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November 20, 2000

Mr. David Waddell
Executive Secretary
Tennessee Regulatory Authority
460 James Robertson Parkway
Nashville, TN 37243-0505

In Re: *Generic Docket to Establish UNE Prices for Lines Sharing per FCC 99-355, and Riser Cable and Terminating Wire as Ordered in TRA Docket 98-00123.*
Docket No. 00-00544

Dear David:

Please find enclosed the original and thirteen copies of the Rebuttal Testimony of Michael Starkey filed on behalf of the Data Coalition in the above-captioned proceeding. Please bring this to the attention of Director Lynn Greer, the Hearing Officer in this proceeding.

BOULT, CUMMINGS, CONNERS & BERRY, PLC

By: Henry Walker

HW/nl
Attachment
c: Parties

BEFORE THE TENNESSEE REGULATORY AUTHORITY

NASHVILLE, TENNESSEE

In re:	)	
Generic Docket To Establish UNE Prices	)	
for Line Sharing Per FCC 99-355, and	)	**Docket No. 00-00544**
Riser Cable and Terminating Wire as	)	
Ordered in Authority Docket 98-00123	)	

REBUTTAL TESTIMONY OF

MICHAEL STARKEY

On behalf of

THE DATA COALITION *

PUBLIC VERSION

November 20, 2000

** DIECA Communications, Inc. d/b/a Covad Communications Company, Broadslate Networks of Tennessee, Inc. and MGC Communications, Inc. d/b/a Mpower Communications are jointly filing this testimony as the Data Coalition.*

INDEX

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS FOR THE RECORD.

A. My name is Michael Starkey. My business address is QSI Consulting, Inc., 1918 Merlin Drive, Jefferson City, Missouri, 65101.

Q. WHAT IS QSI CONSULTING, INC. AND WHAT IS YOUR POSITION WITH THE FIRM?

A. QSI Consulting, Inc. ("QSI") is a consulting firm specializing in the areas of telecommunications policy, econometric analysis and computer aided modeling. I currently serve as the firm's President.

Q. ON WHOSE BEHALF WAS THIS TESTIMONY PREPARED?

A. This testimony was prepared on behalf of the Data Coalition.

Q. PLEASE BRIEFLY DESCRIBE YOUR BACKGROUND.

A. Before founding QSI, I was a founding partner and Senior Vice President of Telecommunications Services at Competitive Strategies Group, Ltd. (CSG). Like QSI, CSG is a consulting firm that provides consulting services to telecommunications carriers, equipment manufacturers, consumer advocates and policy makers. Before joining CSG, I was employed by the Maryland Public Service Commission as Director of the Commission's Telecommunications Division. There I was responsible for managing the Commission's Telecommunications Staff that provided the Commission with telecommunications policy, economic, and technical expertise.

Before joining the Maryland Commission staff, I was employed by the Illinois Commerce Commission as Senior Telecommunications Policy Analyst in the Commission's Office of Policy and Planning (OPP). My primary responsibility at the Illinois Commission was to draft and implement the Commission's rules (pursuant to the Illinois Administrative Code) governing costs of service (i.e., Long Run Service Incremental Costs) as well as rules requiring local exchange carriers to unbundle their local exchange networks (both rules predated the Telecommunications Act of 1996). I began my career as an Economist III with the Missouri Public Service Commission in the Commission's Utility Operations Division.

Q. MR. STARKEY, HAVE YOU PREVIOUSLY PROVIDED TESTIMONY BEFORE THE TENNESSEE REGULATORY AUTHORITY (HEREAFTER "THE AUTHORITY")?

A. Yes, I have. In addition, during the past ten years I have provided written testimony, affidavits and/or live testimony before not only the Authority, but also before the FCC and the following state utility commissions: Alabama, California, Colorado, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Louisiana, Maryland, Massachusetts, Michigan, Mississippi, Missouri, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, Texas, Tennessee, Washington, Wisconsin and Wyoming.

A more complete description of my relevant experience can be found in Exhibit MTS-1.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. QSI Consulting has been asked by the Data Coalition to analyze BellSouth's and Sprint's rates for unbundled network elements (UNEs) and the underlying cost studies that support those rates. This testimony is in response to the proposed rates and underlying costs BellSouth presents in the testimony of its witnesses D. Daonne Caldwell, John Ruscilli, Keith Milner and Ronald Pate and Sprint's witness Gordon. This testimony contains the results and conclusions of our analysis and a synopsis of the concerns we have regarding the proposed rates offered in BellSouth's and Sprint's testimony and the cost studies sponsored by their witnesses. Specifically, my testimony focuses on BellSouth's and Sprint's proposed rates for the following UNEs:

1. Clean copper loops that will support xDSL services (e.g., BellSouth unnecessarily proposes a plethora of loops and rate elements in this regard including its Unbundled Copper Loop - "UCL," ADSL & HDSL loops, and its Unbundled Digital Channel – "UDC");

2. Access to network information regarding outside plant facilities and the extent to which those facilities may support a CLEC's services (i.e., "loop make-up information");

3. Line Conditioning; i.e., the ability to remove certain devices that disrupt a CLEC's data traffic (e.g., the removal of load coils, excessive bridged tap and other disruptive devices);

4. Equipment and processes by which CLECs can access to the high frequency portion of a loop for purposes of providing data services over a loop already used by either BellSouth or Sprint to provision voice-grade services (i.e., "line sharing"); and

5. Access to network facilities serving an individual building or given tenants within a multi-unit building (what BellSouth has termed "intrabuilding network cable" and "network terminating wire").

In addition to critiquing BellSouth's and Sprint's proposed rates as set forth by their witnesses, my testimony highlights for the Authority the importance of reasonable, cost based rates for these UNEs and the role these UNEs will play in providing Tennessee's citizens with access to the latest advanced telecommunications services in a competitive environment.

Q. WHY ARE REASONABLE, COST BASED RATES FOR THE NETWORK ELEMENTS HIGHLIGHTED ABOVE SO IMPORTANT?

A. As Mr. Ruscilli recognized in his direct testimony, the UNEs identified above are critical to the provision of advanced services and reasonable, cost based rates for these services are essential to the competitive growth of new telecommunications technologies and services in Tennessee.

Q. WHAT IS MEANT BY THE TERM "*ADVANCED SERVICES*?"

A. The term "Advanced Services" has become shorthand for describing a variety of technologies that use existing telecommunications facilities, in combination with relatively new transmission technology, to provide high-bandwidth, digital transmission services to end user customers. These *advanced services* offerings are used to provide end user customers (primarily small business and residential customers) with high-speed access to packet switched networks including corporate Local Area Networks (LANs) and the Internet. Dial-up access to these same networks can be accomplished on the public switched network without

advanced services, via a computer modem included as a standard item in nearly every computer manufactured today. However, the comparable speed (more accurately bandwidth) and reliability with which data can be transmitted via these two technologies is significantly different. A standard computer modem transfers data today at a maximum speed of 56 kilobits per second (56kbps). Running efficiently, Asymmetric Digital Subscriber Line service ("ADSL," an *advanced services* technology that we will describe in more detail later), can transfer data over the same telecommunications facility at speeds 5-50 times faster than a 56 kbps modem. Using a 56 kbps modem, downloading a file equal to 2 mega bits (2 million bits) of data will require approximately 10-15 minutes. Downloading the same file with an ADSL service requires only seconds.

Q. ARE THERE OTHER ADVANTAGES TO ADVANCED SERVICES BEYOND THEIR INCREASED BANDWIDTH?

A. Yes, there are advantages that extend not only to customers but also to telecommunications providers as well. For example, most advanced services provide "always on" access to the Internet and other packet switched networks such that users are not required to "dial-up" and/or "log-on" each time they require information or each time they desire to communicate with other users. This "always on" advantage is not only convenient for users, it also allows telecommunications providers to transition large volumes of data traffic off of the public *switched* network that is already experiencing an almost overwhelming volume of voice and dial-up data traffic growth. This transition process lessens the demands and expenses associated with growing data traffic experienced by

circuit switched providers (like the incumbents).

Q. PLEASE IDENTIFY THE UNES IDENTIFIED IN BELLSOUTH'S COST STUDY THAT ARE USED TO SUPPORT ADVANCED SERVICES.

A. In reality, there are few UNEs specific to the provision of advanced services. CLECs require only access to collocation, unbundled loops, the high-frequency band of the local loop ("line sharing"), and information specific to the UNEs they are purchasing ("loop make-up" information) to provide their advanced services products. CLECs do not require loops specifically "designed" to provide given services nor is a major overhaul of an ILEC's existing Operational Support Systems ("OSS") or facility databases necessary to support provision of advanced services by CLECs. In short, xDSL services and other advanced services were specifically developed to maximize the use of the voice grade, copper network. Hence, these technologies are, to a large extent, intended to rely upon the same copper loops used to provide voice services.

Q. HAVE YOU HAD AN OPPORTUNITY TO REVIEW BELLSOUTH'S COST STUDIES FILED IN THIS PROCEEDING?

A. Yes, I have.

Q. DO YOU HAVE ANY COMMENTS REGARDING BELLSOUTH'S STUDIES?

A. Yes, I do. However, before I delve into the details of BellSouth's cost studies, I would like to discuss briefly some more general observations. First, in this proceeding to date, BellSouth has submitted no fewer than 4 different cost study filings (the latest of which as filed only 7 days before our rebuttal testimony was

due), each consisting of hundreds of pages of hardcopy printouts, and a CD-ROM version (a total of 3 CD-ROM versions) that includes hundreds of additional pages not included with the hardcopies. BellSouth has made numerous corrections and modifications to these studies resulting in a mountain of paper (literally many thousands of pages) from which BellSouth's actual support for its proposed rates can only be found with significant effort. In comparison, BellSouth's primary cost witness, Daonne Caldwell, filed only 24 pages of testimony on November 13, 2000 describing those cost studies including any modifications or revisions. Though the cost studies incorporate literally thousands of assumptions regarding network configuration, cost study methodology and other complex inputs, Ms. Caldwell, within her testimony supporting those studies, completely ignores these critical issues, choosing to focus instead, on describing the 8th Circuit Court's Decision regarding overall TELRIC methodology (a decision which is not in effect, having been stayed by the court that issued it) and a description of BellSouth's obligations under the FCC's *UNE Remand Order*.

Q. WHY IS THIS A PROBLEM?

A. Simply put, BellSouth has not even attempted, let alone succeeded, in overcoming any burden of proof obligation (one of the obligations not discussed by Ms. Caldwell) that it bears in supporting its proposed UNE rates consistent with the FCC's rules. Thousands of pages of unexplained and undocumented spreadsheets does not an explanation make, nor is it sufficient to ensure that BellSouth's proposed rates are reasonable.

Q. DO YOU HAVE OTHER COMMENTS REGARDING BELLSOUTH'S COST STUDIES AND THE MANNER BY WHICH BELLSOUTH SUPPORTS THEM?

A. I do. BellSouth's ever changing cost studies, and the process by which it supports them (or fails to support them as discussed above), has a direct, and substantial impact on the amount of time, effort and money CLECs must invest to insure that they are being charged only cost based rates. By providing only 24 pages of testimony to describe its thousands of pages of cost studies, and never truly explaining why the thousands of assumptions its makes are reasonable, BellSouth seems to shift the burden of proof, so as to require the CLECs to bear the burden of proving that BellSouth's cost studies are unreasonable. This is inappropriate, time consuming and expensive, and it results in CLEC testimony far exceeding BellSouth's testimony both in terms of volume, and level of detail.

Q. WHY SHOULD THE COMMISSION BE CONCERNED ABOUT THIS?

A. First, the process BellSouth follows in this regard imposes enormous costs on CLECs who attempt to litigate any BellSouth rate, thereby erecting real and effective barriers to entry. Second, given limited time and resources, CLECs are forced to focus on only a few problems that exist in the BellSouth cost studies and proposed rates. This leaves countless numbers of other mistakes and unreasonable assumptions uncovered and undoubtedly results in rates (even if modified by the Commission consistent with all of the CLEC's concerns), at levels exceeding reasonable, cost based rates. There can be no doubt that this

process limits competitive entry and ultimately costs Tennessee consumers money and competitive alternatives.

Q. WHAT WOULD YOU LIKE THE COMMISSION TO DO IN RESPONSE TO YOUR DISCUSSION ABOVE?

A. Simply, I would like the Authority to require BellSouth to bear its legal burden of proof. The Authority should reject BellSouth's cost studies because they are unsupported and excessive. The Authority should rely instead on the revisions and modifications as well as the proposed rates included in my testimony, Mr. Fassett's testimony and Mr. Zulevic's testimony for purposes of establishing reasonable, cost based rates. Further, I would also ask the Authority to recognize that for every modification we've recommended in our testimony, a multitude of other equally important and unreasonable assumptions on the part of BellSouth have likely gone undiscovered and un-discussed. My point is this. BellSouth will undoubtedly argue that our recommendations will result in BellSouth under-recovering its costs, indeed, Mr. Ruscilli's Direct Testimony is little more than a dissertation on the evils of under-recovery.[1] I hope the Commission won't be fooled. BellSouth employs hundreds of people who have literally spent years constructing its cost studies with an overarching incentive toward including more than reasonable costs. It is impossible for a small group of CLEC cost experts, spending less than a few weeks reviewing the thousands of pages of cost study documentation ,to find all the errors, all the unreasonable assumptions, and all the exaggerated inputs. Under-recovery, is a near impossibility. Over recovery,

[1] See the Direct Testimony of Mr. Ruscilli, pages 8-10.

however, and the competitive barriers that it will erect, is not only possible but also likely. That should be the Commission's primary concern in this proceeding.

II. xDSL CAPABLE LOOPS – NONRECURRING CHARGES

Q. WHAT IS AN XDSL CAPABLE LOOP AND WHY IS IT IMPORTANT THAT CLECS BE ALLOWED TO GAIN ACCESS TO THESE LOOPS AT REASONABLE, COST BASED RATES?

A. In simplest terms, an "xDSL capable" loop is nothing more than a copper facility of reasonable quality and free of load coils, excessive bridged tap or other devices that tend to disrupt the digital transmission of xDSL services. Generally referred to as a "clean copper loop," nearly any copper loop that exists in the ILEC network today could be used as an "xDSL capable" loop. In addition, an "xDSL capable loop" can also be a loop comprised of fiber optic feeder cable and copper distribution cable. All that is required is that a specific, xDSL "plug-in" be used in the digital loop carrier device that connects the fiber feeder and copper distribution segments of the loop. This type of "xDSL" capable loop allows xDSL services to be provided to customers who reside further from the ILEC central office.

Q. AREN'T THERE TECHNICAL RESTRICTIONS THAT PROHIBIT THE USE OF LONGER COPPER LOOPS FOR THE PROVISION OF XDSL SERVICES?

A. Yes, to some extent the length of a strictly copper "xDSL capable loop" does impact the quality of the xDSL signal received by the end-user customer and some copper loops, using today's xDSL technologies, are simply too long to

support an xDSL signal that could be effectively marketed. However, technical restrictions imposed by the length of the facility are largely specific to the xDSL technology at issue and it is likely that as xDSL technologies continue to progress at a rapid pace, the length of the copper facility may become less of an issue. Said another way, the length of a loop and its ability to support xDSL service is strictly a technological restraint that is bound to change over time. Hence, CLECs and ILECs should be free to purchase loops of any length that they believe will support the technologies they use or intend to use. Contractual restrictions (or rate structures) that limit the ability of a CLEC to purchase and use loops of any length are not reasonable, have very little to do with proper cost causation, and should be rejected.

Q. WHAT DO CLECS NEED FROM BELLSOUTH OR ANY OTHER ILEC IN TERMS OF xDSL CAPABLE LOOPS?

A. CLECs require the following:

1. The ability to review the physical characteristics of the ILEC's outside plant network for purposes of identifying loop facilities that will support the particular xDSL services they deploy,

2. A method by which to reserve facilities consistent with their own internal guidelines and to order those specific facilities electronically (i.e., electronic loop reservation and ordering),

3. The ability to purchase the loop facilities they have reserved at reasonable, cost based prices void of unnecessary expenses,

4. The ability to request that a certain facility be modified (by removing outdated devices that disrupt digital transmission) for purposes of supporting xDSL services, and

5. An assurance that the ILEC will not alter the characteristics of the facility that has been purchased so as to avoid interrupting the CLEC's service to its customer.

Q. DOES BELLSOUTH PROVIDE UNES CONSISTENT WITH THE NEEDS ABOVE?

A. No, it does not. BellSouth's proposals are plagued by the following problems:

1. Instead of offering access to a simple "clean copper loop," BellSouth has devised a number of complex "loop products" that it builds and sells to CLECs at prices far in excess of reasonable cost based rates. For example, BellSouth assumes that its UCL, ADSL, HDSL and UDC loop "products" (i.e., its xDSL loops) must be provisioned via a "designed loop process" that heretofore was reserved for complex, outside plant orders wherein BellSouth was required to engineer a loop to meet a customer's request (in contrast to xDSL capable loops wherein the CLEC, via access to BellSouth's loop makeup data, will research and reserve loops based upon its own internal engineering criteria such that BellSouth must only provision the specific facility requested). This assumption on the part of BellSouth, in addition to other unreasonable assumptions regarding the amount of time taken to provision such a loop, results in enormous and unreasonable nonrecurring charges for accessing loops to be used for xDSL services.

2. BellSouth will not allow a CLEC to reserve a loop facility as a simple voice grade unbundled loop (i.e., an SL1 facility) but instead, allows CLECs only to reserve facilities as a UCL, HDSL or ADSL loop. In doing so, BellSouth ensures that CLECs will be required to pay the far higher, and excessive, UCL, HDSL and ADSL nonrecurring charges it proposes if they wish to gain access to a suitable facility (even though they've already identified the facility they want through the loop makeup process). In actuality, CLECs need no more from BellSouth in the provision of their xDSL capable loops than BellSouth provides in provisioning a simple SL1 loop.[2]

3. BellSouth will not ensure a CLEC that after reviewing the characteristics of a given loop, and reserving that loop to be used for the CLEC's provision of an xDSL service, that BellSouth won't, at some point in the future change the physical characteristics of that loop (e.g., place load coils on the loop or

[2] In order to effectively utilize an SL1 loop to provision xDSL services, CLECs would also require that BellSouth, as it does for its own xDSL services, not alter the characteristics of the loop purchased by the CLEC so as to "bring down" the xDSL service after it has been provisioned.

move the loop to a digital loop carrier device). Hence, if a CLEC were allowed to reserve an SL1 loop for use with its xDSL service, it would have no guaranty that BellSouth, at its own discretion and without notice to the CLEC, wouldn't alter the characteristics of that loop in such a way that would place the CLEC's customer out of service.

Q. HOW SHOULD THE COMMISSION REMEDY THE PROBLEMS YOU'VE IDENTIFIED ABOVE?

A. First, the Commission should make permanent its interim finding that nonrecurring charges equal to those assessed when BellSouth provisions an SL1 loop would also apply to UCL, ADSL, HDSL and UDC loops. However, the Authority should not accept unchallenged BellSouth's proposed rates for that loop, but instead, should set rates based upon the necessary and efficient processes and task times set forth in Mr. Fassett's testimony. BellSouth's proposed non-recurring charges for its xDSL "loop products" must be rejected in their entirety since, as explained in detail in Mr. Fassett's testimony, they are based upon a number of inefficient processes, exaggerated worktimes, and unnecessary work-steps.

Q. WHY DO YOU BELIEVE BELLSOUTH'S PROPOSED RATES FOR ITS UCL, ADSL, HDSL, AND UDC ARE UNREASONABLE?

A. BellSouth's nonrecurring rate associated with provisioning an SL1, voice grade loop is $31.99. BellSouth's nonrecurring charge associated with provisioning an HDSL loop is $201.24. The vast difference between these two nonrecurring charges results from the fact that BellSouth assumes any xDSL capable loop will be provisioned via a separate process that BellSouth refers to as the "designed

loop" process. The "designed loop" process is a system BellSouth uses to provision its own retail loops when it must engineer and design a circuit based upon the delivery of a particular service. For example, DS1 circuits are generally considered to be "designed" (or "special") circuits because the circuit is engineered and provisioned with a guarantee that the customer will receive a digital signal capable of supporting 1.544 Mbps. The "designed loop" process includes significant time and expense associated with numerous BellSouth ordering and provisioning organizations that, according to BellSouth, may take up to *** [redacted] *** hours to provision a single xDSL loop.[3]

Q. HOW DOES THE "DESIGN" PROCESS BENEFIT CLECS?

A It does not. Even though BellSouth assumes the use of its "designed loop" process in its cost studies, BellSouth guarantees CLECs nothing with respect to the loop that it ultimately provides them. For example, included at http://www.interconnection.bellsouth.com/products/UNE/UCL is a document entitled "*Unbundled Copper Loop, CLEC Information Package.*" This document describes in significant detail the manner by which BellSouth provisions its UCL. The following description of the BellSouth UCL is found at page 5 of this document:

> These loops are not designed or intended to provide any particular service. The loop may be attached to a variety of equipment both at the CLEC's collocation space and the end user premises. BellSouth does not guarantee a particular bit rate associated with these loops.[4]

[3] See BellSouth's derivation of its ADSL nonrecurring charges, *TELRIC Calculator*, spreadsheet "*TN-xdsl.*"

[4] Unbundled Copper Loop, CLEC Information Package, p. 5 ("*UCL CLEC Package*").

Though this information is specific to BellSouth's UCL loop, the same is true for its ADSL and HDSL loops. It is clear that BellSouth is not engineering or "designing" its xDSL loops or guaranteeing any particular level or type of performance beyond those provided for with a standard 2-wire loop. BellSouth does not guarantee that its xDSL loops will support any particular type of service or that any particular electrical parameters will be met by the facility (other than continuity and voice-grade resistance). All BellSouth insures is that its loops will meet BellSouth's own internal specifications, developed without CLEC input. (See BellSouth Response to Broadslate Interrogatory No. 32)

Q. DO CLECS WANT BELLSOUTH TO "DESIGN" THEIR XDSL LOOPS OR TO GUARANTEE A GIVEN LEVEL OF PERFORMANCE BEYOND STANDARD VOICE GRADE MEASURES (I.E., CONTINUITY AND VOICE GRADE BALANCE)?

A. No, they do not. With nondiscriminatory access to loop makeup data, it is the CLEC who will analyze the BellSouth network and reserve facilities consistent with its own internal design standards. Not only does this allow the CLEC to accomplish the process efficiently (as opposed to BellSouth who when allowed to recover expenses associated with inefficient processes from its competitors has no incentive to assume efficient practices), it allows each individual CLEC to choose the "design" standard that best meets its needs instead of a more broadly designed standard chosen by BellSouth (for which the CLEC is then required to compensate BellSouth).

Q. BELLSOUTH'S TESTIMONY SUGGESTS THAT THE "DESIGNED" LOOP PROCESS MUST BE USED BECAUSE BELLSOUTH MUST PLACE A TEST POINT ON ITS XDSL CAPABLE LOOPS AND IT MUST GENERATE A "DESIGN LAYOUT RECORD" FOR THE CLEC'S USE. DO YOU AGREE?

A. No, I do not. First, as BellSouth witness Caldwell testified in her deposition in North Carolina, expenses associated with placing a test point on an xDSL capable loop are "capitalized" and recovered in the monthly recurring rate, not in the nonrecurring rate. Hence, while BellSouth may insist on placing a test point on its xDSL loops (a requirement that CLECs have not asked for), this has no impact on BellSouth's nonrecurring costs and does not support nonrecurring xDSL rates in excess of the SL1 rate (where no test point is used).

Second, CLECs do not need a "design layout record." Indeed, with nondiscriminatory access to loop makeup data as required by the UNE Remand Order (as discussed in more detail later), the information available on a Design Layout Record ("DLR") is largely duplicative and unnecessary. After discussions with numerous competitive carriers in the North Carolina proceeding and Covad in this proceeding, it is clear to me that CLECs have little use for BellSouth's DLR and would not, given the option, pay BellSouth to generate such a report via the "designed" loop process. Indeed, an engineer for one of our North Carolina clients indicated to me that his employees simply throw the DLR in the trash when BellSouth ultimately provides it (which is often many weeks after the

circuit has already been provisioned and is providing service, long after the DLR could have been useful). The DLR essentially duplicates what was produced in a loop makeup inquiry. Even BellSouth witness Latham admitted this in the Florida pricing hearing, when said, "the DLR information is, again, I guess affirming that what they [CLECs] asked for is actually what they got." (Exhibit MTS-8, Latham, Tr. 1874-75). CLEC should not be required to pay once for the loop and then pay additional money to help BellSouth make sure that CLECs get what they ordered.

Q. ARE THERE OTHER PROBLEMS WITH THE MANNER BY WHICH BELLSOUTH ESTIMATES NONRECURRING COSTS FOR ITS XDSL CAPABLE LOOPS?

A. Yes, there are. For example, BellSouth assumes that 100% of the unbundled loops purchased by CLECs as xDSL capable loops will require "new facilities." This assumption is far different from the assumption BellSouth uses when estimating costs for its own retail, xDSL services where it generally assumes that 0% of its retail services will require "new facilities" (i.e., BellSouth assumes that 100% of the loops used to provision its retail service will be existing facilities).[5]

Q. HOW DOES BELLSOUTH DEFINE A "NEW FACILITY" AND HOW DOES AN ASSUMPTION THAT ALL xDSL LOOPS WILL BE NEW FACILITIES IMPACT THE COST STUDY?

[5] See BellSouth's FCC cost study supporting its interstate ADSL rates, produced in response to New Entrant's First Data Requests, Item No. 4 (NC P-100, Sub 133d) as explained later in this testimony.

A. BellSouth generally defines a "new facility" as a loop that is newly assigned from facilities not currently servicing customers.[6] In short, provisioning a new loop assumes that a facility must be found, must be qualified as an acceptable facility, must be assigned to the work order and must be physically "connected through" before the circuit is fully provisioned. The amount of time and effort required to perform these functions for a "new loop" (when compared to an "existing loop" wherein the loop is already assigned and working and therefore, is obviously physically "connected through"), is substantial. If we were to assume that the majority of xDSL loops ordered by CLECs were "existing loops," the vast majority of the time and effort BellSouth estimates within the xDSL non-recurring charges would be unnecessary. Indeed, every aspect of BellSouth's proposed non-recurring cost studies for its xDSL loops, except for the service inquiry work steps, are significantly impacted by the assumption that 100% of the xDSL loop orders will be serviced using new facilities.

Q. PLEASE IDENTIFY A CIRCUMSTANCE WHEREIN AN XDSL LOOP COULD BE PROVISIONED AS AN "EXISTING" FACILITY.

A. In many circumstances after having reviewed BellSouth's loop makeup information, CLECs will determine that the loop currently servicing a customer's voice service is suitable to support its advanced services offerings. In many instances the CLEC will sell the customer both voice and data over a single loop it purchases from BellSouth. Because the CLEC's advanced services offering will provide the customer both voice and data services over the same telephone line,

[6] *See* BellSouth's North Carolina response to New Entrants' Third Data Requests, Item Number 18.

no "new facility" used to support the xDSL service is required. Hence, the CLEC need only reserve the facility the customer is currently using (or another facility used by the customer for another purpose – i.e., a second line used primarily for his/her computer) for purposes of ordering an xDSL loop. Under this circumstance there is no need to provision a "new facility" or any reason that large amounts of engineering and outside plant work associated with connecting, testing or rearranging that facility, as assumed within BellSouth's non-recurring cost study, would be necessary.

Q. ARE THERE OTHER CIRCUMSTANCES WHEREIN A "NEW FACILITY" CAN BE AVOIDED?

A. Yes. Imagine a situation wherein a CLEC wins the ADSL service of a business customer who currently subscribes to BellSouth's ADSL offering. Obviously, the loop facility BellSouth was using to provision ADSL to the customer is capable of supporting ADSL for the CLEC. Hence, there is no need to "qualify" the loop, design the loop to specific electrical parameters, or identify another facility to support the service. Likewise, it is clear the facility is contiguous, free of disturbers and requires no testing. The loop obviously exists in a working fashion and, indeed, the loop already has been shown capable of providing exactly the characteristics needed to support the CLEC's ADSL needs. Another example is where a customer wants advanced services from a CLEC to replace dial up internet access services accessed using a second telephone line purchased from the incumbent. In this instance, the CLEC could simply use the already provisioned second POTS line for xDSL service.

Further, the majority of incumbent local exchange carriers who subscribe to the Carrier Serving Area ("CSA") design standard rely upon a dedicated outside plant ("DOP") architecture. Simply put, DOP requires that after a circuit has been "connected through," it isn't disconnected until the facilities comprising that circuit are required to service another location/customer. Consider an example wherein a customer who had 3 working telephone lines connected in his/her home moves away. The next resident initially "turns up" only one of those lines for his/her primary residential services. Consider then that a CLEC is successful in marketing xDSL service to the new resident. The new resident already has two spare loops "connected through" and in working condition to the residence. These two additional pairs are "existing pairs" consistent with BellSouth's nomenclature and would not require the same amount of provisioning time/expense as the "new facilities" assumed within the BellSouth's UCL cost study.

Q. HAS BELLSOUTH ADMITTED THAT IT USES THIS "DEDICATED PLANT" ARCHITECTURE?

A. Yes, it has. Mr. Milner testifies in his direct testimony that BellSouth's cost model is based on CSA standards that are consistent with a "dedicated plant" design. In addition, during cross-examination in the North Carolina proceeding, BellSouth witness Cox admitted that BellSouth leaves facilities in place when a customer leaves a particular location so as to allow the next customer to contact the BellSouth business office as well as emergency numbers. BellSouth refers to

this service as "Quick Serve."[7] As Mr. Fassett testifies, leaving facilities in place (and connected through) in this fashion is a common practice followed by all ILECs. Mr. Fassett also shows that a large percentage of a carrier's network facilities may be left in place in this fashion so that readily available and connected facilities may exist at most customer premises.

Q. DO BELLSOUTH'S OWN DOCUMENTS INDICATE THAT IT EXPECTS SOME NUMBER OF XDSL CAPABLE LOOPS TO BE PROVISIONED WITH EXISTING FACILITIES?

