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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 Zulevic 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

POSTED 11-20-00

BEFORE THE
TENNESSEE REGULATORY AUTHORITY

In re: Generic Docket to Establish UNE Prices For Line Sharing Per FCC 99-335, And Riser Cable and Terminating Wire as Ordered in TRA Docket 98-00123	:	Docket No. 00-00544

REBUTTAL TESTIMONY OF

MICHAEL ZULEVIC

ON BEHALF OF
THE DATA COALITION*

*INCLUDES COVAD COMMUNICATIONS COMPANY, MPOWER COMMUNICATIONS, INC., AND BROADSLATE NETWORKS OF GEORGIA, INC.

November 20, 2000

REBUTTAL TESTIMONY OF
MICHAEL ZULEVIC
ON BEHALF OF
THE DATA COALITION

I. WITNESS QUALIFICATIONS

Q. Mr. Zulevic, please state your name, title, and business address.

A. My name is Michael Zulevic. I am the Director of Network Deployment – Special Initiatives for Covad Communications Company ("Covad"). My business address is 8413 E. Jamison Circle, Englewood Colorado 80112.

Q. Mr. Zulevic, please briefly describe your qualifications and experience as they relate to this proceeding.

A. As Director of Network Deployment – Special Initiatives for Covad, I am responsible for architecture negotiation and the deployment of Covad's national line-sharing network, as well as several other major network initiatives. I have testified in line-sharing arbitrations and/or cost proceedings in California, North Carolina, Texas, Kansas, Illinois, Pennsylvania and Minnesota.

Prior to joining Covad, I was employed by US West for 30 years, most recently as Manager, Depreciation and Analysis. Prior to that, I worked in Network and Technology Services, providing technical support to US West Interconnection Negotiation and Implementation Teams. While working in these two capacities, I provided testimony on technical issues in support of arbitration cases and/or cost dockets in Minnesota, Iowa, Montana, Washington, Oregon, Arizona, New Mexico, Nebraska, Utah, Wyoming, and Idaho. Prior to this assignment, I was responsible for providing technical support for the US West

capital recovery program in the areas of switching, transport, and loop. I also worked as a Central Office Technical and Central Office Supervisor at US West.

My other experiences include the following: Switch and Transport Fundamental Planning Engineer, where I represented Fundamental Planning as a member of the ONA/Collocation Technical Team; Circuit Administration Trunk Engineer, specializing in switched access services; and Custom Network Design and Implementation Engineer working with the design and implementation of private networks for major customers.

Q. What is the purpose of your testimony?

A. Covad Communications Company ("Covad"), Mpower Communications Corporation ("Mpower"), and Broadslate Networks of Georgia, Inc. ("Broadslate"), collectively "The Data Coalition," have asked me to provide expert testimony in response to policy and technical issues raised by the ILECS costs studies and direct testimony filed in Tennessee with respect to Line Sharing. In doing so, I specifically address the issues raised by the Tennessee Regulatory Authority in its Second Procedural and Scheduling Order.

Q. Does BellSouth witness Milner adequately describe Line Sharing?

A. Line sharing is the use of a single loop to provide both voice and certain high-bandwidth xDSL digital transmission capabilities between a customer's premises and the central office.

Q. What types of xDSL technologies can currently be used in a line-sharing arrangement?

A. ADSL and similar xDSL technologies including RADSL, G.Lite and MVL can be used on the same loop as POTS because both the downstream and upstream data signals, which are transmitted on different frequencies, fall within a range above those frequencies used to transmit voice signals.[1]

Q. Is it possible that other types of advanced services will be able to line share in the future?

A. Yes. To respond to the burgeoning demand for low-cost, high-bandwidth communications options, vendors are working hard to optimize and extend existing xDSL technologies, and are continually developing new DSL and other advanced service technologies. Because xDSL technology is changing rapidly, the Authority should ensure that BellSouth cannot artificially restrict the future deployment of DSL-based services, in line sharing or in any other network configuration.

