do not.

Q Have you prefiled Rebuttal Testimony in this docket dated September 16th, 1996, and consisting of 14 pages?

A Yes, I did.

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

A No, I do not.

Q With the substitute page 1 to the Direct Testimony, if I were to ask you the same questions today, would your answers be the same?

A Yes, they would.

Q And if I were to ask you today the same questions in your rebuttal testimony, would your answers be the same?

A Yes, they would.

MS. McMILLIN: At this time I would ask that the Direct and Rebuttal Testimony be inserted in the record as though read.

CHAIRMAN CLARK: The Direct and Rebuttal Testimony will be inserted in the record as though read.

BY MS. McMILLIN (Continuing):

Q Was there one exhibit attached to your rebuttal testimony identified as Exhibit RM-1?

A Yes, there was.

Q Do you have any changes or corrections to that exhibit?

A No, I do not.

Q Is the information contained in that exhibit true and correct to the best of your knowledge and belief?

A Yes, it is.

DIRECT TESTIMONY OF RONALD MARTINEZ

ON BEHALF OF MCI

DOCKET NO. 960846-TP

(SUBSTITUTE FOR AUGUST 22, 1996, TESTIMONY OF TERRY FARMER)

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Ronald Martinez and my business address is 780 Johnson Ferry Road, Atlanta, Georgia 30342.

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

A. I am employed by MCI Telecommunications Corporation as an Executive Staff Member - Carrier Relations.

Q. PLEASE GIVE A BRIEF DESCRIPTION OF YOUR BACKGROUND AND EXPERIENCE.

A. I have been employed by MCI since 1988. I currently have responsiblity for managing business relationships between MCI and numerous local exchange companies, including BellSouth, GTE, and approximately 500 independent companies in twenty-one states. I have experience in network enginering, administration and planning; facilities engineering, management and planning; network sales; and technical sales support. Prior to joining MCI, I was the Director of Labs for Contel Executone for several years. Before that, I worked for 16 years in the Bell system in numerous engineering, sales, and sales support functions. I have a Master of Science degree in Operations Research, and a Bachelor of Science degree in Electrical Engineering from the University of New Haven.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to identify the operations support systems that

MCI and other new entrants will require be implemented to eliminate, to the greatest extent possible, barriers to competition. As explained further herein, access to key databases and operations support systems is essential for MCI to be able to offer local exchange telecommunications and exchange access service competitively. Nondiscriminatory access to ILEC databases and systems is necessary to ensure that the ILECs do not gain an unfair market advantage through their control of their networks and these essential databases and systems. In this testimony, I will explain the systems, databases, and processes to which MCI requires access to provide services equal in quality to the ILECs.

Q. PLEASE EXPLAIN THE IMPLICATIONS OF THE RECENT FCC ORDER AND RULES ON THIS ISSUE.

A. The FCC has come to the same conclusion as MCI. In its discussion of Operations Support Systems in the August 8, 1996 Order implementing the local competition provisions of the Telecommunications Act of 1996, the FCC found:

> that it is absolutely necessary for competitive carriers to have access to operations support systems functions in order to successfully enter the local service market. (Paragraph 521)

Moreover, the FCC concluded that:

> operations support systems and the information they contain fall squarely within the definition of "network element" and must be unbundled upon request under

section 252(c)(3). (Paragraph 516)

Q. WHY IS NONDISCRIMINATORY ACCESS TO THE ILEC'S UNBUNDLED OPERATIONS SUPPORT SYSTEMS NECESSARY?

A. In competitive markets, providers compete on such factors as customer service and quality of service in addition to service features and price. Customer service and quality of service include such factors as the time to install service, the time to repair service when trouble is reported, and the accuracy of the bill rendered, in addition to overall responsiveness to customer inquiries. To the extent that ILEC competitors such as MCI must rely on the underlying network of the ILEC to provide local and exchange access service -- either through resale of services (including ancillary services) or through leasing of unbundled network elements (including those needed to provide ancillary services) -- competitors' ability to control customer service or quality of service they offer is limited. To that same extent, an ILEC has incentives to provide a lower quality of service to competitors because consumers will blame the CLEC, rather than the ILEC for any problems. Consequently, access to the ILEC's operations support systems is critical to competitors' ability to provide quality service and meet customers' service delivery expectations.

Q. HOW IS THIS ISSUE ADDRESSED BY THE FCC IN ITS RECENT ORDER?

A. The FCC explicitly recognized this at paragraph 525 in its Order:

in order to comply fully with section 251(c)(3), an

> incumbent LEC must provide, upon request, nondiscriminatory access to operations supports systems functions for pre-ordering, ordering, provisioning, maintenance and repair, and billing of unbundled network elements under section 251(c)(3) and resold services under section 251(c)(4). Incumbent LECs that currently do not comply with this requirement of section 251(c)(3) must do so as expeditiously as possible, but in any event no later than January 1, 1997.

The FCC Order also identifies, at paragraph 518, the sort of operations support systems databases to which access is necessary:

> Without access to review, *inter alia*, available telephone numbers, service interval information, and maintenance histories, competing carriers would operate at a significant disadvantage with respect to the incumbent. Other information, such as the facilities and services assigned to a particular customer, is necessary to a competing carrier's ability to provision and offer competing services to incumbent LEC customers. Finally, ... access to the information such [operations support] systems contain, is vital to creating opportunities for meaningful competition.

Q. WHAT SHOULD BE THE COMMISSION'S MAIN CONSIDERATION IN ITS RESOLVING OPERATIONS SUPPORT SYSTEM FUNCTION AND

DATABASE ISSUES?

A. In considering the appropriate nature and extent of access to these systems and databases, the overarching principle that the Commission or any inter-carrier contract should strive to achieve is "service parity." In several places in its Order, the FCC explicitly recognized the need for parity. For example, in its discussion of resale services, at paragraph 970, the Commission stated:

> We conclude that service made available for resale be at least equal in quality to that provided by the incumbent LEC to itself or to any subsidiary, affiliate, or any other party to which the carrier directly provides the service, such as end users. Practices to the contrary violate the 1996 Act's prohibition of discriminatory restrictions, limitations or prohibitions on resale. This requirement includes differences imperceptible to end users because such differences may still provide incumbent LECs with advantages in the marketplace. Additionally, we conclude that the incumbent LEC services are to be provisioned for resale with the same timeliness as they are provisioned to the ILEC's subsidiaries, affiliates, or any other party to which the carrier directly provides the service, such as end users.

Similar language appears in other sections of the Order -- based on language in the Act. For example, in the discussion of interconnection at paragraph 224, the Commission stated:

> We conclude that the equal in quality standard of section

> 251(c)(2)(C) requires an incumbent LEC to provide interconnection between its network and that of a requesting carrier at a level of quality that is at least indistinguishable from that which the incumbent provides itself, a subsidiary, an affiliate, or any other party. We agree with MFS that this duty requires incumbent LECs to design interconnection facilities to meet the same technical criteria and service standards, such as probability of blocking in peak hours and transmission standards, that are used within their own networks...[W]e further conclude that the equal in quality obligation imposed by section 251(c)(2) is not limited to the quality perceived by end users. The statutory language contains no such limitation, and creating such a limitation may allow incumbent LECs to discriminate against competitors in a manner imperceptible to end users, but which still provides incumbent LECs with advantages in the marketplace...

Q. WHAT SHOULD THE COMMISSION DO TO FOSTER SERVICE PARITY?

A. Toward this goal, the Commission must specifically reject any ILEC assertions that the only standards of quality to which they should be held are those standards currently in place via Commission quality rules or state statutes. It must be understood that those standards, some of which may be outdated,

were developed to enforce minimum requirements for retail services. The services in question here are either network elements or services provided on a wholesale basis to competitors for their provision of competing retail services. It is for this purpose that the FCC's standard of "parity" is critical. Allowing an ILEC to provide to MCI services at lower levels of quality than the levels it provides to itself (including operational coordination), even if meeting current Commission standards for retail services, will either reduce the quality of MCI's service or force MCI to incur unnecessary costs in order to provide a competitive product, thus hindering competition.

Parity -- in the FCC context of being at least of equal quality -- can only be measured in terms of detailed technical standards, interfaces, and performance measures (such as installation intervals and maintenance and repair times) that are better addressed in mediated negotiations or industry fora than in contested hearings. At the same time, full implementation of these standards, interfaces, and measures must be achieved in order to ensure that the ILEC has met its unbundling and resale requirements under Section 251(c)(3) and 251(c)(4) of the Act and -- where the ILEC is an RBOC-- before the Section 271 checklist can be met to allow the RBOC to provide long distance service in-region. This need not create a problem of timing, however, since as the FCC concluded in its Order, access to ILEC operations support systems and databases is technically feasible today (Paragraph 520), and in fact the FCC has ordered the ILECs to comply with its access requirements by January 1, 1997. While issues involving these detailed standards, interfaces, and measures were asked by MCI to be addressed in a process that runs concurrent with, but separate from, a contested arbitration

hearing, these, standards, interfaces, and measures, to the extent they are unresolved, must be resolved as a part of this arbitration process.

Q. SHOULD THE COMMISSION ENCOURAGE STANDARDIZED INTERFACES TO ILEC DATABASES AND SUPPORT SYSTEMS?

A. ILECs that provide unique interfaces to their databases and operations support systems do not meet the requirement to provide access of equal quality to operations support systems. If each ILEC is allowed to develop its own unique gateway to these systems, as NYNEX is attempting to do today, the burden for new entrants like MCI will be unnecessarily increased by the requirement to develop separate interfaces and systems for each ILEC. The FCC stated, at paragraph 527:

> Ideally, each incumbent LEC would provide access to support systems through a nationally standardized gateway. Such national standards would eliminate the need for new entrants to develop multiple interface systems, one for each incumbent.

The FCC is confident that this will happen, citing (at paragraph 514) an *ex parte* letter filed in the proceeding in which Bell Atlantic and AT&T state that they expect that, given appropriate guidance from the Commission, the industry can achieve consensus on sufficient data elements and formatting conventions to facilitate that 95% of all inter-telecommunications company transactions may be processed via electronic gateways within twelve months. We are less confident that this will happen unless the states and the FCC implement rules that require the industry to do so rather than allowing

individual ILECs to develop their own proprietary gateways.

Q. DESCRIBE THE VARIOUS FUNCTIONS FOR WHICH ACCESS TO OPERATIONS SYSTEMS ARE NECESSARY.

A. The FCC Order identified a number of functions that are performed by ILEC operations support systems. These include: 1) pre-ordering and ordering processes, 2) provisioning and installation, 3) maintenance and trouble resolution, and 4) billing. Competitors must have access to ILEC systems that provide these functions on an equal basis. I discuss what that means below.

Q. PLEASE DESCRIBE THE PRE-ORDERING AND ORDERING PROCESSES.

A. Pre-ordering and ordering processes involve the exchange of information between LECs about current or proposed customer products and services, or unbundled network elements, or some combination. Intercompany procedures must be developed to support the ordering of unbundled network elements (such as loops and subloop elements, transport, and switching), interconnection facilities (trunks, etc.), resold wholesale services, and ancillary services such as interim number portability mechanisms (e.g., remote call forwarding and direct inward dialing), and customer listing databases that support the white pages directory and directory assistance databases. For example, when MCI uses resale or unbundled elements to provide service to our end users, it is necessary for us to submit orders for such services to the ILEC. If MCI is forced to utilize ordering procedures and interfaces that are inferior to that which the ILEC provides to itself, then we will not be able to provide to our

customers an offering equivalent to that provided by the ILEC.

The ordering interface used by the ILEC is direct electronic access to systems that permit the simultaneous establishment of the customer account and of the service installation. For example, when a customer calls an ILEC customer representative, that customer's account can be established immediately, a telephone number given, and an installation date determined. If the ILEC does not provide direct electronic access to such systems, MCI will not be able to provide potential customers with their new telephone numbers (in the case of resale) in "real time" (during the phone call) the way the ILEC can, or to inform customers of the service installation date (in the case of either resale or unbundled elements) in real time fashion, the way the ILEC can.

The importance of access to ILEC operations support systems using electronic interfaces is demonstrated by the case of Rochester Telephone, in which AT&T was not given electronic interfaces with Rochester's ordering systems. Rather, AT&T had to rely on paper faxes to submit orders. Not only did this paper process result in the types of delays and lack of service parity noted above, it was also enormously inefficient and could not handle orders in any significant quantity. In the absence of electronic interfaces for order processing, the ILEC will not be providing "service parity" to MCI.

Thus, the directive to provide equal quality service requires that ILEC provide to MCI electronic, real-time interfaces with the ILEC ordering systems for the ordering of trunks, unbundled elements, resale and other ILEC services to ensure MCI's orders are processed with the same efficiency that the ILEC provides to itself or its affiliates. These electronic interfaces should conform,

to the extent practical, to current or expected industry standards. To the extent the ILEC develops a proprietary and different electronic interface system, MCI will be forced to expend additional resources to use the interfaces.

In addition, a mechanism is needed to enable MCI to transfer customers from ILECs quickly and easily. This "transfer-as-is" mechanism would allow MCI to present a wholesale order form to an ILEC instructing the ILEC to transfer a customer to MCI and include all existing services and functionalities to which the customer subscribes. Without a mechanism that allows for quick and accurate transfers for existing customers, efficient shifting between local carriers will be deterred. The FCC recognized the need for such transfers in paragraph 421:

> We agree with CompTel and LDDS that new entrants will be disadvantaged if customer switchover is not rapid and transparent. We also note that the Michigan Commission has recognized the significance of customer switchover intervals and has directed Ameritech and GTE to file proposals on how they will "ensure the equal availability of expeditious processing of local, interLATA, and intraLATA carrier changes." [footnote omitted] Therefore, we require incumbent LECs to switch over customers for local service in the same interval as LECs currently switch end users between interexchange carriers

Q. PLEASE DESCRIBE THE PROVISIONING AND INSTALLATION FUNCTIONS.

A. Provisioning involves the exchange of information between LECs in which one executes a request for a set of products and services or unbundled network elements (or a combination) from another with attendant acknowledgements and status reports. Service parity requires that when MCI initiates an order for an unbundled network element, interconnection trunk, resold wholesale service, or other ILEC equipment, facility, or service, our order is processed through the same provisioning and installation systems as orders initiated by the ILEC. Just as ILEC service representatives have real time access to the ILEC provisioning system to track the status of installation, an important customer service, MCI requires real time access to those provisioning systems in order to track installation status.

The ILECs have (or should have) target installation intervals for most, if not all, services. To ensure these same intervals are available to all providers of local service, the Commission should require the ILEC to report regularly the installation intervals for CLECs and itself on each type of installation. Absent such monitoring and reporting, the ILEC could take advantage of the opportunity to provide shorter service installation intervals for its own customers than for CLECs or their customers. Such potential discriminatory treatment can be minimized, if not prevented, by establishing monitoring and reporting requirements.

Q. PLEASE DISCUSS THE MAINTENANCE AND TROUBLE RESOLUTION FUNCTIONS.

A. Maintenance and repair involves the exchange of information between LECs in which one initiates a request for repair of existing products and services or unbundled network elements (or combination) from the other with attendant acknowledgements and status reports. As with ordering and provisioning, customers will judge the quality of MCI's service by its response time when trouble is reported. Because many of these troubles will not be problems *within* MCI's control, but rather within the control of the ILEC, it is critical that MCI have access to the ILEC's trouble reporting, tracking and resolution systems and that the ILEC meets the same standards for MCI as for its customers.

MCI is requesting a single point of contact with the ILEC with 24 hour a day, 7 day a week (7/24) coverage. In addition, MCI requires a trouble management and escalation process with repair intervals equivalent to that which the ILEC provides for itself. Failure to have these procedures will inhibit MCI's ability to resolve trouble reports, restore service in a timely manner and maintain the image of a quality provider in customers' eyes. As with other operations support systems functions, MCI requires real time access to the ILEC's Trouble Reporting system so that MCI's customer service personnel can provide real time trouble tracking for our customers. In addition, the Commission should establish a reporting requirement to ensure that the ILEC is resolving MCI's and other competitors' maintenance and repair problems within the same time intervals as it resolves its own trouble reports. Failure to have such a reporting requirement provides the opportunity for unequal and discriminatory treatment.

Q. PLEASE DESCRIBE THE ISSUES REGARDING THE BILLING FUNCTIONS.

A. Billing issues can be divided into two categories: billing between ILECs and CLECs, and billing of end user customers. For ILEC/CLEC billing, a CABS or CABS-like billing system should be used for charges related to interconnection, unbundled elements, and resale. While CABS may require modifications to be able to bill these elements, it is a system that is familiar to both ILECs and CLECs and has been the foundation for intercompany billing since access charges began. A CABS-like system would be cost effective because a standardized format would be used for all carriers, rather than a format unique to each LEC. It is important that any system used provide timely and accurate billing detail and be subject to audit reviews.

Timely and accurate billing detail is also needed for billing of end user customers. Customers expect to receive accurate bills on a timely basis reflecting their actual level of service with appropriate rates and charges. For this to happen, it is necessary that the ILECs and CLECs exchange billing information in an efficient, timely manner.

The quality of items purchased from the ILEC, including interconnection trunks, unbundled elements, resold wholesale services, and other ILEC items, should be of the same quality as the ILEC provides to itself, not merely the standards in the Commission's rules or state statutes, as discussed above. Anything less would constitute discriminatory treatment and would be a violation of the Act. To assure this quality standard, we propose that state commissions require the ILEC to report regularly on quality standards such as average outage durations and the percent of call blocking for

new entrants and itself.

Q. IDENTIFY THE VARIOUS DATABASES TO WHICH MCI AND OTHER CLECS SHOULD HAVE NONDISCRIMINATORY ACCESS.

A. In order to be able to access and commercially use the ILECs' unbundled elements and resold services, CLECs need access to ILEC operations support systems and databases that house the following kinds of information:

- o Centrex Business Group Information, which contains the centrex dialing plan and a feature information database. With access to this information, MCI could migrate a centrex application from the ILEC to itself without disrupting the customer's service.
- o Intercept Information, which contains records relevant to customer disconnect referrals. Access to this information would allow MCI to monitor the accuracy of ILEC disconnect referrals.
- o Operator Reference Information, which contains general information regarding valid area codes, exchanges, and dialing instructions. Access to this information is critical if MCI is to provide a full range of operator services.
- o Customer Record Information System (CRIS), which contains the ILEC's database of customer orders. Access to this database is required for MCI to monitor the status and verify service installations and disconnects, and is particularly important for service parity when MCI resells the incumbent's local services.
- o Emergency Services Information, which associates customer name and address to 911 routing plans.
- o Repair/Dispatch Information, which would allow MCI to monitor the status of

repairs and dispatches of repair personnel related to use of MCI-purchased unbundled ILEC network functions or resold ILEC services.