A. Yes. In the testimony above I referenced *BellSouth's Unbundled Copper Loop, CLEC Information Package* document. That document states as follows:

> If the CLEC's end user has existing service with BellSouth that uses a compatible copper loop, and wants to change local service providers, BellSouth will attempt to reuse the end user's existing loop.[8]

Q. PLEASE BE MORE SPECIFIC ABOUT HOW BELLSOUTH'S ASSUMPTION REGARDING "NEW LOOPS" IMPACTS THE UCL NON-RECURRING COST STUDY.

A. BellSouth's non-recurring cost study for a UCL assumes that nearly 5.5 hours of labor may be required to provision a single UCL order (325.55 minutes).[9] The vast majority of this time and labor (nearly 80%) is associated with locating and

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[7] See Exhibit MTS-6 (the testimony of BellSouth witness Cox in North Carolina and her description of BellSouth's "Quick Serve" service. Apparently "Quick Serve" is a BellSouth initiative aimed at leaving working facilities in place (including access to the BellSouth business office and 911 emergency features) even after a subscriber has cancelled service. See Phase II Transcript, NC –100, Sub 133d, Phase II, page 41.

[8] *UCL CLEC Package*, p. 4.

[9] Compare this amount of time to the ***BST PROPRIETARY [redacted] END PROPRIETARY*** minutes that BellSouth includes in its FCC study mentioned earlier for accommodating a retail ADSL order including the provision of all facilities and functions, not just the loop.

designing a new circuit (identified within the model as "engineering") and dispatching an outside plant technician to physically connect the circuit (identified within the model as "connect and turn-up test"). First, as Mr. Fassett illustrates, these activities are completely unnecessary when an ILEC has forward looking OSS systems and a CLEC can select, qualify and order a loop of its choosing for xDSL service. Second, these activities would not be required if it were assumed that a CLEC could re-use an existing loop (which BellSouth assumes will happen 100% of the time in its study for retail ADSL services). Obviously, in such a circumstance, engineers would not be required to search for and design a new loop in such a circumstance (indeed an existing loop would already be in place and assigned) and service technicians would not be responsible for traveling to remote network sites for purposes of "turning up" the circuit (the circuit is already "turned up" and connected through). In short, in circumstances wherein a "new loop" is not required, nearly 80% of BellSouth's entire UCL non-recurring expenses simply aren't necessary.

Q. EARLIER YOU MENTIONED THAT BELLSOUTH NOT ONLY ERRORS IN ASSUMING A "DESIGNED" LOOP PROCESS WHEN PROVISIONING ITS XDSL LOOPS, BUT ALSO THAT IT USES EXAGGERATED WORK TIMES. PLEASE EXPLAIN.

A. Even in the circumstances wherein BellSouth may identify the proper workstep, it over estimates the amount of time required to perform that workstep, as explained in the testimony of Mr. Fassett. Mr. Fassett is a telecommunications engineer with substantial experience in provisioning outside plant including loops like

those that would support xDSL services. Mr. Fassett explains within his testimony how BellSouth significantly overstates many of the worktimes included in its nonrecurring xDSL loop studies and he recalculates BellSouth's studies using more reasonable inputs. Mr. Fassett's analysis indicates that BellSouth should be allowed to assess a nonrecurring charge of $5.33 for its xDSL capable loops. Even if the Authority allowed BellSouth to recover for its "design process," using the reasonable task times set forth by Mr. Fassett, the nonrecurring charge for an xDSL loop would be $18.27.

Q. ARE BELLSOUTH'S PROPOSED NON-RECURRING CHARGES FOR ITS XDSL CAPABLE LOOPS CONSISTENT WITH RATES ADOPTED BY OTHER STATE COMMISSIONS FOR ILECS OPERATING IN OTHER JURISDICTIONS?

A. No, not at all. BellSouth's faulty assumption that it must provision xDSL capable loops via the expensive and time consuming "designed loop process" (as well as the exaggerated worktimes included in its study) results in nonrecurring charges far in excess of the nonrecurring charges adopted by other state commissions for xDSL capable loops. The following table compares the nonrecurring rates charged by ILECs in other jurisdictions for xDSL capable loops with those proposed by BellSouth in Tennessee:

COMPARISON - BellSouth TN UCL NRC to other ILEC comparabe NRCs

	ILEC	State	xDSL capable loop description	Non-Recurring First	Non-Recurring Additional	Bellsouth Prop. Rates $199.70 First	Bellsouth Prop. Rates $87.26 Additional
1	SBC	Arkansas	2-wire, Copper only loop	$41.05	$16.50	486.48%	528.85%
2	SBC	Kansas	2-wire, Copper only loop	$70.00	$29.25	285.29%	298.32%
3	SBC	Missouri	2-wire, Copper only loop	$26.07	$11.09	766.01%	786.83%
4	SBC	Oklahoma	2-wire, Copper only loop	$37.50	$15.65	532.53%	557.57%
5	SBC	Texas	2-wire, Copper only loop	$15.03	$6.22	1328.68%	1402.89%
6	SBC / Ameritech	Illinois	2-wire, ADSL capable loop	$38.25	$38.25	522.09%	228.13%
7	SBC / Ameritech	Indiana	2-wire, ADSL capable loop	$43.90	$43.90	454.90%	198.77%
8	SBC / Ameritech	Michigan	2-wire, ADSL capable loop	$25.02	$25.02	798.16%	348.76%
9	SBC / Ameritech	Ohio	2-wire, ADSL capable loop	$47.23	$47.23	422.82%	184.76%
10	SBC / Ameritech	Wisconsin	2-wire, ADSL capable loop	$56.60	$56.60	352.83%	154.17%
11	US West	Washington	2-wire unloaded copper loop	$26.04	$26.04	766.90%	335.10%

Q. ARE THERE OTHER INDICATIONS THAT BELLSOUTH'S PROPOSED NONRECURRING CHARGES FOR XDSL CAPABLE LOOPS ARE SIGNIFICANTLY OVERSTATED?

A. Yes, there are. CLECs will purchase BellSouth's xDSL loops for purposes of combining the loop with their own xDSL equipment that is collocated in the BellSouth central office (generally a DSLAM). The CLECs will then solicit orders from their own customers and provision xDSL services in competition with BellSouth's FastAccess^{SM} and other packet switched, xDSL services. Pursuant to New Entrants' First Data Requests, Item No. 4 (North Carolina Docket No. P-Sub 133d), BellSouth was compelled to provide, and ultimately did so in a supplemental response, the cost study that supports its own retail ADSL service offering tariffed with the FCC. Within that cost study (entitled *Description and Justification, BellSouth ADSL Service, Transmittal No. 513, July 9, 1999*) BellSouth provides for the FCC an estimate of the nonrecurring costs it will incur to provision ADSL as an end-to-end retail service. BellSouth's FCC cost study

estimates and summarizes the costs that BellSouth will incur in providing the following network elements necessary to support its ADSL service:

[redacted]END PROPRIETARY

It is important to note that even though BellSouth will, when providing an unbundled xDSL capable loop, have to undertake only ***BST PROPRIETARY [redacted] END PROPRIETARY*** activities identified in its FCC study (i.e. the CLEC will need to undertake the remaining ATM, DSLAM and interoffice transport activities), BellSouth's proposed nonrecurring charge to be assessed on its competitors simply to access the unbundled xDSL loop facility is nearly double the ***BST PROPRIETARY [redacted] END PROPRIETARY*** it estimates for provisioning its entire ADSL service as an

end-to-end retail product. This example highlights the inconsistency inherent in BellSouth's xDSL capable loop nonrecurring cost studies (compared to its own ADSL cost study filed at the FCC), and also illustrates the significant competitive advantage that will accrue to BellSouth if its nonrecurring rate proposals are adopted. While BellSouth will incur only ***BST PROPRIETARY [redacted] END PROPRIETARY*** to provision its entire xDSL product, CLECs will be forced to incur up to $310.35 in nonrecurring costs solely to access the BellSouth loop.[10] When you add to that amount the time and effort (and hence expenses) associated with the CLEC's own technicians assigning and provisioning ATM, Interoffice transport and DSLAM capacity to provision their retail ADSL (or other xDSL) end-to-end service (not to mention line sharing expenses discussed elsewhere in this testimony), it is easy to see that BellSouth, if its proposals are adopted, will be able to exercise a significant (and inappropriate) competitive advantage.

III. XDSL CAPABLE LOOPS – RECURRING CHARGES

Q. YOUR DISCUSSION ABOVE FOCUSES ON BELLSOUTH'S NONRECURRING CHARGES FOR ITS XDSL CAPABLE LOOPS. DO YOU ALSO HAVE CONCERNS ABOUT BELLSOUTH'S RECURRING CHARGES FOR THESE LOOPS?

A. Yes. Though the majority of my concerns focus on BellSouth's exorbitant nonrecurring charges for its xDSL capable loops, there are also problems with BellSouth's proposed charges for its IDSL Capable Loop also known as the

[10] CLECs will incur $198.59 in nonrecurring charges to install the ADSL unbundled loop, and $111.76 to

Unbundled Digital Channel (UDC) or as documented in Mr. Ruscilli's Exhibit JAR-1, the "2-Wire ISDN Digital Grade Loop" (A.5.6). The IDSL/UDC has the exact technical specifications of the ISDN loop, and is simply given a distinct label since ISDN will be used to provision IDSL. For simplicity sake, I'll discuss this loop and its rates as the "ISDN loop."

Q. PLEASE EXPLAIN YOUR CONCERNS.

A. An "ISDN Digital Grade Loop" can be provisioned in one of two ways. First, it can be provisioned as a "clean copper loop" as described earlier. In this circumstance, the CLEC is provided access to a copper facility free of load coils, bridged tap or other devices/structures that disturb digital signals. Second, the ISDN capable loop can be provisioned via a combination of fiber optic feeder cable, copper distribution cabling and digital loop carrier electronics within which a specialized ISDN "plug-in" has been placed.[11] Other than the fact that a specialized "plug-in" must be used in the digital loop carrier equipment, there is no difference between a simple voice grade loop and an "ISDN Digital Grade Loop." Indeed, any contiguous, well-balanced voice grade loop in the network (consistent only with applicable voice grade standards) could support ISDN service (assuming that an ISDN plug-in was used if a digital loop carrier architecture was required). Despite this fact, BellSouth's monthly recurring charge for an ISDN capable loop is $21.15, $27.62 and $36.12 for geographically

disconnect the loop (a total of $310.35).

[11] ISDN "plug-in" cards for DLC equipment (generally referred to as "BRITE" cards) have been available for a number of years and are provisioned by ILECs as an everyday component of providing local services.

deaveraged rate groups 1, 2 and 3 respectively. These rates far exceed the SL1 rates.

Q. SHOULD THERE BE ANY DIFFERENCE BETWEEN THE MONTHLY RECURRING COST OF A VOICE GRADE LOOP AND AN ISDN CAPABLE LOOP?

A. Yes, however, the difference should be small, nowhere near that proposed by BellSouth.

Q. WHY WOULD THERE BE ANY DIFFERENCE IN THE RATES?

A. With respect to a loop provisioned solely over copper facilities, there would be no difference. A voice grade loop and an ISDN loop provisioned solely over copper would be identical. There would, however, be a difference in costs with respect to that portion of loops that are provisioned via fiber feeder facilities and digital loop carrier electronics. As discussed above, this results from the fact that ISDN services (or IDSL services that may use the ISDN capable loop) require a special ISDN plug-in within the digital loop carrier remote terminal. The cost of an ISDN plug-in is slightly higher than a comparable voice grade plug-in. Hence, the cost of the fiber-fed ISDN loop would be slightly higher than the cost of a voice grade loop.

Q. HOW MUCH HIGHER?

A. Generally, ISDN plug-ins ("BRITE cards") cost approximately $35 per line more than does a standard voice grade plug-in (generally referred to as an "R-POTS" card). When this "investment" amount is capitalized into a monthly recurring cost, and then divided by the percentage of loops that will be served via digital

loop carrier electronics, the resultant difference in monthly costs per line for an ISDN capable loop would be approximately $0.34.[12]

Q. HOW SHOULD THE COMMISSION REMEDY THE ERROR IN BELLSOUTH STUDY REGARDING ITS EXAGGERATED ISDN CAPABLE LOOP CHARGES?

A. The Commission should require BellSouth to calculate its monthly recurring ISDN capable loop rate by adding $0.34, to its existing, SL1 monthly recurring rate.

Q. BELLSOUTH PROPOSES A SEPARATE MONTHLY RECURRING CHARGE FOR ITS UCL LONG VERSUS ITS UCL SHORT. IS THIS A REASONABLE PROPOSAL?

A. No, it is not. There is no reason to establish a disparate "short" versus "long" UCL rate. As I've described above, the differences, from a cost perspective, between a UCL loop and an SL1 loop are minimal and they should not impact the monthly recurring charges for those loops. BellSouth does not differentiate between a "short" versus "long" loop for any other of its loop categories and BellSouth has in no way supported its proposal to establish a separate "short" and "long" rate for its UCL. The Commission should reject BellSouth's proposal and require BellSouth to establish a UCL rate not to exceed its current SL1 rate (regardless of length).

[12] Calculated as follows: [$35*(257C ACF: .2083)*(% of loops served via copper: 56%)]/12 months per year.

IV. LOOP MAKEUP DATA

Q. HAVE YOU HAD AN OPPORTUNITY TO REVIEW MR. PATE'S DESCRIPTION OF HOW BELLSOUTH WILL PROVIDE CLECS WITH LOOP MAKEUP DATA?

A. Yes, I have. I have a number of concerns regarding both Mr. Pate's description of how BellSouth will provision loop makeup data and with BellSouth's proposed rates for accessing loop information as included in Mr. Ruscilli's testimony.

Q. WHAT IS LOOP QUALIFICATION DATA AND WHY IS IT IMPORTANT THAT CLECs HAVE ACCESS TO THIS INFORMATION?

A. Loop qualification data, or loop makeup information, is information about the physical attributes of the ILEC's loop plant. Adequate loop makeup data will include the length and composition of loops (whether they are comprised of fiber or copper cabling, for example), the identification of electronic or other devices on the loop including load coils and bridge taps, the length of the loop, the gauge of the wire used and other engineering parameters. Specifically, in order for a CLEC to determine the type of DSL service to provide to its customer, or whether it can provide service at all, the CLEC must learn the physical characteristics of the loops it has available for its use. For example, the length of the loop affects the speed of DSL service; similarly, so may the loop medium (whether its copper or fiber or whether the copper cable included in the loop is 22, 24 or 26 gauge cable). In addition, certain intervening devices, such as load coils or digital access main lines ("DAMLs") may impede the provision of DSL services over a loop

altogether. Loop makeup information enables the CLEC, as it also allows BellSouth, to make business decisions about whether a certain facility will support its services. Likewise, it allows the Data Coalition to determine if available loop facilities can support a particular type of DSL service (to determine whether the carrier may be ale to provide its customer a DSL technology other than its standard offering) and whether conditioning is necessary.

Q. WHAT LOOP QUALIFICATION INFORMATION MUST BE PROVIDED TO CLECS?

A. Among others, the FCC requires incumbent carriers to make the following types of loop makeup information available:

(1) The composition of the loop material;
(2) The existence, location and type of any electronic or other equipment on the loop, including but not limited to digital loop carrier or other remote concentration devices, feeder/distribution interfaces, bridged taps, load coils, pair-gain devices, disturbers in the same or adjacent binder groups;
(3) The loop length, including the length and location of each type of transmission media;
(4) The wire gauge(s) of the loop; and
(5) The general electronic parameters of the loop.

The FCC determined that the ILEC must provide this information based upon an individual address or zip code specific to an end user, in a particular wire center, NXX code, or on any other basis that the ILEC provides such information to itself.[13] ILECs must also provide access to loop qualification OSS within the same time intervals as it is provided to the ILEC's retail arm.[14]

[13] *UNE Remand Order* ¶ 427
[14] *Id.*, ¶ 431.

Q. DO ILECS HAVE AN OBLIGATION TO PROVIDE LOOP QUALIFICATION DATA?

A. Yes. In the *UNE Remand Order,* the FCC clarified its definition of operational support systems ("OSS") to specifically include access to loop qualification information as part of their obligation to provide non-discriminatory access to OSS. OSS includes access to loop qualification information as a part of the preordering function.[15] As a result, the Commission must address the rates, terms, and conditions of OSS access to loop qualification information.

Q. DID THE FCC PRESCRIBE ANY MINIMUM REQUIREMENTS ON THE TYPES OF LOOP INFORMATION THAT ILECS MUST PROVIDE?

A. Yes. An ILEC must provide the same detailed information about the loop that it has available for its own use.[16] ILECs may not deny such information to CLECs "simply because the ILEC is not providing xDSL services from a particular end office."[17] ILECs must provide the loop qualification information on a nondiscriminatory basis to CLECs if the "information exists anywhere within the incumbent's back office and can be accessed by any of the incumbent ILEC personnel, "whether those personnel are employed by the ILEC itself, its retail arm or an affiliate." This includes any underlying loop information contained in the engineering records, plant records, and other back office systems.

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[15] *Id,.* ¶ 426.
[16] *Id,.* ¶ 427.
[17] *Id.* ¶ 427-28.

Q. IF THE ILEC DOES NOT PROVIDE LOOP MAKE UP INFORMATION TO ITS RETAIL ORGANIZATION, MUST IT STILL PROVIDE THAT INFORMATION TO CLECS?

A. Yes. If the loop qualification information exists anywhere within the ILECs' back office systems and is accessible, either electronically or manually, by the ILEC's personnel (whether those be retail, wholesale, network or any other type of personnel), the information must be made available to CLECs.

Q. DOES BELLSOUTH INTEND TO MAKE ITS LOOP MAKEUP DATA AVAILABLE TO CLECS?

A. Yes, to some extent. Mr. Pate testifies that BellSouth will provide CLECs with access to loop makeup data during the "service inquiry" portion of a service order (also known as the "preordering" function). BellSouth proposes in this proceeding that the Commission adopt two separate rates that would apply to manual and mechanized access to BellSouth's "Loop Qualification" databases. For loop makeup data accessed via electronic access to BellSouth's databases, BellSouth proposes a non-recurring rate of $0.76 per loop inquiry. For loop makeup data that is accessed via manual processes, BellSouth proposes a nonrecurring rate of $77.18,[18] an increase of approximately 100 times. In addition, for each of its xDSL capable loops, BellSouth has created a nonrecurring charge specific to whether the CLEC requests loop makeup data or not.

[18] BellSouth proposes a rate of $77.18 when loop makeup is done and a facility is reserved, it charges $74.46 when loop makeup occurs without a facility reservation.

Q. DO YOU HAVE CONCERNS ABOUT THE LEVEL OF BELLSOUTH'S PROPOSED RATES ASSOCIATED WITH ACCESSING LOOP MAKEUP INFORMATION?

A. Yes, I do. My first concern, however is that CLECs should pay BellSouth for accessing those databases no more than BellSouth attributes to its own retail ADSL unit for the same activity. At this time, since BellSouth attributes no loop qualification expenses to its retail ADSL unit, CLECs should also be allowed to review BellSouth's loop makeup data without charge. My next concern about BellSouth's loop makeup proposal, however, is less about the rates themselves and more about when BellSouth will charge CLECs the electronic loop makeup charge versus the manual loop makeup charge. My concern primarily arises from Mr. Pate's direct testimony at page 5 wherein he states as follows:

> BellSouth has developed and implemented procedures to provide CLECs with detailed loop make-up information via the manual Service Inquiry (SI) process. Additionally, BellSouth has under development a detailed mechanized Loop Make-up pre-order process that is accessible through all current electronic interfaces that support pre-order functions (LENS, TAG, and RoboTAG®). This process will be available to any CLEC that is interested in incorporating these procedures into its interconnection agreement. [emphasis added]

Mr. Pate's testimony makes clear that even though BellSouth was required by the FCC to provide CLECs mechanized loop makeup data as of May 17, 2000, BellSouth is still developing this system and cannot today, provide CLEC's with electronic access. There are several problems with BellSouth's failure in this regard. First, regardless of the fact that it is BellSouth who has not met its obligation, BellSouth still intends to assess costly manual loop makeup charges

(charges 100 times those that even BellSouth estimates would be required in an electronic environment) on CLECs until its already tardy electronic system is in place. This isn't reasonable.

Second, even though BellSouth hasn't finished building its electronic system, it has already proposed rates to this Commission that are based upon upwards of $40 million of investment. BellSouth's $40 million estimate is not reasonable for a number of reasons detailed below. Further, the Commission should approve no rate for loop makeup until the system is in place and working. In short, BellSouth is in this circumstance requesting its money before its chores are done.

Finally, the electronic system BellSouth proposes doesn't appear to be consistent with its mandate from the FCC. BellSouth's electronic loop make-up system provides CLECs access to only a single BellSouth database (LFACS) which houses loop makeup information. BellSouth personnel, on the other hand, have access to numerous databases for purposes of accomplishing this task.

Q. WHAT IS LFACS?

A. LFACS is an acronym, which stands for the "Loop Facility Assignment and Control System." Alfas is the primary operational support system ("OSS") that supports the inventory of loop facilities within an ILEC's back office systems.[19] Engineers and provisioning personnel rely upon LFACS, as well as a host of other

[19] ILECs (especially the original Regional Bell Operating Companies) rely primarily on BellCore backoffice "legacy" systems to track and manage their facility assignments. LFACS is an original BellCore legacy system.

systems, to make facility assignments (primarily outside plant and/or loop assignments) specific to customer and network planning requests.

Q. HOW LONG HAS LFACS BEEN AVAILABLE AND EMPLOYED BY REGIONAL BELL OPERATING COMPANIES FOR PURPOSES OF MANAGING THEIR OUTSIDE PLANT NETWORK?

A. It is my understanding that LFACS has been available and deployed for at least the last 30 years.

Q. WHY SHOULD THE COMMISSION BE CONCERNED THAT BELLSOUTH HAS YET TO FINISH THE WORK NECESSARY TO ALLOW CLECS ACCESS TO ITS LOOP MAKEUP DATA?

A. First, if CLECs cannot obtain BellSouth's loop make-up data on an electronic basis, BellSouth intends to charge them a nonrecurring charge of $77.18 per service inquiry. This is just another in a long line of excessive, labor intensive nonrecurring charges that BellSouth proposes to charge its advanced services competitors. Charges of this magnitude will serve as a major barrier to entry and an obstacle to advanced services competition in Tennessee. This is especially true with respect to charges for accessing loop makeup data because CLEC may not find facilities suitable for its services via the inquiry, and may not win a customer from which to recover these costs.

Second, Mr. Pate suggests that unless the loop makeup data requested is available in LFACS, that data must be provided via the expensive manual process.[20] The FCC did not limit a CLECs' rights associated with accessing loop makeup data to

[20] Direct Testimony of Mr. Pate, page 7.

the LFACS system, indeed, it provided CLECs with broad rights to any data (or electronic databases) the ILEC has in its possession regarding loop makeup data:

> Instead, the incumbent LEC must provide access to the underlying loop qualification information contained in its engineering records, plant records, and other back office systems so that requesting carriers can make their own judgments about whether those loops are suitable for the services the requesting carriers seek to offer. Otherwise, incumbent LECs would be able to discriminate against other xDSL technologies in favor of their own xDSL technology.[21]

Q. ARE THERE OTHER BELLSOUTH ELECTRONIC DATABASES THAT MAY HAVE INFORMATION THAT COULD BE USED BY THE CLEC?

A. Yes. In addition to its LFACS database, BellSouth employs a host of other databases that include loop makeup data. These databases include, but are not limited to, BellSouth's Loop Qualification System ("LQS") database that it uses for its own ADSL services, as well as a Corporate Facilities database that is used to track and manage the entirety of the company's facilities.[22] In his North Carolina testimony, BellSouth witness Greer discussed the ease with which he uses the Corporate Facilities Database to analyze BellSouth's loop plant and the fact that not only he, but a large number of BellSouth's engineering staff have access to this network tool.[23] Unfortunately, BellSouth does not provide CLECs with access to the Facilities Database or any of the databases underlying LQS so that they too can review the entirety of BellSouth's loop makeup data without the fear of being assessed the substantial, *manual* loop makeup charge.

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[21] *UNE Remand Order* ¶ 428.

[22] See Mr. Pate's description of the LQS system and the underlying databases upon which it relies at pages 9-12 of his Direct Testimony.

Q. ARE THERE ADDITIONAL REASONS FOR CONCERN REGARDING THE FACT THAT BELLSOUTH LIMITS ELECTRONIC ACCESS TO THE LFACS SYSETM?

A. Yes, there are. Even after BellSouth has developed its multi-million dollar electronic loop makeup interface, and CLECs have expended significant capital to build electronic bonding systems to interface with BellSouth's system, BellSouth anticipates that 60% of the time, requested loop makeup information will not be included in LFACS and the CLEC will be required to pay the exorbitant manual loop makeup rate anyway.[24]

Q. PLEASE IDENTIFY THE LOOP MAKEUP COSTS THAT BELLSOUTH INCLUDES WITHIN COST STUDIES SUPPORTING ITS RETAIL ADSL PRODUCT.

A. Earlier in our testimony we identified the *****BST PROPRIETARY [redacted] END PROPRIETARY***** in nonrecurring costs that BellSouth attributes to the provision of its retail ADSL service. We highlighted the fact that BellSouth's *****BST PROPRIETARY [redacted] END PROPRIETARY***** includes all of BellSouth's nonrecurring costs associated with provisioning its ADSL service from start-to-finish, including provisioning the loop, ATM switching capacity, DSLAM capacity and interoffice transport requirements. It is clear from further discovery that none of this *****BST PROPRIETARY [redacted] END**

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[23] See Ex. MLS-7 (Mr. Greer's cross examination, NC Docket P-100, Sub 133d, tr. 157-158).

[24] See BellSouth electronic workbook: *TN-LMU*, worksheet: *INPUTS_MISC*, cell: F8, "*% of time LMU does not exist in LFACS: 58.8%.*"

PROPRIETARY*** includes costs associated with accessing loop makeup information for purposes of "qualifying" a loop that will support BellSouth's ADSL service.[25] Indeed, BellSouth apparently includes no costs in its retail ADSL cost study for loop qualification. BellSouth includes neither labor expenses associated with manually qualifying those loops nor costs associated with constructing or using either the LQS, LFACS, or Corporate Facilities databases (or any other electronic system).

Q. HOW MUCH DID BELLSOUTH SPEND ON ITS LQS SYSTEM THAT PROVIDES LOOP MAKEUP DATA FOR ITS OWN RETAIL, ADSL SERVICE?

A. In North Carolina, the New Entrants asked this very question in discovery. BellSouth responded as follows:

> LQS was developed internally. Cost information is not available. Two Managers are responsible for keeping the database current. This is done on a regional basis and no separate costs are identified for North Carolina alone.[26]

Q. HOW MUCH DOES BELLSOUTH SUGGEST THE ELECTRONIC INTERFACE NECESSARY TO ACCOMMODATE CLECS WILL COST?

A. Over a three year period BellSouth's cost studies assume that it will spend approximately ***BST PROPRIETARY [redacted] END PROPRIETARY*** to provide an electronic means by which CLECs can access loop makeup data for purposes of qualifying loops for xDSL service.[27]

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[25] See BellSouth's North Carolina response to New Entrants' Fourth Data Requests, Item No. 11.
[26] *Id*, Item No. 5(H).
[27] See hardcopy workpaper 001699, an applicable electronic workpaper could not be found.

Q. IS IT REASONABLE TO ASSUME THAT BELLSOUTH WILL INCUR NEGLIGIBLE LOOP MAKEUP COSTS FOR PROVISIONING ITS OWN ADSL SERVICES YET INCUR ENORMOUS COSTS TO ACCOMMODATE CLECS?

A. No. For purposes of managing the loop makeup needs of its own, retail ADSL service, BellSouth apparently requires the assistance of only two managers and incurs costs insignificant enough to even track to manage a database that enables BellSouth to decide which loops will support its ADSL service. On the other hand, BellSouth expects this Commission to approve a ***BST PROPRIETARY [redacted] END PROPRIETARY*** system upgrade to accommodate the needs of CLECs. This is especially egregious given the fact no rational basis exists to suggest that two distinct and separate loop qualification databases need be used (i.e., LQS for BellSouth's own use and a separate, allegedly very expensive system to be used by CLECs). The facilities that both parties will need to "qualify" for purposes of supporting their xDSL services are the same facilities. And, the information relied upon to make a qualification decision (i.e., LFACS, the Corporate Facilities Database and others) is the same. The idea that an interface necessary to retrieve that information will cost BellSouth next to nothing while costing ***BST PROPRIETARY [redacted] END PROPRIETARY*** for CLECs is not credible. This Commission should reject this proposal in its entirety.

Q. WHAT ACTION SHOULD THE COMMISSION TAKE?

A. Consistent with the FCC's *UNE Remand Order*, CLECs should be allowed access to any BellSouth electronic database that maintains information pertinent to loop makeup. At a minimum, that access should include the LFACS, LQS, and Corporate Facilities databases. CLECs should pay BellSouth for accessing those databases no more than BellSouth attributes to its own retail ADSL unit for the same activity. At this time, BellSouth attributes no loop qualification expenses to its retail ADSL unit (indeed, it has not even felt compelled to determine what those costs are). Hence, until BellSouth identifies and attributes loop makeup expenses to its won retail products, CLECs should also be allowed to review BellSouth's loop makeup data without charge. Further, it is clear that BellSouth has not yet implemented the electronic access gateway that it is attempting to establish rates for in this proceeding and that CLECs cannot yet use the system. In any event, a rate of $0 should be established for loop makeup (both manual and electronic) until BellSouth offers access consistent with its FCC mandate. Further, until the system is available and the Commission and CLECs can assess its ability in meeting BellSouth's requirements, no rate or cost recovery should be allowed (i.e., BellSouth shouldn't be paid until its finished its chores).