Q. Who should have the burden of proof of establishing what technologies are not suitable for line-sharing arrangements?

A. BellSouth should have this burden of proof. Competitors should be allowed to deploy any xDSL or other advanced services technology that complies with industry standards, or is approved by an industry standards body, the FCC or any

[1] Because voice-grade loops with copper pairs longer than 18,000 feet require load coils and DSL-based services cannot be carried over loaded loops, no line sharing for any type of DSL-based service can take place on loops containing more than 18,000 feet of copper.

state commission. Additionally, such technology should be eligible for deployment if, at the time competitor is seeking deployment, that technology has been successfully deployed by any carrier in any state. To ensure that BellSouth cannot arbitrarily or artificially prevent or restrict a competitor's ability to deploy new advanced services, BellSouth should bear the burden of proof for demonstrating the basis of any concerns that a particular technology will cause unacceptable degradation of other services. Specifically, BellSouth should be required to prove to the Authority, and obtain an order or other decision concluding, that the deployment of a particular technology will so significantly degrade the performance of other advanced services or traditional voice band services that restrictions should apply.

Q. What line-sharing options should the Authority require BellSouth and Sprint to unbundle and offer to DSL competitors?

A. The Authority should require BellSouth to unbundle and offer to competitors all line-sharing options that are currently technically feasible in BellSouth's existing network and to provide any additional options as soon as network changes make those options technically feasible. I will outline those options below.

Q. Please define the terms you will use to describe line sharing architectures in a central office.

A. I will use the following terms:

- The Main Distribution Frame ("MDF") is the central termination and distribution point in an ILEC central office. It consists of a vertical side

where all loops from the customer premise terminate into the frame and the horizontal side that has terminal blocks corresponding to the voice switch and other central office equipment.

- The COSMIC Frame is used in place of an MDF in some central offices. It was designed to provide a more efficient cross-connect capability for voice services in a single provider network. The unique feature of the COSMIC frame is that its sections are modular, with alternating modules having cross-connect terminals for either cable pairs or central office switching equipment. This design minimizes the length of cross-connections between elements on the frame. Each module also contains miscellaneous cross-connect panels at the top and bottom to allow connections to be made to equipment other than cable pairs and the voice switch.
- An Intermediate Distribution Frame ("IDF") is a frame placed between the MDF or Cosmic frame and the CLECs collocation space. In many cases, the original MDF is considered an IDF after a Cosmic frame has been installed.
- A Relay Rack is essentially a standard bay for equipment. It is approximately seven feet tall and two feet wide. A relay rack is unnecessary for line sharing if BellSouth places the splitter on the MDF or IDF.
- A Splitter is a passive device that literally separates and combines the voice frequencies and the data frequencies. If you think of the data and

voice signals as coming to the central office from the customer premise — as when the customer places a phone call or sends an e-mail — then the splitter is separating the voice and data signals and directing them to the appropriate central office equipment. If you think of the data and voice signals as flowing from the DSL equipment and the voice switch to the customer — as when the customer is receiving a phone call or an e-mail — then the central office splitter is combining the two signals onto the one loop for transmission to the customer premises, where they will be separated again.

- A tie cable is a sheathed cable of several pairs that runs from a competitor's collocation arrangement to a distribution frame in BellSouth's central office, such as the MDF or IDF, and terminated at both locations. Tie cables are also used to provide connectivity between different distribution frames in the central office.
- Cross connects are pairs of twisted wires between cable terminations used to complete the circuit path to provide service on a semi-permanent basis.
- In the telecommunications industry, the term "jumper" is used for a pair of twisted wires inserted for a temporary period for purposes such as testing. Unfortunately, the terms "jumper" and "cross connect" are sometimes used interchangeable in the line sharing context. I will use the terms "tie cable" and "cross connect" in this testimony.