- o Installation/Order Processing data, which allows MCI to monitor the status of service activation related to our use of unbundled ILEC network functions or resold ILEC services.
- o Switch Network ID data, which describes each ILEC switch, including services supported through each switch, NPA-NXXs served, business and residential line counts, and rate centers served, *etc.* Access to this database is critical to planning efficient local interconnection.
- o Local Calling Area data, which describes local calling areas and extended area service calling areas. MCI needs access to this database to construct accurate switch routing tables for our networks when mirroring existing ILEC local calling areas.
- o CMDS contains the industry standard mechanism for the exchange of billed messages such as third-party billed, collect, and calling card messages. Access to this database is necessary for MCI participation in the intercompany arrangements for the clearing of these calls.
- o Plant inventory data, containing information on conduit, fiber, switch port, loop feeder, and loop distribution. Access to this database is necessary to reduce the likelihood that MCI will request infeasible points of interconnection or unbundled network functions. Additionally, access will allow MCI and regulators to ensure that ILEC facilities are made available on a non-discriminatory basis.
- o Number Assignment data, access to which would allow MCI, using resold ILEC service or unbundled local switching, to assign numbers to our

customers directly, rather than rely on the ILEC to assign phone numbers to MCI customers. As a result, MCI would avoid discriminatory delays to fulfillment of the service order.

Q. DO YOU HAVE ANY FINAL REMARKS?

A. The FCC has concluded that it is imperative for competitive carriers to have access to operations support systems functions to allow them to offer local exchange telecommunications and exchange access services on a competitive basis. Consistent with the FCC's conclusion, this Commission should require nondiscriminatory access to ILEC databases and systems to ensure that ILECs do not gain an unfair market advantage and thwart competitive entry into the local exchange market.

Q. DOES THIS COMPLETE YOUR TESTIMONY?

A. Yes.

REBUTTAL TESTIMONY OF RONALD MARTINEZ

ON BEHALF OF MCI

DOCKET NO. 960846-TP

September 16, 1996

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Ronald Martinez and my business address is 780 Johnson Ferry Road, Atlanta, Georgia 30342.

Q. HAVE YOU PREVIOUSLY FILED TESTIMONY IN THIS PROCEEDING?

A. Yes. I have previously adopted the direct testimony filed by Terry Farmer on August 22, 1996.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my testimony is to respond to the testimony of Ms. Calhoun, and specifically to correct any misunderstandings which exist with regard to MCI's requirements for bills for resold services; to discuss why billing issues are so important for new entrants in the local market; to explain why it is critical for new entrants to have pre-ordering access to customer service records -- with the permission of the customer; and to demonstrate that the absence of electronic interfaces hamstrings new entrants and prevents them from being able to provide the same level of service as incumbent LECs.

Q. MS. CALHOUN AT PAGES 7-8 OF HER DIRECT TESTIMONY DATED

SEPTEMBER 9, 1996, TESTIFIES THAT BELLSOUTH BELIEVES MCI'S OBJECTIVE IS TO FORCE BELLSOUTH TO RENDER BILLS FOR RESOLD SERVICES VIA THE CARRIER ACCESS BILLING SYSTEM ("CABS"). PLEASE CLARIFY MCI'S BILLING REQUIREMENTS FOR RESOLD SERVICES.

A. MCI is not attempting to tell BellSouth out of what system it should render its bills for resold services. MCI does not care what system BellSouth uses as long as it receives a CABS formatted billing tape.

At the industry Ordering and Billing Forum ("OBF") 55 held in August, 1996, final closure was reached on the specifications for CABS formatted billing for resold services. MCI is simply requesting that it receive bills for resold services in the format specified at the OBF. At page 49 of her August 12, 1996 testimony Ms. Calhoun states that "if at some time in the future, the industry were to define CABS as the standard for resale billing, the matter should be addressed at that time." OBF has now agreed upon standards for CABS formatted billing for resold services.

In light of Ms. Calhoun's testimony, MCI fails to understand BellSouth's continued reluctance to provide bills for resold services in CABS, the industry standard format. This is particularly so given Ms. Calhoun's statement at page 24 of her direct testimony that BellSouth started development of systems compliant with OBF standards for ordering even before there was final closure on the ordering standards for resold service.

Q. AT PAGES 8-9 OF HER DIRECT TESTIMONY DATED AUGUST 12, 1996 MS. CALHOUN COMMENTS ON THE IMPORTANCE OF INDUSTRY STANDARDS FOR RESALE. SHE STATES THAT BELLSOUTH HAS EVERY INTENTION OF COMPLYING WITH INDUSTRY STANDARDS FOR ORDERING AS THEY BECOME AVAILABLE. WHY IS IT IMPORTANT THAT BELLSOUTH ALSO CONFORM TO THE INDUSTRY CONSENSUS ON BILLING FORMATS?

A. BellSouth suggests that resale billing should be provided through the BellSouth Customer Record Information System ("CRIS") billing system. As set forth above, MCI does not care what system BellSouth uses. What MCI objects to is BellSouth providing resale billing in a non-standard format which would require MCI to build numerous front ends for data receipt, as well as different systems for bill audit.

The CRIS system is a proprietary system. As such, OBF has consciously decided not to develop standard formats for CRIS billing. It will create a significant barrier to entry for MCI and other ALECs if they are required to accommodate multiple bill formats for receipt and auditing of billing data for resold services. BellSouth and the FCC have both acknowledged the importance of industry standards for the processes used to implement local competition. Billing is just as critical to successful market entry as ordering and as such BellSouth should be required to produce a bill for resold services in an industry standard billing format.

Q. MS. CALHOUN STATES AT PAGE 8 OF HER SEPTEMBER 9, 1996 TESTIMONY THAT THE CABS BILLING SYSTEM, WITHOUT EXTENSIVE AND COSTLY MODIFICATION, IS NOT CAPABLE OF ACCOMPLISHING BILLING AS DESIRED BY MCI. IS ANY RBOC TODAY PRODUCING BILLS FOR RESOLD SERVICES IN THE OBF CABS DATA FORMAT?

A. NYNEX plans to produce bills for resold services in OBF CABS format effective October 1, 1996. NYNEX will take output from its CRIS system and reformat it to the OBF CABS billing data format for resold services. Pacific Bell is today using a CABS data format for certain services and is moving towards full implementation of OBF billing data formats for resold services. Both these RBOCs began development work on the CABS billing format for resold services in advance of final closure on this issue at the OBF.

Q. AT PAGE 9 OF HER SEPTEMBER 9, 1996 TESTIMONY, MS. CALHOUN STATES THAT ONLY THE CRIS SYSTEM CAN PRODUCE LINE LEVEL DETAIL. PLEASE EXPLAIN SOME OF THE REQUIREMENTS CONTAINED IN THE CABS BILLING DATA FORMAT THAT THE CRIS BILLING FORMAT FAILS TO PROVIDE.

A. There are a number of requirements for billing resold services contained in the OBF CABS billing data tape or feed format that are not provided in CRIS billing. Let me describe a few of the key missing outputs.

There is no adjustments section on the CRIS bill that can be related to claims

for misbilling. This is a key requirement so that, as disputes are resolved, MCI can track their resolution. Even more important, there is no reflection of the products and services to which customers subscribe. In the CRIS environment, only the initial customer bill reflects detailed customer service information. Thereafter features and functions are not ordinarily broken out on monthly bills. This information is critical for MCI to insure it is paying only for services that it has purchased.

Moreover, if there are different bill outputs based on whether the purchase is in the initial month or not, MCI would be required to build multiple auditing systems to audit the CRIS bills. Finally, the CRIS bills fail to have jurisdictional indicators or provide total minutes of use.

Q. AT PAGES 4-5 OF HER SEPTEMBER 9, 1996 TESTIMONY, MS. CALHOUN PROVIDES REASONS WHY IT IS NOT PROPER TO SUPPLY CUSTOMER SERVICE RECORDS ("CSRs") TO MCI PRIOR TO ORDERS BEING PROCESSED. IS MCI REQUESTING TO OBTAIN CUSTOMER SERVICE INFORMATION WITHOUT THE CUSTOMER'S CONSENT?

A. No. MCI is not asking for BellSouth to provide CSRs for prospect marketing. MCI is requesting that when it is in the process of making a sale, and has obtained customer authorization, that it have the ability to access customer information. MCI is ready and willing to provide to BellSouth a blanket letter of authorization which will state that MCI will only request CSRs after obtaining customer approval.

Q. MS. CALHOUN AT PAGE 6 OF HER SEPTEMBER 9, 1996 TESTIMONY ASSERTS THAT MCI DOES NOT NEED ACCESS TO CURRENT CSRs TO COMPETE EFFECTIVELY FOR EXISTING BELLSOUTH CUSTOMERS. WHY IS IT IMPORTANT FOR MCI TO HAVE ACCESS TO CSRs IN THE SALES PROCESS?

A. Residential and small business customers are often not aware of all the services to which they subscribe. These customers cannot easily look at a bill to determine their services. Florida Rule 25-4.110(1) requires itemized services to be listed only in the initial bill and then at least once in each succeeding twelve months. Given the many changes that customers, especially business customers, make to their telephone service, a snapshot once a year has only a very limited period of accuracy and cannot be relied upon year-round as a true picture of the customer's services.

It is important for MCI to be able to know customer service information during sales calls so that it can make "apples to apples" price quotations. In addition, if a customer has called to add or delete services and BellSouth has failed to complete the transaction, when MCI installs service MCI will be viewed as having failed to establish the service the customer desired. Without CSRs at the time of sale MCI cannot insure that the customer is receiving the services desired.

Moreover, if MCI quotes a price based on the recollection of the customer as to its existing services, and after the sale MCI discovers the customer has

different services than discussed, MCI will be in the very awkward position of having to go back to the customer with new pricing or absorbing any pricing differences. In addition, for the small business customer, an error in establishing service could cost the business its livelihood.

For medium and large business customers there are even more issues. With more services and locations, combined with changing personnel, business customers are not going to want to spend time providing new entrants details about their services for new entrants to make price quotes. Time is money to these business customers. Unless new entrants can offer proposals without requiring work effort on the part of the business customers, competition will be stifled.

In the case of business customers with complex services, the likelihood of orders being rejected will be substantially increased if MCI does not have complete and fully updated customer service information at the time of ordering. With more services it is likely that the customer will not get it all right and not having it right means a reject, delayed service installation and customer dissatisfaction for a new MCI customer.

Q. PLEASE PROVIDE SOME EXAMPLES OF HOW THESE CONCERNS HAVE BEEN VALIDATED IN THE MARKETPLACE.

A. BellSouth cries foul at AT&T at page 17 of Ms. Calhoun's August 12, 1996 testimony when AT&T suggests that it could possibly experience the same

problems with BellSouth as it did with Rochester's service installation relative to failure to have customer information. This is, unfortunately, a most valid concern.

Problems such as these are not limited to former Bell system companies. Southern New England Telephone ("SNET") recently rejected an MCI order to convert service of a business customer. The customer advised MCI that six lines were to be converted, so this is what MCI requested on the order. SNET records reflected the customer had seven lines, so it rejected the order, as well as for the additional reason that SNET questioned the hunting sequence.

Unless MCI has CSRs, we are not in a position to insure when orders are submitted that they will be processed timely without rejects. In the case of the SNET example, MCI contacted the customer who stated that they had contacted SNET to have the seventh line removed two to three months prior, a pitfall described above.

Q. THROUGHOUT HER AUGUST 12, 1996 TESTIMONY, MS. CALHOUN PROUDLY CLAIMS THAT BELLSOUTH IS PREPARED TO PROVIDE ELECTRONIC INTERFACES/LINKS TO SUPPORT ALEC ENTRY. WHAT IS THE CURRENT STATUS OF ELECTRONIC INTERFACES FROM YOUR PERSPECTIVE?

A. First, BellSouth is wrong in stating that it is prepared to provide electronic interfaces to support alternative local exchange company ("ALEC") entry.

The current status of electronic interfaces is that they provide an interim solution only, until real-time, interactive interfaces can be developed consistent with national standards.

Next, there are three key areas which Ms. Calhoun discusses: pre-ordering, provisioning and maintenance/repair. I have attached as Exhibit 27 (RM-1) a copy of a proposed MCImetro/ILEC Interconnection Agreement which has recently been furnished to BellSouth. Attachment VIII of this exhibit sets forth in detail MCI's requirements in these areas. Each of these three key areas will also be addressed separately below.

Q. WHAT HAS BEEN MCI'S RECENT EXPERIENCE WITH ELECTRONIC INTERFACES FOR REPAIR?

A. MCI and BellSouth have been working for over two years to install a fully electronic, real-time, trouble reporting interface for access services. The interface is now finally installed after several false starts. These included a total shut down which was necessary after what was to have been the final resolution of all problems. Every other RBOC and GTE were transmitting repair tickets for access services through this interface prior to the BellSouth turn-up. The experience with this repair interface exemplifies the complexity of turning up real-time and interactive electronic interfaces. Not only is there significant time required in standards bodies to define specifications, but there are also stops and starts in the development, testing and implementation schedules of the individual ILECs.

Q. HOW DOES THE ABSENCE OF ELECTRONIC REAL-TIME INTERACTIVE INTERFACES ADVERSELY AFFECT THE TIMELINESS OF REPAIRS?

A. To date there are no industry specifications available for trouble reporting for non-access services, although BellSouth fails to address this in its testimony. At this point in time, MCI will be faced with phone calls to BellSouth to relay customer trouble. This ineffective means to process customer troubles will put MCI at a significant competitive disadvantage. Ms. Calhoun states at page 50 of her August 12, 1996 testimony that "the real time and interactive interfaces demanded by AT&T are not the requirements for successful market entry. An exchange of information is required, but how that information is exchanged is secondary and is likely to be of little concern to the end user."
This misses the point. MCI would agree that the customer does not need to understand how a trouble report is transmitted. However customers will and should care how long it takes for customer troubles to be resolved. The availability of electronic real-time interactive interfaces is a key driver of the timeliness of repair. The time to repair MCI long distance access service was reduced dramatically when electronic bonding for repair was implemented.

Q. WHAT ARE THE PROBLEMS WITH THE EXISTING AND PLANNED PRE-ORDERING INTERFACES?

A. First, since BellSouth has refused to concede the need for MCI to have CSRs prior to order placement, no interface for MCI to gain access to this critical

information is now available. Based on our experience with electronic bonding for repair, MCI is not hopeful that these interfaces could be made available any time soon. Ms Calhoun talks about electronic data interchange ("EDI") for pre-ordering and many of the other interfaces required to support local service. Ms. Calhoun makes it sound as though EDI is the ultimate solution. This is far from the case. MCI has agreed to EDI, which is not now real time or interactive, at forums such as OBF only as an interim solution.

Beyond this, MCI has experience with an existing preordering interface which BellSouth demonstrated as a possible means to enable MCI to validate customer names and addresses to improve the quality of access orders submitted by MCI. The interface worked fine for residential plain old telephone service. When a business telephone number was input, however, the best the system could do was to refer to a range of address numbers such as 100 to 2000. Because the interface failed to produce the specific address for business customers, it was therefore valueless as a validation tool for pre-ordering. BellSouth stated specifically that this interface was designed to support ALEC activities. Thus even when a real-time interface is developed, unless it meets the specifications of the new entrant, it is of no use.

Q. HOW DOES THE LACK OF ON-LINE, REAL-TIME ACCESS TO CSRs ADVERSELY AFFECT THE ABILITY OF NEW ENTRANTS TO PROVIDE COMPETITIVE SERVICE TO THEIR CUSTOMERS?

A. BellSouth suggests that pre-ordering interfaces and CSRs are not required for

most orders, in particular, "as is" orders. But without real-time access to the CSR, MCI has no timely way to obtain accurate information such as address, service, feature, and inter/intraLATA PIC availability, which is critical to verify an order and to avoid other rejections by the incumbent LEC. Further, without CSR access, MCI has been unable to use "as is" migrations as an effective ordering method for small business and residential customers.

Lack of access to CSRs in an online, real-time manner severely constrains MCI's ability to accurately process residential and small business sales orders. As the residential and small business sales process requires all sales order and pre-ordering activities to take place on a single sales call (mostly over the telephone), and very quickly I might add, on-line, real-time access is the only viable method of obtaining CSRs.

Without on-line, real-time access to CSRs, MCI finds itself in the unacceptable situation of not really knowing for sure what a customer has prior to a migration. This jeopardizes the customer's quality of service by increasing the likelihood of loss of feature functionality upon migration. This in turn reflects poorly upon MCI's local service, and is detrimental to MCI's ability to compete on an even playing field.

Q. PLEASE EXPLAIN WHAT HAS OCCURRED AS A PRACTICAL MATTER WITH LECs WHO DO NOT PROVIDE REAL-TIME, ONLINE ACCESS TO CSRs.

A. An example is what has occurred with PacBell, which does not provide real-time, online access to CSRs: MCI is forced to submit all orders as "migration with changes" orders. This means that the order is placed with PacBell, which then turns around and gives MCI the customer's records for review in order to ensure that we send accurate orders to the incumbent LEC for migration and that we are providing the customer with the correct services.

Q. WHAT IS THE INDUSTRY CURRENTLY DOING ON THE ISSUE OF ORDERING AND PROVISIONING FOR LOCAL SERVICE?

A. This issue is now before the OBF. That group has published the initial draft of the Local Service Ordering Guideline (LSOG) and the Local Service Request (LSR)/Industry Support Interface (ISI) for ordering all unbundled and resold local services. However, over 40 additional ALEC order/order processing issues for mechanized interfaces still remain to be worked. It is clear from this that non-interactive, non-real-time interfaces will thus be in place for an interim period of time. Even in the access arena, electronic bonding for processing of access service requests is not anticipated to be operational until sometime within the first half of 1997, and IXC PIC processing, which has gone through many years of development, is only now getting close to real-time interactive order processing.

Q. WITHOUT ELECTRONIC INTERFACES FOR PRE-ORDERING, PROVISIONING AND MAINTENANCE/REPAIR, CAN COMPETITION IN THE LOCAL MARKET DEVELOP?

A. No. BellSouth may claim that ALECs can enter the local market without these electronic interfaces. The reality, however, is that for robust competition to develop, these interfaces must be available.

With regard to actual implementation of these electronic interfaces, BellSouth appears to have good intentions, but performance is reality. To date BellSouth does not have a good track record of performance. Combine this with the iterative process of interface development at forums such as OBF and TCIF, and it is not likely that fully functional truly interactive, real time interfaces will be available for some time to come. While new entrants in the local market will be operating under these less than optimal conditions BellSouth will certainly be clamoring for long distance entry.