Q. HAVE OTHER STATE COMMISSION'S REACHED SIMILAR CONCLUSIONS?

A. Yes, They have. For example, the Public Utilities Commission of Ohio ("PUCO") has determined that loop qualification charges should be eliminated in their entirety. The PUCO noted:

> Staff witness Francis stated that CBT's lack of knowledge of which loops may or may not need to be conditioned should not result in a loop qualification charge being imposed on competitors. According to the staff, the qualification of loops could have been a type of inventory function developed by CBT to identify the type and location of any loop at any given time. We agree with the staff that loop qualification is not a function of physically conditioning a loop or specifically removing load coils.[28]

In a preliminary decision, the Public Utilities Commission of Nevada reached a similar assessment in regard to Nevada Bell's proposed loop qualification charges. The Commission rejected Nevada Bell's proposed nonrecurring loop qualification charge of $172.09 noting:

> It appears to the Commission that the method proposed by Nevada Bell of charging for loop qualification is very costly for those loops where the inventory has not been updated or maintained and this cost could very well be a barrier to competition. It appears to the Commission that updating and maintaining Nevada Bell's data base on its loop inventory is the responsibility of Nevada Bell and is a function of doing business and the cost to perform that function is a cost of doing business. The fact that Nevada Bell has not had an aggressive inventory program to maintain its database should not be reason to pass the cost of bringing its loop inventory database current to CLECs. Furthermore, the Commission notes that if Nevada Bell's loop inventory was current all loop qualifications would be electronical.[29]

The Nevada Commission instead adopted a 10-cent electronic loop qualification price for all loop qualification.[30]

Q. SHOULD THE COMMISSION MAKE ANOTHER FINDING?

A. Yes, it should. Even though BellSouth has admitted that its Corporate Facilities database includes electronic information for all of its facilities, and that its

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[28] *In the Matter of the Application of Cincinnati Bell Telephone Company for Approval of a Retail Pricing Plan Which May Result in Future Rate Increases and For a New Alternative Regulation Plan*, PUCO Case No, 96-899-TP-ALT, Second Entry on Rehearing at p. 13. (January 20, 2000)("PUCO CBT Order").

[29] *In re filing by Nevada Bell of its Unbundled Network Element (UNE) Nonrecurring Cost Study pursuant to Order issued in Docket No. 98-6004, Docket Nos. 99-12033, 99-12034, and 00-4001*, Draft Order at p. 7 (November 9, 2000). The Nevada Commission notes that this is a draft Order and may be subject to revision.

employees have access and make use of this electronic information, it continues to propose that the Commission adopt a "manual" loop makeup rate. Consistent with the FCC's UNE Remand Order, and its requirement that CLEC have nondiscriminatory access to loop makeup data, the Commission should allow BellSouth to assess its "manual" loop makeup charge only in circumstances wherein the CLEC was offered nondiscriminatory, electronic access and refused to utilize the BellSouth system. For example, BellSouth should be allowed to assess its manual loop makeup charge when a CLEC has refused to build the electronic systems necessary to meet a working BellSouth electronic interface capable of providing nondiscriminatory access to BellSouth's loop makeup data. However, only in this type of situation should BellSouth be allowed to assess its manual loop makeup rate.

Q. WHY IS THIS THE ONLY SITUATION WHEREIN BELLSOUTH SHOULD BE ALLOWED TO ASSESS ITS MANUAL LOOP MAKEUP RATE?

A. Via the Corporate Facilities database and other BellSouth databases, BellSouth's employees have access to the entirety of BellSouth's network information required to perform the "loop makeup" function in electronic format. The fact that BellSouth wishes to allow CLEC's access to only one of these databases (i.e., LFACS), is not only inconsistent with the FCC's *UNE Remand Order* (and should be rejected by the Commission), but also results in discriminatory pricing. BellSouth would, under its proposal, charge CLECs expensive, manual loop

[30] *Id.*

makeup rates in situations wherein its own personal could access the exact same data in an electronic format.

Q. IS BELLSOUTH'S MANUAL LOOP MAKEUP NONRECURRING CHARGE REASONABLE?

A. No, it is overstated. BellSouth proposes a nonrecurring charge of $77.18 for manual loop makeup activities. This charge results from approximately 1 hour of time (52 minutes) associated with an engineer accessing BellSouth's loop makeup data and providing that data to the CLEC.[31] During cross examination in North Carolina, BellSouth witness Greer admitted that in using the Corporate Facilities database during the course of his own responsibilities, he can gather the relevant loop makeup data in about 10 minutes (almost 1/5 of that assumed within the BellSouth cost study).[32] Further, Mr. Greer admitted that network engineers who commonly work with the database as an integral portion of their job, should be more efficient with the system and would likely be able to access this data in less time. Consistent with Mr. Greer's testimony I've recalculated BellSouth's manual loop makeup study by assuming that an engineer would require, on average, 10 minutes of time to access loop makeup data. That single change reduces BellSouth's manual loop makeup charge from $77.18 to $6.76. I would recommend that in those rare situations where BellSouth is allowed to assess its

[31] See electronic workbook *TN-LMU*, worksheet: *Inputs_Engineering*, sum cells: E7:E10.
[32] Tr. 156.

manual loop makeup charge, that it be required to assess a charge no greater than $6.76.[33]

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS REGARDING ACCESS TO LOOP QUALIFICATION/LOOP MAKEUP INFORMATION

A. In summary, my recommendations are as follows:

- BellSouth's forward looking network design, which assumes that copper loops will not exceed 12,000 feet and use of Next Generation Digital Loop Carrier and fiber feeder for loops longer than 12,000 feet precludes BellSouth from charging to qualify loops since in such a network all loops are free of load coils, repeaters, and bridged tap, and are thus always qualified for xDSL service.

- If allowed to charge to qualify loops, BellSouth should not be allowed to charge more than the costs BellSouth attributes to this function for provision of its retail ADSL services. Because BellSouth currently attributes no loop qualification costs to its ADSL service (indeed, it does not even measure those costs), BellSouth should charge CLECs a rate of $0 for accessing loop data electronically.

- If allowed to charge to qualify loops, Until BellSouth makes electronic loop makeup information available to CLECs in Tennessee, as it has been required to do since May 17, 2000, CLECS should pay only the electronic loop makeup rate irrespective of whether CLECs receive loop makeup information via a mechanized or manual process.

- Because BellSouth's internal employees have electronic access to loop makeup data for the vast majority of BellSouth's network, BellSouth should not be allowed to assess a manual loop makeup charge on CLECs simply because BellSouth has decided unilaterally to provide CLECs access only to its LFACS database (and not to its other databases where electronic loop makeup data is likely to be found).

- Manual Loop Makeup charges, if permitted at all, should be minimal given the reasonable work steps and task times supported by Mr. Fassett. Based upon the work step and task times he recommends, the most the Authority should allow BellSouth to establish a nonrecurring charge for manually accessing loop makeup data that does not exceed $6.76.

[33] Calculated with the following information: 10 minutes, $40.54 per hour (taken from Workpaper 000098 for JG57, Engineering, i.e., the Job Function Code payband for this type of labor): (10*$40.54)/60 = $6.76.

V. LINE CONDITIONING

Q. PLEASE IDENTIFY THE LINE CONDITIONING RATE ELEMENTS BELLSOUTH HAS PROPOSED IN THIS PROCEEDING.

A. BellSouth proposes to assess the following charges when CLEC's request that an unbundled loop be "conditioned" to accommodate digital services:

BELLSOUTH PROPOSED LOOP CONDITIONING CHARGES		Non-Recurring Charge (First)
A.17	**LOOP CONDITIONING - Rate Elements**	
A.17.1	Unbundled Loop Modification - Load Coil / Equipment Removal - short	$61.45
A.17.2	Unbundled Loop Modification - Load Coil / Equipment Removal - long	$321.99
A.17.3	Unbundled Loop Modification - Bridged Tap Removal	$61.49
A.17.4	Unbundled Loop Modification - Additive	$12.36

Note 1: While BellSouth also includes individual conditioning charges for sub-loop elements and includes different charges for each "Additional Loop" conditioned, the rates above provide the Authority with an overview of the activities for which BellSouth is attempting to recover expenses.

Q. SHOULD THE COMMISSION ALLOW BELLSOUTH TO ASSESS THE CHARGES ABOVE FOR LOOP CONDITIONING?

A. No, it should not. The following section of my testimony highlights why allowing BellSouth to recover loop conditioning rates consistent with its proposed rates will allow it to (1) recover expenses in excess of reasonable, cost based rates consistent with forward looking economic costing principles, (2) double-recover expenses that are already included in its monthly recurring unbundled loop charges, and (3) require CLECs to pay for network upgrades that BellSouth should have been making over the past 20 years (upgrades that primarily enhance BellSouth's network so that it can better accommodate increasing demands for retail digital services).

Q. DO YOU HAVE ANY GENERAL COMMENTS ABOUT THE CONDITIONING CHARGES PROPOSED BY BELLSOUTH?

A. Yes, I do. At their very core, BellSouth's proposed conditioning rates are based upon a conceptual error. That error can be best explained as follows:

> (1) BellSouth is required via the FCC's forward looking economic cost methodology, to derive costs for UNEs based upon an efficient network architecture which accounts for the most cost-effective technology available.
>
> (2) BellSouth claims that its existing cost studies that support its monthly recurring loop charges are compliant with this standard.
>
> (3) Those studies assume that BellSouth's network is built in such a way that loops would not require load coils, bridged tap or other devices that will disturb digital transmission. Likewise, the forward looking costs of building such an advanced network undoubtedly exceed the costs of provisioning loops on BellSouth's embedded network.
>
> (4) Yet, BellSouth, via its loop conditioning charges, is attempting to maintain its higher monthly recurring loop charges (based upon a forward looking network), while at the same time recover additional loop conditioning costs based upon the circumstances that exist in its embedded network. In short, BellSouth chooses to "eat its cake and have it too." That is, BellSouth wants to charge higher monthly recurring loop charges associated with a forward looking network, yet also recover costs associated with modifying its less costly embedded network.

Obviously, the Commission cannot condone such game playing. BellSouth must assess both monthly recurring and nonrecurring rates consistent with a forward looking network. In doing so, BellSouth should be allowed to recover monthly recurring costs associated with provisioning a forward looking network, it should not, however, be allowed to also assess loop conditioning costs that are antithetical to the very same forward looking network.

Q. DO LOAD COILS AND BRIDGED TAP STILL EXIST IN BELLSOUTH'S NETWORK?

A. BellSouth has suggested that its network still includes some number of load coils and some amount of bridged tap. However, as explained in detail by Mr. Fassett, this is largely a function of BellSouth not having migrated its network to meet with its own internal engineering guidelines over the past 20 years. Load coils and bridged tap, regardless of whether they continue to be used in the network, are not consistent with a forward looking network design.

Q. IF LOAD COILS AND BRIDGED TAP EXIST IN THE NETWORK AND MUST BE REMOVED, ISN'T BELLSOUTH GOING TO INCUR REAL, NOT HYPOTHETICAL, EXPENSES THAT IT SHOULD BE ALLOWED TO RECOVER FROM THE CLECS?

A. BellSouth may indeed incur real expenses when removing load coils and bridged tap (as well as other devices that interrupt digital transmission), however, BellSouth should not be allowed to recover these expenses from CLECs.

Q. WHY NOT?

A. When a CLEC pays BellSouth a monthly recurring charge to purchase an unbundled loop, the CLEC is actually paying an amount necessary for BellSouth to construct that loop anew consistent with forward looking network design standards (i.e., no load coils or bridged tap). It is for this reason that BellSouth's studies assume that it must purchase new cable, new telephone poles, new central office equipment and new digital loop carrier electronic equipment to provision the loop (i.e., proper forward looking cost studies assume today's prices for

today's equipment and allow the ILEC to recover depreciation expenses as if that equipment were brand new equipment). Obviously, however, BellSouth doesn't construct each unbundled loop anew. This results from the fact that it is actually cheaper, in the short run, for BellSouth to use a loop facility that already exists in its network to provision the unbundled loop ordered by the CLEC. Many times it is far cheaper to use the existing network because the existing cable, telephone poles and other equipment are almost completely depreciated and the expenses associated with those facilities have been recovered by BellSouth in total (BellSouth incurs expenses only with maintaining that facility). In strictly marginal cost terms, many times BellSouth can provision such an unbundled loop with little, if any out-of-pocket cost to itself. However, the CLEC continues to pay a monthly recurring rate as if it were buying a brand new facility that has been recently constructed.

Q. WHAT IS THE SIGNIFICANCE OF YOU DISCUSSION TO THIS POINT?

A. The significant rests in the fact that BellSouth is being paid, by the CLEC via the monthly recurring charge assessed for an unbundled loop, to build a loop consistent with the network standards assumed within the cost study. For this reason, the CLEC should be assured that the loop it receives has been so constructed and complies with those standards. The fact that in many circumstances, BellSouth can provision an acceptable loop without adding to or modifying its existing network, allows BellSouth to provision a loop at costs far below the rate paid by the CLEC. In these circumstances, BellSouth receives a

windfall. As if this weren't bad enough, in one of the few circumstances where BellSouth must actually modify its existing network (i.e., by removing load coils) to provision an acceptable loop consistent with the standards it is charging for, it is asking that the CLEC pay for the modification as well. This simply isn't consistent with the manner by which the FCC requires prices for UNEs to be set.

Q. HOW HAVE OTHER STATE COMMISISONS ADDRESSED THIS ISSUE?

A. Yes, other state commissions have refused to sanction double recovery of costs by ILECs via conditioning charges. In Massachusetts, for instance, the DTE concluded that it would be inconsistent with the FCC's pricing rules for Verizon to recover loop conditioning costs when Verizon's hypothetical network did not require conditioning at all. Similarly, the Utah Public Service Commission described the situation perfectly:

> A TELRIC model (or a forward-looking, efficient provider) would not design a network that required loops to be conditioned or groomed before services today's customers expect could be provided. It follows, and we so conclude, that the buyer of an unbundled loop should not have to pay for any such upgrading: the price of the loop presupposes sufficient quality, by which is meant a loop capable of meeting not just current demands but demands for advanced services as well. Accordingly, we disallow charges for line conditioning or grooming.[34]

Q. ARE THERE OTHER REASONS WHY BELLSOUTH SHOULD NOT BE ALLOWED TO ASSESS THE NONRECURRING LOOP CONDITIONING RATES DETAILED ABOVE?

A. Yes, there are. When BellSouth calculates monthly recurring rates for its unbundled loops, it includes expenses associated not only with constructing that facility (as described above), it also includes expenses associated with maintaining that facility in working order. BellSouth, like most other ILECs, calculates its maintenance expenses by comparing the amount of maintenance expenses it has incurred in the past (generally over the past three years), with the amount of network investment that those maintenance expenses have supported. In doing so, it develops a ratio of Expenses/Investment that it then applies to the forward-looking investments calculated within its cost studies. This process produces an estimate of maintenance expenses expected to be incurred to maintain the investment assumed within the cost study for an unbundled loop. BellSouth recovers these maintenance expenses within the monthly recurring rate for an unbundled loop.

Q. WHAT DOES BELLSOUTH'S MAINTENANCE EXPENSE HAVE TO DO WITH LOOP CONDITIONING COSTS?

A. Whenever BellSouth's outside plant personnel are dispatched to accommodate a "move, add or change" in the BellSouth network, the expenses associated with their time and materials are booked to BellSouth's maintenance accounts. To the extent BellSouth's personnel have been dispatched to remove load coils, pare bridged tap or remove any other devices that would otherwise interfere with digital transmission, those expenses are booked to the maintenance account, and

[34] *In the Matter of Investigation into Collocation and Expanded Interconnection, Phase III Part C: USWC's Unbundled Network Element TELRIC Costs and Prices*, Public Service Commission of Utah, Docket No. 94-999-01, Phase III Part C Report and Order at p. 9 (June 2, 1999).

hence, are added to the monthly recurring cost for an unbundled loop (via the maintenance factor). To establish stand-alone nonrecurring loop conditioning charges like BellSouth has proposed, would serve simply to double recover those conditioning expenses.[35]

Q. IS THERE ADDITIONAL EVIDENCE WHICH SUPPORTS YOUR CONTENTION THAT BELLSOUTH ALREADY RECOVERS LOOP CONDITIONING COSTS IN ITS MAINTENANCE FACTORS?

A. Yes. In response to Broadslate's Revised First Interrogatories, Item No. 26, Broadslate asked BellSouth to identify the amount of conditioning expense BellSouth had booked to its accounts in years 1998-2000. The purpose of the question was to determine how much conditioning expense was already being booked by BellSouth and, hence, how much would already be recovered in BellSouth's cost studies. BellSouth's response, as detailed below, is telling for a number of reasons:

> BellSouth does not maintain its accounting records in a manner that would permit it to provide the detailed information sought by this request. While BellSouth records the dollars (whether capital or expense) associated with an outside plant construction job, a job often includes many tasks and determining the cost incurred by the actual "conditioning" may not be separable from other tasks. Also, even the identification of those jobs that included the removal of some portion of the plant, is dependent on the verbiage of the engineer stated in the title of the job and therefore capturing all the relevant jobs would be unlikely.

Q. WHY IS THIS RESPONSE TELLING?

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[35] Consistent with my discussion above, if BellSouth were to have performed an appropriate, forward looking cost study, it would have removed any maintenance expenses associated with maintaining obsolete network facilities (like load coils) when developing its maintenance factors for unbundled loops. Because BellSouth has not removed these expenses, and because it already recovers within its maintenance factors

A. First, this response is telling because it proves almost without doubt that BellSouth generally capitalizes conditioning expenses incurred in its own provision of services into its general growth and maintenance budgets and recovers those expenses in monthly recurring charges (indeed, BellSouth admits it could not remove these expenses from these budgets if it wanted to because they are not separately identifiable). Therefore, conditioning expenses are undoubtedly already included in the material investment and maintenance factors that were used to establish the unbundled loop monthly recurring rates already approved by the Commission. Allowing BellSouth to establish another set of nonrecurring charges associated with these activities would only lead to double recovery.

Second, this response highlights the fact that BellSouth does not, and has not in the past, assessed conditioning charges on its retail customers other than through monthly recurring charges via its material investment and maintenance factors (indeed, BellSouth could not even measure the amount of these costs it has incurred).

Q. HAS BELLSOUTH REFUTED THE FACT THAT IT ALREADY RECOVERS CONDITIONING EXPENSES IN ITS MONTHLY RECURRING CHARGES VIA ITS MATERIAL INVESTMENTS AND ITS MAINTENANCE FACTORS?

A. In her North Carolina Rebuttal Testimony, Ms. Caldwell stated as follows:

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costs associated with removing load coils, its stand alone loop conditioning charges are actually an attempt to triple-recover conditioning costs.

> BellSouth is not aggressively removing load coils as part of any rehabilitation initiative, and thus, the impact of the costs associated with this activity are not substantially reflected in the budget information BellSouth used to develop its maintenance factor.[36] [emphasis added].

Q. DO YOU HAVE REASON TO BELIEVE THAT BELLSOUTH IS CURRENTLY, AND HAS IN THE PAST, UNDERTAKEN AGGRESSIVE CONDITIONING EFFORTS TO SUPPORT DSL AND OTHER DIGITAL SERVICES?

A. Absolutely. First, contrary to Ms. Caldwell's testimony above, it is obvious that BellSouth is/has undertaken just such an initiative. In North Carolina discovery, BellSouth provided its *Loop Technology Deployment Directive* ("Loop Deployment Directive") documentation. This is an internal document aimed at network operations personnel responsible for managing network growth and the deployment of new loop facilities. The purpose of the Loop Deployment Directive is to guide the decisions of network planners as they build, reinforce and manipulate the BellSouth network for purposes of pursuing common strategies and a consistent design approach. The most common themes throughout the Loop Deployment Directive (issued in 1998), are the need to transition the network toward a Fiber in the Loop (FITL) architecture, the need to deploy increasing amounts of digital loop carrier equipment (both fiber-fed and copper-fed carrier), and to significantly reduce the current reliance upon conditioned metallic plant so as to ***BST PROPRIETARY [redacted]."[37]

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[36] *Rebuttal Testimony*, page 10, Daonne Caldwell on behalf of BellSouth Telecommunications, Inc., Docket P-100, Sub 133d, Before the North Carolina Utilities Commission.

[37] *Loop Technology Deployment Directives*, file code 205.0220, RL: 98-09-019BT, date: December 8, 1998. Provided in response to New Entrants' Third Data Requests, Item No. 38, June 26, 2000, see page 1.

END PROPRIETARY*** Even a cursory review of the Loop Deployment Directive reveals that BellSouth's network is being migrated to a digital friendly network as quickly as possible.

Second, I've included with this testimony as Exhibit MTS-2, a QSI analysis of BellSouth's demand for both analog and digital services over the past eight years. Demand for digital services and the facilities that will support them have been exploding in Tennessee. BellSouth's own data shows that since 1992, its demand for digital access lines has increased by 388.30% while its demand for analog lines has increased by only 27.41% over the same period. The same data shows that between 1998 and 1999, BellSouth added more than 222,000 digital access lines in Tennessee, nearly 5 times the number of analog lines added to its system (46,931) over the same timeframe.[38] Likewise, with the advent of competitive xDSL provisioning and exploding Internet usage growth, the anticipated demand for additional digital services and the facilities required to support them is expected to accelerate even faster. In short, BellSouth is experiencing an explosion in demand for digital services from its retail customers and its internal documents indicate that it is, and has been, working "aggressively" to ready its network to meet that demand (hence, its maintenance factors derived from the last three years' data should include substantial expenses associated with loop conditioning activities).

[38] All BellSouth access line data is taken from *Automated Record Management Information System* (ARMIS) data supplied by BellSouth to the FCC. Compilation of this data as used in this testimony can be found in MTS-2.

Q. ARE THERE OTHER BELLSOUTH DOCUMENTS THAT ARE INSTRUCTIVE REGARDING CONDITIONING EXPENSES AND HOW THEY SHOULD BE ACCOUNTED FOR?

A. Yes. BellSouth's "Facilities Design and Administration – Outside Plant Engineering" document, describes how "special construction charges" are to be charged to BellSouth's retail customers.[39] Special Construction charges are defined as "extraordinary expenses associated with Customer DS1 provisioning"[40] and they are to be passed "on to the customer in the form of an initial non-recurring charge, should they apply."[41] However, the document sets out a list of situations in which the special construction charges should not apply. The document states that removing load coils and bridged tap is a special construction charge that should not be passed on to the retail customer. In other words, the conditioning of copper pairs to support BellSouth's retail digital services is treated as a part of network planning.

> Maintenance expenses associated with providing all services are included in the annual maintenance expense factor in the pricing of any service. Therefore, outside plant rearrangements, such as unloading/loading cable pairs, removing bridged taps, line and station transfers or cable throws, required to provide a service are not to be considered for a Special Construction Charge.[42]

Q. HOW DOES THE INFORMATION ABOVE CONTRADICT MS. CALDWELL'S TESTIMONY?

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[39] North Carolina Docket No. P-100, Sub 133d, MCI WorldCom First Data Requests to BellSouth, Item 10, DS1 Facilities Design and Administration – Outside Plant Engineering, BSP, 915-700-001SV, Issue A, September 1989 (the "Facilities Design Methods").

[40] *Id.*, p.6.

[41] *Id.*

A. The information above demonstrates that BellSouth is indeed migrating its network toward a more digital supportive architecture. In the process, it is deploying larger amounts of digital loop carrier equipment that is freeing-up copper facilities that can be conditioned (where necessary) and used/reserved for digital services. Likewise, to support its own digital services offerings, BellSouth instructs its technicians to move existing voice grade customers to DSL facilities so that the copper facilities they currently use can be made available to support digital services. Finally, BellSouth's documentation requires that expenses associated with these activities be ***BST PROPRIETARY [redacted] END PROPRIETARY***[43]

Q. WHY WOULD BELLSOUTH RECOVER CONDITIONING EXPENSES IN ITS GROWTH BUDGETS AND WITHIN MAINTENANCE FACTORS?

A. Loop conditioning activities and the expenses they generate are actually an *investment* in the network, not a non-recurring *expense*, and like all other investments, they are most efficiently recovered over time from all users of the network. The Authority need only look at how BellSouth accounted for the expenses associated with first conditioning the loop by placing the load coil on the facility to understand the error of BellSouth's proposal in this case. The expenses associated with originally placing the load coil (truly "conditioning" the loop for voice grade services) was considered an investment in the network and no one-

[42] *Id.*, p. 7 (emphasis added).

time fees were assessed to recover those expenses. These expenses were simply capitalized with the investment in the cable and wire facilities constituting the loop and included in the direct cost of a loop. Hence, it makes little sense to recover expenses associated removing these very same devices (again for purposes of "conditioning" the loop) in exactly the opposite fashion.

Q. ARE THERE ECONOMIC REPERCUSSIONS THAT WILL RESULT FROM ASSESSING NONRECURRING CHARGES FOR CONDITIONING ACTIVITIES?

A. Of course. Recovering investments via nonrecurring charges always penalize the "first man in" to the benefit of all that follow. An example best demonstrates this point. Assume that CLEC-A is successful in marketing its ADSL services to Customer X. Customer X is currently served by a copper loop that includes load coils. Under BellSouth's current approach, if CLEC-A were to serve this customer, it would be responsible for paying all expense associated with removing load coils from the subscriber's loop (and, absent "eating" those expenses, the CLEC would need to pass those expenses along to its customer). Assume that 6 months later, Customer X takes advantage of a BellSouth ADSL marketing promotion. When BellSouth provides ADSL services to Customer X, there are no load coils and no investment in load coil removal that must be made to serve the customer, indeed CLEC-A has already undertaken the investment necessary to make Customer X's line

[43] See Table I1, Page 1, *Loop Deployment Directive.*

digital-ready. BellSouth, in such a circumstance, has a tremendous competitive advantage over CLEC-A because it can market services to the customer without facing the same acquisition costs that faced CLEC-A (indeed, BellSouth or any other CLEC could market services only to existing clients of other carriers, thereby completely avoiding loop conditioning expenses, even though the services they would offer would benefit from loop conditioning efforts). Of course, the same is true if the tables are turned. If BellSouth "paid" to have the load coils removed, CLEC-A could solicit the customers' business without incurring the same costs. Regardless of who "wins" or "loses" under this scenario, the proper economic incentives have been skewed and inefficiency will be the ultimate result.

Q. WHAT IS THE BEST WAY TO AVOID THE ECONOMIC REPERCUSSIONS DISCUSSED ABOVE?

A. If the Commission believes that BellSouth should be allowed to recover from CLECs expenses associated with conditioning its outside plant, and it believes that BellSouth's maintenance charges and growth budgets already included in its monthly recurring unbundled loop rates are insufficient for recovering these expenses, it should at a bare minimum require BellSouth to recover any unrecovered loop conditioning expenses in a monthly recurring charge assessed on all digital capable loops (both UNEs and retail loops). At least in this fashion, BellSouth will be required to recover some of the conditioning investment in an economically rational manner (i.e., over time by the parties that use those

conditioned facilities) and from all parties who benefit (including its own retail business units). In North Carolina I recommended that if the Commission believed this was the most reasonable approach, a monthly recurring rate additive of $0.04 per loop was reasonable. This same rate would provide a reasonable recovery mechanism in TN as well.

Q. ASSUME THE COMMISSION BELIEVES THAT BELLSOUTH SHOULD BE ALLOWED TO RECOVER LOOP CONDITIONING EXPENSES VIA A STAND ALONE, NONRECURRING CHARGE, ARE THE CHARGES PROPOSED BY BELLSOUTH REASONABLE?

A. No, they are not. BellSouth's cost studies supporting its proposed rates include a number of erroneous and unreasonable assumptions. I've categorized BellSouth's errors as follows:

(1) BellSouth assumes that it will condition only 10 loops whenever it dispatches its outside plant personnel. The vast majority of expenses associated with conditioning a loop are expenses associated with traveling to, and preparing, the conditioning site. Hence, the more loops that can be conditioned on any single dispatch dramatically reduces the average cost of conditioning a loop. Given these cost characteristics and the exploding demand for digital services BellSouth is experiencing, as mentioned earlier, BellSouth should endeavor to condition as many loops as it can on each dispatch. On average, it is reasonable to assume that BellSouth will condition 50 loops on each dispatch.

(2) BellSouth assumes that ***BST PROPRIETARY [redacted] END PROPRIETARY*** of the time when dispatched to remove load coils from a loop, the "load point" will be found in an underground environment wherein BellSouth's technicians will need to access the cable via a manhole. Accessing cable facilities in manhole environments requires significantly more time for site preparation than does accessing cables in aerial and buried situations (12 times as long according to BellSouth's cost studies). BellSouth includes no support for its assumption that such a large amount of its "load

points" will be found in expensive and time consuming manhole environments. Indeed, its own cost studies suggest that less than 60% of its copper plant is found in manhole environments, a percentage consistent with Sprint's research used to support a similar assumption in its line conditioning cost study. It is reasonable to assume that BellSouth's technicians will be required to unload facilities in manhole environments only 60% of the time with the remainder of those deloading activities occurring in less expensive aerial and buried environments.

(3) BellSouth significantly overstates the amount of time required to perform deloading (and bridged tap removal) activities. Mr. Fassett suggests much more reasonable task times in his testimony.

(4) BellSouth's conditioning "Additive" is poorly reasoned and more than any other rate element requires CLECs to fund BellSouth's efforts aimed at updating the network consistent with its own engineering standards.

Q. WHY DOES THE DATA COALITION PROPOSE THAT BELLSOUTH ONLY RECOVER CHARGES BASED ON CONDITIONING 50 LOOPS AT A TIME?

A. First, as Mr. Fassett notes from his 30 years of telecommunications experience, BellSouth should be able to deload an average of 50 loops per dispatch. Of course, there are likely to be situations wherein a particular cable route is being utilized so heavily by voice grade services that 50 loops cannot be conditioned (though with the accelerating deployment of digital loop carrier equipment, as explained later, these types of routes should become far less common). However, there are also likely to be situations wherein 100, 200 or 500 loops could be conditioned in a single dispatch. On average, Mr. Fassett believes, based upon his

experience, that 50 loops is a reasonable number of loops to be included in the cost study.

Q: HAS BELLSOUTH PROPOSED FILL RATES THAT WOULD SUPPORT THE DATA COALITION'S POSITION ON CONDITIONING 50 PAIR AT A TIME?

A. Yes. BellSouth has already assumed within its unbundled loop study that it will maintain 34.9% of its copper feeder and 49.8% of its copper distribution facilities as spare facilities.[44] That is, at any point in time, 35% to 50% of BellSouth's entire network will be vacant and unassigned to existing customers. BellSouth cannot assume such low utilization within its unbundled loop studies for purposes of charging higher unbundled loop rates, and then completely ignore these assumptions in establishing rates for conditioning. Fill rates of 50%-60% should provide ample spare facilities for purposes of conditioning an average of at least 50 copper pairs on a single dispatch.