Q. How is line sharing accomplished in a central office that has a Main Distribution Frame, rather than a COSMIC frame?

A. This is perhaps the simplest model. The loop enters the central office and passes through the MDF to the splitter. From the splitter, the voice signals travel back to the MDF where they are routed to the voice switch. The data signals travel on to the competitor's collocation equipment where it is multiplexed by the DSLAM and connected to a packet switched network.

Q. Please describe in very general terms how line sharing works with a COSMIC frame.

A. Very generally, here's how it works. The loop carrying voice and data arrives at the central office and passes through the COSMIC frame to the IDF. It continues through the IDF to the splitter where the voice and data signals are split apart. From there, the voice signals travel on a series of tie cables back through the IDF to the COSMIC frame where it is routed to the voice switch. The data signals travel to the CLECs collocation equipment where it is multiplexed by the DSLAM and connected to a packet switched network.

Q. Why is it significant whether the central office has an MDF or COSMIC frame?

A. If an incumbent has a MDF in a central office, the splitter can be easily mounted on that frame to accommodate line sharing. If a COSMIC frame is in place, current technology does not allow the splitter to be placed directly on that frame, so an IDF must be used, unless BellSouth places cross-connect appearances for

the splitters in the miscellaneous panels of the COSMIC modules. In a forward-looking, multi-provider network, this would eliminate the need for the IDF and its associated cables and terminal blocks for purposes of providing line sharing.

Q. Is there more than one possible way for BellSouth to make a central office capable of provisioning DSL Line Sharing?

A. Yes. The only thing that must always be true is that the network architecture (the configuration of the equipment within the central office) must be designed to place the POTS splitter in the central office between the distribution frame(MDF/IDF/COSMIC) and the DSLAM and analog voice switch.

Q. Please describe generally the options for splitter ownership in Tennessee.

A. The chart below summarizes the splitter ownership options suggested by ILECs in Tennessee.

	Option One	**Option Two**	**Option Three**
	ILEC-owned/ILEC-maintained	CLEC-owned/ILEC-maintained similar to virtual collocation	CLEC-owned/CLEC-maintained in collocation space
Sprint	No	Yes	Yes
BellSouth	Yes	No	Yes, but this option is not yet available to CLECs

Q. Please describe each of these options in more detail.

A. In Option One (ILEC-Owned/ILEC-Maintained), BellSouth owns, installs, operates and maintains the splitter. The CLEC can then access the ports (splitter capacity is expressed in "ports" with one port required to serve a single customer

line) on that splitter either one-at-a-time or on a bulk basis. BellSouth prefers to provide this option, and at least one member of the Data Coalition, Covad, will be using this option to purchase the splitter capability in bulk increments of 24 ports in BellSouth territory.

In Option Two (CLEC-Owned/ILEC-Maintained), the CLEC owns the splitter and either leases or sells it to BellSouth. BellSouth installs, maintains and operates it in an arrangement similar to virtual collocation. All of the tie-cables in the central office connecting the equipment can be pre-provisioned (and in some cases hardwired) to make provisioning much faster and easier. The basic network architecture for Option One (ILEC-Owned/ILEC-Maintained) and Option Two (CLEC-Owned/ILEC-Maintained) are identical. The main difference between the two options is the purchasing and ownership of the splitter.

In Option Three (CLEC-Owned/CLEC-Maintained), the CLEC owns and operates the splitter, but collocates it in the CLEC's collocation area. BellSouth is only considering this option (Milner Testimony, p. 18).

Q. Why do CLECs need these three choices?

A. Flexibility is the key to each CLEC's successful deployment of line sharing. Some CLECs may have equipment, such as DSLAMs, that already have splitter functionalities. For those CLECs, it is important that they be allowed to purchase and maintain the splitter in their collocation space. For other CLECs, having BellSouth purchase and maintain the splitter enables them to maximize the use of limited central office space and allows BellSouth to place equipment sufficient to

meet demand in the central office. Likewise, if an ILEC cannot obtain sufficient splitter capacity for a certain region, CLECs need to retain the flexibility to locate and purchase splitters for placement in a virtual or physical collocation arrangement.