There is a terrible inequity here. If allowed into long distance, BellSouth will have the benefit of total real-time interactive operational interfaces while the new entrants to the local market will be hamstrung with interim solutions. As a result, until these systems which support local service are fully operational, any request by BellSouth to get into long distance is premature.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

BY MS. McMILLIN (Continuing):

Q Please summarize both your direct and rebuttal testimony.

A Good afternoon. The purpose of my testimony is to describe MCI's requirements for operations support systems as a new entrant in the local telecommunications marketplace. My testimony covers five key areas of operations support -- pre-ordering, ordering, provisioning, repair and maintenance, and billing -- all of which are critical to MCI being able to compete as a local service provider.

The ability to efficiently and effectively order, provision, install, maintain and bill services is a critical success factor. MCI cannot hope to gain and, more importantly, retain customers if it cannot do so at least on parity with the incumbent.

I outline in my testimony the need for MCI to have electronic real-time interfaces and how without such interfaces MCI will not be at parity with an incumbent in offering services to customers. I also describe the need for MCI to receive bills in an industry standard format and have access to customer information that will enable MCI to submit error-free orders and institute correct customer billing. Examples of problems with BellSouth's suggested approaches as well as timing are set forth.

MCI understands that the electronic real-time

interactive interfaces it requests may not be available today. What MCI is seeking is a plan to move forward with interim steps as needed leading to the implementation of such interfaces at date certain.

The first area I would like to discuss in billings, standardized billing is a minimum requirement of new entrants. As the ordering and billing forum, the industry has reached agreement on a standard format for billing unbundled elements and resold services. MCI is seeking to have BellSouth produce bills in this format which will enable MCI to bill the single auditing and disbursement system capable of addressing the outputs of diverse and propriety ILEC billing systems. As such, it is the format of the bill and not the billing system, that is important to new entrants such as MCI. As a point, NYNEX and Pacific Bell are already moving to implement billing in this standard format.

MCI does need the OBF agreed to CABS billing data format and BellSouth has provided no plausible reason for not providing this to MCI. What it does assert is that it uses a different system for its own purposes and, therefore, this should be sufficient for MCI. BellSouth fails all together to recognize the complexities the new entrant faces interfacing with numerous ILEC proprietary billing systems and formats.

Let me use as an example the billing for the Florida Relay Center. As the Commission may recall, MCI was ordered to

provide local companies the data necessary to bill customers for TRS service. MCI stepped up to the task of reformatting billing data captured in our proprietary billing system into a standard EMR format that is being used to this day by the local service providers to bill for these services.

Next I would like to address the maintenance and repair systems that BellSouth appears to be promising for CLECs. This system deploys the recently established American National Standards Institute electronic bonding interface. This is the same system we feel is referenced in the FCC Order for trouble administration and defined as interactive electronic information exchange involving application-to-application communications between telecommunications jurisdictions.

The interface is presently in use between the RBOCs and IXCs for trouble administration and preliminary indications from another RBOC indicates that 20 minutes to over an hour are saved over traditional methods. However, the industry committee, the Electronic Communications Implementation Committee, has only recently agreed to examine EBI with respect to local operation systems. And while EBI is MCI's interface of choice for all operation systems, it is not clear that it is realistic near-term solution.

In addition, MCI experienced numerous delays as BellSouth implemented EBI for access. MCI thus believes that

the interim processes will be needed for repair handling and maintenance, and as well be evident from my testimony, such interim solutions fail to create parity to BellSouth.

This brings us to ordering. BellSouth professes to be adopting an electronic data interface, a batch process designed for the banking and insurance industries. However, on examining the pictorial representations of BellSouth's proposed local service order/order process, it becomes apparent that BellSouth intends to use EDI simply as a glorified faxing mechanism. In the proposed interfaces, while the LSR would be sent via EDI, a BellSouth technician would be required to input the order into their service order process. Manual intervention is, thus, still a critical component of the proffered process. In fact, all proposed processes with the exception of maintenance, which we have great doubts can be available 1/1/97, are manual paper processes. To this dilemma, I quote from the FCC Order: "Obviously, an incumbent that provisions network resources electronically does not discharge its obligation under Section 251(c)(3) by offering competitive providers access that involves human intervention such as facsimile based ordering."

Last, let me focus on customer data. BellSouth's refusal to address the customer record information system database requirements while professing to employ change as is policies and procedures is both puzzling and disturbing. It is

impossible for a CLEC to complete the necessary customer records which would insure proper installation and billing without having the means to verify what services, features and function the customer is presently using.

MCI also runs the risk of delay in service installation due to order rejects. In addition, without access to account data, MCI cannot make meaningful price quotes as MCI will not be able to verify the customer account information. Therefore, change as is is not really a viable option to replace access to customer data for new entrants. To the contrary, MCI would be required to quote conditional rates and order service as change with modifications. Once the records were received, the pricing could be firmed with the customer and final MCI customer records established, clearly not the process that is used by BellSouth or one that will enable a new entrant to effectively compete.

In conclusion, MCI is requesting that the Commission require that BellSouth implement operations support systems, access to data and billing formats needed by MCI to effectively compete. To the extent that any of the desired outcomes are not currently available, MCI is requesting that the Commission establish the best possible interim measures for these vital functions and that the Commission also establish a schedule for implementation of their real-time electronic interfaces MCI so desires.

Thank you.

MS. McMILLIN: Chairman Clark, Mr. Martinez' exhibit, RM-1 was identified. Could that be identified as Exhibit 27?

CHAIRMAN CLARK: It will be identified as Exhibit 27.

MS. McMILLIN: Thank you.

(Exhibit No. 27 marked for identification.)

MS. McMILLIN: Mr. Martinez is available for cross.

CHAIRMAN CLARK: Mr. Hatch.

MR. HATCH: I'm sorry. No questions.

CHAIRMAN CLARK: Mr. Horton.

MR. HORTON: No questions.

CHAIRMAN CLARK: Ms. White.

MS. WHITE: Yes, thank you.

CROSS EXAMINATION

BY MS WHITE:

Q Good afternoon, Mr. Martinez.

A Good afternoon.

Q And congratulations on your first grandchild.

A I'm glad to have read into the Florida record that I do have --

Q I thought you might be. Now, Mr. Martinez, did you personally participate in the negotiations between BellSouth and MCI?

A No, I did not.

Q Okay. Are you aware of the electronic interfaces that

have been ordered by the Georgia Public Service Commission with regard to resale?

A I am aware that an order exists and I have it in my brief case. And when I'm scheduled to get to Georgia, I will have the time to read it. I have to go back to my day job after I do this.

So, I am aware there is an order. I have a copy of it, but I have not read it.

Q Are you aware of whether MCI or -- Excuse me. Let me put it this way: Are you aware of whether what the Georgia Commission has done in that regard is acceptable to MCI?

A Again, I have not reviewed the Georgia proceedings and won't do so until about to testify.

Q Let's talk about billing. Now I understand that MCI wants BellSouth to use the carrier access billing format for MCI; is that correct?

A That is correct.

Q And MCI doesn't really care whether BellSouth uses the customer record information system in which to render that bill as long as it has the CABS format?

A That is correct.

Q Okay. With regard to your Rebuttal Testimony, on page 6 of your Rebuttal Testimony, you state that "Customers" -- this is on lines 7 and 8 of page 6 of your Rebuttal Testimony -- you state that "Customers" -- and there you're

talking about residential and small business customers -- "cannot easily look at a bill to determine their services." Do you see that?

A That is correct.

Q Okay. Now are you aware that in Florida BellSouth provides billing detail of a customer's services in the customer bill every month?

A Yes, I am aware that there are definitions of some services on the bill.

Q So were you speaking specifically of BellSouth in Florida in that sentence, with regard to that sentence?

A I was speaking in terms of not only BellSouth in Florida but BellSouth in general.

Q Are you a BellSouth customer, Mr. Martinez?

A Yes, I am.

Q In your bill, does it say what kind of vertical features that you've ordered from BellSouth?

A The bills are all paid by my wife, but I did ask her the question and she was confused as to whether she understood exactly what the services were. And, in fact, we had a conversation about a service I thought we still had on the bill and I'm the owner of that bill. It's in my name. My wife decided some time ago that we didn't need call forwarding and touch tone. I thought we still had it on the bill.

COMMISSIONER GARCIA: You should call your local

public service commission.

WITNESS MARTINEZ: And complain about my wife, sir.

BY MS. WHITE (Continuing):

Q Now with regard to repair and maintenance, that's one of the functions that MCI desires an electronic interface for; is that correct?

A Yes.

Q BellSouth has repair centers today for residential and business customers; is that correct?

A That is correct.

Q And is that where BellSouth proposes that MCI take its repair problems via electronic interface?

A It is not clear exactly where from the pictorial representations those systems reside, whether the technician is physically located in the repair center. In fact, it's supposedly in representation an application application; so it's actually resident in their mainframe, which to my mind is not feasible by 1/1/97.

So, I'm not clear exactly what BellSouth is proposing from a maintenance and repair functionality.

Q So may I take from that if you're not clear what BellSouth is proposing, you're not clear as to whether it's acceptable to MCI?

A Yes, with the caveat that should they find the ways by which we can use the electronic bonding interface, then it

would in fact make MCI quite ecstatic.

Q With regard to pre-ordering, the pre-ordering function, is that, the kind of information you get in the pre-ordering function, is that where you would find out when you could have the service done, a due date and installation intervals, that type of information?

A Yes, those are parts and parcels of pre-ordering.

Q Okay. Are you aware that BellSouth's proposed pre-ordering electronic interface would allow MCI to go into BellSouth's system and obtain that kind of information?

A Yes, with another caveat. Again, from the pictorial representations, what we see is a gateway. We have no information at all as to the reliability or the structure of the database we'd be going into, nor do we have any reliable source that tells us what the gateway is, whether it's a proprietary gateway, state specific gateway, region specific; there are really no clear clues in the testimony.

Q Well, let me ask this: There are still ongoing negotiations between BellSouth and MCI; is that correct?

A That is correct.

Q And may I assume that in those negotiations, MCI has employees that are familiar with these items and they are asking questions of these items through MCI to BellSouth?

A Yes, and to date those discussions have been vague, as best as could be represented by our negotiating team, as to

what exactly they were putting forth on the table.

Q Okay. Now on page 15 to 16 of your Direct Testimony, you have a list of various databases to which MCI desires access. Do you see that?

MS. McMILLIN: What page was that, Ms. White?

MS. WHITE: Fifteen and sixteen of his Direct Testimony.

WITNESS MARTINEZ: Yes, I do.

BY MS. WHITE (Continuing):

Q One of those databases is the operator reference information database?

A That is correct.

Q And you state that that contains general information regarding valid area codes, exchanges and dialing instructions. Do you know if BellSouth has such a database?

A I have learned from testimony in North Carolina that you have not, apparently not computerized this and that you are probably still operating off what I used to refer to as the daily -- it was a book on the operator's desk -- that had the pertinent information. That in itself is a database and it is important for our operators to have similar information.

Q Okay. So, what you'd be asking for there is not electronic interface, since the database doesn't exist, but what you would want is a copy of the book; is that fair?

A Real-time, which means that if there are changes to

the document, those changes should be given in the same time frame that they are given to your operators. So if that is all that exists is a book, that is the database, and that is what we would be looking for. We're only looking for parity in the sense that whatever you have to provide, you provide it to us. We're not asking you to develop anything.

Q So, BellSouth would give the book -- What you're seeking is BellSouth would give copies of the book to MCI and if there were changes to the pages in the book, you want BellSouth to get you those changes as soon as possible or the minute they come out?

A Yes.

Q Okay. Now what about the switch network identification database, does that exist in BellSouth today?

A Which --

Q The switch identification database. I believe it's on page 16 of your Direct.

A Line 6?

Q Yes. Line 6.

A Could you now repeat the question, please?

Q Yes. Does that particular database exist at BellSouth today?

A Yes, we believe it does exist and it may exist exactly in the same format that we just referred to in the operator services. It may be a book or a series of data.

Q Okay. So it's -- I guess when I think of database, I think of a computerized type thing, but in this case it may not be a computerized stack of information; it may be a book like the operator reference information?

A Yes. And, again, real-time access would mean changes that as they occur, when we went to the book, we would have those changes in a timely fashion before that happens.

Q Now, does BellSouth currently have an electronic billing interface that will provide MCI with daily customer billing usage information for toll and DO?

A Yes, they do.

Q And has BellSouth offered access to that database for MCI?

A During the negotiations, I do not believe that that is resolved, although in the contract it's quite clear as to how those records would be passed and the frequency.

Q So you believe that's an issue that's still open?

A Yes, I do.

Q Okay. Well, let's talk about customer service records. MCI wants access to customer service records; is that correct?

A That is correct.

Q Now, tell me what a customer service record is.

A A customer service record is in essence a confidential or proprietary piece of information that details the customer's

features, functions, services that will be billed through the platform, which would be the billing platform that they're on. It may contain other information as well.

Q What other information may it contain?

A Well, it may contain credit reference information as well. We're not quite sure exactly what is in there, but the records that we're after really are the feature functionalities, the services and functions that the customer has at the time that they may wish to switch.

Q Okay. Now, MCI wants to access the customer service record while the customer is still BellSouth's customer; is that correct?

A Yes, but MCI would do so with the customer's permission.

Q Okay. Now are you going provide the customer's permission to BellSouth prior to accessing the customer service record?

A Yes, where practical. And let me go on to explain: That in a sales market arena, mass sales or residential sales or small businesses are done in a fairly quick fashion. So the turnaround on sale cycle, whether exception or rejection, does not allow oneself the luxury to get off the phone, have a fax, send it back to somebody else or send a physical piece of paper. On the contrary, if we were dealing with a large complex order, the time it takes to research and price out the

various elements would afford you the time to have the customer properly submit some form of written document that clearly shows that.

I'll go back to the mass market. It would be MCI's intention to meet whatever requirements the Commission might have to insure that we did have the customer's permission at the time that we asked for that record. That may include the Social Security No.. And if we did have a real-time interface, interactive interface, once I established a record with the pertinent data, the Bell system could in fact verify at that time real-time that in fact I had the information and therefore release that to me and populate my screen.

In the systems that we're talking about here because they're foreign to our systems, we will be forced to use either in a windows mode or multiple terminals going in and obtaining the information and then going back and populating the information in the customer record that we're trying to build, which ultimately would establish the order that would go to BellSouth to establish that circuit.

Q And would you agree that probably the most important issue surrounding the release of customer service records is the privacy issue?

A Yes. And that is why MCI has in the contract a specific section that deals with CPNI information.

Q Okay. And so you would recognize that it would be

important that if MCI is calling and saying, tells BellSouth, "I have the customer's permission," that BellSouth be able to verify that in some manner?

A I'm going to say no with a qualification. I'm not aware that BellSouth would be a policeman. I think it would be up to the Commission to establish the rules under which we would operate and we would live under those rules, whatever they are.

Q Well, I understand that.

A And we would be subject to the Commission with respect to whether we violated those rules or we didn't violate. They may at some time certain find that we weren't and remove, or, to the contrary, that we were in fact living up to everything we said we would live up to.

Q Well, I understand that, Mr. Martinez. I guess my question is would you agree that BellSouth has a responsibility to protect customer confidential information?

A Yes, and I believe MCI has that same responsibility.

Q Okay.

A Equally.

Q And in dealing with customer confidential information between our two companies, I'm not saying that BellSouth should institute or should decide what protections are out there, but protections are needed, isn't that correct, to guard the privacy of customers?

A Yes, it is MCI's belief that customer proprietary network information should be safe guarded.

Q Now, if MCI is given access to the customer service record database, would MCI have the ability to look at all records in that database?

A It is our belief that you should be able to populate only those sections of the record that we actually need to complete an accurate bill and make an accurate price quote to that customer.

Q Okay. Well, say you have electronic access to the customer service record database and Mr. Carver is the one living dangerously this time and has decided that, is talking to MCI about switching from BellSouth to MCI for local service. So, you want to look at Mr. Carver's customer service record?

A That would be correct.

Q Would MCI have the ability, when they go in to look at Mr. Carver's customer service record, they would have the ability to look at any other record in that database that they wanted to?

A Those safeguards can be installed on the application-to-application layers of that protocol. I would imagine that under the gateway security system that EBI endorses, that multiple applications is not permitted. So, in essence roaming I think is the question. MCI has no intention of roaming through databases that have proprietary information in them.

Q And so you would agree that protections need to be put in place to guard against that roaming activity or kind of roaming activity that could occur?

A Yes. And, again with real-time interactive interfaces, that can be populated on our screen and immediately transferred and populated on in the application-to-application layer as a security check. If that information doesn't match, it would be a reject and would not get any further into that.

Q Are you familiar with the term "slamming"?

A I am familiar with unauthorized PIC, if that is synonymous in your mind.

Q And what is an unauthorized PIC?

A An unauthorized PIC is one where a customer perhaps did not ask that the carrier who asked for that PIC to be changed.

Q And are there today guidelines in place to protect against unauthorized PIC changes?

A Yes, there are, and that's why I feel that it's reasonable to expect that there could be guidelines established for the access to the CRIS database.

Q Okay. I'm sorry. At the last were you saying that such guidelines or there should be developed guidelines to protect against that in the local market as well?

A I'm sorry. Is that the same question?

Q I'm not sure. Let me start over again. Would you

agree that guidelines might need to be developed to prevent unauthorized changes of local service?

A Yes, I believe that would be an active role that the Commission would play, a very active role.

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

CHAIRMAN CLARK: Staff.

CROSS EXAMINATION

BY MR. PELLEGRINI:

Q Good afternoon, Mr. Martinez.

A Good afternoon.

Q I'm Charlie Pellegrini, representing the Staff. In response to one of Ms. White's questions concerning the privacy of CSRs, you indicated that it probably would fall to the Commission to devise the rules that would control access to those records. Did you mean to imply -- Is that not true?

A Yes.

Q Did you mean to imply by that statement that in your view at least the parties are unable to devise those rules of access themselves?

A No, I believe that the parties are within the bounds to set guidelines. However, I would believe that the Commission would want to play a role in whether those were in their mind sufficient guidelines.

Q Let me ask you a few questions with reference to Issue 13, to begin with, operational interfaces. Is it not true that

MCI has failed to reach agreement with BellSouth on any of the processes for real-time and interactive electronic interfaces?

A I think you said is it not true. Yes, it is not true we haven't -- No. It is true we have not reached agreement on any interfaces. I'm sorry.

Q Right. Have you made progress at all towards reaching agreement?