Q. DOES BELLSOUTH INCLUDE ANY INFORMATION IN ITS COST STUDIES TO SUPPORT ITS ASSUMPTION THAT ***BST PROPRIETARY [redacted] END PROPRIETARY* OF ALL DELOADING ACTIVITY WILL BE ACCOMPLISHED IN EXPENSIVE MANHOLE ENVIRONMENTS?**

A. No, it does not. In the North Carolina hearings BellSouth admitted that the ***BST PROPRIETARY [redacted] END PROPRIETARY*** was simply an

[44] *See* the Authority's *Order Re Petitions for Reconsideration and Clarification of Interim Order on Phase I*, Released November 3, 1999, page 10.

assumption made by one of its subject matter experts. BellSouth did not review its own outside plant documentation or any other network information for purposes of arriving at this assumption.

Q. IS THERE INFORMATION AVAILABLE THAT SPECIFICALLY CONTRADICTS BELLSOUTH'S ASSUMPTION?

A. Yes, there is. Telecommunications networks generally employ underground facilities (i.e., facilities placed in conduit and accessible primarily by manhole systems), in the more urban areas of their serving territory. It is common for a central office (particularly an urban or suburban central office) to be served by a substantial system of manholes that support copper and fiber cables initially extending from the central office. However, as those facilities extend further from the central office they migrate out of the underground-manhole system to aerial or direct-buried facilities. Load coils are placed on loops longer than 18,000 feet in length pursuant to industry standards with each load coil being placed every 6,000 foot with the first "load" being placed anywhere from 3,000 feet to 6,000 feet from the central office. Hence, while it may be reasonable to assume that some number of load coils at the first "load point" may be in underground facilities, second and third "loads" will most likely not be encountered in these same underground/manhole environments. As such, BellSouth's assumption that 90% of all unloading activity will occur in a manhole environment (even 2nd and 3rd "loads" that are almost certainly not to be found in an underground/manhole environment), is unreasonable.

Q. IS SPRINT'S LOOP CONDITIONING COST STUDY MORE

REASONABLE?

A. Yes, Sprint, who actually undertook a study of its own network for purposes of understanding the frequency with which it would encounter load points in underground versus either aerial or buried cable, concluded that it would experience the following frequency:[45]

LOAD POINT #1:	
Remove Load in Underground Cable (Manhole)	52.6%
Remove Load in Aerial Cable	41.9%
Remove Load in Buried Cable	5.5%

LOAD POINT #2:	
Remove Load in Underground Cable (Manhole)	31.6%
Remove Load in Aerial Cable	62.7%
Remove Load in Buried Cable	5.7%

Source: Sprint Loop Conditioning Study, Page 34 of 35

Sprint's analysis of its actual network yields strikingly dissimilar results when compared to the ***BST PROPRIETARY [redacted] END PROPRIETARY*** estimate provided by BellSouth's "subject matter expert." Sprint's analysis yields results far more intuitive given the way in which outside plant is loaded and the general architecture of most local exchange networks.

Q. WOULD YOU RECOMMEND THAT THE COMMISSION REVISE BELLSOUTH'S ESTIMATE THAT IT WILL, ***BST PROPRIETARY [redacted] END PROPRIETARY* OF THE TIME, BE REQUIRED TO REMOVE LOAD COILS IN UNDERGROUND ENVIRONMENTS VIA ACCESSING A MANHOLE?**

A. Yes, I would. BellSouth's loop conditioning study assumes that each dispatch intended to unload a given copper circuit will require that ***BST

PROPRIETARY ■ **END PROPRIETARY***** load coils will need to be removed. Using this information and the distribution of load coil placement provided by Sprint in the table above, the Commission should require BellSouth to alter its loop conditioning study to assume that BellSouth will encounter load coils in the following percentage of outside plant environments:[46]

REVISED BELLSOUTH ASSUMPTION WEIGHTED AVERAGE DISTRIBUTION OF LOAD POINTS	
Remove Load in Underground Cable (Manhole)	41.6%
Remove Load in Aerial Cable	52.8%
Remove Load in Buried Cable	5.6%

Q. PLEASE EXPLAIN HOW BELLSOUTH'S COST STUDY OVERSTATES THE AMOUNT OF TIME AND EFFORT THAT WILL BE REQUIRED BY ITS OUTSIDE PLANT PERSONNEL TO PERFORM THE TASKS REQUIRED TO REMOVE LOAD COILS AND/OR REMOVE BRIDGED TAP?

A. Mr. Fassett's testimony includes a detailed review of each of the work functions included in the BellSouth loop conditioning study and the amount of time BellSouth estimates will be need to perform those functions. Mr. Fassett concludes that BellSouth has significantly overestimated the amount of time it will require to perform the work functions at issue. Mr. Fassett includes in his

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[45] See Sprint's cost study filed in this proceeding on August 17, 2000, at page 34 of 35.

[46] The percentages in the table above are derived by assuming that for each deloaded circuit, consistent with BellSouth's conditioning study, ***BST PROPRIETARY ■ END PROPRIETARY*** load points must be accessed. It is assumed that the first load point will encounter environments consistent with those included in the Sprint study above for the first load point. The other 1.1 load points will encounter environments consistent with those included in the second load point table taken from the Sprint model. A weighted average is then taken for the 1 and 1.1 load point percentages to arrive at the probabilities included in the table above.

testimony more reasonable worktimes that the Commission should require BellSouth to use within its loop conditioning study.

Q. GIVEN YOUR RECOMMENDATIONS ABOVE AND MR. FASSETT'S PROPOSED WORKTIMES, HAVE YOU BEEN ABLE TO RECALCULATE MORE REASONABLE LOOP CONDITIONING COSTS THAT THE AUTHORITY SHOULD ADOPT IF IT DECIDES SEPARATE, NONRECURRING CHARGES ARE APPROPRIATE?

A. Yes, I have. The following table details more reasonable loop conditioning rates that should be adopted if the Authority decides that separate, nonrecurring loop conditioning rates are appropriate. The following rates were calculated by modifying BellSouth's loop conditioning study to incorporate the more reasonable assumptions and inputs discussed above. Revised outputs from the BellSouth TELRIC Calculator consistent with the rates below are provided as Exhibit MTS-3.

REVISED BELLSOUTH LOOP CONDITIONING RATES		Non-Recurring Charge (First)
A.17	**LOOP CONDITIONING - Rate Elements**	
A.17.1	Unbundled Loop Modification - Load Coil / Equipment Removal - short	$7.52
A.17.2	Unbundled Loop Modification - Load Coil / Equipment Removal - long	$8.47
A.17.3	Unbundled Loop Modification - Bridged Tap Removal	$6.51
A.17.4	Unbundled Loop Modification - Additive	$0.00

Q. YOUR TABLE ABOVE INCLUDES A RATE OF $0 FOR BELLSOUTH'S "UNBUNDLED LOOP MODIFICATION – ADDITIVE." WHY IS THAT?

A. BellSouth's conditioning "additive" should be rejected.

Q. PLEASE EXPLAIN BELLSOUTH'S CONDITIONING "ADDITIVE."

A. The Additive is a non-recurring charge BellSouth intends to assess on each UCL, ADSL and HDSL unbundled loop (i.e., all DSL related loops) purchased by a CLEC. Though Ms. Caldwell does not discuss the additive in the scant amount of testimony filed in this proceeding in support of BellSouth's rates, she did describe the additive in her Phase II testimony in North Carolina. The purpose of the Additive, as described by Ms. Caldwell in her North Carolina testimony, is apparently meant to account for the fact that BellSouth's current proposed non-recurring charges for loop conditioning, fail to recover the conditioning costs associated with 4 out of every 10 loops. This results from the fact that BellSouth's proposal originally assumed that 10 loops would be conditioned when a CLEC requested that a particular loop be conditioned. BellSouth derived its individual loop conditioning rates by dividing its expenses by 10. BellSouth now claims that those rates failed to account for the fact that 4 out of 10 loops would not be purchased or used at that time (a BellSouth assumption) and, hence, absent an Additive, 40% of BellSouth's conditioning costs (4/10) would go unrecovered. The Additive is meant to recover these costs from CLECs. BellSouth proposes to charge CLECs the Additive even if the particular loop ordered by the CLEC does not require conditioning.

Q. IS BELLSOUTH'S "ADDITIVE" CHARGE APPROPRIATE?

A. No. There are both conceptual and methodological problems with BellSouth's approach. First, as discussed earlier, BellSouth should not be allowed to recover conditioning costs while also charging monthly recurring rates based upon a

forward looking network design. Second, as discussed at length above, expenses BellSouth incurs for conditioning its outside plant are already recovered in the recurring rates BellSouth charges for unbundled loops. BellSouth's maintenance factors and the manner by which it derives its material investment information (i.e., its material budget information) already incorporate expenses associated with removing load coils and bridged tap in the monthly recurring rates for a loop. Finally, as discussed earlier, costs associated with removing load coils and bridged tap from the BellSouth network are investments in that network aimed at updating the network to meet with BellSouth's own internal engineering guidelines. Requiring CLECs to pay for 60% of these expenses via loop conditioning NRCs and now the Additive, when CLECs will gain no ownership rights associated with such an investment, and when they control less than 5% of the market (i.e., paying 60% of the costs to service only 5% of the market) is inappropriate.[47] It is BellSouth and its shareholders who will, after the CLECs have paid these enormous conditioning costs, be left with a state of the art network capable of supporting all types of digital services.

Q. HOW CAN THE COMMISSION REMEDY ANY RECOVERY PROBLEMS BELLSOUTH IS ATTEMPTING TO OVERCOME WITH THE ADDITIVE?

A. BellSouth has no recovery problems with respect to line conditioning costs. Indeed, BellSouth's additive highlights the poor reasoning upon which

[47] BellSouth calculation of its Additive charge assumes that CLECs will use 2 out of every 10 loops conditioned and, via the Additive, will be required to recover expense for another 4 loops (6/10 or 60% of all conditioning expenses will fall upon the CLEC).

BellSouth's nonrecurring loop conditioning charges rest and further shows that these charges will allow BellSouth to double-recover conditioning expenses already recovered in its monthly recurring rates. Earlier I mentioned that economic efficiency will always be harmed if ILECs are allowed to recover investments via upfront, nonrecurring charges. Under such a circumstance, the first carrier to purchase an element pays 100% of the costs of preparing the network to provide that element, yet the element can then be used by other carriers over time (i.e., the economic life of the facility). The first carrier in this scenario pays more than it should and future carriers pay less than they should. BellSouth's additive only makes this situation worse with respect to conditioning investments. The additive requires CLECs to pay the full cost of conditioning a loop that can be used for many years by other carriers (including BellSouth), and then also to assist in recovering expenses associated with conditioning loops that it will not be using. The additive requires that CLECs pay to condition 6 out of every 10 loops (60%), even though competitive carriers today serve less than 5% of the residential and business marketplace. BellSouth, under this scenario, ends up with a conditioned network capable of easily serving digital services (primarily digital services demanded by its retail customers), and it has required its competitors to fund the activity. Surely the Authority will not condone this type of opportunism on BellSouth's part and will reject the Additive along with BellSouth's other nonrecurring loop conditioning charges.

VI. LINE SHARING

Q. PLEASE DEFINE LINE SHARING.

A. As used in this proceeding, "line sharing" is the use of a single loop to provide both plain old telephone service ("POTS") and certain high-bandwidth xDSL digital transmission capabilities between a customer's premises and the central office. Line sharing is made possible by the fact that voice traffic occupies a narrow bandwidth (frequency) in the lower end of the spectrum available on a loop, traditionally accepted in the industry to be between 300 and 3400 Hz. For those types of xDSL services that permit line sharing, xDSL traffic occupies the high end of the spectrum available on a loop, (*i.e.*, above 4000 Hz). Therefore, both low-bandwidth POTS and high-bandwidth xDSL can "share" a single physical loop, hence the name "line sharing." Mr. Fassett and Mr. Zulevic describe line sharing from a more technical perspective in his testimony.

Q. WHAT ARE SOME OF THE CONSUMER BENEFITS TO BE DERIVED FROM LINE SHARING?

A. Consumers can obtain significant benefits from line sharing arrangements, because all voice and data needs can be met using a single loop. First, line sharing reduces the cost and time required to install or activate additional services to a consumer's location. As we've seen in our discussion above regarding xDSL capable loops, BellSouth believes it requires hundreds of dollars simply to make-ready an additional loop to a customer's premises. These costs (even though significantly exaggerated) would be avoided in a line sharing arrangement. Second, line sharing conserves limited outside plant resources because consumers

will not require a second loop to provide full-time data service.[48] In addition, line sharing ensures that CLECs will be able to serve consumer data transmission needs without regard to any lack of facilities that may exist, since an existing voice circuit can be used for xDSL in addition to basic voice service. Third, if the incumbent carriers properly cost and price those network elements that CLECs need for line sharing, consumers will receive the benefit of lower pricing and a competitive market for broadband services. This is true because consumers will no longer pay for separate physical loops to meet their voice and data transmission needs. Rather, they need only pay for a single loop to meet both needs. Fourth, assuming that line sharing network elements are properly priced, CLECs will enjoy the same competitive advantages as ILECs by being able to offer xDSL service over an existing plain old telephone or "POTS" lines.

Q. WHAT NETWORK COMPONENTS ARE REQUIRED TO PROVIDE LINE SHARING AND HOW SHOULD THE COMMISISON SET RATES FOR THESE ELEMENTS?

A. The following components are necessary for line sharing:

1. Suitable Loop Facility – As discussed above, line sharing requires a suitable loop facility by which the xDSL service and the voice grade service can share "bandwidth." In a line sharing environment this facility is generally owned by the ILEC and shared with a CLEC.

2. Splitter – The splitter separates the voice and data signals when they are delivered to the central office via the loop facility (sending the voice signal to the switch and the data signal to the DSLAM as described below). This

[48] For example, if a residential customer, the most likely consumer of ADSL service, has a POTS line, that customer can receive high-speed data over the same line through line sharing.

device may be owned by the ILEC or the CLEC as described in more detail below.

3. Digital Subscriber Line Access Multiplexer ("DSLAM") – The DSLAM multiplexes the digital signal and sends it to the packet-switched network which is generally managed by an Asynchronous Transfer Mode (ATM) switch. This equipment is owned and managed by the CLEC.

4. Interconnection – CLECs must be able to interconnect with the ILEC network in order to receive traffic carried on loops extending from the customer's premises. The type of interconnection depends on whether line sharing is provided over an all copper loop or a fiber-fed loop.

    4. Cross-connects and tie cables - Cross-connects and tie cables are required to connect the equipment necessary for line sharing (i.e., the loop/splitter and the splitter/DSLAM). This equipment is generally owned by the ILEC and leased to the CLEC as a UNE.

Q. FOR LINE SHARING ON HOME RUN COPPER LOOPS, CAN A LINE SHARING ARRANGEMENT BE CONSTRUCTED IN MORE THAN ONE FASHION?

A. Yes, there are a number of configurations that can be used to support line sharing, however, it is important to note that some of these architectures are more efficient and less costly than others. The primary differences separating line sharing architectures can be highlighted by the following two questions: (1) Who owns the splitter; and (2) Where should the splitter be placed in the central office? There are three splitter ownership options:

Option 1 (ILEC Purchased and Maintained)
The ILEC purchases, owns and maintains the splitter.

Option 2 (CLEC Purchased /ILEC Maintained)
The CLEC owns the splitter but leases or sells the splitter to the ILEC which maintains and controls the equipment

Option 3 (CLEC Purchased and Maintained)
The CLEC owns the splitter and places the splitter in its collocation area.

Q. HAVE THE ILECS IN TENNESSEE PROPOSED ALL THREE OF THESE OPTIONS?

A. No. Sprint has refused to provide an ILEC owner splitter option (Option 1) and BellSouth does not permit Option 2.

Q. WHAT ARE SOME OF THE CONSIDERATIONS REGARDING SPLITTER PLACEMENT?

A. When the ILEC owns and maintains the splitter, the ILEC's placement of that splitter is critical to maximizing use of the central office space and for decreasing costs. The splitter can be placed directly on the Main Distribution Frame ("MDF"), it can be placed adjacent to the MDF, or it can be placed in another location in the central office controlled by the ILEC and possibly far from the MDF. It is important to note that the farther the splitter is from the MDF the more cabling CLECs are required to pay for in gaining access to the splitter. Thus, the ILEC's choice to put the splitter in a location distant from the MDF directly increases the cost of line sharing for CLECs. Likewise, the further the splitter is from the MDF, the greater the distance the data must travel from the CLECs collocation space to the customer. Since distance affects the speed of DSL, ILECs that place the splitter away from the MDF impede the CLECs ability to deliver the highest speeds of DSL to Tennessee consumers. Mr. Zulivec's testimony contains a more complete explanation of the considerations regarding splitter placement.

Q. HOW SHOULD THE COMMISSION DETERMINE COST-BASED RATES FOR LINE SHARING?

A. The FCC in its line sharing proceeding compiled and analyzed an enormous record regarding the technical and economic implications of line sharing. From that record the FCC provides a cogent and workable framework that this Authority should rely upon in setting line-sharing rates.

Q. DID THE FCC PROVIDE GUIDANCE AS TO THE DIRECT COSTS AN ILEC MIGHT INCUR IN PROVIDING LINE SHARING?

A. Yes, it did. In its *Line Sharing Order*, the FCC identified five distinct areas where ILECs might incur direct costs associated with providing a CLEC access to the high-frequency portion of an unbundled loop:

> Based on the record, we find that there are five types of direct costs that an incumbent LEC potentially could incur to provide access to line sharing: (1) loops; (2) OSS; (3) cross connects; (4) splitters; and (5) line conditioning.[49]

These are the only potential costs recognized by the FCC. The Authority should not permit recovery of any costs beyond these five categories.

Q. WHAT ARE THE ECONOMIC PRINCIPLES THAT SHOULD GUIDE THE AUTHORITY IN SETTING LINE SHARING RATES?

A. There are two fundamental economic principles that the Authority should adhere to in setting line sharing rates. Both are fundamental components of forward looking economic costing theory and both ensure that resulting rates foster the dynamic efficiency of a competitive marketplace. First, the Authority must

[49] *Line Sharing Order* ¶136.

ensure that only those costs that promote competition and foster non-discrimination through the use of an efficient line sharing network design (including both the network architecture and the processes by which line sharing is implemented and administered) are recovered in line sharing rates.

Second, the Authority must ensure that rates associated with line sharing are based upon costs which recognize the economies of scale and scope that are available to the incumbent in the provision of line sharing facilities, functions and activities. Absent strict adherence to these two fundamental incremental costing principles, an unwarranted and inefficient competitive advantage will be bestowed upon the incumbents and their provision of advanced services.

Q. SHOULD THE AUTHORITY AUTHORIZE ILECS TO RECOVER COSTS ASSOCIATED WITH THE LOOP FACILITY FROM A CLEC WHO CHOOSES TO PROVISION SERVICE VIA LINE SHARING?

A. No, it should not. There are no incremental loop costs generated by a carrier's decision to provision service via line sharing. Without exception, the ILECs recognized this economic tenet in the rates they originally proposed for line sharing tariffs filed at the FCC. For this reason, the FCC held, in its Line Sharing Order, that ILECs be allowed to recover no more than this amount ($0) when providing line sharing arrangements to CLECs.[50]

Q. HAVE EITHER BELLSOUTH OR SPRINT IN THIS PROCEEDING RECOMMENDED THAT THEY BE ALLOWED TO RECOVER SOME

[50] *Line Sharing Order*, ¶ 140.

PORTION OF THEIR LOCAL LOOP COSTS FROM CLECS WHO ACCESS THE LOOP FOR PURPOSES OF LINE SHARING?

A. No. Neither BellSouth nor Sprint has attributed any cost to the line-shared loop itself. This is consistent with the FCC's findings regarding the appropriate level of loop costs to be recovered from CLEC's purchasing access to the high-frequency portion of the loop.

Q. HOW SHOULD ILECS RECOVER OPERATIONS SUPPORT SYSTEM COSTS ASSOCIATED WITH LINE SHARING?

A. Only those incremental costs directly attributable to providing the line sharing UNE to CLECs should be recovered from the CLECs. At paragraph 144 of its *Line Sharing Order*, the FCC states as follows:

> We find that incumbent LECs should recover in their line sharing charges those reasonable incremental costs of OSS modification that are caused by the obligation to provide line sharing as an unbundled network element. We believe that this guideline is consistent with the principle set forth in the *Local Competition First Report and Order* that incumbent LECs cannot recover nonrecurring costs twice. We also reaffirm the conclusions in the *Local Competition First Report and Order*, that the states may require incumbent LECs in an arbitrated agreement to recover such nonrecurring costs such as these incremental OSS modification costs through recurring charges over a reasonable period of time; and that nonrecurring charges must be imposed in an equitable manner among entrants. [emphasis added][51]

As a preliminary matter, it is important to note that ILECs have been utilizing line sharing for several years to provide their retail customers xDSL services on the same local loops as voice services. Moreover, ILECs have been providing line sharing to their retail customers with existing operational support systems.

[51] *Line Sharing Order* ¶144 (emphasis added).

Providing line sharing to CLECs should be possible largely through existing OSS functionality. For this reason, the FCC required that OSS costs recoverable through line sharing rates be limited to those costs directly incremental to providing the line sharing UNE.

Q. WHAT DID THE FCC SAY ABOUT OSS COSTS SPECIFIC TO LINE SHARING?

A. The FCC said it expects these costs to be minimal for three reasons:

- The ILECs already support line sharing for their own ADSL services provided by their own retail organizations and other affiliates;
- Existing OSS systems already support the majority of functions required to accommodate CLEC Line Sharing; and
- No new outside plant facility assignments are necessary given the fact that CLECs who share an incumbent's line will not require an additional outside plant facility other than the one already assigned to the ILEC's voice customer.

The following excerpt from the FCC's *Line Sharing Order* provides further guidance:

> We conclude that the type of effort required for incumbent LECs to establish appropriate line sharing ordering practices is incremental in nature, and does not require a major development initiative. Incumbent LECs already accommodate orders for the advanced services, such as ADSL, that they deploy on lines shared with their own voice services. There are substantial operational similarities between the line-sharing situation involving a competitive and an incumbent LEC, and the deployment of shared line xDSL provided by an incumbent LEC or an ISP. The OSS capabilities required for incumbent LEC provision of shared-line xDSL services are substantially similar to the OSS capabilities required for competitive LEC provision of shared-line xDSL services, and could be easily adapted to support unbundled access to the high frequency

portion of the loop network element.[52]

Q. ARE THERE MULTIPLE OSS SYSTEMS THAT MAY BE CALLED UPON TO SUPPORT LINE SHARING?

A. Yes, there are. The FCC identifies the following OSS functions that may be needed to effectively accommodate a line sharing arrangement:

1. Service Ordering
2. Provisioning
3. Billing
4. Maintenance, Repair and Testing
5. Customer Service, Troubleshooting and Repair

The FCC concludes that existing OSS functionality for each of these systems should be sufficient to support the majority of line sharing requirements and that any modifications required will be minimal. The FCC further concludes that expenses associated with these modifications should be "modest."

> The record indicates that incumbent LECs have already modified their OSS systems to accommodate their own xDSL products, and that those modifications and those required for line sharing are substantially similar. We believe that incumbent LECs can adapt expediently existing incumbent OSS systems to handle line sharing with a single requesting carrier. The record also indicates that incumbent LECs can perform the incremental modifications to the existing ordering processes required to provide competitive LECs with access to the high frequency portion of the loop in an expedient manner and at modest expense.

Q. ARE BELLSOUTH'S PROPOSED OSS COSTS CONSISTENT WITH THE FCC'S DIRECTION ABOVE?

A. No, not at all. As I discuss in more detail later in my testimony, BellSouth is attempting to recover an enormous amount of OSS costs (approximately ***BST **PROPRIETARY** [redacted] **END PROPRIETARY***** over 5 years totaling

52 *Line Sharing Order* ¶ 9.

$8.70 per line shared loop, per month) via its "Line Sharing Splitter – per Line Activation" fee. Although BellSouth claims that its OSS upgrade costs were proprietary in this proceeding, in North Carolina BellSouth produced a non-proprietary document showing a total of $38 in charges, plus over $500,000 per month in maintenance fees. BellSouth's proposal in this regard is not consistent with the FCC's Line Sharing Order and its expectation that ILECs would be able to accommodate line sharing with minimal modifications to their OSS systems. Further, BellSouth has scant, if any, reasonable support for its $8.70 and has provide absolutely no explanation for why such an enormous investment is required to perform a function the FCC found to require "minimal" revisions to existing OSS systems.

Q. HOW SHOULD COSTS ASSOCIATED WITH TIE CABLES AND CROSS-CONNECTS REQUIRED TO SUPPORT LINE SHARING BE RECOVERED?

A. First, it is important to understand the different types of cabling necessary for line sharing. As Mr. Zulevic explains, a tie cable is a sheathed cable of several pairs that runs from the CLECs' collocation arrangement to a terminating frame in the ILEC central office, such as the MDF or Intermediate Distribution Frame ("IDF"), and is terminated at both locations. However, the term *cross connects* has frequently been used as a name for such tie cables. Technically, cross connects are two or more twisted wires between cable terminations used to complete the circuit path to provide service on a semi-permanent basis. The

telecommunications industry term *jumper* is normally used to indicate a temporary cross connection condition, such as for testing or bypassing part of a circuit. However, in the line sharing context, the term jumper has frequently been used to indicate a more permanent link, more accurately called a cross connect. I will use the terms "tie cable" and "cross connect" for this testimony.

To determine the recovery of tie cable and cross-connect costs, this Authority must answer two questions. First, what is the most efficient line sharing configuration that minimizes the number of tie cables and cross-connects required? Second, what rate should apply when a tie cable or cross-connect is necessary?

Q. WHAT RATE SHOULD APPLY WHEN A TIE CABLE OR CROSS-CONNECT IS NECESSARY?

A. The FCC provides the following guidance as the proper pricing for cross-connects, using the term cross connect generally to include both tie cables and cross connects, as I have defined them:

> The incumbent LECs currently provide cross connects to interconnect loops with the collocated facilities of competitive LECs installed in incumbent LEC offices, and the states are setting prices for the cross connects using the TELRIC methodology. We would expect that the costs of installing cross connects for xDSL services in general would be the same as for cross connecting loops to the competitive LECs' collocated facilities, particularly where the splitter is located within the incumbent LEC's MDF.[53]

The FCC's language above recognizes that cross-connects and tie cables used to connect unbundled loops to a CLEC's collocation facility are unlikely to differ

substantially from cross-connects and tie cables used to support line sharing arrangements. For this reason, the FCC establishes a rebuttable presumption that tie cable and cross-connect rates already approved for collocation arrangements should serve as maximum rates for tie cable and cross-connects used in line sharing arrangements. The Authority in this case should adopt the same rebuttable presumption.

Q. WHY SHOULD THE COMMISSION ADOPT THIS REBUTTABLE PRESUMPTION?

A. The rates that CLECs currently pay for tie cables and cross-connect cables are generally considered to be rates specific to collocation because they connect collocated equipment with the ILEC's central office equipment. Line sharing is more efficiently provisioned when the equipment that needs to be connected (the distribution frame, the splitter and CLEC collocation space) are placed as close together as possible. However, if an ILEC chooses to spread the line sharing equipment out within its central office, the ILEC can artificially inflate the costs of cross-connects by requiring that they be longer than would otherwise be necessary. For this reason, the FCC set the ceiling for tie cable and cross connect costs as those used for typical collocation arrangements. This Authority should adopt that same rebuttable presumption.

Q. HOW WILL DIFFERENT LINE SHARING CONFIGURATIONS IMPACT TIE CABLE AND CROSS-CONNECT COSTS?

[53] *Line Sharing Order* ¶145.

A. As Mr. Zulevic describes in more detail in his testimony, the choice of line sharing architecture (i.e., where the various pieces of equipment are placed in relation to one another) impacts the placement of the line sharing splitter and likewise impact both the length and the number of tie cables and cross connects that are required. The more tie cables required for a particular configuration and the longer those cables have to be, the more expensive the configuration will be for the CLEC. BellSouth apparently assumes there will be 3 tie cables at 150 feet each. As Mr. Zulevic explains, this increases the costs to CLECs.

Q. SHOULD ILECS BE REQUIRED TO PURCHASE AND MAINTAIN A SPLITTER TO SUPPORT LINE SHARING?

A. Yes. There are four primary reasons supporting the need for an ILEC owned splitter. First, the FCC's *Line Sharing Order* required ILECs to provide access to the high frequency portion of the local voice loop as a UNE. The only way for an ILEC to provide access to the high frequency portion of the loop, without the voice portion, is through installing a splitter to separate the two frequencies. Absent an ILEC-owned splitter, the ILEC would be incapable of providing a CLEC access only to the UNE requested (i.e., the high frequency portion of a loop). Thus, an ILEC purchased and maintained splitter is necessary to enable the ILEC to meet its obligations under the *Line Sharing Order*. Second, the splitter is a piece of equipment that is used jointly by the ILEC and by the CLEC for purposes of providing service to the customer. Both carriers require the use of the equipment, and both benefit from its capability. Hence, it is important that the splitter be purchased, maintained and managed as efficiently as possible so that

both carriers incur the lowest costs possible in serving the customer. It is likely that the ILECs will have certain splitter capacity management efficiencies that CLECs do not have. For instance, an ILEC could assign multiple CLECs (and itself) to the same splitter, thereby maximizing the use of the equipment's capacity. Third, an ILEC's buying power is likely to be far superior to that of CLECs. The ILECs are likely to be able to obtain splitters more easily than CLECs and at better rates. North Carolina consumers clearly would benefit from BellSouth and Sprint exercising any such buying power on a nondiscriminatory basis for both themselves and CLECs. Fourth, as explained in more detail below, requiring the ILEC to own the splitter is the only manner by which to employ the most efficient splitter arrangement (i.e., placing the splitter on the main distribution frame in the ILEC central office). Absent the option to use an ILEC purchased and maintained splitter, the most efficient means of providing line sharing will be unavailable to CLECs thereby unnecessarily increasing their costs. The Authority should require that line sharing be provisioned in the most efficient manner possible, including an option that the ILEC own and maintain the splitter, and adopt rates accordingly.