DSL technology is advancing rapidly and maintaining all three options of splitter ownership in Tennessee will ensure that CLECs can adjust their splitter ownership choices to incorporate new developments. Locking CLECs into a single choice essentially denies them the ability to incorporate advancing technology into their business plans in Tennessee.

Q. You mentioned that splitter ownership Option One (ILEC-Owned/ILEC-Maintained) and Option Two (CLEC-Owned/CLEC-Maintained) have the same basic network architecture. How can line sharing most efficiently be accomplished in those scenarios?

A. The most efficient network configuration and practices would locate the splitter on a main distribution frame where the local loop enters the central office. In the case of the COSMIC frame, the splitter should be placed as close as possible to the frame on the IDF unless the splitter cross-connect capability has been incorporated into the COSMIC frame modules, as discussed earlier in our testimony. Again, if this is done, the IDF would not be required. In such a configuration, either BellSouth or the CLEC could own the splitter. In fact, during collaborative meetings with BellSouth on line sharing, BellSouth

representatives indicated that they were working toward the goal of placing the splitter cross-connect capability on the frame to simplify line sharing.

Q. What type of equipment is necessary to accomplish line sharing as you've described.

A: There is at least one model of splitter that is designed to be mounted on the frame. In fact, the frame-mounted splitter is manufactured by Siecor, the same company that manufacturers the splitters used by BellSouth, US West, and other ILECs for line sharing. This configuration uses several fewer tie cables than when the splitter is placed anywhere other than the MDF or nearby, in the COSMIC frame situation. As I noted before, this splitter on the frame arrangement makes the most efficient use of existing central office space. If BellSouth chooses to purchase other types of splitters that cannot be mounted on the frame, BellSouth is rejecting the most efficient process for provisioning line sharing.

Q. How does placing the splitter anywhere other than the MDF or nearby the MDF effect line sharing?

A. It has two major and very detrimental effects. First, each time BellSouth moves the splitter away from the MDF, it requires more tie cable to be placed which adds to the cost of splitter placement. The further away from the MDF, the longer the tie cables must be and therefore the more expensive the tie cables are for the CLEC. Moreover, with some ILEC proposed line-sharing configurations, additional cross connects are also added. CLECs are required to pay for these additional features as well, even though they would not chose a configuration that

requires unnecessary cross connections. Those costs add exponentially to the overall cost of line sharing and they diminish the benefits of the very low cost method of providing DSL service. BellSouth apparently assumes there will be at least 3 tie cables of 150 feet each. This is much more cable that would be necessary if the splitter were placed on or near the MDF.

Second, the length of the tie cable must be added on to the total length of the DSL loop. Since most CLEC technology to provide ADSL is limited to about 18,000 feet and the length of the loop affects the speed of service provided, a long tie cable inside the central office restricts the service a CLEC can provide to its customers. For example, if BellSouth places the splitter on an entirely differently floor from the MDF, it could easily require one thousand feet of tie cable. This means that a DSL provider could only service customers 17,000 feet or less from the central office. Since DSL providers want to deliver DSL to the maximum number of consumers possible with current technology, BellSouth's chosen configuration would, in that case, prohibit them from doing so.

Q. From your experience with BellSouth as it relates to the costs proposed in Tennessee, do you have any additional concerns related to the current placement of the BellSouth owned splitter in the central office?

A. BellSouth has chosen to add a test jack panel to the splitter shelves deployed in their central offices. This test jack has limited test capability and adds cost and potential failure points to the shared circuit. It also adds a significant amout of tie cable cost and length as the splitters are placed in the collocation area but are

cabled back to the MDF for cross-connection to the competitors service. These costs are hidden in the BellSouth nonrecurring charges.

Q. Please describe how many tie cables and cross connects are required when the splitter is located on the MDF, the most efficient configuration.