A The only progress that we have made to date in the contractual negotiations really have been in agreements to the listings of standards, other than with the exception of two international standards that we felt were appropriate, and some, 911, there was a partial there. It's really superficial. To date those discussions have been very vague in the sense of what they are really trying to put forward.

Q In your view then are these negotiations at an impasse?

A No, I can't say that they're at an impasse because only the last negotiation process realized a tremendous leap forward from where we were. So, it is my fervent hope that when they meet again, and I believe it's next week or there's papers being passed as we speak today to finalize where we think we are, and that perhaps we will leap forward again and really get into talking in terms of what we are talking about, the interfaces.

Q Does MCI request anything different of BellSouth than

AT&T requests?

A I'm not sure that I know what AT&T. I believe that we are all in agreement as far as AT&T and ourselves are concerned from an industry standpoint. From a standards perspective, I know of no disagreements that we have with AT&T as to interim processes and ultimate processes that we would be looking for.

Q You're saying then that you're not aware of any significant differences in the positions of AT&T and MCI on this issue?

A That is correct.

Q Is that correct?

A That is correct.

Q Is it MCI's position that each party should bear its own costs of implementing the necessary interfaces?

A While I'm not a cost person, I do understand that that is MCI's position, that we have a tremendous cost to bear with respect to putting those systems in place, interim systems as well as the ultimate systems, and likewise on the other side.

Q Do you understand MCI's position to be in complete opposition to BellSouth's position on this point?

A That I am not aware. I don't think they have discussed costing or price issues in the negotiation sense.

Q Are you aware that BellSouth's position is that BellSouth should recover the costs of these interfaces?

A If that is their position, then I would believe that

we would be in direct opposition to that position.

Q Suppose that -- Suppose that BellSouth's costs were implementing interactive electronic interfaces, suppose BellSouth's costs were quite high, very high, and, conversely, the ALECs costs were very low, would you still agree with MCI's current position that each party bear its own costs?

A I first would like to temper this by saying there are cost people, but I believe that our position would be that, no, we would feel that we would be obligated to pay some of that cost.

Q Next let me ask a couple of questions with respect to Issue 15 concerning billing format.

A Yes.

Q It's MCI's position that BellSouth should provide CABS formatted billing for resold services in accordance with the specifications adopted by the OBF in August of this year; is that correct?

A That is correct.

Q And does BellSouth agree to provide CABS formatted billing for resold services?

A That is perhaps one of the most disturbing messages that I bring, even though that the standards bodies, and they're not really standards bodies. The industry consensus is that this is the way the billing should be rendered. They apparently have not moved at all on that issue and are not

willing to endorse that or adopt that.

Q Is it your understanding, however, from BellSouth's testimony that they wish to follow the industry standard for billing format?

A Yes, that is the puzzling part of the dilemma. In the one hand they talk about adopting that which is the industry consensus. On the other hand, this should have been resolved day one when we first talked about what the name of the document was because this is one that's been adopted.

Q Yes, you so state on page 2 of your Rebuttal Testimony that in August of this year, the OBF forum at final closure was at final closure on the specification for CABS formatted billing for resold services; correct?

A That is correct.

Q And were the negotiations with BellSouth subsequent to that conducted with that in mind?

A Yes.

Q And what was BellSouth's response or position?

A Their position still is -- and I believe the specific function is a subset of CRIS billing, CLUB billing, which is a truly, truly proprietary billing system, one by the way which BellSouth tried to introduce into the OBF and obviously was rejected because it was a proprietary/proprietary system.

Q What billing format does MCI request for the ordering of unbundled elements?

A Are we talking in terms now of the interconnect services or are we still talking in terms of the resale/resold services?

Q Interconnection.

A Interconnection should be handled via the ASR process, which is -- I'm going to back up -- which should be in place. However, all will depend on whether -- and I'll use a term NC/NCI codes. These are the codes that basically dictate on an order what specific type of trunk or facility I'm ordering. Given that those NC/NCI codes do not change, then it is feasible to use the existing ASR process, which, by the way, will next year be converted to the EBI or electronic bonding platform.

Q Mr. Martinez, do you have at hand Exhibit RM-2, your deposition transcript, September 11, 1996?

A Yes, I do.

Q Have you had an opportunity to review it for corrections or omissions?

A Yes, I have.

Q And are there same?

A Yes, there are two: On page 13, line 13, it reads "operator" and should read "operations."

On page 18, line 9, it reads "pooled" and should have read "pulled," as in "pull."

Q And these are set forth in an errata sheet dated

September 23, 1996; is that correct?

A Yes, they are.

Q With those corrections, is this document a true and correct reflection of your testimony?

A Yes, it is.

MR. PELLEGRINI: Chairman Clark, Staff would have RM-2 identified.

CHAIRMAN CLARK: As Exhibit 28?

MR. PELLEGRINI: As Exhibit 28.

(Exhibit No. 28 marked for identification.)

CHAIRMAN CLARK: Mr. Martinez, would you please tell me again on page 18, line 9, what is the word?

WITNESS MARTINEZ: The word is "pooled," p-o-o-l-e-d, and it should be "pulled," p-u-l-l-e-d.

CHAIRMAN CLARK: Oh, okay. Thank you.

BY MR. PELLEGRINI (Continuing):

Q And, further, Mr. Martinez are you aware of your Late-Filed Deposition Exhibit No. 1, which has not been supplied because of its volume?

A Yes.

Q Identified as RM-3?

A Yes.

MR. PELLEGRINI: Staff would have Exhibit RM-3 marked for -- as Exhibit 29.

CHAIRMAN CLARK: And you will get the Clerk a copy of

that and everybody has a copy of it?

MR. PELLEGRINI: Yes.

CHAIRMAN CLARK: Except the Commissioners. Okay.

(Exhibit No. 29 marked for identification.)

MR. PELLEGRINI: With that, Staff has no further questions.

CHAIRMAN CLARK: Commissioners?

Redirect.

MS. McMILLIN: No redirect.

CHAIRMAN CLARK: Thank you. Exhibits.

MS. McMILLIN: And we would move admission into evidence of Exhibit No. 27.

MR. PELLEGRINI: Staff would move Exhibits 28 and 29.

CHAIRMAN CLARK: Those exhibits, 27, 28, and 29, are entered in the record without objection.

(Exhibit Nos. 27, 28 and 29 received in evidence.)

CHAIRMAN CLARK: Thank you, Mr. Martinez.

MS. McMILLIN: May he be excused?

CHAIRMAN CLARK: He may be.

MS. McMILLIN: Thank you.

MR. MELSON: MCI calls Don Wood.

Commissioner Clark, the witness hasn't been sworn. He got ahead of us.

CHAIRMAN CLARK: Are there any other witnesses in the room who have not been sworn in? If you would please stand,

raise your right hand and be sworn in at this time.

(Witnesses collectively sworn.)

CHAIRMAN CLARK: You may be seated.

THEREUPON,

DON J. WOOD

having been duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. MELSON:

Q Would you please state your name and business address.

A Yes. My name is Don J. Wood. My business address is 914 Stream, S-t-r-e-a-m, Valley Trail, Alpharetta, A-l-p-h-a-r-e-t-t-a, Georgia.

Q And what is your occupation or profession, Mr. Wood?

A I am a regulatory consultant.

Q And have you prefiled Direct Testimony in this docket dated August 21st, 1996, and consisting of 25 pages?

A Yes, I have.

Q And on September 12th, did you cause to be filed substitutes for pages 24 and 25, which contain some revised information?

A Yes, I did.

Q And have you also prefiled Rebuttal Testimony in this docket dated September 16th and consisting of ten pages?

A Yes.

Q Do you have any changes or corrections to either the

Direct or the Rebuttal?

A No, with the substitution of the two pages of the Direct, there are no further changes.

Q And with those two substituted pages, if I were to ask you the same questions today, would your answers be the same?

A Yes, they would.

MR. MELSON: Madam Chairman, I would ask that Mr. Wood's Direct and Rebuttal Testimony be inserted into the record as though read.

CHAIRMAN CLARK: The Direct and Rebuttal Testimony of Mr. Wood will be inserted in the record as though read.

BY MR. MELSON (Continuing):

Q And, Mr. Wood, were there three exhibits attached to your Direct Testimony identified as DJW-1 through DJW-3?

A Yes, sir; there were.

Q And on September 12th, did you cause to be filed a substitute for DJW-3, which contains updated information that basically supports the revisions to your testimony?

A Yes, that's correct. There's a three-page update of DJW-3 and the information from that exhibit is then carried forth into the testimony, which is the purpose of substituting those two pages.

MR. MELSON: Commissioner Clark, we'd ask that Exhibits DJW-1, DJW-2 and the revised version of DJW-3 be identified as Composite 30.

CHAIRMAN CLARK: It will be identified as Composite Exhibit 30.

(Composite Exhibit 30 marked for identification.)

BY MR. MELSON (Continuing):

Q And was there one exhibit attached to your Rebuttal Testimony identified as DJW-4?

A Yes, I believe there was; yes, sir.

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

A No, I do not.

MR. MELSON: We would ask that DJW-4 be identified as Exhibit 31.

CHAIRMAN CLARK: It will be identified as Exhibit 31.

(Exhibit No. 31 marked for identification.)

DIRECT TESTIMONY OF DON J. WOOD

ON BEHALF OF MCI

DOCKET NO. 960846-TP

AUGUST 21, 1996

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Don J. Wood, and my business address is 914 Stream Valley Trail, Alpharetta, Georgia 30202. I provide consulting services to the ratepayers and regulators of telecommunications utilities.

Q. PLEASE DESCRIBE YOUR BACKGROUND AND EXPERIENCE.

A. I received a BBA in Finance with distinction from Emory University and an MBA with concentrations in Finance and Microeconomics from the College of William and Mary. My telecommunications experience includes employment at both a Regional Bell Operating Company ("RBOC") and an Interexchange Carrier ("IXC").

I was employed in the local exchange industry by BellSouth Services, Inc. in its Pricing and Economics, Service Cost Division. My responsibilities included performing cost analyses of new and existing services, preparing documentation for filings with state regulatory commissions and the Federal Communications Commission ("FCC"), developing methodology and computer models for use by other analysts, and performing special assembly cost studies. I was employed in the interexchange industry by MCI Telecommunications Corporation, as Manager of Regulatory Analysis for the Southern Division. In this capacity I was responsible for the development and implementation of regulatory policy for operations in the southern U. S. I

then served as a Manager in the Economic Analysis and Regulatory Affairs Organization, where I participated in the development of regulatory policy for national issues.

Q. HAVE YOU PREVIOUSLY PRESENTED TESTIMONY BEFORE STATE REGULATORY COMMISSIONS?

A. Yes. I have testified on telecommunications issues before the regulatory commissions of twenty-three states, the District of Columbia, state courts, and have presented comments to the FCC. A listing of my previous testimony is attached as Exhibit 30 (DJW-1).

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. I have been asked by MCI Telecommunications Corporation ("MCI") to describe the methodology that MCI believes should be used for accurately determining the relevant costs of unbundled network elements to be provided by BellSouth Telecommunications, Inc. ("BST") pursuant to the Federal Telecommunications Act of 1996. I will also describe the results of applying this methodology in the state of Florida, and provide an overview of the model used to develop these costs.

My testimony is divided into three sections: Section I introduces the basis for the costs developed by MCI for the unbundled network elements and describes how those costs -- and the underlying methodology used to develop them -- are consistent with sound economic costing principles generally and with the FCC's August 8, 1996 First Report and Order in CC Docket 96-98

specifically. Section II describes how the model used to develop these costs operates, and Section III identifies the inputs used and reports the results of this analysis. I will refer to the methodology used as the Hatfield Model ("HM"), and will discuss the results obtained using Version 2.2, Release 2, of that model.

Q. PLEASE DESCRIBE YOUR EXPERIENCE REVIEWING COST MODELS AND METHODOLOGIES.

A. While employed in the BellSouth Service Cost organization, I had the opportunity to work with a number of cost models and to analyze and review the manner in which these models were used in the cost development process. Since that time, I have reviewed incremental cost studies performed by each of the seven regional Bell Operating Companies ("RBOCs") and a number of Tier 1 Local Exchange Companies ("LECs"), including BST. My review has included an evaluation of the methodologies, computer models and spreadsheets, and inputs/assumptions used. I have also been asked by regulators to develop detailed rules to be used by the LECs when performing TSLRIC studies.

Two constant sources of frustration have been present throughout this process: 1) The lack of publicly available information related to the LEC studies, and 2) the lack of independent and objective cost data to be used as a benchmark for the evaluation of the LEC-provided data.

Section I: Description of the Cost Principles Implemented by the Hatfield Model

Q. PLEASE DESCRIBE THE ORIGIN AND PURPOSES OF THE HATFIELD MODEL.

A. The Hatfield Model was developed by Hatfield Associates, Inc. of Boulder, Colorado at the request of AT&T and MCI. Its purposes are to 1) estimate the costs of the unbundled network elements described in § 252 (d) (1)(A) and (B) of the Telecommunications Act of 1996, and 2) to develop an estimate of the cost of basic exchange telephone service that is the subject of universal service funding mechanisms. Complete documentation describing the operation of the model in detail is being developed and can be made available upon request.

The HM derives some of its inputs and methods from version 1 of the BCM Plus model, a successor to the Benchmark Cost Model ("BCM"), which was originally developed by US WEST, NYNEX, MCI, and the local services operation of Sprint (on July 3, 1996, US West and Sprint Corporation presented version 2 of the BCM to the FCC. NYNEX and MCI are not sponsors of BCM2. A careful review indicates that the purported enhancements in BCM2 are already present in the Hatfield Model).

Q. HAS THE HATFIELD MODEL EVOLVED OVER TIME?

A. Yes. Originally, the Model was used to produce estimates of the TSLRIC of basic local exchange service as part of an examination of the cost of universal service. A second version, referred to as the Hatfield Model V.2.2, Release 1

was then developed to estimate costs for unbundled network elements only. Version 2.2, Release 2, used to produce the results in this testimony, considers both unbundled elements and basic local exchange service. It also incorporates a number of enhancements over earlier versions, the ultimate effect of which is to increase the degree of certainty associated with the results it calculates.

Q. WHAT ARE THE KEY PRINCIPLES AND ATTRIBUTES OF THE HATFIELD MODEL?

A. The model uses sound economic costing principles to estimate the relevant costs. Its operations can be readily scrutinized, and a large number of its inputs can be set, by users. It includes all network elements and associated costs that are necessary to provide the unbundled elements and local exchange service considered by the model.

Q. PLEASE DESCRIBE THE PUBLIC NATURE OF THE MODEL.

A. Version 2.2, Release 1 of the model has been available through the International Transcription Service of Washington, DC, for some time. Release 2 of the model will shortly be available from the same source, and will be made available in this proceeding. The new release will be accompanied by complete documentation that describes the operation of the model. In addition, a considerable effort has been expended to facilitate the setting of many inputs by the user of the model through a graphical interface, and it is anticipated that this interface will be available when the model is released, or shortly thereafter.

The inputs to the model, both those adjustable by the user and those incorporated into the model itself, are readily visible to the user. The model runs as a set of Excel spreadsheets, and those spreadsheets can be examined by the user.

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

A. Previously lacking such open cost models, regulators and intervenors have been forced to rely on cost studies produced by the incumbent Local Exchange Carriers (ILECs) as the only available source of cost data. Attempts to review, analyze, and verify the cost data produced by such models have met with, at best, only limited success.

As described above, two constant sources of frustration have been present throughout the process of reviewing such models. First, the lack of publicly available information related to the ILEC studies has often made a meaningful review difficult or impossible. The inputs and assumptions used by the respective ILECs, when made available, have often been subject to proprietary protection. Similarly, the mechanized cost models have often remained "black boxes" because of the inability of intervenors (and often regulators) to test either the accuracy of the algorithms or the sensitivity of the model to inputs and assumptions. The second source of frustration has been the lack of independent and objective cost data to be used as a benchmark for the evaluation of the LEC-provided data. Without such an objective data source, it has been impossible for either regulators or intervenors to ascertain

the reasonableness of ILEC cost estimates.

In contrast to the difficulty often experienced when attempting to evaluate ILEC cost studies and the underlying models, a review of the Hatfield Model can be direct and straight-forward. Complete and detailed documentation of the model is available, including descriptions of both the model algorithms and the inputs and assumptions used. Because the model is publicly available and its inputs can be varied by the user, it possible to directly evaluate the model for accuracy and to ascertain the sensitivity of the model to changes in various inputs. Because this level of review is possible, it is possible for the reviewer to conclude that the model produces both reasonable and verifiable cost data.

In summary, a fundamental issue with any cost study is the integrity of the assumptions, calculations and input values used to develop the ultimate outputs. The only method to test the reliability of the final product is to make all of the data as well as the methodology accessible for independent scrutiny and evaluation. The Hatfield Model uses clearly documented and visible methodologies which are verifiable, and non-proprietary data obtained from publicly-available sources. Both the inputs and outputs to the Hatfield Model are open for inspection and analysis. Inputs can be varied as appropriate, and sensitivity testing can be conducted by varying these inputs. The results are all subject to challenge and verification.

Q. YOU STATED THAT THE HATFIELD MODEL CALCULATES COSTS USING A METHODOLOGY THAT IS CONSISTENT WITH THE

"FORWARD LOOKING ECONOMIC COST"-BASED STANDARD ADOPTED BY THE FCC. PLEASE DESCRIBE THE STATED BASIS FOR THE FCC'S METHODOLOGY.

A. In its August 8, 1996 First Report and Order in CC Docket 96-98 ("Order"), the FCC concluded that because "the prices of interconnection and unbundled elements...are critical terms and conditions of any interconnection agreement," it was necessary to "set forth the methodological principles" to be used when determining relevant costs and rates (para. 618). The FCC outlines in some detail a "cost based pricing methodology based on forward looking economic costs" which it concludes is the approach for setting prices that best furthers the goals of the 1996 Act" (para. 620), and that will "give appropriate signals to producers and consumers and ensure efficient entry and utilization of the telecommunications infrastructure" (para. 630). This methodology is to be used to determine costs and rates for unbundled network elements, interconnection, and collocation (paras. 628, 629).

In order to develop a national standard for the calculation of forward looking economic costs, the FCC identified the following criteria to be used:

Use of a long run assumption. The term long run, in the FCC's methodology, "refers to a period long enough so that all of a firm's costs become variable or avoidable" (para. 677). The HM uses this assumption when identifying relevant investments and expenses.