Q. HAVE ALL THE ILECS IN TENNESSEE AGREED TO THIS?

A. No. Sprint refuses to own the splitter.

Q. WHAT LINE SHARING RATES DOES BELLSOUTH PROPOSE?

A. Mr. Ruscilli identifies the following line sharing rates in Exhibit JAR-1 accompanying his testimony:

	Rate Element	Monthly Recurring	Non-Recurring First	Non-Recurring Add'l	Disconnect First	Disconnect Add'l
J.4.1	Line Sharing Splitter - per Splitter System 96-Line Capacity in the Central Office	$183.79	371.63		349.37	
J.4.2	Line Sharing Splitter - per Splitter System 24-Line Capacity in the Central Office	$45.95	371.63		349.37	
J.4.3	Line Sharing Splitter - per Line Activation in the Central Office	$8.70	$39.39	$15.70	$35.06	$10.79
J.4.4	Line Sharing Splitter - per Subsequent Activity per Line Arrangement	$0.27	$34.56	$12.62	$16.43	$1.64
J.4.6	Line Sharing - per CLEC/DLEC Owned Splitter in the Central Office (per LSOD)		$108.66		$82.12	
J.4.7	Line Sharing - per CLEC/DLEC Owned Splitter in the Central Office (per order for J.4.7)		$54.40		$10.59	
J.4.8	Line Sharing - per CLEC/DLEC Owned Splitter in the Central Office (per occurrence of each group of 24 lines (48 pairs))		$15.63		$18.26	

Q. HAVE YOU IDENTIFIED PROBLEMS WITH BELLSOUTH'S LINE SHARING RATE PROPOSALS?

A. Yes, I have. First, BellSouth's line sharing cost studies are largely unexplained and unsupported. The non-recurring cost studies suffer in this regard to the largest degree. In the majority of circumstances, BellSouth simply identifies a particular BellSouth employee type, an hourly labor rate and an estimated time. For example, even though BellSouth assumes 4 hours (and approximately $200) for "inventorying" a splitter in developing its "Line Sharing Splitter – per Splitter System 96-Line Capacity in the Central Office" nonrecurring charge, it provides no explanation of how or why such an activity is required. Similar documentation and support problems exist for the development of monthly recurring charges. Mr. Fassett's testimony recommends reasonable task times for all these activities.

Q. ARE THERE OTHER EVEN MORE SUBSTANTIVE PROBLEMS WITH THE BELLSOUTH PROPOSAL?

A. Yes, even with highly unsupported documentation I've been able to identify five specific and critical methodological problems.

1. BellSouth requires that CLECs purchase access to its splitter in either 24-port or 96-port increments. BellSouth does not allow a CLEC to purchase splitter capacity on a per-port basis as is often required by a CLEC to serve a single customer. CLECs should be allowed to purchase splitter capacity at a level consistent with their needs. If a CLEC requires only a single splitter port, there is no rational basis for requiring the CLEC to purchase 24 splitter ports. BellSouth, by owning the splitter, should be able to provision splitter capacity much more efficiently if it allows CLECs to purchase splitter capacity in single unit increments (i.e., a single splitter port). BellSouth's proposal fails to account for the efficiencies that can be gained by offering splitter capacity on a per-port basis, and therefore, deprives CLECs of the opportunity to avail them of those efficiencies.

2. There are a number of problems with the way BellSouth calculates costs associated with purchasing and deploying the splitter. First, BellSouth attempts to recover costs associated with installing and placing a splitter through carrier-specific non-recurring rates. This is inappropriate given the fact that the splitter equipment will be (or at a minimum should be) shared among carriers as common equipment in the central office. Because this equipment can be used by multiple carriers (including BellSouth) over the economic life of the splitter, BellSouth should recover the installation costs of this equipment as it does for other shared equipment in the central office. BellSouth should capitalize the installation and placement expenses and recover those expenses over the economic life of the equipment from all carriers that use it. Second, BellSouth's proposed splitter price appears to include costs associated with placing the splitter in an area far removed from the MDF, therefore significantly increasing the costs of intra-office cabling and cross-connects.

3. BellSouth's recurring "Per Line Activation Charge – Central Office" charge is significantly overstated and completely unsubstantiated. Indeed, this charge is probably the most egregious proposal that BellSouth makes in its entire cost study filing in this proceeding. The entirety of the monthly $8.70 "per line activation charge" is based upon the purchase and maintenance of what must be an enormous software package that BellSouth identifies only as "Telecordia Software Solutions." BellSouth's testimony tells us almost nothing about this enormous OSS investment nor does it explain why such a massive overhaul of BellSouth's OSS systems is required. The FCC was very clear that any OSS costs associated with line sharing should be "modest" and/or "minimal." BellSouth's OSS costs that it intends to recover through the "per line activation charge" are certainly not modest nor are not substantiated at a level consistent with BellSouth's burden of proof as stated in FCC Rule 51.505(e).

4. Likewise, BellSouth's non-recurring "Per Line Activation Charge" is substantially overstated because it assumes that all line sharing orders will be manual orders, despite BellSouth's repeated promise that electronic ordering for line sharing will be available in the fourth quarter of 2000. There is no reason to assume that Line Sharing is most efficiently done on a manual basis or that it will, in fact, be done manually during the timeframe for which the rates adopted in this proceeding will be in effect.

5. Finally, BellSouth includes a number of nonrecurring rates that should be rejected entirely. For example, BellSouth proposes to charge CLECs approximately $180 (comprised of three rate elements; J.4.6, J.4.7 and J.4.8) when the CLEC purchases a splitter and places it in its collocation cage. Only BellSouth would contend that it should for some reason be allowed to charge a CLEC even when the CLEC purchases the equipment, installs the equipment, and readies it for service. BellSouth has no basis for these three rate elements because it will be providing the CLEC no service. BellSouth should be precluded from charging these three rate elements.

Q. WHY SHOULD BELLSOUTH BE REQUIRED TO PROVIDE ACCESS TO A SPLITTER ON A PER-PORT BASIS AS WELL AS IN COMPLEMENTS OF 24 AND 96 PORTS?

A. One of the primary benefits of an ILEC-owned splitter option is the fact that an ILEC can manage the assignment of splitter ports among numerous CLECs (and itself), thereby using that equipment more efficiently. In short, this option allows the ILEC to use the splitter equipment more efficiently thereby, reducing total costs. This concept mirrors the manner in which the ILEC supplies other pieces of central office equipment for use by multiple CLECs and itself in the provision of all other UNEs (for example the main distribution frame, fiber termination bays, etc.). Allowing CLECs to purchase splitter capacity on a per-port basis significantly reduces the costs for all parties involved because it is simply more efficient. Instead of each carrier procuring, readying and installing exactly the

same equipment for purposes of accommodating only its demand, a single carrier manages the "total demand" for the equipment. Not only is this consistent with the FCC's forward looking pricing methodology, and its requirement that all prices be based on the *total demand* of the elements/services in question, it is a common sense approach to minimizing line sharing costs for all involved.[54]

Q. HOW SHOULD BELLSOUTH'S RATE STRUCTURE AND RATE LEVELS BE ALTERED IN ORDER TO REFLECT THE EFFICIENCIES OF AN ILEC-OWNED SPLITTER AVAILABLE ON A PER-PORT BASIS?

A. The Authority should make two primary changes to BellSouth's rate elements and rate levels to properly account for BellSouth owning and managing the provision of splitter ports. First, a new rate option must be introduced: "Line Sharing Splitter – per line sharing port." Second, most of the expenses BellSouth attempts to recover through nonrecurring charges (e.g., its "per Splitter System" nonrecurring charges aimed at procuring and installing a separate splitter for every CLEC, nonrecurring rate elements; J.4.1 and J.4.2), should be capitalized and recovered in monthly recurring rates.

Q. PLEASE EXPLAIN IN MORE DETAIL WHY IT IS MORE EFFICIENT FOR BELLSOUTH TO OWN THE SPLITTER AND SELL SPLITTER CAPACITY TO THE CLECS.

[54] See *Local Competition First Report and Order* ¶ *690.*

A. A simple example best highlights the opportunities for increased efficiency that result from BellSouth owning the splitter and selling splitter capacity in increments of 1 port, 24 ports and/or 96 ports. Assume that BellSouth provisions splitter capacity under two scenarios (*Scenario 1* – the BellSouth proposal, *Scenario 2* - the Covad proposal).

Scenario 1 assumes that BellSouth provisions splitter capacity consistent with its proposal in this case (i.e., each request for splitter capacity is provided in a minimum of 24 port increments). For purposes of our example, assume 10 individual carriers undertake opportunities for line sharing in an individual central office. Assume that each carrier provides service to 18 individual customers. If each carrier is required to serve its customers over a separate line sharing splitter shelf, then BellSouth will be required to, under its current proposal, purchase and install three 96 port splitters (because ten 24 port shelves are required, three 96 port splitters must be purchased – four 24 port shelves to each 96 port splitter). The three 96 port splitters that BellSouth will purchase under this proposal will provide a total of 288 splitter line ports (3 x 96 = 288) of which only 180 (18 per each carrier x 10 carriers) will be used, thereby attaining an equipment fill of 62.5% (180/288).

Scenario 2 assumes that BellSouth provisions splitters with a per-port purchase option. Assume that all 10 carriers take advantage of the per-port purchase option. Likewise, assume again that the 10 carriers will supply services to 18

customers thereby requiring 18 splitter ports per carrier. To meet this splitter demand (180 ports), BellSouth could purchase two 96-port splitters with a total capacity of 192 line sharing ports. This results from the fact that the CLECs can share the same piece of equipment (i.e. a 24 port shelf). Under this approach, BellSouth could achieve a fill of approximately 93.8% (180/192) on the two splitters it purchases and could avoid purchasing the third 96 port splitter.

Q. ARE THERE OTHER BENEFITS TO AN ILEC OWNED SPLITTER THAT CAN BE PURCHASED ON A PORT-AT-A-TIME BASIS?

A. Yes. Using splitter equipment more efficiently has additional benefits beyond reducing the costs of splitter capacity. For example, allowing BellSouth and CLECs to share splitters subsequently reduces the total number of splitters required and conserves limited central office space. If we return to our example above, this point is made more clearly. In the example above, absent an ILEC owned splitter option wherein a CLEC can purchase capacity on a per-port basis, three 96-port splitters were required to meet the line sharing demands of the CLECs. Obviously, the floor space, rack space, and cabling required to accommodate three 96 port splitters is greater than the floor space, rack space and cabling required to accommodate the two 96 port splitters that BellSouth would need to employ to service the same level of demand under *Scenarios 1 & 2.*

Q. ARE BELLSOUTH'S NON-RECURRING CHARGES FOR SPLITTER INSTALLATION IMPACTED BY THE PROPOSAL DESCRIBED ABOVE?

A. Yes, this is perhaps the area where the Data Coalition's proposal most noticeably reduces the costs proposed by BellSouth. Note that BellSouth proposes the same nonrecurring charge associated with installing both a 96 port and a 24-port splitter. This results from the fact that BellSouth's costs are calculated on the assumption that BellSouth will deploy a separate 24-port splitter and/or a 96-port splitter for each CLEC that requests splitter capacity. Because the costs of installing a 24 port splitter are the same as those for installing a 96 port splitter, BellSouth's nonrecurring costs for both sizes are the same. This is part and parcel of BellSouth's unreasonable proposal that a separate piece of splitter equipment be installed for each CLEC request. Assume instead, that BellSouth, under the proposal, installs a single 96-port splitter and then allocates that splitter's four 24-port splitter shelves to individual LECs requesting 24 ports of capacity. Instead of incurring $1,486.52 in splitter installation costs to obtain 96 ports of splitter capacity (4 x $371.63 – BellSouth's proposed NRC per 24 or 96 port splitter), BellSouth instead incurs only $371.63 for the entire 96-port capacity. Under the Data Coalition's proposal (i.e., common splitters deployed by BellSouth to meet the needs of all CLECs on a 96, 24 and single port basis), BellSouth, and consequently a CLEC, avoids $1,114.89 in nonrecurring costs for each 96 ports installed (this amounts to $11.61 of expenses per splitter port – i.e., per customer, that are avoided simply by employing a more efficient splitter provisioning process).

Q. HOW SHOULD BELLSOUTH'S STUDIES BE ALTERED TO EMPLOY THE MORE REASONABLE ASSUMPTIONS YOU'VE DESCRIBED ABOVE?

A. A simple modification can be made. Instead of allowing BellSouth to charge $371.63 in nonrecurring charges every time it receives a request from a CLEC to install splitter capacity (regardless of the size of the splitter), these installation expenses should be "capitalized" and recovered over the life of the splitter from any CLEC who uses the splitter.

Q. PLEASE EXPLAIN IN MORE DETAIL WHAT YOU MEAN WHEN YOU SAY THESE EXPENSES SHOULD BE "CAPITALIZED" AND RECOVERED OVER THE ECONOMIC LIFE OF THE EQUIPMENT.

A. All of the equipment in BellSouth's network used to support unbundled network elements must originally be installed and prepared for purposes of being used. In a properly constructed forward looking study, expenses associated with installing and preparing network facilities are added to the direct cost of the equipment (i.e., "material cost") so as to arrive at a "Total Installed Cost" (or a TIC). These TIC costs are then recovered from all carriers over the life of the equipment consistent with the amount of that equipment they use. A prime example of this process is the recovery of copper cable. Imagine the tremendous dampening impact on competition that would result if every time a CLEC requested access to a loop, BellSouth assessed a nonrecurring charge associated with sending a crew out to dig a trench, place a 100 pair cable, and then connect the entire cable to all other facilities required to make it work. Such a nonrecurring charge would never be

allowed (indeed it would likely constitute more than $100,000 in most circumstances), because it isn't consistent with a properly constructed forward looking, cost based study. Instead, these installation and preparation expenses are included with the cost of purchasing the cable itself (resulting in a TIC for the copper cable). The TIC costs of the copper cable are then amortized so they can be recovered over the timeframe within which this equipment will be used (i.e., the economic life). This allows all customers who use this equipment (regardless of whether they use it in the first year or the twentieth year) to recover some portion of the installation costs. Likewise, it allows customers to pay these expenses consistent only with the extent to which they use the equipment. Someone who uses only one copper loop from the cable pays only 1/100 of the installation cost (or some slightly larger percentage due to a "fill factor" that is generally applied to the cable investment). Likewise, someone who purchases 50 cables pays 50/100 of the installation costs. However, this is exactly the process that BellSouth is attempting to employ when placing a splitter. Using BellSouth's approach, each time a CLEC orders either a 24 or 96 port splitter (or even 1 or 2 splitter ports), BellSouth will send its technicians to install a brand new splitter (even if spare splitter capacity already exists in previously installed splitters), and it will assess all installation charges on the CLEC as a nonrecurring charge.

Q. IS BELLSOUTH ATTEMPTING TO RECOVER ALL SPLITTER INSTALLATION AND PREPARATION EXPENSES UPFRONT, VIA NONRECURRING CHARGES FROM EACH CLEC THAT ORDERS SPLITTER CAPACITY?

A. Yes, unfortunately, it is. BellSouth, via its line sharing nonrecurring charges is attempting to assess, on an upfront basis, all costs associated with installing a splitter needed to access the high frequency portion of a loop. In addition, it is proposing to assess these nonrecurring charges to each CLEC who requests such a piece of equipment, despite the fact that the CLECs could share a piece of common equipment more efficiently. Simply put, BellSouth's proposal is an attempt to unnecessarily, unreasonably, and substantially increase the upfront costs its CLEC competitors must bear to compete with it via a line sharing arrangement.

Q. PLEASE DESCRIBE ANY OTHER MODIFICATIONS THAT SHOULD BE MADE TO BELLSOUTH'S NONRECURRING COST STUDIES.

A. Two additional modifications should be made to BellSouth's nonrecurring cost studies to arrive at more reasonable rates. First, as described above, expenses associated with installing the 96 port splitter (equal to the $371.63 nonrecurring charge proposed by BellSouth) should be "capitalized" by adding them to the capital equipment investments before calculating yearly and then monthly costs. In this way, these nonrecurring installation expenses can be recovered over the economic life of the equipment from the multiple carriers apt to use that equipment. Second, BellSouth's material investment in its splitter should be reduced from ***BST PROPRIETARY [redacted] END PROPRIETARY*** to $2,784.00. This reduction accounts for (1) the fact that BellSouth's cost model double-counts the costs associated with the cabling and shelving equipment that

will be needed to support the splitter, and (2) that splitter equipment costs have fallen since BellSouth originally produced its splitter cost study and 96 port splitters can be purchased for amounts substantially below the ***BST PROPRIETARY [redacted] END PROPRIETARY*** assumed within BellSouth's study.[55]

Q. PLEASE EXPLAIN HOW BELLSOUTH DOUBLE COUNTS CABLING AND SHELVING EQUIPMENT COSTS.

A. In discovery in North Carolina, BellSouth provided invoices from Siecor (BellSouth's splitter vendor) showing that BellSouth, on average, has in the past paid approximately ***BST PROPRIETARY [redacted] END PROPRIETARY*** for each 96 port splitter that it purchases from Siecor.[56] Within its cost study BellSouth adds to this amount, ***BST PROPRIETARY [redacted] END PROPRIETARY*** associated with "shelf, test equipment, plug-in and cabling." There are a number of problems with these additional "add-on" expenses. First, BellSouth provides no support for these expenses and in no way explains what "cabling and test equipment" it is referring to. Second, the ***BST PROPRIETARY [redacted] END PROPRIETARY*** Siecor purchase price already includes the costs of all "plug-ins" and comes fully equipped to provision service absent being installed in the central office (as explained clearly by the Siecor invoice provided in discovery). Fourth, even though all of these costs appear to already be recovered elsewhere, BellSouth additionally adds to the ***BST PROPRIETARY [redacted] END

[55] North Carolina discovery, New Entrants' First Data Requests, Item No. 5, Bates Stamp No. 000045.

PROPRIETARY* figure (later in the model), an additional ***BST PROPRIETARY [redacted] END PROPRIETARY*** worth of "material costs" for which it provides no explanation. In total, BellSouth assumes ***BST PROPRIETARY [redacted] END PROPRIETARY*** worth of investment associated with its ***BST PROPRIETARY [redacted] END PROPRIETARY*** purchase, an additional ***BST PROPRIETARY [redacted] END PROPRIETARY*** of totally unexplained expenses.

Q. ARE THERE OTHER PROBLEMS WITH BELLSOUTH'S ASSUMPTIONS REGARDING ITS ESTIMATED SPLITTER COSTS?

A. Yes, there are. While BellSouth may have paid ***BST PROPRIETARY [redacted] END PROPRIETARY*** for a 96-port Siecor splitter when it first constructed its line sharing cost study, the prices for this equipment have fallen. Covad currently purchases Siecor 96-port splitters via its interconnection agreement with US West ("fully carded" Siecor splitters exactly like those assumed within BellSouth's cost studies) for $2,784.00. I've included as Exhibit MTS-4 to this testimony a copy of the price quote most recently provided from US West to Covad including this amount.

Q. DOES THE US WEST ESTIMATE PROVIDE OTHER RELEVANT INFORMATION?

A. Yes, the US West quote also indicates that US West can engineer, install and fully equip the Siecor 96 port splitter in its central office at a price of $291.48. This includes placing the splitter and cabling the splitter to other central office

[56] *Id.*

equipment. This rate compares directly with (and actually appears to include more activities than) the $371.63 nonrecurring charge proposed by BellSouth to install the equipment (BellSouth's rate exceeds US West's rate by nearly 30%). I've included the more reasonable US West rate in my recalculation of BellSouth's rates.

Q. WHEN YOU RECALCULATED BELLSOUTH'S SPLITTER COST STUDY TO ADOPT MORE REASONABLE INPUTS, DID YOU REMOVE THE ENTIRETY OF THE ADDITIONAL MATERIAL COSTS YOU DESCRIBE ABOVE?

A. No, I removed only a portion of these expenses. Because ***BST PROPRIETARY [redacted] END PROPRIETARY*** of the expenses described above are derived using BellSouth's "material factor" (a factor generally employed in BellSouth's study based upon its booked expenses associated with equipping and installing this type of equipment (FRC 257C equipment), I left these expenses in the model. While I believe these expenses are apt to double recover expenses already included in the installation charges that I've capitalized in the model (see discussion above), for the sake of remaining as conservative as possible I made no further adjustments.

Q. ARE THERE OTHER REASONS WHY BELLSOUTH'S INVESTMENTS IN ITS SPLITTER ARE LIKELY EXAGGERATED?

A. Yes, BellSouth does not assume that the splitter will be attached to the main distribution frame ("MDF"). As Mr. Zulevic describes in his testimony, attaching the splitter directly to the MDF (or placing it as close as possible to the MDF) is

the most efficient and least expensive manner by which to provision splitter capacity. Because it assumes the splitter will be placed some distance from the frame, BellSouth exaggerates the expenses it requires for cables that extend from the MDF to the splitter. Likewise, BellSouth overstates the number of terminations on the MDF that will be required to support line sharing (Mr. Zulevic describes this issue in more detail).

Q. DID YOU MAKE ANY MODIFICATIONS TO THE STUDY TO ACCOUNT FOR THESE ERRORS ON BELLSOUTH'S PART?

A. I did not make a specific modification to remove these expenses, which makes my analysis more conservative than necessary. I did, however, remove the investment associated with 2 of BellSouth's estimated 4 terminations on the MDF to account for the fact that a frame-mounted splitter would not require these terminations.

Q. DID YOU MAKE ANY OTHER MODIFICATIONS TO BELLSOUTH'S STUDY SUPPORTING SPLITTER CHARGES?

A. No. I made only the modifications described above.

Q. PLEASE COMPARE THE RESULTS ATTAINED BY THE REVISIONS YOU'VE DISCUSSED ABOVE WITH THE RATES BELLSOUTH ORIGINALLY PROPOSED.

A. After implementing the modifications described above, I arrived at the following rates in comparison to those originally proposed by BellSouth:

	Rate Element	Monthly Recurring	NonRecurring First	NonRecurring Additional	Monthly Recurring	NonRecurring First	NonRecurring Additional
		BELLSOUTH PROPOSED			RECALCULATED		
J.4	LINE SHARING SPLITTER IN THE CENTRAL OFFICE						
J.4.1	Line Sharing Splitter - per Splitter System 96-Line Capacity in the Central Office	$183.79	$371.63	$349.37	$117.43	$0 - All NonRecurring Expenses	
J.4.2	Line Sharing Splitter - per Splitter System 24-Line Capacity in the Central Office	$45.95	$371.63	$349.37	$29.36	have been capitalized and are	
J.4.2A	Line Sharing Splitter - per Splitter System Single Port Capacity in the Central Office	not included	not included	not included	$1.22	recovered in the Monthly Charge	

Calculations supporting the proposed rates in the table above (i.e., recalculations of BellSouth's model) can be found in Exhibit MTS-5.

Q. PLEASE DESCRIBE BELLSOUTH'S "PER LINE ACTIVATION" CHARGES.

A. BellSouth proposes to charge each CLEC a total of $8.70 per access line, per month whenever the CLEC accesses the high-frequency portion of a BellSouth loop. The "expenses" that BellSouth is attempting to recover via this charge originate from a single source. Namely, BellSouth's cost studies propose that an investment of ***BST PROPRIETARY [redacted] END PROPRIETARY*** in ***BST PROPRIETARY [redacted] END PROPRIETARY*** and ***BST PROPRIETARY [redacted] END PROPRIETARY*** in other OSS system upgrades will be required to support its line sharing efforts. Further, BellSouth's studies suggest that BellSouth will incur ***BST PROPRIETARY [redacted] END PROPRIETARY*** in

recurring monthly ***BST [redacted] END PROPRIETARY*** associated with this same software (a total investment of more than ***BST PROPRIETARY [redacted] END PROPRIETARY*** over 5 years).

Q. WHAT IS THE PURPOSE OF THE TELECORDIA SOFTWARE AND HOW WILL IT SUPPORT BELLSOUTH'S LINE SHARING EFFORTS?

A. We know very little about the Telecordia software because BellSouth's testimony provides very little substantive information about this enormous charge to be imposed on CLECs. While BellSouth has, in the past two weeks, provided to Covad and Broadslate its agreement with Telcordia provides some description of how the ***BST PROPRIETARY [redacted] END PROPRIETARY*** will be spent, it is difficult to determine from that information what that money is being spent to accomplish. For example, Sprint, who also needed to upgrade its OSS systems to support line sharing, includes within its cost studies a total of $2.6 million in OSS upgrade costs to be recovered over five years (resulting in approximately $1.01 per line per month). BellSouth, on the other hand, includes a total of approximately ***BST PROPRIETARY [redacted] END PROPRIETARY*** to be recovered over the same timeframe ($8.70 per line per month). Surely, something is awry with BellSouth's estimate.

Q. ARE THERE OTHER PROBLEMS WITH BELLSOUTH'S PROPOSED "LINE ACTIVATION CHARGE"?

A. Yes, there are. Earlier in this testimony I directed the Authority's attention to BellSouth's cost study that supports the rates for its retail ADSL service at the

FCC. BellSouth's retail ADSL service allows customers to "line share" by using the same line for both voice and data transmission. However, even a cursory review of BellSouth's FCC study highlights the fact that BellSouth includes no software costs associated with line sharing in its retail rates. Certainly there is no mention of Telcordia or many millions of dollars spent on software to support the service. Again, this highlights how BellSouth attempts to foist unreasonable costs on its competitors without recovering them from its own retail services. It also illustrates the tremendous competitive advantage that BellSouth will enjoy if the Authority adopts the $8.70 line activation charge proposed by BellSouth. While each of BellSouth's competitors will be required to pay BellSouth $8.70 per month, per line that uses a BellSouth shared facility, BellSouth's retail ADSL services will not be encumbered by the same (or even lesser) requirement (nor does it appear, that BellSouth will incur any similar costs). This disparity in underlying cost structures, based solely upon BellSouth's completely unsubstantiated line activation rate, will have a marked impact on the competitive nature of the xDSL market. BellSouth will enjoy a tremendous advantage as it will be enjoying a windfall profit at the expense of its competitors (via the $8.70 charge) while enjoying further windfall profits from its retail ADSL customers who are paying rates higher than they would otherwise be required to pay if competition were allowed to drive prices toward their true underlying costs.

Q. DO YOU HAVE OTHER CONCERNS REGARDING BELLSOUTH'S MONTHLY "LINE ACTIVATION" CHARGES?

A. Yes, I do. The vast majority of BellSouth's proposed OSS upgrades will be booked to USOA accounts in the 2124 series (encompassing Field Reporting Codes 630C, 530C, and 460C) reserved for "General Purpose Computers" and the software required to run those computer systems. BellSouth already recovers expenses from this series of accounts both within its Common Cost factor and its Plant Specific Expense factor.[57] Allowing BellSouth to establish a stand alone charge aimed at covering these same expenses will allow BellSouth to double recover its OSS costs. Upgrades like those identified within BellSouth's agreement with Telcordia (the **67 million** discussed earlier), are traditionally booked to their respective USOA accounts and recovered from all services and UNEs through the various cost factors that exist throughout BellSouth's cost studies. Specifically identifying some amount to be recovered in a stand alone charge as proposed by BellSouth in this proceeding is by far the exception, and not the rule. This is especially true given that the "upgrade" Telcordia is being paid to manage obviously enhances a number of systems, many of which are not required to support line sharing. The Telcordia upgrade appears to be an upgrade of many of BellSouth's systems that will undoubtedly support many BellSouth offerings.

Q. HOW DO BELLSOUTH'S PROPOSED CHARGES COMPARE TO THOSE PROPOSED BY OTHER ILECS?

[57] See electronic workpaper: PLSP99EY.

A. It defies logic that BellSouth requires a ***BST PROPRIETARY [redacted] **END PROPRIETARY*** dollar package, when other ILECs have requested as much as millions of dollars less (see the earlier discussion of Sprint's OSS upgrade costs, approximately $2 million , resulting in $1.01 per shared line). For example, Southwestern Bell Telephone attempted to recover only $12 million in OSS upgrades for its entire 13 state region. Significantly, the Texas Public Service Authority ruled that SBC was entitled to only $0.61 cents per line per month in its interim line sharing OSS award.[58] Likewise, US West is seeking to recover $23 million in OSS upgrades, some $15 million less that BellSouth proposes. Although these OSS charges are inflated, they pale by comparison with BellSouth's proposal in Tennessee.

Q. WHAT INFORMATION HAS BEELSOUTH PLACED IN THE RECORD TO SUPPORT ITS ENORMOUS OSS CHARGES?

A. None. First, BellSouth opposed the Data Coalition's motion to depose BellSouth's OSS expert. Thus, the Data Coalition was unable to obtain a thorough explanation of these OSS charges that its members (and consumers) in Tennessee must pay. The Data Coalition and its members are being asked to pay for a panoply of software purchased by BellSouth form Telcordia without being told (1) what the software does; (2) what functionality the software adds to BellSouth's existing systems; (3) why the work is so expensive; and (4) what effort was made to decrease costs. From BellSouth's perspective, it certainly had no incentive to reduce costs that it is trying to foist exclusively on competitors.

The record is simply lacking any significant information explaining these changes.

Q. WHAT EFFORTS DID THE DATA COALITION MAKE TO OBTAIN MORE INFORMATION?

A. In addition to making a motion for deposition of the BellSouth OSS expert, the Data Coalition served more than 15 interrogatories and 3 requests for production of documents on line sharing, including the following:

> 5. Please provide any information available that identifies how the Telecordia Software Investment/Expense amount included in the UNE Cost Study will be spent. For example, if a portion of the total amount is to be spent updating/enhancing the COSMOS system, please identify that amount and explain the enhancements that must be made. Please account for all of the $38,000,000 Telcordia Software Investment/Expense.
>
> 6. Please provide all internal documents that estimate or otherwise budget for the $38,000,000 investment in Telcordia Software. Your complete answer should include any planning documents, budget documents, requisition forms, internal memos, email, etc.
>
> 7. Please provide a copy of all contracts related to, referring to, or concerning any operation support systems upgrades BellSouth is planning or implementing for line sharing, including, but not limited to, any contracts with Telecordia and Andersen Consulting.