A. ILECs can provide line sharing by placing the splitter on the MDF by installing six frame-mountable splitter blocks (each "splitter block" capable of serving sixteen lines) on the horizontal side of the MDF ("HMDF"). In this installation, the data terminals (the termination point for the data line) on the splitter block would be cabled, or hardwired, directly to the digital subscriber line access multiplexer ("DSLAM") in the CLEC collocation area.

To deliver a loop for Line Sharing under this network configuration, BellSouth first would need to disconnect the cable pair cross-connect that connected the original plain old telephone service ("POTS") line from its termination on the vertical side of the MDF ("VMDF") to the horizontal MDF ("HMDF") terminal block that corresponds to the voice switch. BellSouth would then install a new cross connect from the customer's cable pair on the VMDF to the data/voice terminal on the splitter block. Then BellSouth would install a new cross-connect between the voice terminal on the splitter block and BellSouth switching equipment terminal block, which is also located on the horizontal side of the MDF.

As I stated above, placement of the splitter on the MDF eliminates unnecessary cabling and other costs associated with splitter placement elsewhere.

With this configuration, BellSouth should require CLECs to purchase no more than 1 tie-cable to the CLECs DSLAM and two cross-connects.

Q. Please describe how many tie cables and cross connects are required when a splitter is located on a rely rack adjacent to the MDF.

A. Although it would not be as efficient a practice, an ILEC may also place the splitter on a relay rack adjacent to BellSouth's MDF. In an efficient, forward-looking central office, the relay rack would most likely be located within 25 feet of the MDF. These splitter shelves typically provide capacity for 96 voice lines, and only one rack-mounted splitter would be required per installation. The splitter's voice/data and voice ports would be cabled directly to terminal blocks on the horizontal side of the MDF. The splitter's data port would be cabled directly to the CLEC's collocation area.

To deliver a loop for line sharing in this network configuration, the installation would be identical to the installation for a frame mountable splitter, except that the cross-connects would be made to connecting blocks on the horizontal side of the MDF instead of a splitter block.

With this scenario, BellSouth should require CLECs to pay for no more than three tie cables and two cross-connects. Two tie cables would be included in the splitter installation costs and the other (the tie cable that runs data to the CLEC collocation space) would be priced using existing collocation tie cable pricing as part of the collocation process.

Q. What happens if BellSouth chooses to place the splitter in other areas of the central office far away from the MDF?

A. In that case, BellSouth is choosing to increase the cost of line sharing by increasing the number of tie cables and cross connects for which it charges the CLEC. As I mentioned earlier, the length of the tie cable corresponds directly to its cost to the CLEC. If an ILEC chooses to place the splitter far from the MDF or, for example on another floor of the central office, BellSouth imposes additional and unnecessary costs on CLECs. If BellSouth elects to employ processes that intentionally inflate costs and waste limited central office space, BellSouth should bear the costs of those choices, since it has caused them.

Q: In your experience, have ILECs chosen inefficient line sharing configurations or practices?

A: Yes. For example, I have reviewed some BellSouth diagrams showing the network architectures in its line sharing pilot offices. In some cases, BellSouth has added several hundred to possibly a thousand feet of unnecessary tie cabling by placing the splitter on a different floor from the MDF. This requires cabling up to the other floor and then cabling the voice traffic back down to the MDF. The cost for both cables are presumably charged to the CLEC and this adds enormous and unnecessary expense.

Q. Please describe how many tie cables and cross connects are required when a splitter is placed in the CLEC's collocation space with Option Three (CLEC-Owned/CLEC-Maintained)?

A. When a CLEC places the splitter within its own physical collocation area, the CLEC is responsible for cabling the data port on the splitter to the CLEC's DSL equipment. The voice/data ports and the voice ports on the splitter would be cabled directly to the connecting blocks located on the horizontal side of the MDF.

For this configuration, all it will take to deliver a loop for Line Sharing is the removal of one cross-connect and the installation of two cross-connects as I described for the installation of a line through a frame mountable splitter. Again, the only difference between this installation and an installation based on a frame mountable splitter is that the cross connect wires must be connected to connecting blocks on the horizontal side of the MDF instead of to a splitter block.