Definition of increment to be studied total demand. The FCC states that "the increment that forms the basis for a TELRIC study shall be the entire quantity of the network element provided, and that "all costs associated with

providing the element shall be included in the incremental cost" (para. 690). The HM studies an increment equal to the entire quantity of the network element, both as the incumbent uses the network element to provide its own retail services and as it provides that network element to other carriers on an unbundled basis. All costs that an efficient incumbent LEC would incur to provide the network element are included.

Use of a forward-looking methodology. The FCC concluded that the relevant costs should be the costs that "a carrier would incur in the future" (para. 683), and that a "forward-looking economic cost methodology based on the most efficient technology deployed in the incumbent LEC's current wire center locations" (para. 685). The HM utilizes existing wire center locations, and develops investments using the most efficient, currently available technologies for the provision of loop facilities, switching, interoffice transport, and signalling.

The inclusion of a "reasonable profit." The FCC concludes that "the concept of normal profit is embodied in forward looking costs because the forward looking cost of capital...is one of the forward-looking costs of providing the network elements," (para. 700), and that because a normal profit is represented by the LEC's forward looking cost of capital, "no additional profit is justified under the statutory language" (para. 699). The HM includes a forward looking cost of capital in the costs that it calculates, and does not provide an additional "markup" over this level.

Embedded costs should not be included. The FCC concluded that a cost methodology based on embedded costs, or a "markup" to reflect the

difference between forward-looking and embedded costs, "would be pro-competitor -- in this case the incumbent LEC -- rather than pro-competition," and went on to state that "we reiterate that the prices for interconnection and network elements critical to the development of a competitive local exchange should be based on the pro-competition, forward looking, economic costs of those elements, which may be higher or lower than historical embedded costs. Such pricing policies will best ensure the efficient investment decisions and competitive entry contemplated by the 1996 Act" (para. 705). The HM is based on forward looking economic costs, and embedded investments are not used.

Universal Service Subsidies should not be included. The FCC concluded that "funding for any universal service mechanisms adopted in the universal service proceeding may not be included in the rates for interconnection, network elements, and access to network elements" (para. 712). The HM does not include these costs in its calculations.

Access to Cost Data/Burden of Proof. The FCC notes that "the incumbent LECs have greater access to the cost information necessary to calculate the incremental cost of the unbundled elements of the network. Given this asymmetric access to cost data, we find that incumbent LECs must prove to the state commission the nature and magnitude of any forward looking cost that it seeks to recover" (para.680, 696). The HM calculates costs using the best publicly available data that has been identified. The model is designed to permit calculations of cost based on LEC-provided data if the LEC has met the burden of proof that these data will accurately identify

forward looking costs.

Use of generic forward looking cost models. While the FCC stated that it had not had ample time to review the Hatfield Model specifically, it stated that the HM and similar generic models "appear best to comport with the preferred economic cost approach discussed previously" in the Order (para. 834), and that the HM and similar models "appear to offer a method of estimating the cost of network elements on a forward looking basis that is practical to implement and that allows state commissions the ability to examine the assumptions and parameters that go into the cost estimates" (para. 835). Of those models referred to by the FCC in this section, only the Hatfield Model is based on publicly available data and permits scrutiny by both commissions and interested parties.

Inclusion of specific types of cost and application of principle of cost causation. The FCC states that unbundled network elements should be priced at "the forward looking costs that can be attributed directly to the provision of services using that element, plus a reasonable share of the forward looking joint and common costs" (para. 673), and indicates that "costs must be attributed on a cost-causative basis. Costs are causally related to the network element being provided if the costs are incurred as a direct result of providing the network elements, or can be avoided, in the long run, when the company ceases to provide them" (para. 691). The FCC goes on in subsequent paragraphs of the Order to define these terms and to give illustrative examples (See paras. 678,679,682, 690, 691, 694, 698). The HM uses cost-causative principles to identify forward-looking costs with specific network elements. It

includes in the cost of network elements all the costs that the FCC specifically discussed in its order as being part of the direct cost of network elements. Specifically, the HM includes all "investment costs and expenses related to primary plant used to provide that element" (para. 682), and attributes "incremental costs of shared facilities and operations...to specific elements to the greatest extent possible" (para. 682). The HM specifically attributes "the costs of conduits shared by both transport and local loops, and the costs of central office facilities shared by both local switched and tandem switching...to specific elements in reasonable proportions" (para. 682). For both dedicated and shared investments, the HM includes "the forward-looking costs of capital (debt and equity) needed to support investments required to produce a given element" (para. 691).

The FCC's rules require that overhead costs be included to the extent that they vary with the output of particular network elements (despite their accounting classification), and thus are part of the TELRIC of those elements. The FCC also requires, to the extent that there are any such overhead costs that are common to several wholesale elements, or to wholesale and other functions, that the prices of of network elements include "a reasonable share of common costs." The procedure of estimating the overhead costs of a wholesale-only carrier, which is what Hatfield does by adding the 10% markup, satisfies the FCC requirements. While statistical evidence and a growing literature on activity-based accounting systems suggest that many of the costs that have traditionally been considered "overhead" costs should actually be considered service-specific or element-specific costs, the Hatfield

Model method for treating overhead costs renders any precise distinction between element-specific and "common" overhead costs unnecessary. Insofar as the 10% markup captures all of the relevant overhead costs, it includes any element-specific costs and a reasonable share of any "common" overhead costs. This approach ensures that each network element recovers at least its "reasonable" share of such common costs, to the extent that they exist. Moreover, if regulators set prices for network elements equal to the costs that the Hatfield Model reports for each element, these prices would allow a firm that is engaged solely in providing network elements on a wholesale basis (with no retail functions) to recover all of its economic costs of doing business, including a reasonable profit, but no more. From this vantage point also, the Hatfield approach lies well within the bounds of reasonableness.

In conclusion, the Hatfield Model complies with the detailed explanation of the cost methodology adopted by the FCC and the results of the Model should be used to establish rates for unbundled network elements in Florida.

Q. HAVE REGULATORS AND ECONOMISTS ENDORSED THE HATFIELD MODEL?

A. Yes. With reference to an earlier version of the model, which lacks a number of the features and enhancements incorporated into Release 2, the Washington Utilities and Transportation Commission concluded the following (See WUTC Docket No. UT-950200, Fifteenth Supplemental Order, page 82):

> The Commission rejects USWC's cost studies for local

> service and the local loop. The most reasonable and accurate measure of incremental cost for these services on this record is provided by the Hatfield model ... We are satisfied that it accurately reflects costs incurred by USWC and that, if it errs, it likely errs on the high side.

Nationally prominent economists have also endorsed the HM. In an affidavit submitted in response to the FCC's April 19, 1996, Notice of Proposed Rulemaking in CC Docket No. 96-98, Professors William J. Baumol, Janusz A. Ordover and Robert D. Willig state in paragraph 38 that:

> We have reviewed the costing model constructed for AT&T and MCI by Hatfield Associates, Inc., a telecommunications consulting firm. The object of the current Hatfield model is to estimate the total costs of building and operating a network, using efficient, forward-looking technology, to supply all "basic" narrowband services (essentially all local and intraLATA toll service, including carrier access) currently supplied in the United States. We conclude that the Hatfield Model follows reasonably closely the TSLRIC principles discussed in Section II. Where limitations on the availability of data have forced the designers of the model to use approximations that deviate from the theoretical ideal, the shortcuts adopted tend to

overestimate, not underestimate, true TSLRIC. Further the model is extremely flexible: whenever values are available, they can readily be substituted for the values used currently.

Section II: Constituents and Operation of the Hatfield Model

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

A. The Hatfield Model employs a methodology based upon engineering standards and methods applicable to the local exchange network in order to estimate the costs that would be incurred by an efficient firm to provide the unbundled network functions and basic exchange service that are considered by the model. Specifically, these costs would be incurred by an efficient LEC to provide the specified functions and services using a network designed to provide narrowband, voice-grade telephone services. The Hatfield Model is a table-driven system that is adaptable to any LEC or geographic area, provided the appropriate state-specific and company-specific information is available and input into the model.

Q. HOW DOES THE HATFIELD MODEL RELATE TO THE BCM?

A. A key constituent of the HM is BCM-PLUS, which was derived from the first version of the BCM ("BCM1"). However, BCM-PLUS, and the remaining modules of the HM, use BCM1 only as an initial step in the development of the investment associated with the feeder and distribution components of the

local loop. The Hatfield Model adds network components not included in BCM1. It also applies BCM1 output to its own switching investment module. The switching module in the Hatfield Model contains separate, user-changeable factors for switching investment, construction, installation, floor space and frames. This disaggregation provides for a thorough determination of wire center costs. The same module determines the investment in interoffice call transport and signaling facilities.

BCM-PLUS, together with the Hatfield Model, improve on BCM1 in a number of ways. First, the HM uses a 1995 estimate of households per Census Block Group (CBG), whereas BCM1 used 1990 census data. Second, the HM accounts for multi-line residences, and business, special access, and payphone lines, which were excluded from the loop facilities calculation in the BCM1. In doing so, it uses a database showing the number of employees per CBG that was not identified at the time BCM1 or earlier versions of the HM were written. Third, the HM estimates costs according to the line density -- that is, the number of *lines* served per square mile -- rather than the number of *households* per square mile. Fourth, the HM increases the amount of distribution cable in the two highest density ranges, and decreases it in lowest density range, consistent with the amount of cable that would actually be required for such a line density. Fifth, the HM estimates structure costs independently of the cost of the cable itself, whereas the BCM1 estimated structure costs as a multiplier of cable costs. In addition, the HM includes cable installation (placement) costs, which tends to increase the per-foot cost of the cable. Sixth, the Hatfield Model includes costs associated with network

elements that were not included in the BCM1, such as the drop wire, network interface device, terminal, and serving area interface portions of the local loop, and the facilities necessary to connect LEC end offices (interoffice facilities). These are perhaps the most significant changes; there are a number of additional minor changes.

As already noted, U S WEST and Sprint recently released a new version of the Benchmark Cost Model ("BCM2"). BCM2 incorporates many, but not all, of the modifications that the Hatfield Model made to BCM1.

Q. PLEASE DESCRIBE THE INPUT DATA USED BY THE HATFIELD MODEL.

A. The Hatfield Model uses seven primary categories of input data: CBG data, business employee data, cable and installation cost data, wire center data, traffic data, expense data, and ARMIS-reported data on the number of residence and business lines. The CBG data used by the Hatfield Model are: 1) number of households in each CBG; 2) CBG land area; 3) CBG position relative to the nearest wire center; and 4) geological factors including rock depth, rock hardness, water table depth, and surface texture. The business line data provide the number of business employees by CBG; this information is used to distribute the ARMIS-reported number of business, special access, and payphone lines by CBG.

The wire center data provides the location of existing wire centers in each LATA, as well as the location of existing tandem switches and signal transfer points.

Network traffic is estimated using dial equipment minutes and call attempt statistics. These inputs are used to appropriately size investment in switching, signaling, and interoffice facilities, as well as to calculate usage-sensitive costs for several of the unbundled network elements.

The information necessary to estimate future recurring expenses associated with operating and maintaining the telephone network comes from two sources. Forward-looking expense information is used if it exists in the public domain. Where no such data is available, selected expense data reported by the LECs in ARMIS is used because it is the best publicly available data.

Q. WHAT ARE THE FUNCTIONAL MODULES THAT COMPRISE THE HATFIELD MODEL?

A. The Hatfield Model contains six functional modules. They are:

- Line Multiplier Module;
- Data Module;
- Loop Module;
- Wire Center Investment Module;
- Convergence Module; and
- Expense Module.

An overview of each of the modules is provided below.

Q. WHAT IS THE PURPOSE OF THE LINE MULTIPLIER MODULE?

A. In order to calculate costs on a per line basis, the HM uses estimates of the

total number of lines (including residential, business, public telephone and special access lines) within each CBG. CBG input data contains the number of households, not number of lines, in each CBG. The line multiplier module determines a ratio of total residential lines reported in ARMIS to total households, and applies this ratio to the number of households in each CBG to estimate the number of residential lines by CBG. It estimates the number of business, special access, and payphone lines by distributing the corresponding ARMIS numbers among CBGs proportionally to the number of employees in each of the CBGs.

Because the network is sized to provide all loops, not just residential loops, and because the total line density may be substantially different than the residential line density, the model subsequently categorizes and reports costs within CBGs according to total line density (i.e., total lines served per square mile) rather than residential line density. Line density is broken into six categories, or density ranges: 0-5, 5-200, 200-650, 650-850, 850-2,550 and greater than 2,550 lines per square mile, respectively.

Q. WHAT FUNCTION IS PERFORMED IN THE DATA MODULE?

A. The Data Module uses CBG data and line totals to determine the quantity and type of outside loop plant facilities required, based upon density and distance of the CBG from the wire center. In doing so, it basically employs the same methodology as does the BCM1, although there are a few exceptions, such as 1) as already discussed, the length of distribution cable is changed for the highest and lowest line density zones; 2) the fiber-copper breakpoint -- that is,

the feeder length below which copper cable, and above which fiber cable, are used -- becomes a user input; and 3) fiber cable is assumed to have a higher equivalent line capacity than is assumed by BCM1. The HM also separately considers the amounts and costs of underground and buried cable, whereas they were combined in the BCM1. The Data Module also calculates outside plant structure (poles, conduits) costs associated with placing and installing cable under varying terrain and population density conditions.

Q. WHAT FUNCTION IS PERFORMED BY THE LOOP MODULE?

A. The Loop Module, which is also part of BCM1, determines the size and type of cable required to serve each CBG, given loop lengths, fill levels, and population density. The Module then uses the distribution and feeder lengths calculated in the Data Module as well as cable price information to determine the total required loop investment for each CBG including supporting structure investment.

Q. WHAT IS THE PURPOSE OF THE WIRE CENTER MODULE?

A. The Wire Center Module calculates wire center and interoffice facilities investments. This module quantifies investments associated with end office switches, wire centers, trunks, tandems (including operator tandems, and operator positions), signaling links, signal transfer points (STPs), and service control points (SCPs). Some of the elements it considers, such as the cost of the SCPs and operator positions, are relevant only to unbundled network elements; the remainder are germane to both unbundled elements and the cost

of basic local service. The module uses the total number of access lines, the location of wire centers, and network traffic data to determine required switching, trunking, and signaling investments.

The module sizes network facilities sufficient to serve the total demand created by all users and uses of the network. The Hatfield Model derives its switch investment estimates by using both typical per line prices paid for by Bell Operating Companies, GTE and other independents for end office switches (according to a published source), and by using Table 2.10 of the FCC's Statistics of Communications Common Carriers, which provides the average number of access lines served by a LEC switch.

Q. WHAT IS THE PURPOSE OF THE CONVERGENCE MODULE?

A. The Convergence Module modifies the loop investment calculated in the Loop Module to account for network elements omitted from BCM1. It combines the modified loop investment with the wire center, interoffice, and signaling investment calculated in the Wire Center Module. For each of the six density ranges, the convergence module reports the number of lines by type, number of households and investment in categories such as distribution, feeder, end office switching, tandems, and trunks.

Q. PLEASE DESCRIBE THE EXPENSE MODULE.

A. The Expense Module uses the outputs from the Convergence Module to determine annual capital carrying costs, operations and maintenance expenses, and support expenses associated with the investments needed for a local

telecommunications network. This module uses the best publicly available information to estimate future expenses and reports the annual cost for each unbundled network element. The module requires as inputs appropriate assumptions regarding the cost of capital (cost of debt, cost of equity, and debt/equity ratio); the economic lives of various categories of network equipment and facilities, and the relationship between investment and expenses. It produces the appropriate unit cost of various unbundled network elements and of basic exchange service. These units vary by type of element and service: for instance, the cost of unbundled local switching is reported as both cost per port and cost per minute of use; while the SCP cost unit is messages. Basic local exchange service is reported as the cost per line per month for the service, whose elements have been defined previously. The results are reported by line density zone, using the ranges I have defined previously.

Q. YOU PREVIOUSLY REFERRED TO HATFIELD MODEL VERSION 2.2, RELEASE 1. PLEASE SUMMARIZE THE KEY DIFFERENCES BETWEEN HATFIELD MODEL VERSION 2.2 RELEASE 1 AND RELEASE 2.

A. The key differences may be summarized as follows. Compared to Release 1, Release 2

- estimates the cost of basic local exchange service,
- tentatively provides a graphical user interface to facilitate the setting of user inputs and running the model,

- provides an increased set of inputs that can be set by the user,
- uses a 1995 estimate of households by CBG, rather than 1990 census data,
- estimates the number of business, special access, and payphone lines per CBG using a database containing employees per CBG,
- increases the length of distribution cable for the two highest-density ranges, and decreases it for the least dense range,
- specifies cable costs on an as-installed basis, generally leading to higher per-foot cable costs,
- separates structure costs from cable costs, rather than calculating them as a multiplier of cable costs,
- places each serving area interface (the interface point between feeder and distribution cable) inside the CBG it serves, rather than at the edge of the CBG,
- refines the treatment of interoffice transport and signaling costs,
- provides a greater disaggregation of expense factors, for instance, by considering underground and buried cable expenses separately, and
- adds the estimated cost of local number portability.

Section III: Florida-Specific Model Results

Q. PLEASE SUMMARIZE THE MODEL INPUTS THAT HAVE BEEN USED TO DEVELOP COST ESTIMATES FOR FLORIDA.

A. The inputs used to perform the run of the model used to develop costs for use

in this proceeding are attached as Exhibit DJW-2. As with all data, MCI is continuing to evaluate the accuracy and validity of these inputs in order to ensure the reliability of the cost information produced by the model.

Q. WHAT ARE THE RESULTS OF THE MODEL?

A. In Exhibit DJW-3, I have included the results of running the Hatfield Model to develop costs for use in this proceeding. In summary, the results of MCI's analysis are as follows:

Hatfield Model Unbundled Network Element Summary

	Element	Unit Definition	Unit Cost
1.	Network Interface Device	per line-per month	$ 0.56
2.	Loop Distribution	per line-per month	$ 6.43
3.	Loop Concentrator	per line-per month	$ 2.55
4.	Loop Feeder	per line-per month	$ 2.35
5.	End Office Switching		
	Port	per line-per month	$ 1.02
	Usage	per minute	$ 0.0017
6.	Signaling Links	per link-per month	$ 18.41
7.	Signal Transfer Point	per message	$ 0.00005
8.	Signal Control Point	per message	$ 0.00079
9.	Common Transport	per minute	$ 0.00074
10.	Dedicated Transport	per DS0 - per month	$ 4.24
11.	Tandem Switching	per minute	$ 0.0012

12.	Operator Systems	$ 7,375,405

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

REBUTTAL TESTIMONY OF DON J. WOOD

ON BEHALF OF MCI

DOCKET NO. 960846-TP

September 16, 1996

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Don J. Wood, and my business address is 914 Stream Valley Trail, Alpharetta, Georgia 30202. I provide consulting services to the ratepayers and regulators of telecommunications utilities.