BellSouth produced only six pages of spreadsheets as a result of these requests. When pushed, BellSouth agreed to obtain permission from its vendor to produce the Telcordia contract producing these OSS upgrades. Those documents are the sum total of documentation BellSouth has produced to support these charges.

Q. DOES BELLSOUTH'S OSS EXPERT PATE'S TESTIMONY CLARIFY THESE ISSUES?

A. Pate's written testimony is highly conclusory and reflects no in-depth justification for the OSS charges. It is possible that his live testimony will shed some light on these issues, but we are skeptical. During the North Carolina hearing, Mr. Pate demonstrated no fundamental understanding of the OSS upgrades, their costs, their functionality, or the work undertaken to support Line Sharing. (See MTS-9, Excerpts from Pate Cross Examination in North Carolina).

Q. WHAT SHOULD THE AUTHORITY DO ABOUT BELLSOUTH'S FAILURE TO MEET ITS BURDEN OF PROOF WITH RESPECT TO OSS UPGRADES FOR LINE SHARING?

A. It should not allow recovery until BellSouth is prepared to justify these charges.

Q. BELLSOUTH HAS ALSO PROPOSED A "LINE SHARING SPLITTER – PER LINE ACTIVATION FEE – REMOTE TERMINAL." DOES IT SUFFER FROM THE SAME PROBLEMS YOU'VE DESCRIBED ABOVE?

A. Yes, BellSouth's "Line Sharing Splitter – Per Line Activation Fee – Remote Terminal" is comprised of the same software expenses we described above. The Authority should likewise reject it.

Q. SHOULD THE COMMISSION REJECT THE ENTIRE REMOTE TERMINAL ACTIVATION FEE?

A. Yes. Neither BellSouth's documentation filed with its testimony or responses to discovery identify the architecture by which a line splitter will be placed or used at the remote terminal. More importantly, BellSouth fails to address line sharing over fiber-fed loops where a line card with a DSLAM/Line Splitter functionality

can be placed in the remote terminal digital loop carrier. This architecture is infinitely more affordable for CLECs and provides a greater level of access to high-speed DSL services for consumers in North Carolina. Mr. Zulevic speaks more at length about this option. The Data Coalition asks that the Authority require BellSouth to provide cost proposals for line sharing through these fiber-fed loops before any decision is made with respect to line sharing costs incurred when line sharing is done at the remote terminal. The Authority should reject BellSouth's splitter charges for access at the remote terminal until BellSouth carries its burden of proving the basis for its costs.

Q. DOES BELLSOUTH PROPOSE ADDITIONAL NON-RECURRING CHARGES FOR LINE SHARING?

A. BellSouth also includes a host of nonrecurring installation and disconnection charges that would be applied when a CLEC places its own splitter in its own collocation space. As I suggested earlier, no charge on the part of BellSouth is required in such a circumstance. Obviously, the CLEC will incur all engineering, installation and provisioning costs associated with managing its own equipment. BellSouth will provide the CLEC no service in this respect (except for cross connecting the equipment to the loop for which the CLEC will be required to pay a cross connection fee) and BellSouth will incur no costs. There is no basis for a nonrecurring charge when the CLEC provisions its own splitter.

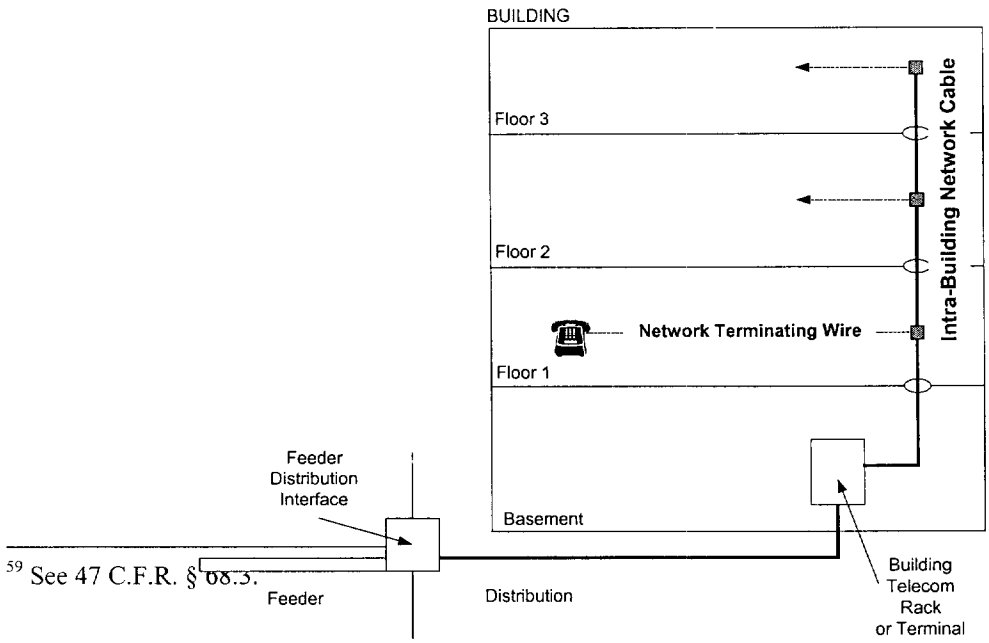
VII. SUBLOOPS AND INSIDE WIRE

Q. MR. MILNER DISCUSSES NETWORK TERMINATING WIRE ("NTW") AND INTRABUILDING NETWORK CABLE ("INC") AT PAGE 21 OF HIS DIRECT TESTIMONY. DO YOU AGREE WITH HIS DEFINITION?

A. Generally, I do. I agree that the portions of the network that Mr. Miler refers to as NTW and INC are components of the "subloop" as defined by the FCC and as added to the national list of UNEs in the *UNE Remand Order*.[59]

Q. PLEASE EXPLAIN FOR THE AUTHORITY WHAT INC AND NTW ARE.

A. INC and NTW are the wires that connect an incumbent's traditional outside plant loop facilities (i.e. feeder and distribution facilities), to customers located in large office buildings, multiple dwelling units ("MDUs") or campus style environments. In general, INC and NTW facilities are located on the property of the building/campus owner yet are maintained and controlled by the ILEC. A typical "inside wire" environment, is detailed in the diagram below:



[59] See 47 C.F.R. § 68.3.

As you can see from the diagram above, outside plant facilities constituting an incumbent's local loop extend into the building and are generally terminated on a rack or terminal often times located in the basement (or in a telecommunications closet located elsewhere in the building). From this entrance terminal, INC cables extend the loop into the building (in a high-rise building the INC is generally referred to as "riser cable") for purposes of connecting to NTW facilities. NTW facilities then "fan out" to connect customers on a given floor for purposes either of connecting directly to customer premise equipment, or, in some cases, connecting to a customers Network Interface Device ("NID") that provides an official demarcation between the incumbent's facilities and the customer's facilities. In short, INC and NTW extend a telecommunications circuit into a building for purposes of connecting a building's (or a campuses') many tenants to the incumbent's network.

Q. HAS BELLSOUTH PROPOSED RATES FOR SUB-LOOP UNBUNDLING IN THIS PROCEEDING?

A. Yes, it has. According to Ms. Caldwell's direct testimony at page 17, "BellSouth has developed costs for Unbundled Sub-Loops that are 2-wire or 4-wire components of a loop that can be technically unbundled." Likewise, Mr. Ruscilli

within Exhibit JAR-1 provides BellSouth's proposed rates for accessing INC and NTW.

Q. WHY DOES BELLSOUTH REQUIRE CLECS TO PAY SUCH ENORMOUS NONRECURRING CHARGES SIMPLY TO ACCESS ITS INC AND NTW?

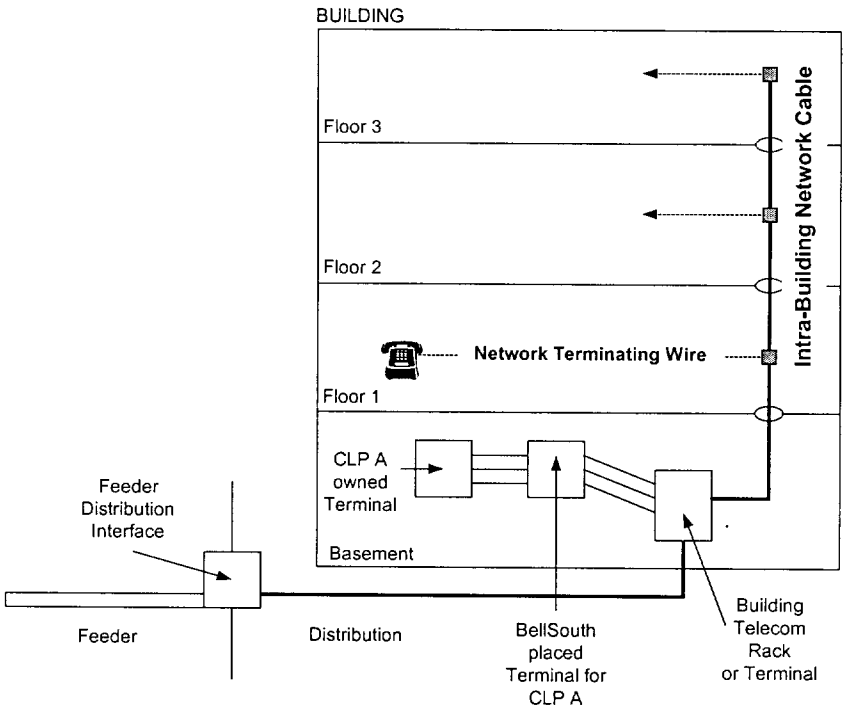
A. The way BellSouth proposes to offer CLECs access to INC and/or NTW would significantly increase CLECs non-recurring costs. The following quote from Mr. Milner's direct testimony (page 26) highlights the problem:

> In order to provide CLECs with access to unbundled sub-loop elements, BellSouth will construct a separate access terminal in proximity to BellSouth's terminal. The CLEC installs its own terminal in proximity to the access terminal. BellSouth then extends tie cables between its terminal and the access terminal. These tie cables are connected to the unbundled sub-loop elements the CLEC desires to acquire from BellSouth. The CLEC extends a tie cable from its terminal to the access terminal and thus the unbundled sub-loop elements. BellSouth believes that such access affords CLECs a meaningful opportunity to compete, while also maintaining network security and reliability. [emphasis added]

As described by Mr. Milner, BellSouth intends to require each CLEC who requests access to INC and/or NTW in a building, to connect to an access terminal that BellSouth has "individually constructed" for the CLEC's use. BellSouth will then dispatch technicians to the building whenever a CLC wishes to connect to another INC/NTW for purposes of cross-connecting the CLEC's facilities, from its specifically constructed access terminal, to the terminal at which the INC/NTW and BellSouth outside plant facilities are terminated.

Q. PLEASE EXPLAIN THE ARRANGEMENT ADVOCATED BY MR. MILNER?

A. The following diagrams depicts such an architecture:



Q. IS BELLSOUTH'S PROPOSAL REASONABLE?

A. No, it is not. CLECs would prefer to connect their facilities directly to the "telecom rack" or "terminal" as identified in the diagram above exactly as BellSouth is allowed to terminate its equipment to the building cable at that point. Only in this fashion, are the CLECs and BellSouth provided equal access to the building's cable. This "direct connection" architecture reduces the need for costly

terminals placed by BellSouth and eliminates for BellSouth technicians to run cross-connects required to access the INC/NTW.

Q. PLEASE EXPLAIN HOW BELLSOUTH WILL CHARGE CLECS FOR ACCESSING INC/NTW?

A. Under BellSouth's proposal, BellSouth will first require that a CLEC allow BellSouth to build a separate access terminal for the CLEC's use. BellSouth intends to charge the CLEC $463.17[60] to build such a terminal. BellSouth also intends to charge the CLEC each time it requests access to INC/NTW. This charge results from the fact that BellSouth requires the dispatch of a BellSouth technician to run a jumper between the BellSouth terminal and the newly constructed CLEC terminal. Depending upon the workload of the BellSouth technicians this step may delay the CLEC's ability to serve its customer by several days. In addition, this extra step will cost the CLEC $107.63 per dispatch.

Q. IS BELLSOUTH'S PROPOSAL REASONABLE?

A. No, it is not. CLECs should be allowed to use their own trained technicians to cross-connect facilities from their own terminals directly to the building's main terminal where BellSouth connects its facilities.

Q. WHAT CHARGES WOULD APPLY UNDER THE DIRECT ACCESS METHOD YOU HAVE DESCRIBED?

A. Because under the more reasonable method whereby CLECs are allowed to connect their own facilities to the building's inside wire, CLECs would be able to establish their own terminals and perform their own cross-connections to the

[60] A combination of rate elements A.2.19 and A.2.20 ($358.04 and $105.13 respectively).

INC/NTW. Hence, only the charges associated with leasing the INC/NTW cable and wire itself would be applicable. Using this scenario, CLECs would be required to pay only the $1.47 per month, per INC/NTW.

Q. WHY HAS BELLSOUTH REFUSED CLECS DIRECT ACCESS TO INC/NTW?

A. BellSouth apparently believes that the arrangement described above is unworkable from a network security and network management perspective. It is apparently BellSouth's attempt to overcome these network security issues that serves as the basis for its proposal that additional terminals (1 per CLEC) be placed in the building specifically for the purpose of separating CLECs from the building's INC/NTW.[61]

Q. DOES BELLSOUTH CONNECT ITS NETWORK FACILITIES DIRECTLY TO THE BUILDING'S MAIN TERMINAL FOR PURPOSES OF ACCESSING INC/NTW?

A. Yes, it does. BellSouth does not use an intermediate terminal for its own access to INC/NTW. Further, BellSouth does not intend in the future to use such a terminal for its own purposes even when it has constructed such an intermediate terminal for a CLEC.

Q. IS BELLSOUTH'S PROPOSAL REGARDING ACCESS TO NTW AND INC CONSISTENT WITH THE ACT AND/OR THE FCC'S RULES?

A. No. BellSouth's proposed method of access is inconsistent with Section 251(c)(3) of the Act. Section 251(c)(3) of the Act requires that ILEC's provide competitors

[61] See Mr. Milner's Direct Testimony at page 28.

interconnection to their networks on "...rates, terms, and conditions that are just, reasonable and *nondiscriminatory*...."[62] BellSouth's proposal that CLECs be required to pay for an intermediate interconnection terminal while BellSouth has direct access to INC/NTC is discriminatory.

Q. HOW DOES BELLSOUTH'S PROPOSAL VIOLATE THE FCC'S RULES?

A. As a result of its *UNE Remand Order*, the FCC modified rule §51.319 to incorporate requirements specific to sub-loop unbundling. The FCC included within its definition of the sub-loop, "inside wire" which encompasses the specific elements BellSouth refers to as INC and NTW in this proceeding. FCC Rule §51.319(A)(2)(D) reads as follows:

> (D) *Rules for collocation.* Access to the subloop is subject to the Commission's collocation rules at §§51.321-323.

BellSouth's proposal does not comply with two of these rules.

Q. TO WHICH RULES ARE YOU REFERRING?

A. First, the FCC's collocation rules specifically prohibit an ILEC from charging a single carrier for the entire investment associated with preparing space necessary to allow the carrier access to the ILEC's unbundled network elements. The FCC in its *Advanced Services Order First Report and Order* stated as follows in this regard:

> 51. We conclude, based on the record, that incumbent LECs must allocate space preparation, security measures, and other collocation charges on a pro-rated basis so the first collocator in a particular incumbent premises will not be responsible for the entire cost of site preparation.[63]

[62] Section 251(C)(3), emphasis added.
[63] *Advanced Services Order First Report and Order* ¶51.

BellSouth's proposal is in direct conflict with this requirement. BellSouth's proposal would require the first CLEC requesting access to INC and/or NTW in a building to bear the entire costs of an intermediate terminal that BellSouth insists be placed to protect the security of its network.

Second, the following quote from the *Advanced First Report and Order* supporting the FCC's collocation rules specifically prohibits BellSouth from requiring an intermediate terminal for purposes of accessing UNEs.

> Incumbent LECs may not require competitors to use an intermediate interconnection arrangement in lieu of direct connection to the incumbent's network if technically feasible, because such intermediate points of interconnection simply increase collocation costs without a concomitant benefit to incumbents.[64]
>
> The incumbent LEC may not utilize unreasonable segregation requirements to impose unnecessary additional costs on competitors.[65]

BellSouth's INC/NTW proposal runs directly afoul of this requirement. BellSouth is indeed requiring an intermediate terminal that unnecessarily increases the costs its competitors must bear to access the network in a manner consistent with that enjoyed by BellSouth.

Q. HOW SHOULD THE AUTHORITY REMEDY THE PROBLEMS INHERENT IN BELLSOUTH'S PROPOSAL?

A. The Commission should require BellSouth to allow CLECs nondiscriminatory access to the INC/NTW in a manner consistent with that enjoyed by BellSouth.

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[64] *Id.* ¶42.

BellSouth should be required to allow CLECs to connect their facilities directly to the main terminal (or equivalent facility) that BellSouth uses to connect its own outside plant facilities to a building's INC and/or NTW. With the ability to provision their own terminals and to cross-connect their own equipment in this manner, the only rates that should apply when a CLEC accesses BellSouth's INC/NTW would be the INC/NTW monthly recurring rate of $1.47 per month.

Q. MR. MILNER SUGGESTS THAT THE GEORGIA COMMISSION UPHELD BELLSOUTH'S PROPOSED RATE STRUCTURE (DIRECT TESTIMONY PAGE 30). DO YOU AGREE WITH MR. MILNER'S INTERPRETATION OF THE GEORGIA COMMISSION'S DECISION IN ITS MEDIAONE'S ARBITRATION WITH BELLSOUTH (MILNER DIRECT PAGE 29)?

A. No. I do not. Mr. Milner testifies that "The Georgia Commission likewise found that MediaOne should gain access through the use of an access terminal", when the Georgia Commission squarely rejected BellSouth's intermediate access terminal proposal. On page 7 of its decision the Commission states, "because the Commission has declined to adopt BellSouth's proposal, the Commission rejects BellSouth's proposed non-recurring rates."[66] The Commission further held that:

> interconnection at the MPOE is technically feasible. The Commission finds that MediaOne shall be permitted to use its own technicians to perform the work required to make NTW available to MediaOne.[67]

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[65] *Id.*

[66] Order, *In re Interconnection Agreement Between MediaOne Telecommunications of Georgia, LLC and BellSouth Telecommunications, Inc.*; Docket No. 10135-U, GA P.S.C. Dec 1999 at

[67] Id. at p. 6.

The Georgia Commission, unlike the Florida reached its decision by applying the standard adopted in the FCC's *UNE Remand Order*. The FCC adopted a rebuttable presumption that access to inside wire was technically feasible unless the ILEC could provide clear and convincing evidence that access was not technically feasible. Mr. Milner testified in the Georgia arbitration and raised the identical concerns he raises in s Tennessee testimony in this case. On the issue of direct access the Georgia Commission stated:

> While ensuring the safety and security of BellSouth's network and the accuracy of BellSouth's records are legitimate concerns, the Commission finds that these concerns can be adequately addressed through the implementation of appropriate procedures. The Commission agrees with MediaOne that a procedure could be put in place by the Commission to require notice to a carrier regarding any change made by any LEC or CLEC to the carrier's customer's service.[68]

On the issue of BellSouth's policy of prohibiting CLEC technicians to perform the actual interconnection work the Georgia Commission stated that

> while MediaOne may use its own technicians to interconnect at the MPOE, it may only do so if it shall assume the full liability for its actions and for any adverse consequences that could result. The joint notification procedure discussed above, shall include a requirement that parties notify other carriers of any damage to the other carrier's facilities.[69]

The Georgia Commission, unlike the Florida Commission,[70] applied the FCC's *UNE Remand Order* standard in order to reach its result. Contrary to Mr. Milner's interpretation the Georgia Commission denied BellSouth's proposal to require CLECs use an intermediate access terminal for accessing the NTW UNE.

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[68] *Id.*
[69] *Id.*

Q. WHAT IS THE MOST IMPORTANT POINT TO BE TAKEN FROM THE GEORGIA COMMISSION'S DECISION?

A. The most important aspect of the Georgia Commission's decision is that after applying the standards of the *UNE Remand Order* (which the Florida Commission did not have at its disposal), the Georgia Commission determined that there were more cost effective means by which to address BellSouth's security and provisioning concerns than the construction of unnecessary equipment and excessive nonrecurring costs associated with a BellSouth technician being involved in every cross-connect. In short, the Georgia Commission recognized that issues of network security and provisioning practices are best addressed in the terms and conditions of an interconnection agreement, not through expensive and unnecessary network rearrangements that serve no real technical purpose.

Q. IF THE COMMISSION CHOOSES NOT TO PERMIT DIRECT ACCESS, SHOULD BELLSOUTH'S RATES BE ADOPTED?

A. No. If the Commission decides not to require direct access, it should, nevertheless, decline to adopt BellSouth's proposed rates. Mr. Milner contends that BellSouth's rate design proposal, including expensive and time consuming intermediate terminals, is dictated by BellSouth's network security concerns. However, given BellSouth's proposed rate design, the financial burden associated with BellSouth's concerns rest solely on the CLECs. It is the CLECs that must pay BellSouth to construct an intermediate terminal and pay to dispatch a BellSouth technician to make a simple cross-connect every time INC/NTW must

[70] FL Commission decision was decided before UNE Remand Order was issued.

be accessed. BellSouth's proposal ignores the fact that BellSouth, and its network security concerns, actually cause these additional costs and that BellSouth should bear those costs (or at least a portion of those costs).

Q. IF THE AUTHORITY CHOOSES NOT TO PERMIT DIRECT CLEC ACCESS TO INC/NTW, DO YOU HAVE AN ALTERNATIVE RECOMMENDATION?

A. Yes. The Authority should require BellSouth, as the cost causer, to bear the costs of constructing and maintaining the intermediate access terminal.[71] CLECs should bear only those costs specific to recovering the investment in the INC/NTW they use (again $1.47 per INC/NTW per month). Likewise, BellSouth should be required to "pre-wire" the intermediate terminal so that a CLEC can access any INC/NTW in the building via the intermediate terminal without a BellSouth technician being dispatched to assist.[72] This will ensure that CLECs are not dependent on BellSouth personnel to provision services to the CLEC's customers. This measure will also reduce the costs associated with dispatching a BellSouth technician every time a CLEC requires a cross-connect between the intermediate and main terminal. The costs of "pre-wiring" the intermediate terminal should again be borne by BellSouth. BellSouth is the cost causer

[71] In addition to bearing the costs of placing and maintaining the intermediate terminal, BellSouth should also be required to terminate its own outside plant facilities on the intermediate terminal before cross-connecting them to the main terminal where it accesses the buildings INC/NTW. This will ensure that carriers have equal access to the main terminal and the INC/NTW serving the buildings' customers.

[72] Pre-wiring the intermediate terminal would require that the terminal be cross-connected to each INC/NTW available at the main terminal such that a CLEC can access any INC/NTW without BellSouth dispatching a technician to cross-connect the circuit. If BellSouth were required to terminate its outside plant facilities at the intermediate terminal before cross-connecting them to the main terminal as suggested above, this "pre-wiring" effort would be a resultant necessity.

associated with this unnecessarily complicated architecture and should bear all of the costs of the intermediate terminal.

Q. IF THE AUTHORITY DETERMINES THAT BELLSOUTH SHOULD NOT BE CONSIDERED THE COST CAUSER OF AN INTERMEDIATE TERMINAL, SHOULD THE COMMISSION ADOPT BELLSOUTH'S RATE PROPOSAL?

A. No. Even if the Authority determines that CLECs should compensate BellSouth for an intermediate terminal (despite the FCC's rules directly prohibiting such an architecture), BellSouth's rate design should still be rejected. BellSouth's proposed rate structure, and the enormous non-recurring charges that result, is a direct competitive barrier to CLECs who are attempting to deploy their own facilities for purposes of providing customers competitive telecommunications alternatives.

If the Authority decides that CLECs should bear some of the costs of placing and maintaining the intermediate terminal, then the Authority should recognize that constructing and "pre-wiring" the intermediate terminal is an investment in the BellSouth network that will allow it to offer access to INC and NTW with a greater level of ease. Likewise, multiple CLECs will use the intermediate terminal over a period of time for purposes of accessing INC/NTW. As such, investments in constructing and pre-wiring the intermediate terminal should be capitalized and recovered over the life of the terminal, not recovered as upfront,

nonrecurring costs. In this fashion CLECs who use the terminal should, consistent with the FCC's collocation rules described above, pay only for that portion of the terminal they use (i.e., a port-at-a-time).

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS WITH RESPECT TO RATES THAT CLECS SHOULD PAY FOR ACCESSING BELLSOUTH'S INC/NTW.

A. The most efficient method by which to allow CLECs access to INC/NTW is to allow them to connect directly to these facilities at the main terminal (or telephone equipment rack) that serves the property (i.e., the same facility that BellSouth uses to cross-connect its outside plant facilities with the building's INC/NTW). Because CLECs will, under this scenario, perform all of the labor necessary to connect their own facilities to the INC/NTW, the only applicable charges should be those aimed at recovering the investment in the actual INC/NTW wiring. BellSouth has proposed a monthly rate of $1.47 per month for this purpose.

If the Authority believes that an intermediate terminal is required for purposes of accessing INC/NTW, then the Authority should recognize that it is BellSouth who benefits from this terminal (not the CLECs) and that BellSouth is the cost causer for any additional costs incurred due to this less efficient architecture. For this reason, CLECs should pay only the monthly recurring charge associated with recovering the investment in the INC/NTW ($1.47) when accessing INC/NTW. BellSouth should bear all other costs.

Finally, however, if the Authority believes that CLECs should share in the expense of an intermediate terminal, then the Authority should require BellSouth to construct and pre-wire such a terminal in buildings where requests for INC/NTW are made. BellSouth should recover the expenses associated with installing and pre-wiring such a terminal over the life of the terminal from carriers who use that terminal during that period. The most efficient manner by which to accomplish cost recovery in this fashion is to capitalize the labor costs incurred in installing and pre-wiring the terminal and recover those on a per-port, per month basis.

VIII. DARK FIBER

Q. HAVE YOU HAD AN OPPORTUNITY TO REVIEW BELLSOUTH'S COST SUPPORT FOR ITS DARK FIBER RATE ELEMENTS?

A. Yes, I have reviewed the scant documentation provided by BellSouth.

Q. HAS BELLSOUTH PROPERLY SUPPORTED ITS PROPOSED RATES FOR DARK FIBER?

A. No, it has not. Ms. Caldwell, BellSouth's witness responsible for explaining and describing BellSouth's cost studies, doesn't even mention the term "dark fiber" in her testimony or in any way describe the process BellSouth used to develop dark fiber costs. Mr. Milner, BellSouth's witness responsible for describing the engineering aspects of BellSouth's rates and costs, likewise includes no mention of dark fiber. Only Mr. Ruscilli uses the term "dark fiber" in his testimony, and then only to suggest that BellSouth is proposing rates for this UNE. Nowhere do

BellSouth's witnesses describe how dark fiber will be provided or how the costs associated with providing it were estimated.

Q. HAVE YOU HAD AN OPPORTUNITY TO REVIEW THE DARK FIBER COST STUDY?

A. Yes, though it, like BellSouth's testimony is also scant on information (though not scant at all on proposed costs).

Q. OTHER THAN A LACK OF DOCUMENTATION, DO YOU HAVE CONCERNS REGARDING BELLSOUTH'S PROPOSED DARK FIBER RATES?

A. Yes, I do. BellSouth proposes that CLECs should pay a nonrecurring charge equal to $1,121 simply to access dark fiber (for both interoffice and local channel facilities). BellSouth bases this rate on its assumption that BellSouth engineers will spend 28.4 hours in providing CLECs access to dark fiber. Keep in mind that this dark fiber is fiber optic cable that is not connected to electronic equipment, is not currently providing any service, and is simply laying fallow in the ground or in the air. There is no engineering design that is required nor is there any need to dispatch outside plant personnel to do anything to allow access to the fiber. Yet, somehow BellSouth believes that one of its technicians would need to spend nearly 4 full workdays (28.4 hours) just to allow access to these facilities. Of course, BellSouth offers no explanation of why so much time is required or even what its personnel will be doing during this week of work. Surely this is not acceptable support for BellSouth's rates.

Q. ARE THERE ALSO PROBLEMS WITH BELLSOUTH'S RECURRING CHARGES?

A. Yes, there are. BellSouth proposes that a CLEC should pay $58.33 per month, per mile for dark fiber access (local channel). On the other hand, the CLEC can buy a fully functioning OC48 facility for less than half that amount ($28.14 per month, per mile). Again, note that dark fiber includes no digital electronics equipment (other than simple termination equipment) and that the carrier is being provided access to fiber that is simply laying in the ground. There is no need for BellSouth to provision any expensive electronic transmission equipment (as it must in the OC48 loop) or to design, engineer or otherwise provision the facility. Nonetheless, BellSouth's dark fiber rates exceed its digital services rates by nearly 100%. This simply isn't reasonable or plausible.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

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Schedule MTS-1

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Professional Activities

- Former member of the Missouri Public Service Commission's Task Force on FCC Docket Nos. 91-141 and 91-213 regarding expanded interconnection, collocation, and access transport restructure
- Former member of the AT&T / Missouri Commission Staff, *Total Quality Management Forum* responsible for improving and streamlining the regulatory process for competitive carriers
- Former member of the Missouri, Oklahoma, Kansas, Texas, and Arkansas five state Southwestern Bell Open Network Architecture (ONA) Oversight Conference
- Former delegate to the Illinois, Michigan, Indiana, Ohio, and Wisconsin Ameritech Regional Regulatory Conference (ARRC) charged with the responsibility of analyzing Ameritech's "Customers First" local exchange competitive framework for formulation of recommendations to the FCC and the U.S. Department of Justice
- Former member of both the Illinois and Maryland Local Number Portability Industry Consortiums responsible for developing and implementing a permanent data-base number portability solution

Testimony Profile and Experience

Before the Wisconsin Public Service Commission
Docket No. 6720-TI-160
Investigation into Ameritech Wisconsin Operational Support Systems
On behalf of McLeodUSA, TDS MetroCom and Rhythms Link, Inc.