Q. Does the need to offer these three options differ depending on whether the loop is home-run copper or a fiber-fed loop?

A. Yes. In the home-run copper scenario, the technically feasible options include the placement of a competitor-owned splitter in the competitor's collocation arrangement, the placement of a competitor-owned splitter in a common area of the central office, and the placement of the splitter (either BellSouth- or competitor-owned) directly on the MDF. I understand that BellSouth has agreed

to make at least two of these options available, CLEC owned and ILEC owned, although the CLEC owned option is still in development.

Q. Have you reviewed the BellSouth and Sprint Costs studies for Line Sharing?

A. Yes. It appears that BellSouth has greatly inflated the task times to actually provision the line shared loop. If the splitter is properly installed as described in this testimony, the only physical work required for the provisioning of a line shared loop is wiring the splitter configuration into the existing service, which involves removing one cross-connect on the MDF or COSMIC and replacing it with two new cross-connects. This process should easily be accomplished in less than 10 minutes. No additional time or work is necessary. Line sharing does not require any work to be performed outside of the central office and the existing customer telephone number and cable pair are both reused.

Q. How long, then, should it take BellSouth in Tennessee to fill a loop order for line sharing?

A. It should take BellSouth no more than 24 hours for a loop that does not require deconditioning. Given that the physical process required to provision the loop takes only 10 minutes, then there is no reason for BellSouth to require more than 24 hours to complete that process. Recognizing that this is significantly faster than BellSouth in Tennessee currently provisions UNE loops, the Data Coalition proposes a "step-down" process to drive the final interval to 24 hours within 180 days of the hearing in this docket. Under this proposal, BellSouth would provision loops within first 3 days (from February to April 2001), then within 2

days (from May to July 2001) and then within 24 hours beginning on August 1, 2001. The Data Coalition proposes 5 business days for provisioning when deconditioning is required. These provisioning intervals should apply whether the existing loop is being used to provide POTS only, or the loop is already supporting POTS and ADSL service from BellSouth and another CLEC.

Q. Have any other states adopted this phased-in approach to the provisioning intervals for the high-bandwidth portion of the loop?

A. Yes. The Illinois Commerce Commission recognized that, given the very limited work required to provision a line-shared line for DSL, a phased-in approach to line sharing intervals was fair. These intervals give the ILEC the proper incentives to drive process improvements that facilitate rapid expansion of Line Sharing. Both the New York and Maryland Commission's have adopted some form of this phased approach. In New York, the Commission ordered a line sharing interval of 4 business days for the first 6 months and 3 business days thereafter. In Massachusetts, the Department of Telecommunications and Energy ordered an interval for line sharing of 5 business days until April 1, 2001 and a 4 business day interval thereafter.

Q. What is the appropriate interval for augmenting splitter capacity?

A. It should be the same 30-calendar-day interval for augmenting cabling. As the work effort involved in augmenting splitter capacity can be accomplished in a matter of hours, 30 days provides more than sufficient time to allow for any necessary planning and scheduling issues that may arise with BellSouth's

workforce. Remember, all we are asking the ILEC to do is to place a simple piece of equipment either on the frame or on a bay located in the existing BellSouth line-up. Thirty days will provide more than ample time to perform such work. For many orders for additional ports on a splitter, BellSouth will simply be allocating space on an existing splitter that is already installed and used to provide line sharing. For times when BellSouth must actually install a new splitter, thirty days provides ample time for the work.

Q. If BellSouth owns or maintains the splitter as in Option One (ILEC-Owned/ILEC-Maintained) or Option Two (CLEC-Owned/ILEC-Maintained), should BellSouth provide splitter functionality to CLECs on both a port-at-a-time and shelf-at-a-time basis?