Q. ARE YOU THE SAME DON J. WOOD WHO PRESENTED DIRECT TESTIMONY ON BEHALF OF MCI IN THIS PROCEEDING?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my rebuttal testimony is to respond to the criticisms of the Hatfield Model included in the direct testimony of Alphonso J. Varner on behalf of BellSouth Telecommunications, Inc. ("BST"). I will also respond to statements made by BST witness D. Daonne Caldwell in her direct testimony.

Q. AT PAGES 18-19 OF HIS TESTIMONY, MR. VARNER STATES THAT THERE ARE A NUMBER OF "FUNDAMENTAL FLAWS INHERENT IN THE HATFIELD MODEL" WHICH MAKE IT AN "INAPPROPRIATE TOOL" FOR CALCULATING THE COSTS OF UNBUNDLED NETWORK ELEMENTS TO BE PROVIDED BY BST. ARE HIS CRITICISMS

ACCURATE?

A. No; none of the criticisms levied by Mr. Varner have merit. Upon close examination, Mr. Varner's criticisms fall into two categories: 1) those in which the assertion is more or less factually correct, but, even if factually correct, in no way impugns the validity of the Hatfield Model as an accurate, objective and verifiable means of calculating forward-looking economic costs; and 2) those in which there is simply no factual basis for the assertion, and for which Mr. Varner offers no factual support in his testimony. Mr. Varner presents his criticisms as a presumably complete list of "the basic areas of the model to which BST objects." If BST has identified other "objections" to the Hatfield Model, it has not made them known to MCI.

Q. WHAT ARE BST'S SPECIFIC CRITICISMS OF THE HATFIELD MODEL?

A. Mr. Varner's stated criticisms are the following:

The Hatfield Model does not calculate the costs of unbundled network elements based on "the actual network used to provide service." More generally, Mr. Varner argues that the Hatfield Model should not be used because it does not produce results which are consistent with the "actual costs incurred by BST." In both regards, Mr. Varner is factually correct: the Hatfield Model does not calculate the costs associated with BST's embedded network, and it does not purport to calculate the level of BST's embedded costs. What Mr. Varner fails to recognize when making this argument is that no forward-looking cost study, assuming that it is correctly performed, is based on the network configuration and technologies correctly in use. As the

FCC clearly points out in its August 8, 1996 Order in CC Docket 96-98 ("FCC Order"), "forward-looking cost methodologies, like TELRIC, are intended to consider the costs that a carrier would incur in the future" (para. 683). The approach advocated by Mr. Varner -- to base cost studies on BST's "actual network" -- was specifically rejected: the FCC found that an approach that calculated costs "based on existing network design and technology...currently in operation" is "essentially an embedded cost methodology," and that to establish rates on such a basis would permit the incumbent LECs to recover costs "that reflect inefficient or obsolete network design and technology" (para. 684). In contrast, the Hatfield Model calculates forward-looking economic costs in the manner specifically adopted by the FCC, based on "the most efficient technology deployed in the incumbent LEC's current wire center locations" (para. 685). In summary, Mr. Varner and BST would have this Commission reject the Hatfield Model because it complies with the methodology specified by the FCC rather than with a methodology that was specifically rejected.

The Hatfield Model has evolved over time. Again, my dispute is not with Mr. Varner's facts, but with his conclusion. Apparently, Mr. Varner believes that in order for a cost model to be an "appropriate tool" for use in developing cost estimates, it must be developed in final form and thereafter remain rigid and unchanged; no additional information should be utilized and no new features should be added. Such an assertion is both absurd on its face and wholly inconsistent with the history of the cost models currently in use by BST. There is no dispute that the Hatfield Model has evolved over time in

order to incorporate new data (because it is based only on publicly available, non-proprietary inputs, the developers of the model continue their efforts to identify public sources of data) and to include additional features (the original version of the model could only be used for universal service calculations, the second version produced only costs for unbundled elements, and the current version -- the "new version" as referred to by Mr. Varner -- can be used for calculations of both universal service and unbundled element costs). Mr. Varner offers no argument why such model evolution, and the additional information that it makes available, is not desirable. In addition, Mr. Varner is apparently not aware that each of the cost models in use by BST's own costing organization has undergone similar changes over time and, if his criticism is accepted by the Commission, must also be rejected.

The Hatfield Model uses data derived from the Benchmark Cost Model. Here again, there is little dispute regarding the fact that elements of the Benchmark Cost Model have been incorporated into the Hatfield Model. Specifically, the Data Module and Loop Module of the Hatfield model contain calculations of loop characteristics and investment that are adapted from the Benchmark Cost Model developed by US West, Sprint (local operations), NYNEX, and MCI. Mr. Varner offers no basis, however, for his somewhat surprising assertion that the BCM is "fatally flawed." In this regard, Mr. Varner and BST appear to be in the distinct minority, even among their LEC counterparts. Specifically, US West and Sprint have developed a new version of the Benchmark Cost Model, referred to as BCM2, that continues to use the sets of calculations used by the Hatfield Model. It is noteworthy that similar

enhancements have been made independently to the original BCM by both the developers of the Hatfield Model and BCM2. It is also my understanding that PacTel is considering incorporating BCM2 -- including the sets of calculations in question -- into its own modelling efforts. While Mr. Varner does not describe the BCM's alleged "fatal flaws" in his testimony, it is clear that other incumbent LECs do not share his views. Of course, if Mr. Varner is contending that the BCM calculations are "fatally flawed" because they do not calculate costs based on BST's embedded network, then his criticism is invalid for the reasons described previously.

According to Mr. Varner, the Hatfield Model includes estimates of joint and common costs which are "unusually low." Here, and in the remainder of his criticisms, Mr. Varner appears to have erred in both his facts and his conclusions. He provides no basis for his suggestion that the "joint and common" costs (as these terms are used by the FCC) included in the Hatfield Model are somehow inaccurate, nor does he state the benchmark to which he has compared them. In other words, if the costs included in the Hatfield Model are "unusual;" what is the source of Mr. Varner's conclusions regarding the "usual" level of such costs? Consistent with the FCC Order, the Hatfield Model includes all of those costs described by the FCC as "joint and common" that an efficient carrier would incur on a forward-looking basis; it does not, and should not, include BST's embedded level of common costs. It is also noteworthy that the FCC stated that, in addition to its expectation that forward-looking common costs will be lower than existing embedded levels, it expected the level of "common" costs to be smaller in studies conducted based

on an increment of network elements rather than tariffed services. The FCC also concluded that because of the "likely asymmetry of information regarding network costs, incumbent LECs shall have the burden to prove the specific nature and magnitude of these forward-looking costs" (para. 695). While the costs in the Hatfield Model may be considered "unusual" by Mr. Varner when compared to BST's embedded level of "joint and common" costs, such an observation in no way indicates that the Hatfield Model results are not correct and fully consistent with the FCC Order. To the extent that he believes that these costs are not an accurate reflection of the costs to be incurred by an efficient carrier on a forward-looking basis, Mr. Varner and BST bear the burden of proving the existence of additional forward-looking efficient costs.

According to Mr. Varner, the Hatfield Model uses an "unrealistic cost of money." Fortunately, the FCC Order provides some guidance regarding a "realistic" assumption. Specifically, the FCC found that "based on the current record, we conclude that the currently authorized rate of return at the federal or state level is a reasonable starting point for TELRIC calculations" (para. 702). The Hatfield Model uses a weighted average cost of capital of 10.01%, based on authorized rates of return adopted by the FCC over the 1990-1995 time period. *In doing so, it uses a cost of money assumption that is higher than the last authorized weighted average cost of capital authorized for BST by this Commission.* In addition, the FCC found that "incumbent LECs bear the burden of demonstrating with specificity that the business risks that they face in providing unbundled network elements and interconnection services would justify a different risk-adjusted cost of capital or depreciation rate. These

elements generally are bottleneck monopoly services that do not now face significant competition" (para. 702). In summary, the Hatfield Model as it has been run for this proceeding uses a higher cost of capital than is required by the FCC Order. If Mr. Varner intended to suggest that the model used a cost of money that is unrealistically high, then he may be correct. If he intended to suggest that the cost of money used is unrealistically low, then he and BST bear the burden of demonstrating that the risks associated with providing unbundled network elements warrant a change in the Commission's last approved cost of money.

According to Mr. Varner, the Hatfield Model uses an "overly high plant utilization factor." In reality, the Hatfield Model uses a number of different utilization factors -- sometimes referred to as "fill factors" -- depending on the type of facility being used and the characteristics of the area in which it is to be placed. The Hatfield Model uses conservative estimates of so-called "engineering fill" or "administrative fill," that are in no way "overly high" when used in a forward-looking cost study. Of course, the assumed utilization factors are not intended to represent the levels of network "fill" in BST's embedded network, which may be artificially low for a number of reasons.

According to Mr. Varner, the Hatfield Model uses "overly long depreciation lives." In reality, the Hatfield Model uses the last depreciation lives authorized by the FCC. (Based on a request by the Commission staff during my deposition last week, MCI is currently rerunning the model using this Commission's most recently approved depreciation lives.) As with the

other variables, Mr. Varner and BST bear the burden of demonstrating that the depreciation lives used in the model should be adjusted.

According to Mr. Varner, the Hatfield Model underestimates the cost of service in urban areas. Mr. Varner provides no basis for this assertion, so it is impossible to ascertain the validity of his criticism. The Hatfield Model calculates costs for six density zones, so that the differences in the cost of provisioning a network in urban and rural areas can be accurately captured. The forward-looking economic costs of providing unbundled network elements in both urban and rural areas have therefore been included.

Q. ARE THERE OTHER AREAS OF CONCERN THAT YOU WISH TO ADDRESS AT THIS TIME?

A. Yes. While she does not describe in any detail the methodology that BST intends to use in its "TELRIC" studies current being performed, BST witness Caldwell makes two troubling statements. First, Ms. Caldwell states that BST's existing "LRIC/TSLRIC studies do not include any shared or common costs that would be considered directly attributable using the TELRIC methodology specified in the FCC Order." This statement is simply false. To be clear, I am not suggesting that Ms. Caldwell has intentionally chosen to mislead this Commission; it is possible that she is simply unaware of the details regarding how BST conducts its incremental cost studies.

For example, the FCC states that "directly attributable forward-looking costs also include the incremental costs of shared facilities and operations," and described, as an illustrative example, "the costs of conduits shared by both

transport and local loops and the costs of central office facilities shared by both local switching and tandem switching." BST's cost studies have historically included a portion of such costs on a "directly attributable" basis and, to the best of my knowledge, continue to do so. As a result, a statement that BST's incremental cost studies do not currently include costs of shared facilities and operations is simply not accurate, and any attempts by BST to mark up for such costs in its upcoming "TELRIC" studies should be seen as the double-counting of costs that it actually represents.

Ms. Caldwell and Mr. Varner also make the unsupported statement that the results of cost studies performed pursuant to the FCC's TELRIC methodology will "logically" be higher than the results of previous BST studies (Caldwell at p. 4, Varner at p. 19). It is likely, however, that a study based on a true forward-looking methodology as prescribed by the FCC -- a methodology that explicitly does not include the embedded costs associated with BST's existing network -- will yield lower costs. While the FCC methodology includes what the FCC refers to as "forward-looking joint and common costs," it is by no means certain that the inclusion of the proper amount of these costs will outweigh the reduction created by studying a forward-looking rather than embedded network, especially if a significant portion of these costs are already included in BST's current cost studies (as described above). In summary, it is by no means "logical" to assume that the TELRIC methodology adopted by the FCC will produce results higher than the results of BST's existing cost studies. To the contrary, it seems reasonable to assume that the forward-looking costs of an efficient carrier will be lower than

the costs currently incurred by BST.

Q. IN YOUR DIRECT TESTIMONY YOU STATED THAT COMPLETE DOCUMENTATION DESCRIBING THE OPERATION OF THE HATFIELD MODEL IN DETAIL WAS STILL BEING DEVELOPED. HAS THAT DOCUMENTATION BEEN COMPLETED?

A. Yes. I have attached a copy of that documentation to this testimony as Exhibit 31 (DJW-4).

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes.

BY MR. MELSON (Continuing):

Q Mr. Wood, could you please summarize both your Direct and Rebuttal Testimony?

A Yes, I can. Good afternoon. My purpose here today is to present to you the results of the Hatfield Model. I believe the results of this model represent both the most accurate and ultimately the only verifiable forward-looking economic cost information that you have before you on which you can base prices for unbundled network elements.

I didn't reach that conclusion overnight. Since working as a cost analyst for BellSouth, I've spent the last several years both as a consultant to intervenors and as a consultant to commissions and their staffs reviewing, or at least attempting to review, cost studies performed by the incumbent local exchange companies. In that context, I've looked at studies performed by all seven of the Bell operating companies, including BellSouth, and several of the other tier-1 local exchange companies.

Throughout that process two really constant sources of frustration have come to bear. The first is that the cost study itself and the documentation was proprietary to the extent that the documentation was provided at all. It's been very difficult to get complete explanations of how the study was conducted, how the models were run, and it's been almost impossible to get a list of input information.

The second source of frustration really has been that the models themselves are the proverbial black box. You can't get a copy of the software; you can't run it to determine the validity or the sensitivity of the model to the outputs.

MCI and AT&T have both asked me in different contexts to review the Hatfield Model. And I can only describe the experience, the phrase that comes to mind is what a pleasant and refreshing experience this has been. A very fundamental underlying principle of the Hatfield Model in the process has been that it's based on the best available public data. It's an open model. The complete documentation has been presented here, a complete list of inputs has been presented and a functioning version of the model has been available to all parties. That creates a situation here an ability to review this model that's really unprecedented before you today.

Essentially what the Hatfield Model does is it uses existing BellSouth network switching locations and then constructs a forward-looking efficient network based on that constraint. It uses available and well tested technologies that will be deployed on a going forward basis. There is nothing hypothetical here. It uses well established engineering principles, both from Bellcore documentation and from outside plant engineers, subject matter experts, if you will, with over 20 years experience, 25 years experience, as a matter of fact. And it uses actual census data recording

population density and geographical data regarding the particulars of the area in which plant is being put in place, soil types, depth in bedrock, water table depth, that sort of information.

Through this process it creates forward-looking economic costs that an efficient provider of wholesale unbundled network functions would incur. And it includes all the types of costs that the FCC described in its August 8th Order.

Now, of course, also in compliance with that Order it does not include retail costs and it doesn't include the costs of BellSouth's embedded network or costs associated with BellSouth's embedded operations.

Now, with openness comes the possibility and the increasing possibility of criticism of the model. BellSouth has certainly presented some. Again, I can't overemphasize how important it is that we now have this open process. Mr. Lackey and I can now discuss in detail the merits of this model on the public record.

Criticism presented by BellSouth really indicates to me, and I've looked at all of it very carefully, the difficulty that the company is having and other companies are having in finding problems with this model. And their criticisms generally fall into two broad categories. The first category is that this model does not represent the costs of BellSouth's

embedded network. There is no dispute there. This model is not intended to cost BellSouth's embedded network.

There are also criticisms that this is not a top down approach to modeling, what we used to call a fully distributed cost approach. Again, there's certainly no dispute there. This is an incremental cost model. Is it not intended to reflect fully distributed costs.

The second area of criticism are a series of criticisms of the first version of the benchmark cost model, which is not being presented here to my knowledge by any party and is not the foundation of the Hatfield Model. In other words, these are criticisms regarding a model that is not being presented here and they present a number of those.

And, finally, Dr. Emmerson on behalf of BellSouth includes an example from California that he indicates demonstrates that the Hatfield Model understates costs. When you look at the details of the example, what you find is that what the example really illustrates are the dangers of accepting on their face the incumbent local exchange company costs studies without looking at what's behind them. And, in fact, what the California experience shows is that PacBell had costed a full broad band network as part of its local loop cost study.

So, ultimately I have found no valid criticisms presented to this model and it continues to represent to you

the most accurate and the only verifiable source of cost data and I urge you to price unbundled network elements at the level of the results presented by this model.

Thank you.

MR. MELSON: Mr. Wood is tendered for cross.

CHAIRMAN CLARK: Mr. Hatch. Ms. Dunson.

MS. DUNSON: No questions.

CHAIRMAN CLARK: Mr. Horton.

MR. HORTON: No questions.

CHAIRMAN CLARK: Mr. Lackey.

MR. LACKEY: Thank you, Madam Chairman.

CROSS EXAMINATION

BY MR. LACKEY:

Q Mr. Wood, it is correct that you have not had responsibility for developing the Hatfield Model; isn't it?

A That's correct; I'm not a developer of the model.

Q Now the Hatfield Model is a computer model; is that correct?

A That's right.

Q And the way it works generically is that someone enters input data into the computer, the computer processes the data according to a set of instructions and then generates output; correct?

A That's correct.

Q Now, just as an aside, in order to run this program,

if I understand correctly, you can do it at home if you've got 133 megahertz Pentium computer with 128Meg of RAM; is that correct?

A That's my understanding of the requirements, yes, but you can certainly run certain modules of the model with less hardware requirements. In fact, that's what I do in my office. But to run the full model, it requires 128Meg.

Q Well, and I don't understand what the relationship is between AT&T and MCI here, but when you and I talked last week I thought we concluded that the Deloitte-Touche consulting group was actually the folks who were running the model. Did I get that wrong?

A Well, only to the extent that we need to clarify what running the model is. I certainly have the responsibility for making sure that those folks don't change any data that they shouldn't change, that the inputs are what they should be for any run of the model and that they've gone through that process correctly. They are, the Deloitte-Touche representatives are certainly the folks who are actually sitting at the graphical interface with the mouse and clicking on go in order to run the model. So, with that clarification, they are the folks doing that.

Q Okay. But nobody should think that you're sitting at home or in your office with your computer running this thing; should they?

A No. Again, I'm not the one with the responsibility to actually click on go.

Q All right. And we agreed last week that you've not reviewed and verified each of the thousands of equations that are in the computer model; correct?

A Well, no, sir. I think what we agreed last week was that while I had reviewed the model very carefully and the processes, that I had not memorized the calculations in each one of those five or six thousand cells. And my recollection is that you gave me copies of formulas from two of those cells and I couldn't tell you which cells they were and I still couldn't do that today because I still have not memorized all five or six thousand calculations.

Q You have received a copy of the North Carolina transcript by now; haven't you?

A I have not reviewed it, no.

MR. LACKEY: I'm going to, if I may, Madam Chairman, have Mr. Carver take my copy down and show it to counsel and -- Maybe counsel has got his own.