Before the Public Utilities Commission of the State of Hawaii
Docket No. 7702, Phase III
Instituting a Proceeding on Communications, Including an Investigation of the Communications Infrastructure of the State of Hawaii
On behalf of GST Telecom Hawaii, Inc.

Before the North Carolina Utilities Commission
Docket P100 Sub 133d, Phase II
General Proceeding to Determine Permanent Pricing for Unbundled Network elements
On behalf of a consortium of 13 new entrant carriers

Before the Federal Communications Commission
CCB/CPD No. 00-1
In the Matter of Wisconsin Public Service Commission Order Directing Filings
On behalf of the Wisconsin Pay Telephone Association

Before the North Carolina Utilities Commission
Docket P100 Sub 133d, Phase I

MICHAEL STARKEY
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General Proceeding to Determine Permanent Pricing for Unbundled Network elements
On behalf of a consortium of 13 new entrant carriers

Before the Public Utilities Commission of the State of California
Rulemaking 0-02-05
Order Instituting Rulemaking on the Commission's Own Motion into reciprocal compensation for telephone traffic transmitted to Internet Service Providers modems
On behalf of ICG Telecom Group, Inc.

Before the Public Utilities Commission of the State of Colorado
Docket No. 00B-103T
In the Matter of Petition by ICG Telecom Group, Inc. for Arbitration of an Interconnection Agreement with US West Communications, Inc. Pursuant to Section 252(b) of the Telecommunications Act of 1996.
On behalf of ICG Telecom Group, Inc.

Before the Delaware Public Service Commission
PSC Docket No. 00-205
For Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Bell Atlantic – Delaware, Inc.
On behalf of Focal Communications Corporation of Pennsylvania

Before the Georgia Public Service Commission
Case No. 11641-U
Petition of Bluestar Networks, Inc. for Arbitration with BellSouthDocket No. 11641-U Telecommunications, Inc. pursuant to Section 252(b) of the Telecommunications Act of 1996
On behalf of BlueStar Networks, Inc.

Before the New Jersey Board of Public Utilities
Docket No. TO00030163
For Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Bell Atlantic-New Jersey, Inc.
On behalf of Focal Communications Corporation

Before the Pennsylvania Public Utility Commission
Docket No. A-310630F.0002
For Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Bell Atlantic-Pennsylvania
On behalf of Focal Communications Corporation

Before the Michigan Public Service Commission
Case No. U-12287
In the matter of the application, or in the alternative, complaint of AT&T COMMUNICATIONS OF MICHIGAN, INC. against Michigan Bell Telephone Company, D/B/A, Ameritech Michigan
On behalf of AT&T Communications of Michigan, Inc.

Before the Missouri Public Service Commission
Case No. 99-483
An Investigation for the Purpose of Clarifying and Determining Certain aspects Surrounding the Provisioning Of Metropolitan Calling Area Services After the Passage and Implementation Of the Telecommunications Act of 1996

MICHAEL STARKEY
PROFESSIONAL INFORMATION

On behalf of McLeodUSA Telecommunications Services, Inc.

Before the Illinois Commerce Commission
Docket No. 98-0396
Investigation into the compliance of Illinois Bell Telephone Company with the order in Docket 96-0486/0569 Consolidated regarding the filing of tariffs and the accompanying cost studies for interconnection, unbundled network elements and local transport and termination and regarding end to end bundling issues.
On behalf of AT&T Communications of Illinois, Inc. and McLeodUSA Telecommunications Services, Inc.

Before the Illinois Commerce Commission
Docket No. 99-0593
Investigation of Construction Charges
On behalf of McLeodUSA Telecommunications Services, Inc., MCI WorldCom, Inc. and Allegiance Telecom, Inc.

Before the Public Service Commission of Wisconsin
Case No. 05-TI-283
Investigation of the Compensation Arrangements for the Exchange of Traffic Directed to Internet Service Providers
On behalf of AT&T Communications of Wisconsin, AT&T Local Services, KMC Telecom, Inc., MCI WorldCom, Inc., McLeodUSA Telecommunications Services, Inc., TDS MetroComm, Time Warner Telecom

Before the Public Utility Commission of Texas
Docket No. 21982
Proceeding to Examine Reciprocal Compensation Pursuant to Section 252 of the Federal Telecommunications Act of 1996
On behalf of ICG Communications, Inc.

Before the Public Service Commission of the Commonwealth of Kentucky
Case No. 99-498
Petition of BlueStar Networks, Inc. for Arbitration with BellSouth Telecommunications, Inc. Pursuant to Section 252 of the Telecommunications Act of 1996.
On behalf of BlueStar Networks, Inc.

Before the Illinois Commerce Commission
Docket No. 00-0027
Petition for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Illinois Bell Telephone Company d/b/a Ameritech Illinois.
On behalf of Focal Communications Corporation of Illinois

Before The Indiana Utility Regulatory Commission
Cause No. 41570
In the Matter of the Complaint of McLeodUSA Telecommunications Services, Inc. against Indiana Bell Telephone Company, Incorporated, d/b/a Ameritech Indiana, Pursuant to the Provisions of I.C. §§ 8-1-2-54, 81-12-68, 8-1-2-103 and 8-1-2-104 Concerning the Imposition of Special Construction Charges.
On behalf of McLeodUSA Telecommunications Services, Inc.

MICHAEL STARKEY
PROFESSIONAL INFORMATION

Before the Florida Public Service Commission
Docket No. 991838-TP
Petition for Arbitration of BlueStar Networks, Inc. with BellSouth Telecommunications, Inc. Pursuant to the Telecommunications Act of 1996
On behalf of BlueStar Networks, Inc.

Before the Public Utility Commission of Ohio
Case No. 99-1153-TP-ARB
In the Matter of ICG Telecom Group, Inc.'s Petition For Arbitration of Interconnection Rates, Terms and Conditions and Related Arrangements with Ameritech Ohio
On behalf of ICG Telecom Group, Inc.

Before the Public Utility Commission of Oregon
ARB 154
Petition for Arbitration of GST Telecom Oregon, Inc. Against US West Communications, Inc. Under 47 U.S.C. §252(b)
On behalf of GST Telecom Oregon, Inc.

Before the Michigan Public Service Commission
Docket No. U-12072
In the matter of the application and complaint of WORLDCOM TECHNOLOGIES INC. (f/k/a MFS INTELENET OF MICHIGAN, INC., an MCI WORLDCOM company) against MICHIGAN BELL TELEPHONE COMPANY d/b/a AMERITEHC MICHIGAN, AMERITECH SERVICES, INC., AMERITECH INFORMATION INDUSTRY SERVICES, AND AMERITECH LONG DISTANCT INDUSTRY SERVICES relating to unbundled interoffice transport.
On behalf of WorldCom Technologies, Inc.

Before the Illinois Commerce Commission
Docket No. 99-0525
Ovation Communications, Inc. d/b/a McLeodUSA, Complaint Against Illinois Bell Telephone Company d/b/a Ameritech Illinois, Under Sections 13-514 and 13-515 of the Public Utilities Act Concerning the Imposition of Special Construction Charges and Seeking Emergency Relief Pursuant to Section 13-515(e)
On behalf of McLeodUSA

Before the Public Service Commission of the Commonwealth of Kentucky
Case No. 99-218
Petition of ICG Telecom Group, Inc. for Arbitration with BellSouth Telecommunications, Inc. Pursuant to Section 252 of the Telecommunications Act of 1996.
On behalf of ICG Telecom Group, Inc.

Before the Tennessee Regulatory Authority
Docket No. 1999-259-C
Petition for Arbitration of ITC^DeltaCom Communications, Inc. with BellSouth Telecommunications, Inc. Pursuant to the Telecommunications Act of 1996
On behalf of ICG Communications, Inc.

Before the New Mexico Public Regulation Commission
Case No. 3131

MICHAEL STARKEY
PROFESSIONAL INFORMATION

In the Matter of GST Telecom New Mexico, Inc.'s Petition for Arbitration Against US West Communications, Inc., Under 47 U.S.C. § 252(b).
On behalf of GST Telecom New Mexico, Inc.

Before the Georgia Public Service Commission
Docket No. 10767-U
Petition of ICG Telecom Group, Inc. for Arbitration with BellSouth Telecommunications, Inc. Pursuant to Section 252 of the Telecommunications Act of 1996.
On behalf of ICG Telecom Group, Inc.

Before the Public Service Commission of New York
Case No. 99-C-0529
Proceeding on Motion of the Commission to Re-examine Reciprocal Compensation
On behalf of Focal Communications, Inc.

Before the Florida Public Service Commission
Docket No. 990691-TP
Petition by ICG Telecom Group, Inc. for Arbitration of an Interconnection Agreement with BellSouth Telecommunications, Inc. Pursuant to Section 252(b) of the Telecommunications Act of 1996
On behalf of ICG Telecom Group, Inc.

Before the Louisiana Public Service Commission
Docket No. U-24206
Petition for Arbitration of ITC^DeltaCom Communications, Inc. with BellSouth Telecommunications, Inc. Pursuant to the Telecommunications Act of 1996
On behalf of ITC^DeltaCom, Inc.

Before the South Carolina Public Service Commission
Docket No. 199-259-C
Petition for Arbitration of ITC^DeltaCom Communications, Inc. with BellSouth Telecommunications, Inc. Pursuant to the Telecommunications Act of 1996
On behalf of ITC^DeltaCom, Inc.

Before the Alabama Public Service Commission
Docket No. 27069
Petition by ICG Telecom Group, Inc. for Arbitration of an Interconnection Agreement with BellSouth Telecommunications, Inc. Pursuant to Section 252(b) of the Telecommunications Act of 1996
On behalf of ICG Telecom Group, Inc.

Before the State of North Carolina Utilities Commission
Docket No. P-582, Sub 6
Petition by ICG Telecom Group, Inc. for Arbitration of Interconnection Agreement with BellSouth Telecommunications, Inc. Pursuant to Section 252(b) of the Telecommunications Act of 1996
On behalf of ICG Telecom Group, Inc.

Before the Missouri Public Service Commission
Case No. TO-99-370
Petition of BroadSpan Communications, Inc. for Arbitration of Unresolved Interconnection Issues Regarding ADSL with Southwestern Bell Telephone Company

MICHAEL STARKEY
PROFESSIONAL INFORMATION

On behalf of BroadSpan Communications, Inc.

Before the Michigan Public Service Commission
Case No. U-11831
In the Matter of the Commission's own motion, to consider the total service long run incremental costs for all access, toll, and local exchange services provided by Ameritech Michigan.
On behalf of MCIWorldCom, Inc.

Before the Illinois Commerce Commission
Docket Nos. 98-0770, 98-0771 *cons.*
Proposed Modifications to Terms and Conditions Governing the Provision of Special Construction Arrangements and, *Investigation into Tariff Governing the Provision of Special Constructions Arrangements*
On behalf of AT&T Communications of Illinois, Inc.

Before the Michigan Public Service Commission
Case No. U-11735
In the matter of the complaint of BRE Communications, L.L.C., d/b/a PHONE MICHIGAN, against Michigan Bell Telephone Company, d/b/a AMERITECH MICHIGAN, for violations of the Michigan Telecommunications Act
On behalf of BRE Communications, L.L.C.

Before the Indiana Utility Regulatory Commission
Cause No. 40830
In the Matter of the request of the Indiana Payphone Association for the Commission to Conduct an Investigation of Local Exchange Company Pay Telephone tariffs for Compliance with Federal Regulations, and to Hold Such Tariffs in Abeyance Pending Completion of Such Proceeding
On behalf of the Indiana Payphone Association

Before the Michigan Public Service Commission
Complaint Pursuant to Sections 203 and 318 of the Michigan Telecommunications Act to Compel Respondents to Comply with Section 276 of the Federal Telecommunications Act
On behalf of the Michigan Pay Telephone Association

Before the Missouri Public Service Commission
Case No. TO-98-278
In the Matter of the Petition of Birch Telecom of Missouri, Inc., for Arbitration of the Rates, Terms, Conditions, and Related Arrangements for Interconnection with Southwestern Bell Telephone Company
On behalf of Birch Telecom of Missouri, Inc.

Before the Public Service Commission of the Commonwealth of Kentucky
Administrative Case No. 361
Deregulation of Local Exchange Companies' Payphone Services
On behalf of the Kentucky Payphone Association

Before the Public Utilities Commission of Ohio
Case No. 96-899-TP-ALT
The Application of Cincinnati Bell Telephone Company for Approval of a Retail Pricing Plan Which May Result in Future Rate Increases
On behalf of the MCI Telecommunications Corporation

MICHAEL STARKEY
PROFESSIONAL INFORMATION

Before the Public Utilities Commission of the State of Hawaii
Docket No. 7702
Instituting a Proceeding on Communications, Including an Investigation of the Communications Infrastructure of the State of Hawaii
On behalf of GST Telecom Hawaii, Inc.

Before the Michigan Public Service Commission
Case No. U-11410
In the Matter of the Petition of the Michigan Pay Telephone Association to initiate an investigation to determine whether Michigan Bell Telephone Company d/b/a Ameritech Michigan and GTE North Incorporated are in compliance with the Michigan Telecommunications Act and Section 276 of The Communications Act of 1934, as amended
On behalf of the Michigan Pay Telephone Association

Before the Indiana Utility Regulatory Commission
Cause No. 40849
In the matter of Petition of Indiana Bell Telephone Company, Incorporated d/b/a Ameritech Indiana for the Commission to Decline to Exercise in Whole or in Part its Jurisdiction Over, and to Utilize Alternative Regulatory Procedures For, Ameritech Indiana's Provision of Retail and Carrier Access Services Pursuant to I.C. 8-1-2.6 Et Seq.
On behalf of AT&T Communications of Indiana, Inc.

Before the Federal Communication Commission
C.C. Docket No. 97-137
In the Matter of Application by Ameritech Michigan for Authorization under Section 271 of the Communications Act to Provide In-Region, InterLATA Service in the State of Michigan.
On behalf of the AT&T Corporation

Before the Indiana Utility Regulatory Commission
Cause No. 40611
In the Matter of the Commission Investigation and Generic Proceeding on Ameritech Indiana's Rates for Interconnection, Service, Unbundled Elements and Transport and Termination under the Telecommunications Act of 1996 and Related Indiana Statutes
On behalf of the MCI Telecommunications Corporation

Before the Public Utility Commission of Ohio
Case No. 97-152-TP-ARB
In the matter of the petition of MCI Telecommunications Corporation for arbitration pursuant to section 252(b) of the Telecommunications Act of 1996 to establish an interconnection agreement with Cincinnati Bell Telephone Company
On behalf of the MCI Telecommunications Corporation

Before the Michigan Public Service Commission
Case No. U-11280
In the matter, on the Commission's own motion to consider the total service long run incremental costs and to determine the prices of unbundled network elements, interconnection services, and basic local exchange services for AMERITECH MICHIGAN
On behalf of the MCI Telecommunications Corporation

Before the Illinois Commerce Commission

MICHAEL STARKEY
PROFESSIONAL INFORMATION

Docket No. 96-0486
Investigation into forward looking cost studies and rates of Ameritech Illinois for interconnection, network elements, transport and termination of traffic
On behalf of the MCI Telecommunications Corporation

Before the Public Utility Commission of Ohio
Case No. 96-922-TP-UNC
In the Matter of the Review of Ameritech Ohio's Economic Costs for Interconnection, Unbundled Network Elements, and Reciprocal Compensation for Transport and Termination of Local Telecommunications Traffic
On behalf of the MCI Telecommunications Corporation

Before the New Jersey Board of Public Utilities
Docket No. TX95120631
In the Matter of the Investigation Regarding Local Exchange Competition for Telecommunications Services
On behalf of the MCI Telecommunications Corporation

Before the Michigan Public Service Commission
Case No. U-11104
In the matter, on the Commission's Own Motion, to Consider Ameritech Michigan's Compliance With the Competitive Checklist in Section 271 of the Telecommunications Act of 1996
On behalf of AT&T Communications of Indiana, Inc.

Before the Public Utility Commission of Ohio
Case Nos. 96-702-TP-COI, 96-922-TP-UNC, 96-973-TP-ATA, 96-974-TP-ATA, Case No. 96-1057-TP-UNC
In the Matter of the Investigation Into Ameritech Ohio's Entry Into In-Region InterLATA Services Under Section 271 of the Telecommunications Act of 1996.
On behalf of AT&T Communications of Ohio, Inc.

Before the Illinois Commerce Commission
Docket No. 96-0404
Investigation Concerning Illinois Bell Telephone Company's Compliance With Section 271(c) of the Telecommunications Act of 1996
On behalf of AT&T Communications of Illinois, Inc.

Before the Commonwealth of Massachusetts Department of Public Utilities
In the Matter of: D.P.U. 96-73/74, D.P.U. 96-75, D.P.U. 96-80/81, D.P.U. 96-83, D.P.U. 96-94, NYNEX - Arbitrations
On behalf of the MCI Telecommunications Corporation

Before the Pennsylvania Public Utility Commission
Docket No. A-31023670002
In the Matter of the Application of MCI Metro Access Transmission Services, Inc. For a Certificate of Public Convenience and Necessity to Provide and Resell Local Exchange Telecommunications Services in Pennsylvania
On behalf of MCImetro Access and Transmission Services, Inc.

Before the New Jersey Board of Public Utilities
Docket No. TO96080621

MICHAEL STARKEY
PROFESSIONAL INFORMATION

In the Matter of MCI Telecommunications Corporation for Arbitration with Bell Atlantic-New Jersey, Inc. Pursuant to Section 252 of the Telecommunications Act of 1996
On behalf of the MCI Telecommunications Corporation

Before the Wisconsin Utility Regulatory Commission
Cause No. 40571-INT-01
Petition for Arbitration of Interconnection Rates, Terms and Conditions, and Related Arrangements with Wisconsin Bell Telephone Company d/b/a Ameritech Wisconsin
On behalf of AT&T Communications of Wisconsin, Inc.

Before the Public Utility Commission of Ohio
Case No. 96-752-TP-ARB
Petition for Arbitration of Interconnection Rates, Terms and Conditions, and Related Arrangements with Ohio Bell Telephone Company d/b/a Ameritech Ohio
On behalf of AT&T Communications of Ohio, Inc.

Before the Illinois Commerce Commission
Docket No. 96-AB-003
Docket No. 96-AB-004 *Consol.*
Petition for Arbitration of Interconnection Rates, Terms and Conditions, and Related Arrangements with Illinois Bell Telephone Company d/b/a Ameritech Illinois
On behalf of AT&T Communications of Illinois, Inc.

Before the Michigan Public Service Commission
Case No. U-11151
Petition for Arbitration of Interconnection Rates, Terms and Conditions, and Related Arrangements with Michigan Bell Telephone Company d/b/a Ameritech Michigan
On behalf of AT&T Communications of Michigan, Inc.

Before the Indiana Utility Regulatory Commission
Cause No. 40571-INT-01
In the Matter of the Petition of AT&T Communications of Indiana, Inc. Requesting Arbitration of Certain Terms and Conditions and Prices for Interconnection and Related Arrangements from Indiana Bell Telephone Company, Incorporated d/b/a Ameritech Indiana Pursuant to Section 252 (b) of the Communications Act of 1934, as Amended by the Telecommunications Act of 1996.
On behalf of AT&T Communications of Indiana, Inc.

Before the Missouri Public Service Commission
Case No. TT-96-268
Application of Southwestern Bell Telephone Company, Inc. to Revise P.S.C. Mo.-No. 26, Long Distance Message Telecommunications Service Tariff to Introduce the Designated Number Optional Calling Plan
On behalf of the MCI Telecommunications Corporation

Before the Corporation Commission of the State of Oklahoma
Cause No. PUD 950000411
Application of Southwestern Bell Telephone Company for an Order Approving Proposed Revisions in Applicant's Long Distance Message Telecommunications Service Tariff Southwestern Bell Telephone Company's Introduction of 1+ Saver Direct^{sm}
On behalf of the MCI Telecommunications Corporation

MICHAEL STARKEY
PROFESSIONAL INFORMATION

Before the Georgia Public Service Commission
Docket No. 6415-U and 6537-U *cons.*
Petition of MCImetro to Establish Nondiscriminatory Rates, Terms and Conditions for the Unbundling and Resale of Local Loops
On behalf of MCImetro Access Transmission Services

Before the Public Service Commission of the State of Mississippi
Docket No. 95-UA-358
Regarding a Docket to Consider Competition in the Provision of Local Telephone Service
On behalf of the Mississippi Cable Television Association

Before the Maryland Public Service Commission
Docket No. 8705
In the Matter of the Inquiry Into the Merits of Alternative Plans for New Telephone Area Codes in Maryland
On behalf of the Staff of the Maryland Public Service Commission

Before the Maryland Public Service Commission
Docket No. 8584, Phase II
In the Matter of the Application of MFS Intelenet of Maryland, Inc. for Authority to Provide and Resell Local Exchange and Inter-Exchange Telephone Service; and Requesting the Establishment of Policies and Requirements for the Interconnection of Competing Local Exchange Networks

In the Matter of the Investigation of the Commission on its Own Motion Into Policies Regarding Competitive Local Exchange Telephone Service
On behalf of the Staff of the Maryland Public Service Commission

Before the Illinois Commerce Commission
Docket No. 94-0400
Application of MCImetro Access and Transmission Services, Inc. For a Certificate of Exchange Service Authority Allowing it to Provide Facilities-Based Local Service in the Chicago LATA
On behalf of the Office of Policy and Planning, Illinois Commerce Commission

Before the Illinois Commerce Commission
Docket No. 94-0315
Petition of Ameritech-Illinois for 708 NPA Relief by Establishing 630 Area Code
On behalf of the Office of Policy and Planning, Illinois Commerce Commission

Before the Illinois Commerce Commission
Docket No. 94-0422
Complaints of MFS, TC Systems, and MCI against Ameritech-Illinois Regarding Failure to Interconnect
On behalf of the Office of Policy and Planning, Illinois Commerce Commission

Before the Illinois Commerce Commission
Docket Nos. 94-0096, 94-0117, and 94-301
Proposed Introduction of a Trial of Ameritech's Customers First Plan in Illinois, et al.
On behalf of the Office of Policy and Planning, Illinois Commerce Commission

Before the Illinois Commerce Commission

MICHAEL STARKEY
PROFESSIONAL INFORMATION

Docket No. 94-0049
Rulemaking on Line-Side and Reciprocal Interconnection
On behalf of the Office of Policy and Planning, Illinois Commerce Commission

Before the Illinois Commerce Commission
Docket No. 93-0409
MFS-Intelenet of Illinois, Inc. Application for an Amendment to its Certificate of Service Authority to Permit it to Operate as a Competitive Local Exchange Carrier of Business Services in Those Portions of MSA-1 Served by Illinois Bell Telephone and Central Telephone Company of Illinois
On behalf of the Office of Policy and Planning, Illinois Commerce Commission

Before the Illinois Commerce Commission
Docket No. 94-0042, 94-0043, 94-0045, and 94-0046
Illinois Commerce Commission on its own motion. Investigation Regarding the Access Transport Rate Elements for Illinois Consolidated Telephone Company (ICTC), Ameritech-Illinois, GTE North, GTE South, and Central Telephone Company (Centel)
On behalf of the Office of Policy and Planning, Illinois Commerce Commission

Before the Illinois Commerce Commission
Docket No. 93-0301 and 94-0041
GTE North Incorporated. Proposed Filing to Restructure and Consolidate the Local Exchange, Toll, and Access Tariffs with the Former Contel of Illinois, Inc.
On behalf of the Office of Policy and Planning, Illinois Commerce Commission

Before the Public Service Commission of the State of Missouri
Case No. TC-93-224 and TO-93-192
In the Matter of Proposals to Establish an Alternate Regulation Plan for Southwestern Bell Telephone Company
On behalf of the Telecommunications Department, Missouri Public Service Commission

Before the Public Service Commission of the State of Missouri
Case No. TO-93-116
In the Matter of Southwestern Bell Telephone Company's Application for Classification of Certain Services as Transitionally Competitive
On behalf of the Telecommunications Department, Missouri Public Service Commission

Selected Reports, Publications and Presentations

Telecommunications Costing and Pricing Interconnection and Inter-Carrier Compensation
Advanced Regulatory Studies Program
Michigan State University
Cincinnati, Ohio, October 13, 2000

Telecommunications Pricing in Tomorrow's Competitive Local Market
Professional Pricing Societies 9th Annual Fall Conference
Pricing From A to Z
Chicago, Illinois, October 30, 1998

Recombining Unbundled Network Elements: An Alternative to Resale

MICHAEL STARKEY
PROFESSIONAL INFORMATION

ICM Conferences' Strategic Pricing Forum
January 27, 1998, New Orleans, Louisiana

MERGERS – Implications of Telecommunications Mergers for Local Subscribers
National Association of State Utility Consumer Advocates Mid-Year Meeting,
Chicago, Illinois, June 24 1996

Unbundling, Costing and Pricing Network Elements in a Co-Carrier World
Telecommunications Reports' Rethinking Access Charges & Intercarrier Compensation
Washington, D.C., April 17, 1996

Key Local Competition Issues Part I (novice)
Key Local Competition Issues Part II (advanced)
with Mark Long
National Cable Television Associations' 1995 State Telecommunications Conference
Washington, D.C., November 2, 1995

Competition in the Local Loop
New York State Telephone Association and Telephone Association of New England Issues Forum
Springfield, Massachusetts, October 18, 1995

Compensation in a Competitive Local Exchange
National Association of Regulatory Utility Commissioner Subcommittee on Communications' Summer Meetings
San Francisco, California, July 21, 1995

Fundamentals of Local Competition and Potential Dangers for Interexchange Carriers
COMPTEL 1995 Summer Business Conference
Seattle, Washington, June 12, 1995

BELLSOUTH--TENNESSEE
ANALOG VS DIGITAL LINES

Switched Access Lines	1992	1993	1994	1995	1996	1997	1998	1999	Percentage Change 1992-1999
Analog (4khz or Equivalent)									
Main Access Lines	1,925,334	1,998,548	2,090,464	2,178,174	2,278,090	2,359,424	2,437,284	2,473,253	28.46%
PBX & Centrex Trunks (Excluded From Anaysis)*	67,171	71,470	73,646	79,925	90,052	99,556	99,044	95,287	41.86%
Centrex Extensions	52,907	56,559	32,022	30,187	26,316	27,212	23,428	21,748	-58.89%
Digital (64kbps or Equivalent)									
Main Access Lines	-	245	1,182	3,459	10,663	17,575	22,273	26,138	
PBX & Centrex Trunks	-	-	-	-	-	-	-	-	
Centrex Extensions	47,968	57,716	88,582	92,069	93,800	68,529	66,799	63,364	32.10%
Total Switched Access Lines	2,093,380	2,184,538	2,285,896	2,383,814	2,498,921	2,572,296	2,648,828	2,679,790	28.01%
Special Access Lines									
Analog (4khz or Equivalent)	12,788	11,836	10,461	8,871	7,994	6,797	29,064	41,706	226.13%
Digital (64kbps or Equivalent)	118,591	157,620	190,157	236,134	339,374	338,524	502,098	723,799	510.33%
Total Special Access Lines	131,379	169,456	200,618	245,005	347,368	345,321	531,162	765,505	482.67%
Total Access Lines (Switched and Special)	2,224,759	2,353,994	2,486,514	2,628,819	2,846,289	2,917,617	3,179,990	3,445,295	54.86%
Total Analog	1,991,029	2,066,943	2,132,947	2,217,232	2,312,400	2,393,433	2,489,776	2,536,707	27.41%
Total Digital	166,559	215,581	279,921	331,662	443,837	424,628	591,170	813,301	388.30%
Year-to-Year growth percentage Analog		3.81%	3.19%	3.95%	4.29%	3.50%	4.03%	1.88%	
Year-to-Year growth percentage Digital		29.43%	29.84%	18.48%	33.82%	-4.33%	39.22%	37.57%	
Access Growth in Lines - Analog		75,914	66,004	84,285	95,168	81,033	96,343	46,931	545,678
Access Growth in Lines - Digital		49,022	64,340	51,741	112,175	(19,209)	166,542	222,131	646,742

Source: All data taken from FCC's ARMIS Data Retrieval System. See http://gullfoss2.fcc.gov/cgi-bin/websql/prod/ccb/armis1/forms/armis.hts

A.17.1 LOAD COIL REMOVAL - SHORT

CALCULATOR INPUT FORM - NONRECURRING LABOR TIMES

Instructions:

1. Use this worksheet to record nonrecurring labor times to be input into the Calculator calculations.
2. All amounts shown are per unit (e.g., per call, per loop, per MOU).
3. Input data, by Cost Element, leaving no blank lines. On next row after last line of data, type END in Cost Element Column.
4. All data on this form should be cell-referenced to study workpapers.
5. Do NOT change columns, headings, sheet name.
6. Use columns F & G when cost element has a single nonrecurring cost; use columns H, I, J, & K for elements with a first and additional nonrecurring cost; use columns L, M, N & O for elements with an initial and subsequent nonrecurring cost.
7. Input Cost Element Life (in months) on first row of data for each cost element. It is not necessary to repeat on each line.

Study Mid-Point Date (Mos.) 6/1/2001

State	Cost Element #	Cost Element Life (Mo)	Labor Expense Description (Limited to 25 characters)	JFC/ Payband	(For use w/ one NR) Installation Time (Hours)	Disconnect Time Hours	Labor Rates	Extended Costs
TN	A.17.1		SERVICE INQUIRY	SDWC	0.0018		$51.17	$0.0909
TN	A.17.1		SERVICE INQUIRY	230X	0.0025		$31.17	$0.0781
TN	A.17.1		ENGINEERING	JG57	0.0750		$40.54	$3.0405
TN	A.17.1		ENGINEERING	4FXX	0.0056		$34.31	$0.1910
TN	A.17.1		ENGINEERING	4M1X	0.0167		$34.31	$0.5730
TN	A.17.1		CONNECT & TEST	420X	0.0734		$42.55	$3.1219
TN	A.17.1		TRAVEL	420X	0.0100		$42.55	$0.4255

Non Recurring Cost: **$7.52**

Modifications:

(1) Replace 10 loops conditioned per dispatch to 50 loops.
(2) Remove assumption that 90% of loads will be removed in manhole environment. Replace with 41.6% in manholes, 58.4% in aerial/buried.
(3) Revise worktimes consistent with Mr. Fassett's Recommendation

A.17.2 LOAD COIL REMOVAL - LONG

CALCULATOR INPUT FORM - NONRECURRING LABOR TIMES

Instructions:

1. Use this worksheet to record nonrecurring labor times to be input into the Calculator calculations.
2. All amounts shown are per unit (e.g., per call, per loop, per MOU).
3. Input data, by Cost Element, leaving no blank lines. On next row after last line of data, type END in Cost Element Column.
4. All data on this form should be cell-referenced to study workpapers.
5. Do NOT change columns, headings, sheet name.
6. Use columns F & G when cost element has a single nonrecurring cost; use columns H, I, J, & K for elements with a first and additional nonrecurring cost; use columns L, M, N & O for elements with an initial and subsequent nonrecurring cost.
7. Input Cost Element Life (in months) on first row of data for each cost element. It is not necessary to repeat on each line.