A. Yes. When the CLEC owns the splitter, it should be required to provide splitter functionality to CLECs either a port-at-a-time or on a dedicated splitter shelf at-a-time basis. Failure to provide both of these options would deprive CLECs of the flexibility they need to accommodate the varying conditions they may confront. For example, shelf-at-a-time splitters allow a CLEC to reap the benefits of plugging a cross connection/tie cable into a splitter shelf for express routing directly to its collocation arrangement. This avoids an unnecessary cross connection that would be required if, for example port one would be assigned to CLEC "A", port two to CLEC "B", etc. On the other hand, as a CLEC grows it might require slightly more capacity than a shelf, but not need more than one additional port. Only a choice between port-at-a-time and shelf-at-a-time

purchasing will ensure that CLECs will not face the added costs that a less flexible offering would impose. The Illinois Commission recognized the pro-competitive benefits of requiring both line-at-a-time and shelf-at-a-time provisioning of splitters and has required Ameritech Illinois to provide both options to requesting carriers.[2]

Q. How should splitter costs be passed on to CLECs, when BellSouth owns the splitters?

A. BellSouth should be able to obtain splitters on favorable terms and conditions, and may even obtain preferential access to splitters, because of its ability to order in large volumes and its long-standing relationships with vendors. Therefore, at least at this critical early point in the development of competition based on line sharing, the Authority should exercise its authority to require BellSouth to provide splitters to requesting carriers at cost-based prices.

Q. From your review of BellSouth cost studies does it appear that BellSouth is getting splitters at reaonsable prices.

A. No. From my experience, BellSouth seems to have done very little to negotiate a reasonable price for splitters, maybe because BellSouth thought it could simply pass on those costs to competitors. BellSouth is paying substantially more than at least two other ILECs with which I'm familiar.

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[2] Illinois Commerce Commission, Arbitration Decision, Dockets 00-0312 and 00-0313, August 17, 2000, at 18.

Q. Should BellSouth be required to provide competitors access to the shared physical loop for testing purposes?

A. Yes. It is essential that the Authority require BellSouth to provide competitors access to the shared physical loop for testing purposes. Where a competitor owns the splitter and installs it in its collocation arrangement, clearly the competitor is entitled to unencumbered access to that splitter to perform any necessary testing. However, competitors must have direct, physical access to *any* loop containing a high-bandwidth network element at the point where the combined voice and data loop leaves the central office for purposes of conducting testing associated with maintenance and repair. In order to have such access, competitors must be able to attach test equipment to the line-shared loop's termination on BellSouth's MDF.

BellSouth has agreed in its Line Sharing Interconnection Agreements with Covad to give test access only to the splitters themselves. The members of the Data Coalition need direct physical access to the loop at all cross-connect points of the splitter at the MDF or the IDF for testing its data services. This level of access is required so that CLECs can isolate troubles on the loop to identify what elements of the DSL or voice network, if any, need repair. With test access at this point, CLECs would be able to insure that they are working on the correct customer's line by using the automatic number identification ("ANI") feature. The CLEC would also be able to verify that the proper cross connect has been made for the customer's service. ILECs utilize this same test access to isolate trouble for their own customers. CLECs should be afforded the same opportunity to test for their customers.

Just as BellSouth must occasionally open the line to the customer to perform trouble isolation, this same capability must be available to CLECs to isolate data troubles for the same customer. BellSouth must realize that we are not only sharing a line, but we are also sharing a customer. CLECs such as the Data Coalition have an interest in retaining and maintaining the quality of their data service that is equal to the CLECs' interest in their voice services. The Data Coalition members also have a strong interest in maintaining the quality of the voice service. A new customer whose voice service becomes degraded or otherwise impaired, will soon be looking for another data provider.

Q. Does this conclude your testimony?

A. Yes, it does.

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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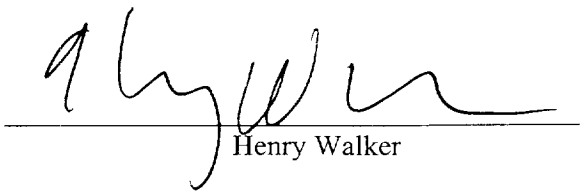

Henry Walker