MR. MELSON: I don't know if I do or not. Give me a page reference.

MR. LACKEY: Page 122, lines 2 through 5, is what I'm referring you to.

BY MR. LACKEY (Continuing):

Q Mr. Wood, Mr. Carver is handing you my copy of the

transcript from North Carolina and it should be open to page 122. And what I'd like you to do is read the question that begins on line 2 and I believe your answer concludes on line 5. Would you read those out loud, please.

A Certainly. "Question: Okay. The answer to my question as to whether you have reviewed and verified each of the thousands of equations that are in the computer model is no?"

"Answer: That's correct."

Q Thank you. Have you changed your answer or is it the same answer as you gave to the question last week?

A Well, if we were going through the same question and answer process, it would be the same. And my problem, Mr. Lackey, and I want to be as cooperative with you as I can, but if you were to ask me -- What we have here is one Q and A. What we don't have are the several pages of this discussion that you and I had previous to that.

If we wanted to stipulate to the entire North Carolina record, I would be happy to stand by every word, but if we take one question and answer out of context without the preceding discussion, I think we would at best be misleading the Commission; and if I were to agree with you, simply to that Q and A, I would probably be violating the oath I took when I sat down here. That's my problem.

Q Well, let me ask you the question one more time and

we'll see: And you have not reviewed and verified each of the thousands of equations that are in the computer model; is that correct?

A And the answer is as we discussed, there are several --

Q Can I have a yes or no answer, please, first, before you explain?

A I don't think I can say yes or no without misleading this Commission because of the way you pose the question. And I apologize, Mr. Lackey, but for the same reason we had -- Mr. Lackey and I had quite a discussion leading up to this question and answer in which we discussed what we meant by review and verify that I think is absolutely essential to whether I can honestly give you that answer or not and give him that answer or not. And I --

CHAIRMAN CLARK: Mr. Wood, you can say yes or no and then provide all that information.

WITNESS WOOD: Okay. I can't remember whether you posed it in the positive or the negative, Mr. Lackey, but the answer is that I disagree with your question.

BY MR. LACKEY (Continuing):

Q Well, let me pose it again so you'll understand which way I posed it and if I could have a yes or no answer, then you can explain it. The question is: And you have not reviewed and verified each of the thousands of equations that are in the

computer model; is that correct?

A No, sir; that's not correct because it is incomplete. I have certainly not memorized the calculations. I have reviewed the process that the model uses and each of these calculations to which you refer are part of that larger process.

Q Let me ask you the question then this way. I take it then you have reviewed and verified each of the thousands of equations that are in the computer model; is that correct?

A No, sir; that's not correct. I have reviewed that process.

MR. LACKEY: All right. Madam Chairman, I'm trying to move through it instead of going through all that --

CHAIRMAN CLARK: Mr. Wood, as I understand, your answer is that, no, you haven't reviewed and verified all of them, but you have looked at the overall process and you feel confident that it is an appropriate model for developing the costing?

WITNESS WOOD: That is a fair statement.

CHAIRMAN CLARK: Is that okay, Mr. Lackey?

MR. LACKEY: That's a perfectly acceptable answer, Madam Chairman.

CHAIRMAN CLARK: Thank you.

MR. LACKEY: I wish he'd given it instead of you. Can I have my transcript.

BY MR. LACKEY (Continuing):

Q Now let's talk about what the model does. The Hatfield Model employs a methodology that would estimate the cost that would be incurred by an efficient firm to provide the network functions and basic exchange services that are considered by the Hatfield Model; is that correct?

A Yes, sir; that's correct.

Q Okay. And the model uses the least cost technology; is that correct?

A It uses the least cost forward-looking technology that is currently available in the marketplace; that's correct.

Q All right. And this is what's known as a scorched node model; is that correct?

A That's right. It includes your existing switching locations but it builds up a network from that point.

Q Okay. So it uses the existing wire centers but it doesn't use any of the transmission facilities that are out there currently; is that correct?

A It doesn't assume the existence of those transmission facilities; that's right.

Q Okay. Now as we talked about earlier, it's a computer model, so obviously there are inputs; is that correct?

A Yes, sir; that's correct.

Q And if I understand your Exhibit DJW-4 is the model description of the Hatfield Model Version 2.2, Release 2; is

that correct?

A Yes, sir; that's right.

Q And if I remember correctly Appendix C is a seven-page list of the inputs to the model; is that correct?

A You do remember correctly and, yes, Appendix C is that list.

Q Okay. Now is Appendix C to your DJW-4 what's known as the default inputs to the model?

A Yes, that's right.

Q Okay. Now these are the inputs that Hatfield sends out with the model; is that correct?

A Well, yes, they are the inputs that are included on the CD-ROM as it's distributed; that's right.

Q Okay. And, for instance, if we look at page C-7, which are the expense module inputs, we find things like the operating state income and local income tax factor. Do you see that? It's six lines down.

A Yes. Yes, I do.

Q Okay. Can you explain to the Commission where that input into the model came from?

A Yes. The developers of the model looked at both federal, state and local taxes as they typically occurred throughout the country and created their best estimate of factors that would represent that portion of that tax burden, so that all of those expenses would be included.

Q Okay. So that factor is based on some look across the nation at the various components you just described?

A That's right.

Q It's not Florida specific, in other words?

A It's not Florida specific.

Q All right. And on that same page, down at the bottom there, economic lives; do you see that?

A Yes.

Q Now, if I recall correctly, those are the economic lives that were determined in a Bell Atlantic Maryland proceeding; is that correct?

A That's right. They are the most recent authorized depreciation lives by state commission that were found available on the public record.

Q And on that same page in the upper right hand corner there's a structure fraction assigned to telephone; do you see that?

A Yes, I do.

Q If I understand that default input, that assumes that the telephone company will only pay for one third of I guess it's the conduit and the telephone poles and that sort of thing; is that correct?

A Well, it's the conduit and the poles and specifically what it recognizes is that those facilities in that structure are used by more than one utility, electric utilities, cable

companies, perhaps competitive access providers, those sorts of folks, and share the expense of that structure.

Q So, the answer to my question is, yes, it assumes that the telephone company only pays one third of those?

A That's right. This is based on the assumption that three utilities will use that structure.

Q Okay. And since it's forward-looking assumption, there is no concrete evidence, no pun intended, that anybody can look at to see whether, for instance, that holds true today?

A Well, we wouldn't look at whether it would hold true today. In a forward-looking study, we'd look at whether it would logically take place in the future. So by definition, with any forward-looking study, you wouldn't be able to look at today for concrete evidence one way or the other.

Q Okay. So this default input assumes that in the future the telephone company will only pay for a third?

A That's right, and that either reflects the current situation or a cost saving measure that could be implemented; that's right.

Q All right. Now in addition to the inputs, these inputs that we've been talking about, the model makes the results state specific by operating off of census block groups; is that correct?

A Well, in one respect that's how it becomes state

specific, yes. There's population density information from the Census Bureau that's included.

Q Okay. That reminds me I missed something I wanted to ask you. On page C-5 of that exhibit, there are the input assumptions for the drop wire, the network interface device and the splicer, terminal splicer; isn't there?

A Yes, those are on page 5.

Q Okay. And what those three things cover is the little gray box on the side of the house, the drop wire to the telephone pole or whatever it happens to be, and the splice at the telephone pole; is that correct?

A That's exactly right.

Q And it assumes $40 of investment for the drop wire?

A That's right, on average.

Q Okay. How long is the on average drop wire then that's assumed by that $40 figure?

A The $40 investment comes from the best publicly available data that we have, which is the New Hampshire study. I do not know offhand the average drop length assumed, but I can find that out for you.

Q That New Hampshire study you're talking about, that's an incremental cost study that was done in 1993?

A I believe it's dated April 3rd, 1993; that's right.

Q And another input that you need, this thing not only does loops and cables, but it also looks at central offices and

what you need in terms of switches there as well; correct?

A That's right.

Q And you have to have traffic data and that sort of thing to make switch decisions; correct?

A That's correct. You'll need traffic data and line count information.

Q Okay. And if I understood correctly, the source for the traffic data was a 1989, or at least one of the sources, was a 1989 Bellcore document?

A That's not quite right. The source of the call characteristic information is the Bellcore document that I think you're referring to. The specific traffic data is as BellSouth reports it ARMIS.

Q Can you turn to page 24 of your Exhibit DJW-4; I may just misunderstand here. Are you there?

A Yes, I am.

Q You see the paragraph C, traffic assumptions?

A Yes.

Q The first sentence says "Many of the calculations in the wire center model rely on traffic assumptions suggested in Bellcore documents;" correct?

A That's right.

Q And that footnote identifies a Bellcore document, the one that was issued in March of 1989; right?

A That's right. And that refers to the -- As you

continue reading in that paragraph, there are call attempt per busy hour and holding time assumptions that do come from that document. When you refer to switching traffic, I was thinking in terms more of dial equipment minutes, for example, and that comes directly from BellSouth's, what BellSouth reports.

Q Now another source of information for these inputs was a fellow named John Donovan; is that correct?

A That's right. He is the subject matter experts that was relied upon for many of the outside plant calculations.

Q And by relied upon, you mean the folks at Hatfield Associates consulted with him?

A That's right.

Q And if I understand what Dr. Mercer has said, though there are no written reports or other documents that Mr. Donovan has given Hatfield Associates to substantiate the factors that he has advised them on; is that correct?

A I really wouldn't have any way to know that one way or the other in terms of the relationship between Mr. Donovan and Hatfield. I can certainly tell you that as a cost analyst at BellSouth, I regularly consulted subject matter experts and we didn't bother to do it in writing. We actually sat down over a desk and worked these things out, much I suspect the same way that Hatfield worked with Mr. Donovan, but I have no idea whether they have written reports or not.

Q Okay. In any event you've never seen any written

reports or anything to help verify any of the input that Mr. Donovan gave Hatfield Associates; is that correct?

A That's right. Again, I don't know whether they worked this verbally or in written form.

Q Now during your deposition, the Staff asked you -- I'm sorry. I have one question before I ask that. At the time you did your Exhibit DJW-3, which I believe contains the current results for Florida --

A Yes.

Q -- did you change any of the default assumptions in the Hatfield Model?

A I'm sorry. Before, you mean in the process of creating the revised exhibit or -- I'm sorry. I just misunderstood your question.

Q Yes. I want to know whether the revised exhibit, which has generated the numbers that have been introduced into this record, were generated using the defaults that came with the Hatfield Model or did you change any of the user changeable inputs to make them Florida specific?

A I think there's two questions. The difference in the original exhibit and the revised exhibit reflects purely a change in a calculation. It doesn't reflect any change in any inputs. In order to create both of these, the model was run using the default inputs. It was not necessary to make any changes.

Now subsequent to that, at the request of Staff, we have made a run using Florida specific depreciation lives and I believe the results of that run, one of the late-filed deposition exhibits that is here, I would note that it really didn't make much difference.

Q All right. I'm going to get to that for a minute. I wasn't asking for why you had a revision. All I want to confirm, and I think you have now, is that when you ran the study that we're looking at here as your DJW-3, you simply used a default input, you didn't alter any of them to make them Florida specific; correct?

A That's right.

Q Okay. Now the Staff did ask you to run it, we talked earlier that the depreciation lives, economic lives were taken from a Bell Atlantic Maryland study. The Staff did ask you to run this again using Florida specific or latest Florida approved depreciation rates; didn't they?

A That's right.

Q And if I understand correctly, that late-filed exhibit is contained in the Staff Exhibit DJW-6. Have you looked at that exhibit yet?

A Yes, I have.

MR. LACKEY: Okay. And if I understand correctly, the results begin on page 69 of that exhibit. I don't want to mark this because it will get out of order with some exhibits I'm

going to use, if I can, Madam Chairman, if we could just leave it for the Staff.

CHAIRMAN CLARK: Okay.

BY MR. LACKEY (Continuing):

Q Have you got that exhibit in front of you, Mr. Wood?

A Yes, sir. Page 69, as they're numbered, is a discussion of how the last approved depreciation lives were incorporated into the model and then 70 through 72 are the results of that process.

Q All right. And if I understand correctly, for instance, the overall state number went from $11.89 to $12.13 by changing the depreciation rates; is that correct?

A Well, yes, but the total loop costs per month went from $11.89 to $12.13.

Q Okay. And the total loop costs in every density zone went up as a result of using the Florida specific depreciation rates; didn't it?

A I think the answer is yes but not by much.

Q Okay. Well, and density zone, the first density zone, 0 to 5 lines per square miles it went from $82.80 to $86.12; didn't it?

A That's right, which is about a -- if I do the math in my head -- a 3 or 4% change. And I think that's probably the largest one.

Q Okay. Now we were starting to talk about census block

groups and I want to move on to that. The Hatfield Model uses census block groups in its analysis; is that correct?

A Yes, that's right.

Q And census block groups are geographic areas with varying numbers of households in them; correct?

A That's right.

Q And the census blocks are of varying square mileage; is that correct?

A That's also correct.

Q All right. Now as I understand it, the model uses the census block groups to calculate what kind of distribution cable it needs, how big the cable is and how long the cables are; is that correct?

A Almost. It calculates the length of cable required and it calculates the configuration based on the density; that's right.

MR. LACKEY: Okay. Now I want to hand you a few exhibits to see if we can illustrate this, some of which you have seen before and some of which you haven't.

If I could get Mr. Carver to bring you and your counsel a copy of this document.

Madam Chairman, I would like to have this document, which is labeled "Hypothetical CBG No. 120379701004" marked with the next exhibit number, if I could, please.

CHAIRMAN CLARK: It will be marked as Exhibit 32.

(Exhibit No. 32 marked for identification.)

BY MR. LACKEY (Continuing):

Q Now, Mr. Wood, you'll agree, won't you, that the document that I have handed you, this hypothetical census block group, it's not implausible that that could actually reflect what a census block group would look like; is it?

A It's not implausible. It would be a little unusual to have this kind of elongated shape, but it's certainly a possible shape.

Q Okay. All right. You think it's -- All right. That's fine. Okay.

Now I want to hand you another exhibit. And actually I want to ask you a question as Mr. Carver brings it down to you.

Can you tell us all what shape the Hatfield Model turns this census block group, this hypothetical census block group into?

A I'm not sure it turns it into anything. The Hatfield Model, as the benchmark cost model before it, uses a square census block group configuration for calculating the total investment required.

MR. LACKEY: Madam Chairman, could I have the document that Mr. Carver just handed out marked as the next exhibit number, which I believe will be 33.

CHAIRMAN CLARK: Yes. That's correct. But I can't

tell -- I mean, they have the same title; don't they?

MR. LACKEY: No. The second one, unless Mr. Carver made a serious error, should have a square on it and it should have the same hypothetical CBG No. on it, but it has "Hatfield Projection" written underneath.

CHAIRMAN CLARK: Okay.

(Exhibit No. 33 marked for identification.)

BY MR. LACKEY (Continuing):

Q Now, Mr. Wood, Exhibit 32, with Hypothetical CBG 120379701004, has an area of 25 square miles and a density of 4 lines per square mile; is that correct?

A That's correct. I'm sorry, Mr. Lackey, the first page you gave me is No. 32 or the second page is No. 32?

Q The first one, the one that looks like the State of California laid on its side, is Exhibit 32.

A Okay. I thought it was a whale.

Q That's okay, too. Exhibit 33 represents the way the Hatfield Model treats it. It treats it as if it were a square, five miles on a side; is that correct?

A Well, I don't know if the word "treats it" is the right one. It certainly calculates feeder and distribution lengths based on a square configuration; that's right.

Q And, indeed, if I understand the model correctly, if you will look at Exhibit 33, you will see a little square, a little rectangle, 1.25 miles from the bottom of it; do you see

that?

A Yes, I do.

Q Now that's called the serving area interface in the Hatfield Model; isn't it?

A That's right.

Q And it's located in the Hatfield Model for each census block group one quarter of the way from each one edge to the center of the square; is that correct?

A That's right.

MR. LACKEY: All right. Now let me hand you the next exhibit.

Madam Chairman, this one -- Why don't I wait until it gets out there and then we'll number it.

(Exhibit No. 34 marked for identification.)

BY MR. LACKEY (Continuing):

Q Now the Hatfield Model, if I understand it correctly, Mr. Wood, assumes that the households and then the lines are equally distributed throughout the square that is created or that was reflected on Exhibit 33; is that correct?

A For the medium and high density CBGs, that's right; for the low density CBGs, that's not right.

Q Okay. Let's see if we can short circuit this part of it. Mr. Wood, I have another set of four exhibits just like the ones I just gave you.

A Yes.

Q That have the same square mileage and a density of 11 miles, 11 lines per square mile. That would move it up into the medium; wouldn't it?

A I believe so.

Q So rather than hand them out and mark them, can you and I just agree that the ones we've given you would fairly represent the distribution of the households if it were a medium size CBG?

A I think we can for this discussion. I would point out that I think we need to go to 200 lines rather than 11 per square mile, but assuming we move it into that density range, that's fine; this is correct.

Q All right. Now so Exhibit 34, which is, again, just the hypothetical CBG but now has squares in it and little houses in it, represents how the households are assumed to be distributed in the census block group; is that correct?

A Yes, sir; that's right, which is why as we discussed before I believe the Hatfield Model overstates the relevant costs.

Q Okay. Now, if I understand -- and now we're at the important point -- the Hatfield Model determines the length of the distribution cable that's used in the square by taking five-eighths of one side of the square? In other words, in this case it would multiply five-eighths times five miles to get the distribution cable length; is that correct?

A That's right. Now, there will be a different number of distribution cables depending on the density of the zone, but there will be some number of equal length distribution cables at that length.

Q That's what I'm going to.

A Yes, sir.

Q So with this census block group, the Hatfield Model would tell you that you would get a certain number of distribution cables each 3.125 miles long; is that correct?

A Accept your math; I believe it's right.

Q Now the point you were just making has to do with density. Let's look at your exhibit DJW-4, and I think it's on page 19. Are you there?

A Yes, I am.

Q Okay. Now that chart in the middle of that page tells you for each density the number of cables that the model allows for this census block group; is that correct?

A That's right.

Q And, for instance, in the group I had, which was 0 to 5, you'd only get two distribution cables, each of 3.125 miles in length; correct?

A That's right.

Q And if there were a density of 5 to 200, you'd get 4 cables of the same length, 3.125?

A That's right.

Q And if you were 600 to 850 lines per square mile, you'd still get 4 cables of the same length; right?

A That's right.

Q And then you jump up to six cables of the same length when you go to the next density group; right?

A That's right.

Q But all the cables are the same length; is that correct?