Study Mid-Point Date (Mos.) 6/1/2001

State	Cost Element #	Cost Element Life (Mo)	Labor Expense Description (Limited to 25 characters)	JFC/ Payband	(For use w/ one NR) Installation Time (Hours)	Disconnect Time Hours	Labor Rates	Extended Costs
TN	A.17.2		SERVICE INQUIRY	SDWC	0.0018	-	$51.17	$0.091
TN	A.17.2		SERVICE INQUIRY	230X	0.0025	-	$31.17	$0.078
TN	A.17.2		ENGINEERING	JG57	0.0750	-	$40.54	$3.041
TN	A.17.2		ENGINEERING	4FXX	0.0056	-	$34.31	$0.191
TN	A.17.2		ENGINEERING	4M1X	0.0167	-	$34.31	$0.573
TN	A.17.2		CONNECT & TEST	420X	0.0957	-	$42.55	$4.073
TN	A.17.2		TRAVEL	420X	0.0100	-	$42.55	$0.426

Non Recurring Cost: **$8.47**

Modifications:

(1) Replace 10 loops conditioned per dispatch to 50 loops.
(2) Remove assumption that 90% of loads will be removed in manhole environment. Replace with 41.6% in manholes, 58.4% in aerial/buried.
(3) Revise worktimes consistent with Mr. Fassett's Recommendation

A.17.3 BRIDGED TAP REMOVAL

CALCULATOR INPUT FORM - NONRECURRING LABOR TIMES

Instructions:

1. Use this worksheet to record nonrecurring labor times to be input into the Calculator calculations.
2. All amounts shown are per unit (e.g., per call, per loop, per MOU).
3. Input data, by Cost Element, leaving no blank lines. On next row after last line of data, type END in Cost Element Column.
4. All data on this form should be cell-referenced to study workpapers.
5. Do NOT change columns, headings, sheet name.
6. Use columns F & G when cost element has a single nonrecurring cost; use columns H, I, J, & K for elements with a first and additional nonrecurring cost; use columns L, M, N & O for elements with an initial and subsequent nonrecurring cost.
7. Input Cost Element Life (in months) on first row of data for each cost element. It is not necessary to repeat on each line.

Study Mid-Point Date (Mos.) 6/1/2001

State	Cost Element #	Cost Element Life (Mo)	Labor Expense Description (Limited to 25 characters)	JFC/ Payband	(For use w/ one NR) Installation Time (Hours)	Disconnect Time Hours	Labor Rates	Extended Costs
TN	A.17.3		SERVICE INQUIRY	SDWC	0.0018		$51.17	$0.0909
TN	A.17.3		SERVICE INQUIRY	230X	0.0025		$31.17	$0.0781
TN	A.17.3		ENGINEERING	JG57	0.0750		$40.54	$3.0405
TN	A.17.3		ENGINEERING	4FXX	0.0056		$34.31	$0.1910
TN	A.17.3		ENGINEERING	4M1X	0.0167		$34.31	$0.5730
TN	A.17.3		CONNECT & TEST	420X	0.0495		$42.55	$2.1062
TN	A.17.3		TRAVEL	420X	0.0100		$42.55	$0.4255

Non Recurring Cost: **$6.51**

Modifications:

(1) Replace 10 loops conditioned per dispatch to 50 loops.
(2) Revise worktimes consistent with Mr. Fassett's Recommendation

QWEST PRICE QUOTE

DATE: OCTOBER 3, 2000
CLEC: COVAD
C. O.: KENT MERIDIAN
CLLI: KENTWAME
BAN: COWLVBS
QUOTE EXPIRATION DATE: NOVEMBER 2, 2000

Entrance Facility PLTS	-
Entrance Facility Fiber	-
Bays	2
Shelf	2
Base Rate Area	-
Amps	-
Feeds	-

Account Team Rep.
MIKE GOEBEL
503-242-6078

LINESHARE COLLOCATION PRICE SUMMARY

NONRECURRING CHARGES

Rate Elements	Qty	Length/Size	Description	Unit Price	Total Price
Engineering Labor (reclassification cabling)	6		Per 1/2 Hour	$ 24.73	$ 148.38
Installation Labor (reclassification cabling)	5		Per 1/2 Hour	$ 28.62	$ 143.10
Common Area Splitter Collocation	1		Per Request	$ 5,000.00	$ 5,000.00
Qwest Provided Splitter(fully carded)	2		Per Splitter	$ 2,784.00	$ 5,568.00
Total Nonrecurring Charges					$ 10,859.48

Total Nonrecurring Charges	$10,859.48
*Total Payment Amount Due	$10,859.48

*Your collocation is already completed and payment is due in full.

You may accept this quote via electronic mail. In doing so, receipt of your email by your designated USWest Manager, indicates your acceptance and agreement, in accordance with the terms of your interconnection agreement, to obtain the collocation site and the associated elements requested at the stated quantities and rates. Further, by acceptance via email, you accept liability for any and all costs associated with your site build out incurred by USWest if you fail to deliver your First 50% and QPF(when Applicable) to USWest on or before the quote expiration date as indicated above.

[1]Receipt of Payment for the First 50% and QPF (when applicable) indicates acceptance and agreement, in accordance with the terms of your interconnection agreement, to obtain the collocation site and the associated elements requested at the stated quantities and rates.

[2]The provided Quote is based upon the information supplied in your submission of the U S WEST Collocation Application and CO-Provider Information Form. If while building the requested collocation site, it is determined that additional elements are required, U S WEST will charge for the original quantities requested and the additional elements required, when billing the final 50% due.

QWEST PRICE QUOTE

DATE: OCTOBER 3, 2000
CLEC: COVAD
C. O.: KENT MERIDIAN
CLLI: KENTWAME
BAN: COWLVBS
QUOTE EXPIRATION DATE: NOVEMBER 2, 2000

LINESHARE COLLOCATION PRICE SUMMARY

Entrance Facility PLTS	-
Entrance Facility Fiber	-
Bays	2
Shelf	2
Base Rate Area	-
Amps	-
Feeds	-

Account Team Rep
MIKE GOEBEL
503-242-6078

MONTHLY RECURRING CHARGES

Rate Elements	Qty	Length/Size	Description	Unit Price	Total Price
Common Area Splitter Collocation	2		Per Shelf	$ 4.85	$ 9.70
Security*			Per Person, Per C.O.	$ 6.23	**TBD**
Total Recurring Charges					$ 9.70

*Security monthly elements will be assessed upon completion of your Physical Collocation

You may accept this quote via electronic mail. In doing so, receipt of your email by your designated USWest Manager, indicates your acceptance and agreement, in accordance with the terms of your interconnection agreement, to obtain the collocation site and the associated elements requested at the stated quantities and rates. Further, by acceptance via email, you accept liability for any and all costs associated with your site build out incurred by USWest if you fail to deliver your First 50% and QPF(when Applicable) to USWest on or before the quote expiration date as indicated above.

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RECALCULATION OF LINE SHARING SPLITTER COSTS
RECALCULATION OF THE BELLSOUTH MODEL

96 PORT SPLITTER

Source	(A) Total Direct Cost	(B) Shared Cost	(C) TELRIC A+B	(D) Gross Receipts Tax 1.0031	(E) Common Cost Factor 1.15	(F) Per 96 Port Capacity E/1	(G) Per 24 Port Capacity E/4	(H) Per 96 Port Capacity E/96
Capital Equipment Costs	$101.5742	$0.0000	$101.5742	$101.8891	$117.1725	$117.1725	$29.2931	$1.2205

(I)	(J)	(K)
Installation Costs		
	$291.4800	US West Rate
times	0.2083	BST ACF (257C)
	$60.7153	per month

Annual Charge Factors

Investment Category	FRC	Investment	Depreciation Factor	Cost of Money Factor	Income Tax	Plant Specific	Ad Valorem	Yearly Cost C*(D+E+F+G+H)	Shared Cost Factor	Shared Costs C*J
Land:	20C	$22.3845	0.0000	0.0993	0.0449	0.0000	0.0091	$3.4315	0.0000	$0.0000
Building	10C	$578.5143	0.0230	0.0780	0.0352	0.0742	0.0091	$126.9839	0.0000	$0.0000
Digital Electronic Switching (MDF) :	377C	$476.8471	0.0565	0.0667	0.0301	0.0283	0.0091	$90.9347	0.0000	$0.0000
Digital Circuit-Pair Gain-*Combined*-MCEP:	257C	$418.7246	0.0909	0.0626	0.0283	0.0174	0.0091	$87.2203	0.0000	$0.0000
Digital Circuit-Pair Gain-*Hardwired*-MCEP:	257C	$4,078.7558	0.0909	0.0626	0.0283	0.0174	0.0091	$849.6048	0.0000	$0.0000
		$5,575.2263					***Capital Equipment Costs*:**	$1,158.1753		$0.0000
							Installation Costs (Annually):	$60.7153		
							***Total Costs* (Divided by 12- Monthly Costs):**	**$101.5742**		**$0.0000**

Application of Land & Building Investments

Investment Category	FRC	Investment	Land Factor	Land Investment C*D	Building Factor	Building Investment
Digital Electronic Switching (MDF) :	377C	$476.8471	0.0045	$2.1458	0.1163	$55.4573
Digital Circuit-Pair Gain-*Combined*-MCEP:	257C	$418.7246	0.0045	$1.8843	0.1163	$48.6977
Digital Circuit-Pair Gain-*Hardwired*-MCEP:	257C	$4,078.7558	0.0045	$18.3544	0.1163	$474.3593
				$22.3845		$578.5143

In-Service Factors

Investment Category	FRC	Material	Inflation Factor	Adjusted Material C*D	Material Factor	Hardwire Factor	Supporting Equipment &/or Power	Total Investment E*F*G*H
Digital Electronic Switching (MDF) :	377C	$319.6565	1.0201	$326.0816	1.312	1.0000	1.1146	$476.8471
Digital Circuit-Pair Gain-*Combined*-MCEP:	257C	$187.5000	0.9800	$183.7500	1.0000	2.2180	1.0274	$418.7246
Digital Circuit-Pair Gain-*Hardwired*-MCEP:	257C	$2,784.0000	0.9800	$2,728.3200	1.4551	1.0000	1.0274	$4,078.7558

RECALCULATION OF LINE SHARING SPLITTER COSTS
VERIFICATION OF THE BELLSOUTH MODEL

96 PORT SPLITTER

Source	(A) Total Direct Cost	(B) Shared Cost	(C) TELRIC A+B	(D) Gross Receipts Tax 1.0031	(E) Common Cost Factor 1.15
	$159.3864	$0.0000	$159.3864	$159.8805	$183.8625

Annual Charge Factors

Investment Category	FRC	Investment	Depreciation Factor	Cost of Money Factor	Income Tax	Plant Specific	Ad Valorem	Yearly Cost C*(D+E+F+G+H)	Shared Cost Factor	Shared Costs C*J
Land:	20C	$36.9260	0.0000	0.0993	0.0449	0.0000	0.0091	$5.6607	0.0000	$0.0000
Building	10C	$954.3308	0.0230	0.0780	0.0352	0.0742	0.0091	$209.4756	0.0006	$0.5726
Digital Electronic Switching (MDF):	377C	$668.2668	0.0565	0.0667	0.0301	0.0283	0.0091	$127.4385	0.0303	$20.2485
Digital Circuit-Pair Gain-*Combined*-MCEP:	257C	$418.7246	0.0909	0.0626	0.0283	0.0174	0.0091	$87.2203	0.0273	$11.4312
Digital Circuit-Pair Gain-*Hardwired*-MCEP:	257C	$7,118.7768	0.0909	0.0626	0.0283	0.0174	0.0091	$1,482.8412	0.0273	$194.3426
		$9,197.0250						$1,912.6364		$226.5949
							Divided by 12 (Monthly Costs):	**$159.3864**		**$18.8829**

Application of Land & Building Investments

Investment Category	FRC	Investment	Land Factor	Land Investment C*D	Building Factor	Building Investment
Digital Electronic Switching (MDF):	377C	$668.2668	0.0045	$3.0072	0.1163	$77.7194
Digital Circuit-Pair Gain-*Combined*-MCEP:	257C	$418.7246	0.0045	$1.8843	0.1163	$48.6977
Digital Circuit-Pair Gain-*Hardwired*-MCEP:	257C	$7,118.7768	0.0045	$32.0345	0.1163	$827.9137
				$36.9260		$954.3308

In-Service Factors

Investment Category	FRC	Material	Inflation Factor	Adjusted Material C*D	Material Factor	Hardwire Factor	Supporting Equipment &/or Power	Total Investment E*F*G*H
Digital Electronic Switching (MDF):	377C	$447.9755	1.0201	$456.9798	1.3120	1.0000	1.1146	$668.2668
Digital Circuit-Pair Gain-*Combined*-MCEP:	257C	$187.5000	0.9800	$183.7500	1.0000	2.2180	1.0274	$418.7246
Digital Circuit-Pair Gain-*Hardwired*-MCEP:	257C	$4,859.0000	0.9800	$4,761.8200	1.4551	1.0000	1.0274	$7,118.7768

10692-U, which involve the issue of UNE combinations.

If you wouldn't mind taking a minute to look that over.

A. Okay.

AT&T CROSS COX EXHIBIT ONE

(Identified)

A. (Witness peruses document.)

Q. (MR. LAMOUREUX) Have you had a chance to look those over, Ms. Cox?

A. Yes, I have.

Q. Would you agree with me, at least reading this -- these discovery responses that BellSouth's general operating procedure, when a customer disconnects service from BellSouth is to keep the Outside Plant facilities and Central Office connections to that premise in place for a period of nine months?

A. That's what it says.

Q. Okay. And typically what that means is when that customer disconnects service, all that's involved is a command from a computer that goes to the switch and goes through switch translations that disconnects that service, correct?

A. I don't know specifically, but yes, generally I'd say that's correct.

{PRIVATE }
PLACE: Dobbs Building, Raleigh, North Carolina

DATE: Tuesday, October 24, 2000

DOCKET NO.: P-100, Sub 133d

TIME IN SESSION: 9:37 A.M. to 12:30 P.M.

BEFORE: Commissioner William R. Pittman, Chairing
Chairman Jo Anne Sanford
Commissioner J. Richard Conder

IN THE MATTER OF:

General Proceeding to Determine Permanent Price for Unbundled Network Elements

Volume 2

A P P E A R A N C E S:

FOR BELLSOUTH TELECOMMUNICATIONS COMPANY:

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Charlotte, North Carolina 28230

T. Michael Twomey, General Counsel
Phillip Carver, General Counsel
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Atlanta, Georgia 30375

FOR VERIZON:

Edward J. Fuhr
Hunton and Williams
951 East Byrd Street
Richmond, Virginia 23219

Robert W. Kaylor, P.A.
225 Hillsborough Street, Suite 480
Raleigh, North Carolina 27603

COMMISSIONER PITTMAN: Good morning. Let's go back on the record. I believe we were with Ms. Boone's cross-examination of Mr. Greer.

MS. BOONE: Thank you, Commissioner Pittman.

CONTINUATION OF CROSS-EXAMINATION BY MS. BOONE:

Q. Hello, Mr. Greer. How are you this morning?

A. Good morning, Ms. Boone.

Q. When we broke yesterday, we were talking about using Map Viewer to do loop makeups. And I believe you said you had done about fifty pulls from Map Viewer. Is that right?

A. Yes, I did.

Q. And that's in the course of six months or so?

A. About six months, yes.

Q. Would you agree with me that an outside plant engineer who's using Map Viewer every day to do loop makeups would do about -- more than fifty a month?

A. It depends upon what type of orders his particular turf is handling. If he's in a turf that's heavy into digital services and a lot of service inquiries are coming in, then, yes, he may have a large number; but it would be very turf-dependent. Even within a turf, a -- engineers is responsible for certain wire centers, so it becomes very much where you are in that town or metropolitan --

Q. Okay. Let's take the outside plant engineer who is doing fifty or more loop makeup pulls using Map Viewer a month. Would it be fair to say that he's more efficient at using Map Viewer than you are?

A. Well, he would know the wire centers better than I would know the wire centers but, then again, his efficiency is dependent upon the database itself, and that database is dependent upon not he himself but the many people who have been there in that wire center and handling it for the past years, putting information onto the plats that later got put into Map Viewer.

So the fallout in Map Viewer would be dependent upon how the records have been kept over the years, the nature of the churn in that area -- whether or not there's been a lot of jumps to rearrange. So the efficiency of the guy that uses Map Viewer, he could probably become very knowledgeable of the icons and how to go about manipulating the Map Viewer himself, but the fallout rate and how well you get a makeup of what time it takes him is dependent upon things beyond his control.

Q. Okay. But I'm asking about between that outside plant engineer who uses it every day in his job and you. Who is more efficient?

A. I would hope that the person who uses it every day becomes more efficient than I am.

Q. Would you agree with me that the Commission should base rates in North Carolina on the most efficient use of BellSouth systems?

MR. TWOMEY: I'm going to object to the form of the question to the extent she's asking this witness to give a legal conclusion. We know we've got some witnesses who'll provide policy testimony, but he has not done that.

MS. BOONE: I do not believe I'm asking for a legal conclusion. I'm asking his opinion about whether he believes this Commission should set rates based on efficient practices.

COMMISSIONER PITTMAN: You may answer the question if you have an opinion.

A. I believe that our cost studies are based upon what BellSouth is using as the most efficient practices.

Q. (MS. BOONE) What states does Map Viewer have data on?

A. Map Viewer is a -- former Southern Bell states. It was developed -- actually began its development back in the eighties as Plurems and has continued, and that's when the data was put in. So it is the states that formerly composed Southern Bell.

Q. And which states are those?

A. That would be North and South Carolina, Florida, and Georgia.

Q. Isn't there some of Alabama also in Map Viewer?
A. Not in Map Viewer, per se. Now, part of Alabama -- well, the western states at one point also began an endeavor very similar to what the eastern states did. And there are some portions of Alabama that have developed a similar type system to Map Viewer, and not even the whole state has it.
Q. What steps has BellSouth taken to put other states on Map Viewer?
A. That, I do not know.
Q. But you acknowledge that Map Viewer is more efficient than the previous system Plurems?
A. I've said that the fallout in it and therefore a person using it can be more efficient, yes.
Q. And it has more accurate data than LFACS?
A. Because it goes back to the original records, it would be over the course of many, many makeups. You could be more -- more certain that the makeup you got from Map Viewer than over LFACS, yes.
Q. You testified yesterday that when you looked up your own loop on Map Viewer, the F1 pair was there, but the F2 fell out requiring manual work. Is that right?
A. No, I said the opposite; that, in fact, the F2 ran smoothly, but the F1 fell out.
Q. Okay. And how long did it take you to do the manual work to trace down the F2 -- I mean, F1?

BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

In the Matter of	DOCKET NO. 990649-TP
INVESTIGATION INTO PRICING OF UNBUNDLED NETWORK ELEMENTS.	

****
* ELECTRONIC VERSIONS OF THIS TRANSCRIPT ARE A CONVENIENCE COPY ONLY AND ARE NOT THE OFFICIAL TRANSCRIPT OF THE HEARING AND DO NOT INCLUDE PREFILED TESTIMONY. *
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PHASE TWO

VOLUME 13

Pages 1836 through 2046

PROCEEDINGS: HEARING

BEFORE: CHAIRMAN J. TERRY DEASON
COMMISSIONER E. LEON JACOBS, JR.
COMMISSIONER LILA A. JABER

DATE: Wednesday, September 20, 2000

TIME: Commenced at 9:15 a.m.

PLACE: Betty Easley Conference Center
Room 148
4075 Esplanade Way
Tallahassee, Florida

REPORTED BY: JANE FAUROT, RPR
FPSC Division of Records & Reporting
Chief, Bureau of Reporting

APPEARANCES:
(As heretofore noted.)

referring to, I believe -- I am not the product manager for that, but I have general understanding of it -- allows the ALEC to come in and based on the type of loop that they are looking for, it gives them, I believe it is up to ten loop makeups. They get the loop makeup for up to ten pair of wires.

And that loop makeup information that they look at, in other words, how long the loop is, does it have load coils or not, how much bridged tap does it have, that type of information allows them to see if there is a particular loop there that they like and want. And if they do like it, they can reserve that pair and then subsequently issue an order for an xDSL capable loop for the pair that they have reserved.

Now, once they place that order, since the xDSL capable loops are designed, BellSouth will go through the design process of making sure that that pair of wires has all of the physical and electrical characteristics that it is supposed to have. So that designing process, the output of that or a by-product of that is this DLR, the design layout record.

So the DLR is done as the loop is being deployed or provisioned. And so it somewhat syncs up with the loop makeup information that they see on the front end, but then the DLR information is, again, I guess affirming that

what they asked for is actually what they got.

COMMISSIONER JACOBS: Thank you.

BY MR. MARCUS:

Q Now, that DLR, that is provided after BellSouth has provided the loop to the ALEC, correct?

A Correct.

Q Whereas loop makeup information is provided prior to the ALEC placing the order?

A Correct.

Q Was BellSouth providing access to loop makeup information back two, three, or four years ago when you were initially negotiating your agreements with ALECs or was it only offering to provide DLRs?

A We did not have the -- neither the electronic loop makeup database that is in place today, nor did we have the manual loop makeup process that is also available today. But what we did have was the service inquiry process that would allow the ALEC to come to us and say, "I want this type of loop, an ADSL capable loop, or an unbundled copper loop short, or whatever."

They could tell us the type of loop that they were looking for and then we would go through a manual internal process to determine if a loop like that was available. If it was not available, we would go back to the ALEC and say, "It is not available at that address.

TABLE OF CONTENTS {PRIVATE }

EXAMINATIONS

operational engagements with them.

Q. Okay. I want to ask you some questions about the OSS upgrades for line sharing?

A. Okay.

Q. You weren't here earlier in the week, but we talked about the hardware, software cost with Ms. Caldwell a little bit, and I think she gave us a number of $38 million for those; does that sound about right to you?

A. That sounds about right, yes.

Q. Okay. And she also indicated that there's about $585,000 a month to maintain those system upgrades; does that sound about right?

A. I really don't know. I mean, I didn't get involved with detailed pricing of that, but it wouldn't surprise me that that is the correct amount.

Q. I'd like to hand out what's been marked as New Exhibits--New Entrants Exhibit 25. And that's a response--a supplemental response to the New Entrants data request, and I just want to go through a couple of these with you.

(THEREUPON, NEW ENTRANTS PATE CROSS EXAMINATION EXHIBIT 25 WAS MARKED FOR

IDENTIFICATION.)

Q. If you'd flip over to page--the third page of this. See if that looks familiar to you. And you know me, Mr. Pate, so I have a board.

A. Oh, yes.

Q. Let's see if we can get this where you can actually see it though. Just take a look at that page, and I have blown up here that exact page with the additional monthly expense we just spoke about. Now, I'd like to ask you about some of these OSS upgrades as the BellSouth OSS upgrade expert. This first line here says, "Solution Requirements Specifications, $2 million"; is that correct?

A. That's what it says, yes.

Q. Could you tell me exactly what that is?

A. No, I cannot tell you exactly what it is. And the reason I can't tell you is I was not involved with the project development. I can--be glad to explain to you the overall solution, the application, what's being done. But to get through individual line levels, no, I'm afraid I can't.

Q. So that would be the same for "Delivery Solution, $2 million," you wouldn't know specifically what it

is we're doing with that, right?

A. No, but I mean, this is--this is really sort of basic line items and definition of any type of project. I mean, first, you've got to define the requirements of that solution associated with it, then you have to actually deliver it and implement it--is your next item there. And then you're going to have to go through a process of accepting, make sure what you implemented really works. And that's what it's saying at a very high level.

Q. Would you agree with me that this $73 million total, okay, for all of these OSS upgrades for line sharing, is a cost that BellSouth is attempting to impose on the CLPs?

A. I'm not the cost witness. I'm not sure how that's being deposed. It is a question better asked of Ms. Caldwell.

Q. So to your knowledge, BellSouth could be paying the whole $73 million?

A. Well, I know they're not paying the whole $73 million. I just don't know how that was placed in this cost study or how that is being determined.

Q. Would you accept, subject to check, that you're

is we're doing with that, right?

A. No, but I mean, this is--this is really sort of basic line items and definition of any type of project. I mean, first, you've got to define the requirements of that solution associated with it, then you have to actually deliver it and implement it--is your next item there. And then you're going to have to go through a process of accepting, make sure what you implemented really works. And that's what it's saying at a very high level.

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A. I'm not the cost witness. I'm not sure how that's being deposed. It is a question better asked of Ms. Caldwell.

Q. So to your knowledge, BellSouth could be paying the whole $73 million?

A. Well, I know they're not paying the whole $73 million. I just don't know how that was placed in this cost study or how that is being determined.

Q. Would you accept, subject to check, that you're

actually trying to charge us the $73 million?

MR. TWOMEY: Mr. Chairman, I'm going to object to that question. Ms. Caldwell was here to answer questions on this subject. She could have asked her.

COMMISSIONER PITTMAN: He can answer if he knows.

Q. If you know.

A. I'm sorry, could you repeat question, please?

Q. Is this $73 million the BellSouth proposal for OSS upgrades that they're trying to--foist onto the CLECs--CLPs?

A. I don't know specifically.

Q. Okay. I just want to ask you about a few more things here. Acceptance Test of the solution, you said, generally, what that is. Can you tell me, specifically, what that $6 million buys me?

A. Well, I can't tell you specifically. But, generally, you're talking about--when you're talking about acceptance test of a solution licensed software application, you're going to put that in place. And this is an extensive, obviously, implementation. And you're going to

have to go through a series of defining some test cases and looking at the results, inputting them, following them all the way through the system, look at the results to make sure the results give you what you anticipated. If it didn't, do some root cause analysis to figure out why not and, therefore, go back and do some application adjustments to the software product itself. So it's that whole stage of going through that testing process, as well as root cause analysis, to get it working as it is designed.

Q. Can you tell me why the acceptance test in the Phase 1 is $6 million and why, in Phase 2, it's $24 million--why, exactly, that's four times more?

A. I'm not specifically sure. I could only speculate a little bit, and I'll be glad to do that. Phase I of this deals primarily with our xDSL-compatible loops and loop makeup. And phase II, I think, brings into more of the line sharing, but I'm not sure. You can't hold me to that. And line sharing could have some more detailed acceptance testing associated with how it's impacting some of our legacy systems for the provisioning and as well as

maintenance and repair going forward. That would definitely be a more detailed application from my knowledge of the network infrastructure.

Q. I am trying to look at this right here, because this is just for line sharing. This OSS, right, just for line sharing. So it wouldn't be anything for the xDSL loops; right?

A. I'm not sure. As I said, as I qualified it, when I said that that's my speculation, that--the way it's broken out--if this is broken out for a Phase I and II for this proceeding, I just don't have that level of knowledge, I'm sorry.

Q. If it were not all for line sharing, you would agree with me that these costs should not be included in line sharing costs, then, wouldn't you?

A. Ask it one more time.

Q. Sure. You just said you didn't know whether it included money for doing something for stand alone DSL loops. So all I'm asking is it says line sharing here. But if it does include something for stand alone loops, you'd agree with me that we wouldn't include that cost in the line sharing cost, right?

A. Well, I'd agree that your statement, it sounds logical, but--however, once again, I don't know the details here. I don't know how it's broken down. I'm not even clear, as I've made it known, of the labeling between Phase I versus Phase II. I've just given you, in my definition, what I know is happening from a phasing in of the solution, itself.

Q. The COSMOS system is only involved in line sharing, isn't it? And I believe--does that stand for "Central Office" something "Management"?

A. That's actually Computers, Mainframe--I forget the acronyms. I have an acronym list if you'd like to know specifically--

Q. Yes, would you tell us. That would maybe clear things up here.

A. Computer System for Mainframe Operations.

Q. Mainframe Operations--to your knowledge, is there any alteration being done to the COSMOS system for stand alone xDSL loops?

A. Not to my knowledge.

Q. To your knowledge, is there work being done on the COSMOS system for line sharing?

A. I do believe so, because COSMOS is the system that really inventories and assigns the central office facilities. So for that line sharing application, there is probably some need.

Q. Okay. So if I asked you about the total here, $38 million, of the total $73 million, you can't give me a detailed breakdown of what all that's buying CLPs in North Carolina?

MR. TWOMEY: Objection, asked and answered.

COMMISSIONER PITTMAN: Overruled.

A. No, I can't.

Q. This line, right here, where it says, quote, "The Telecordia Software Investment/Expense does not include enhancements to BellSouth's OSS systems (such as COSMOS) unrelated to Line Sharing." Would you agree with me, then, that these costs are all related to line sharing by BellSouth's own statement?

A. Let me read that again, excuse me a second. (Witness reviews document.) I read it. Now, could you ask me the question one more time, please?

Q. This seems to indicate that there are other expenses that are not included in this $38 million,

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing has been forwarded via U.S. Mail, postage prepaid, and/or hand delivered to the following on this the 20th day of November, 2000.

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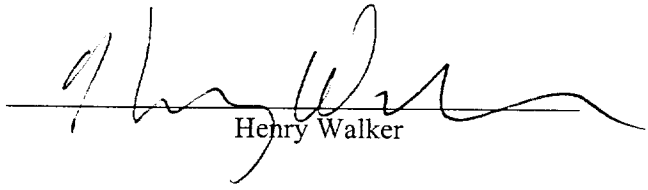

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