A That's right. That's a modeling assumption. Again, we're not designing the specific network as you would deploy it. We are modeling the total amount of investment that would be required to do so.

Q Okay. But when your model runs, it treats it, it gives you the amount of cable based on what we've just talked about; right? It tells you how many feet of cable you need and you calculate the price based on that; correct?

A Well, it gives you how many feet of cable you need; that's right.

Q And that's an input into figuring out what the price of the distribution system would be; isn't it?

A That's correct.

MR. LACKEY: Okay. Now I'm going to hand out one more exhibit to you, I would like to have marked with the next number, which is Exhibit 35, I believe, Madam Chairman.

CHAIRMAN CLARK: Yes. Let's make it clear that

Exhibit 35 is also Hypothetical CBG 120379701004, the Hatfield projection with houses.

MR. LACKEY: Yes.

(Exhibit No. 35 marked for identification.)

MR. LACKEY: Now what I've given you --

CHAIRMAN CLARK: And what is 35; would you describe it?

MR. LACKEY: Yes. 35 is the same California on its side or a whale, as Mr. Wood said, except I put the mileage on it this time that shows how long it is on average and how wide it is on average.

BY MR. LACKEY (Continuing):

Q Do you see that Mr. Wood?

A I can see the length. I can't really read the -- Is it 2.3 is the width numbers?

Q It's 2.3 miles wide on average and it's 10.9 miles long on average; right? Does that seem to be --

A Yes, I agree with you, sir.

Q Okay. Now the Hatfield Model assumes that these cables all run from the common point, the serving area interfaces; is that correct?

A That's right.

Q So the most length you can get is 6.2 miles; is that correct?

A That's right.

Q So, is there any point in the census block group that's on Exhibit 35, is there any point in that census block group where you can actually reach with 6.2 miles all of the CBG that is on average 10.9 miles long?

A I assume if you've drawn this as you intended to, the answer is no, that there won't be.

Q Okay. So if this were a census block group, the Hatfield Model would tell you that you needed 2, 4, 6 or 8 distribution cables, each 3.125 miles long, and since they all run out of the serving area interface, that means the most spread you could get is 6.2 miles, which means you couldn't reach either end of the CBG with that cable; could you?

A From, on this particular CBG, you're absolutely correct; no dispute about that at all.

MR. LACKEY: Okay. Now I'm going to hand you another exhibit, which is I guess Exhibit 36.

CHAIRMAN CLARK: Would you give it a title, Mr. Lackey?

MR. LACKEY: This, the first page has the label "Block Group 120110703.012."

(Exhibit No. 36 marked for identification.)

BY MR. LACKEY (Continuing):

Q Now, Mr. Wood, have you examined the census block groups in Florida?

A I've seen them out there. There are hundreds. So,

no, I guess this goes back to our early discussion: No, I have not reviewed each one in detail.

Q Would you accept, if I represented it to be the case, subject to check, that the eight pages of Wood's Cross Examine Exhibit 36 represents 8 census block groups in Florida?

A Subject to check, certainly.

Q Okay. So when you said in response to my Exhibit 32 that it looked like a bit of an odd shape, page 1 of Exhibit 36 looks like a big 1; doesn't it?

A I'll accept your characterization, yes.

Q Well, look at No. 2, 2 has some of the characteristics -- that's Page 2 of that exhibit -- has some of the characteristics of my Exhibit 32; doesn't it?

A Certainly.

Q How about page 3?

A Yes.

Q And, by the way, when your model calculates the distribution in each of these census block groups, it turns each one of them into a square and takes five-eighths of the side of the square in determining the length of the distribution cable; right?

A That's right. And part of that five-eighths calculation is intended to represent two things: One is that there are census block groups, as you found eight out of some number of hundreds, that appear to be relatively elongated. To

the extent that there are census block groups that are not elongated but, in fact, are what we'd call some rough circular or cloud shape, which is also a very typical configuration, in fact, much more typical than these, you're going to find that that five-eighths overstates the amount of distribution cable required.

So, certainly the model developers when they developed the five-eighths did so with full awareness that CBGs are shaped differently and for, we could certainly pick and choose the odd birds of the lot and find a few, a handful among hundreds, where there is going to be a slight overstatement and where there is going to be a slight understatement; no dispute about that.

Q So we're falling back on the old in the end it's all right on the average; is that correct?

A Oh, no, sir; I don't think we're falling back on anything. I think we're looking at a modeling process that for the absolute vast majority of these very discrete geographic units is extremely accurate. For a few outliers on each end of the scale, it will be less accurate. I don't think there is any falling back at all in those terms.

Q Page 5 looks like my Exhibit 32 as well; doesn't it?

A I'm sorry.

Q Page 5.

A I've lost track. I will certainly agree with you,

Mr. Lackey, that you have found however many examples there are that are elongated in shape.

Q And, ever more importantly, you don't know whether I found all of them because you haven't examined them; have you?

A Yes, sir; I have examined them. No, I can't tell you for however many hundred there are that these show up or don't show up. I don't think you'd mislead me. If you tell me these are in Florida, I believe you.

Q Okay. And we can agree, can't we, just based on the little demonstration of a while ago that for each of the ones I've given you, these eight, the Hatfield Model is going to give you a distribution run, cable run, that isn't going to be long enough to cover the census block; won't it?

A As you found these, yes, just as there would be some census block groups where the distribution cable would be overstated.

MR. LACKEY: That's all I have, Madam Chairman.

CHAIRMAN CLARK: Staff.

CROSS EXAMINATION

BY MS. BARONE:

Q Good afternoon, Mr. Wood. Do you have exhibits previously identified as DJW-5 and DJW-6 before you?

A Yes, I do.

Q DJW-5 is your deposition transcript. DJW-6 are several late-filed exhibits. Do you have any changes or

corrections to make to those exhibits?

A No, I do not.

Q And are they true and correct to the best of your knowledge and belief?

A I believe they are, with DJW-5, my recollection is that there are a couple of nonsubstantive typographical errors but they don't change the intent. So, yeah, I don't have any changes.

MS. BARONE: Thank you. Madame Chairman, Staff requests that these exhibits be marked as Composite Exhibit No. 37.

CHAIRMAN CLARK: They will be -- DJW-5 and 6, Staff exhibits, will be marked as Composite Exhibit 37.

MS. BARONE: Thank you.

(Composite Exhibit No. 37 marked for identification.)

BY MS. BARONE (Continuing):

Q Mr. Wood, I'd like you to turn to Exhibit DJW-2, which is attached to your Direct Testimony, specifically page 26.

A Yes.

Q In the left-hand column there's an entry entitled "Forward-Looking Network Operations Factor." And it reflects a value of .700. Would you please explain to me what this factor represents and how it is used in the Hatfield Model?

A Yes, of course. The objective, of course, of the developers of the model have been to include forward-looking

expenses including network operations. Where forward-looking data is available, that's been used. Where it's not available, it's been necessary to rely on historical data ARMIS and then to use that as a basis for projecting forward.

There are a number of public sources around the country that have indicated that the expectation on behalf of the incumbent companies that network operations expenses specifically will decline over time. In New Hampshire, the estimate was that they would decline by about 30%. The testimony of Pacific Bell was that they would decline by over 50%. In order to be somewhat conservative, the 30% figure is used here.

So the .7 is multiplied times existing network operations expense to reflect the expectation that in the future those expenses will decline over time, again, by the more conservative choice among the available options of 30%.

Q Aren't most expense factors in the model based on ratios of historic expenses to the investments to which they are associated?

A Most of them are, yes.

Q What was the primary source you used to arrive at the expense factors that were used in the model?

A Well, there are a number. Of course, as I described, BellSouth's ARMIS reporting was a major source because it simply represents the best available public data, and that

being the underlying principle of the model that was the source of last resort, if you will. There were other -- Where forward-looking factors were available, they were used. For example, for digital switching expense on going forward, there was publicly available data that was not historic and that was used.

Q Was that the 1995 ARMIS report?

A Yes, I believe it was.

Q Isn't it true that by using the default value for the forward-looking network operations factor, it is assumed that network operations expenses will be reduced by 30% from the historic levels?

A That's right, and, again, if Pacific Bell is right, the real number is more like 55 or 56%. So this is fairly conservative.

Q Mr. Wood, Staff is now handing you an excerpt from part 32 of the Code of Federal Regulations. It's more commonly referred to as the Uniform Systems of Accounts.

A Yes.

Q Looking at that document, could you tell me specifically what expense account items are included in network operations expense?

A The short answer is that it's probably sub-account 65-30, but it may in fact include 65-32. And I don't want to mislead you. So I would have to verify that answer.

Q Would you agree that it includes 65-31, power expense?

A It may very well do so.

Q Do you know whether it includes 65-32, network administration expense?

A Well, that's what I was just saying. I've seen this on a composite basis. Let me see. Let me look very quickly at a note and make sure that I don't have a better answer for you.

It certainly includes 65-30, network operations. And it also includes an account which may not be on here, which is network support.

Q Mr. Wood, I believe --

A Let me confirm that for you before I give you the wrong answer.

Q I believe if you'll look at the first paragraph under 32.65-30, network operations expenses, that it enumerates the accounts.

A Oh, I'm sorry. I'm sorry. You are correct. What I have seen consolidated is 65-30 and it includes the following sub-accounts. So, yes, it's accurate to say that 65-30 is the correct account to look at.

Q Thank you. And you earlier stated that one of the items included is account 65-31; isn't that true?

A I expect that that's right, yes.

Q Would you please read for me the description of what is booked to account 65-31?

A Sure. "This account shall include the cost of electrical power used to operate the telecommunications network."

Q Sir, by applying the .700 forward-looking network operations factor, isn't it true that the effect is to assume that power expense will be reduced by 30% relative to the 1995 levels?

A Not exactly. The 30% refers to all of these accounts in the aggregate, to everything that's represented in 65-30. I suspect that they're not counting on, either NYNEX or Pacific Bell, the two companies that have made a public statement, are not relying on this particular power account to represent the bulk of the reductions. I think they're probably looking at a little more efficient operations in general. So I suspect that this sub-account is not the source of the reduction but that other sub-accounts are.

Q Would that also be true for the testing expense?

I was going to ask you isn't it also true that it's assumed that the testing expense will be reduced by 30% relative to 1995 model?

A Well, yeah, and, again, it's not assumed that this is a 30% across the board for each sub-account in order to get 30% of the account. I can certainly see there are some reasons why testing expense would be expected to decrease over time, which makes it a little different than power. So I expect that part

of the expected decrease would come from testing.

Q Do you know what the impact of using this forward-looking network operations factor is on the model's computed total loop costs?

A I have not run the model with the different assumptions to see the difference, but it would certainly be possible to do that.

Q Would you accept, subject to check, that using the .700 factor reduces total loop costs by 94 cents?

A If that's a model or a run that Staff has made, I'll accept your representation. Again, we're trying to get forward-looking costs as accurately as we can.

My suspicion is the correct interpretation is that on a forward-looking basis this is accurate. What you see is in that 94 -- Represented in that 94 cents is the overstatement of costs from Hatfield that result from the fact that embedded ARMIS data has been used in many cases.

So to the extent that existing expenses are higher than forward-looking expenses, there's an overstatement currently in the model and that's probably what that 94 cents represents.

Q I'd like to turn back to page 2 of your Exhibit DJW-2.

A Yes.

Q There are some numbers under the title "Structure of Fraction Assigned to Telephone." Would you please describe

what these are and how they're used in the model.

MR. MELSON: What page are you on?

MS. BARONE: That is Page 2 of 26 of DJW-2.

A Yes. These are, with regard to as I discussed with Mr. Lackey, with regard to poles, conduit and trenches, the so-called structure associated with placing plant. The realization that there are cost savings to be had going forward with consolidation of different utility facilities on a given structure; putting an electrical and a telephone wire on the same pole, for example.

It's not unusual today, even in an environment where there really haven't been strong incentives, for utilities to find ways to coordinate their efforts and save costs. Going forward in a new environment where greater incentives might expect to exist, I think we're going to see more of it. So this represents a sharing of poles, conduit and trenches with two other utilities, electric and cable, for example.

BY MS. BARONE (Continuing):

Q Isn't it true that the model run for BellSouth assumed there would be buried cable?

A There would be some buried cable, that's right. Depending on which part of the network you're looking in, it will be a different amount.

Q But it was assumed in the model; is that correct? It was an assumption?

A I think only for distribution, but, yes, there is certainly some buried cable involved.

Q What do you mean only for distribution?

A Well, I think with, if you look at the different network components, for feeder I believe it's all either on a pole or in a conduit. It's only when you get to distribution cables after that serving area interface where you have a case where some of them might be what's called buried as opposed to underground, which means that there is no conduit, they're actually just plowed directly into the ground.

Q Now isn't it true that to install buried cable, a LEC incurs costs associated with trenching?

A Yes, absolutely.

Q Now according to the Hatfield documentation you've submitted, on page 3 of DJW-4, the model assumes trenching costs to be $45 per foot; is that correct?

A I believe that's right. That sounds right. I'm sorry, I missed your page reference, though.

Q That is your Exhibit DJW-4, at Appendix C, on page 3, if you would like to take a look at that.

A Oh, sure. I'm sorry. C-4?

Q C-3.

A That's the problem.

Q I believe it's in the bottom right-hand corner.

A Yes, that comes from the Means Database, which is a

national publication of construction costs.

Q So by using a structure sharing factor of .33, would you agree that only $15 per foot for trenching is attributable to telephone service?

A That's right.

Q Now, however, the LEC presumably spent $45 per foot for trenching?

A Well, collectively the local exchange company, the power company and the cable company could spend $45 per foot. The idea here, of course, is that if each goes out and does so individually, that's less efficient and higher costs than if they consolidate their efforts. I think you're less likely to see this, frankly, on the distribution piece that we're talking about. It's a quite common practice regarding poles and conduit.

Q In your opinion, would it be normal procedure for a LEC to seek out other service providers to share the costs of trenching before they install buried cable?

A Historically, in a rate of return environment, probably not because having looked, I haven't seen a lot of incentives to seek out cost-saving measures. If we believe what BellSouth told us as they moved to a price cap environment and what they tell us about competition and the new incentives that creates for them, then, yes, I would definitely expect them to be seeking out cost-saving ways and this is certainly

one of them.

Q Is that MCI's current practice?

A I don't know MCI's current practice. I apologize. I believe -- I know they share rights-of-way quite frequently, but I don't know with regard specifically to trenching. I'm sure they also -- I know for a fact that they share poles and conduit as well, but I don't know specifically for trenching, if that's your question, but certainly for the other structure they do share.

Q Do you know what percent of BellSouth's conduits are shared by other kinds of service providers?

A Today, I don't know. Again, we need to look at what's been done today and the new incentives going forward because I think going forward we may see a very different practice.

Q And do you know what percent of BellSouth's telephone poles are shared by other kinds of providers?

A I don't know.

Q Would you accept subject to check that using the .33 factor reduces total loop costs by $3.37 per month or 28%?

A Again, if that's a run of the model that staff has made, I'll accept your results.

Q Sir, when a telephone company installs copper cable, is the kind of cable that could be suspended on telephone poles identical to the kind of cable that would be buried in the ground?

A No, the buried cable includes a different sheath to protect it from the elements.

Q Is the price of cable that could be suspended on poles identical to the price of cable that could be buried in the ground?

A It's going to differ slightly. The primary determinate is going to be the size of the cable and the number of pairs, the diameter, if you will, but there may be also cost differences.

Q Do you know whether the Hatfield Model assumes that the materials price of aerial cable differs from that of underground cable?

A I think the answer is that there is not a different materials price but that both types of materials have been incorporated in the materials prices that you see. And I'm not sure. I'm looking at the information we provided recently, and I'm not sure how to refer to this document. It's the sources of the input data that we provided and, specifically, pages 29 through 31 give you cable costs per foot and it is broken out by aerial and underground and there are different cost amounts, I believe. It's certainly broken out that way.

Again, the primary determinate being cable size, but there's a different list here depending on whether it's underground, aerial or buried.

MR. MELSON: Chairman Clark, I need to ask a

clarifying question that I had intended to save until later.

On Exhibit 37, DJW-6, it indicates Late-Filed Exhibit No. 8 not provided, too voluminous. My question is whether that is intended to be part of the exhibit or whether it was intended to be excluded from the exhibit?

MS. BARONE: It's intended to be part of the exhibit, but since it was so large we didn't include it in the packet. So it will be in the record.

MR. MELSON: In that case, the witness' last reference to page numbers of a document that he didn't know how to refer to would be to this Late-Filed Exhibit 8, which is in fact part of Exhibit 37.

CHAIRMAN CLARK: Thank you, Mr. Melson.

MS. BARONE: Thank you; I was going to ask the same question.

WITNESS WOOD: Yes, I'm sorry. I wasn't sure how to refer to that, but that's what I was looking at.

BY MS. BARONE (Continuing):

Q Mr. Wood, would you please turn to page 7 of your Direct Testimony at lines 2 through 6?

A Yes.

Q You state, "In contrast to the difficulty often experienced when attempting to evaluate ILEC cost studies in the underlying models, a review of the Hatfield Model can be direct and straightforward. Complete and detailed

documentation of the model is available, including descriptions of both the model algorithms and the inputs and assumptions used."

The documentation that you're referring to, is that the Hatfield Model?

A Well, it's a combination of several things. And, quite honestly, we have provided them to you as we have them because these things have been under development, but it is the document entitled "Hatfield Model Documentation," which you have, "Model Description," I'm sorry. And I don't have the correct exhibit number.

MR. MELSON: It's Exhibit 31.

WITNESS WOOD: It also includes the document that we were just referring to I think in that category. And it also really involves the process. What I'm describing here is the fact that because the Hatfield Model is set up in Excel spreadsheets, you can actually use the tracing function to step your way through each of the calculations and it will track you cell by cell exactly how this thing works. And all of those things collectively are what I'm describing here as far as the publicly available material that allows the model to be reviewed.

BY MS. BARONE (Continuing):

Q So by -- You use the term "algorithm." Do you mean "formula"? Is it the same as formulas?

A Well, I think in this context we can use them the same, yes. You can step through the spreadsheets and see the formula that's in each cell and as you work through those formulas you get what would be the algorithm, which is how the model calculates certain things. So, again, it's open in that regard in contrast to BellSouth's cost models, for example, which we don't have the opportunity to evaluate electronically.

CHAIRMAN CLARK: Ms. Barone, let me interrupt you. How much more do you have?

MS. BARONE: Several pages.

CHAIRMAN CLARK: Okay. We need to take a break. I apologize to the court reporter. We will take a break until 20 after 3:00 and then we will start again with your cross examination.

(Brief recess.)

(Transcript continues in sequence in Volume 8.)