BEFORE THE TENNESSEE REGULATORY AUTHORITY
NASHVILLE, TENNESSEE

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EXECUTIVE SECRETARY

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 TRA Docket 98-00123	)	

COMMENTS OF THE DATA COALITION IN SUPPORT OF SETTING INTERIM RATES

In the August 10, 2000, Order of the Pre-Hearing Officer, the Pre-Hearing Officer concluded that the Tennessee Regulatory Authority (the "Authority) has the legal authority to adopt interim rates and granted the motion of DIECA Communications, Inc. d/b/a Covad Communications Company ("Covad") to do so. BlueStar Networks, Inc. ("BlueStar"), Covad, Broadslate Networks of Tennessee, Inc. ("Broadslate"), and Vectris Telecom, Inc. ("Vectris")[1] (collectively, the "Data Coalition") hereby file their proposed interim rates. The Data Coalition appreciates the opportunity to propose interim rates for various unbundled network elements and related products that are critical to the rapid deployment of competitive xDSL services and other telecommunications services in Tennessee. CLECs have had to pay BellSouth exorbitant rates – some of the highest in the country – to obtain UNEs necessary for the provision of xDSL and other broadband services, which unquestionably negatively impacts the ability of CLECs to expand their networks and offer new products. Thus, each day that CLECs must pay these unsubstantiated rates represents another day in which full competition is delayed.

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[1] Vectris filed a Petition for Leave to Intervene on August 11, 2000. The Authority has not yet ruled on this petition.

POSTED 8/18/00

BellSouth has made clear that it believes that the rates in its costs studies are the appropriate rates and that they should be used until permanent rates are set, at which point, a true up would take place. Such an arrangement, however, enables BellSouth to continue to charge its unsupportable and unrealistic rates for network elements and leaves CLECs with no choice but to pay these rates if they wish to be in business in Tennessee. For example, BellSouth's current loop conditioning rate in Tennessee for the removal of load coils on loops longer than 18,000 feet is $765 per pair. (See Exhibit 1, BlueStar's Tennessee Amendment) That rate, coupled with exorbitant nonrecurring costs for a loop, makes it cost prohibitive for CLECs, many of which do not have the billions of dollars that BellSouth has, to pay these rates and wait for a true up (which usually results in refunds to the CLECs). As a result, CLECs generally have had to refuse xDSL service to many Tennessee customers. Setting lower and more accurate interim rates now, subject to true up, will allow CLECs to begin offering services to these and other customers more quickly and will not prejudice BellSouth. The Data Coalition thus encourages the Authority to adopt its proposed interim rates, subject to true up, to promote fuller competition and the rapid deployment of xDSL and advanced telecommunications services rather than forcing CLECs to pay up-front, inflated rates until permanent rates are set.

As requested by the Authority, the Data Coalition proposed these rates to BellSouth in an effort to settle on interim rates, without requiring the Authority to intervene. BellSouth responded that it would accept only (1) rates reflected in its costs studies (Since no such studies have been filed in Tennessee, it is unclear what rate BellSouth was proposing. The rates proposed in other states based on BellSouth cost studies are unacceptably high.); (2) negotiated rates (The Data Coalition has been unable to obtain satisfactory interim rates in negotiations with BellSouth.); or (3) state approved rates for xDSL elements (No state in the BellSouth region has yet approved a rate for UCL loops, loop conditioning, loop make-up or line sharing.). Thus, BellSouth's offer to compromise resulted in no offer at all. For this reason, the Data Coalition requests that the Authority review the information submitted here and in our Exhibits to establish just and reasonable interim rates.

PROPOSED INTERIM RATES

In each section below, the Data Coalition briefly describes problems with BellSouth's rate proposals that our experts have identified in cost proceedings in other states. We then propose interim rate(s) for each UNE or product.[2] Finally, for unbundled copper loops ("UCLs") and loop conditioning, we provide a comparison of the various proposals with rate(s) for the same UNEs or products for other incumbent local exchange carriers in other parts of the country. These comparisons make clear that BellSouth's rates are grossly inflated and among the highest – often many multiples higher – in the country. BellSouth's rates, therefore, should be rejected.

1. <u>Unbundled Copper Loops</u>[3]

DSL providers need only a simple voice grade loop to provide service. Rather than making one available, BellSouth requires CLECs to purchase "designed" loops such as the UCL. BellSouth's rates for UCLs range from more than 300% to close to 2000% higher than rates for comparable loops in other states. BellSouth's UCL rates, according to cost studies filed in other states, are overstated for at least three major reasons. First, BellSouth treats a UCL as a

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[2] These proposals are for interim rates. The Data Coalition's or individual member's proposals for final permanent rates may or may not differ from the proposed interim rates.

[3] BellSouth describes its Unbundled Copper Loop product as a copper loop unencumbered by any intervening equipment (e.g. filters, load coils, range extenders, digital loop carrier, or repeaters) up to 18,000 feet long. It is a simple, clean copper voice grade loop.

"designed circuit," enabling BellSouth to assign excessive costs for services (such as engineering) that the CLECs do not want or need. Second, BellSouth's cost studies treat almost all UCLs as "new facilities" that require BellSouth to engineer the loops and dispatch a technician to install them. Third, BellSouth's rates include a substantial amount of tasks and time for manual, rather than electronic, pre-ordering, ordering, and provisioning. All of these issues are more thoroughly discussed in Exhibit 2 (pp. 41-57, Public Version of Panel Testimony on behalf of New Entrants), which contains a selection of testimony recently filed by a costing expert on behalf of BlueStar, Covad, and Broadslate in the North Carolina UNE cost proceeding. The Data Coalition believes that many of the same errors and inflated inputs will exist in the cost studies filed in Tennessee. Therefore, it is appropriate for the Authority to establish interim rates based on analysis of the same flaws observed by experts in similar cost studies.

For example, our experts have determined that none of these activities described above are necessary to order and provision a DSL service over a simple copper loop. First, a UCL simply is a plain copper loop, no different than one used for analog voice services (other than the absence of load coils and bridged taps for which CLECs pay a separate loop conditioning charge), and, therefore, need not be "designed" as BellSouth claims. If CLECs have access to loop make-up information, which BellSouth is legally required to provide, then CLECs simply can pick a voice grade copper loop (or any other loop) that meets its requirements and provide xDSL services over that loop. By simply obtaining loop make-up information, CLECs can "design" their own loops (i.e pick the loops that suit their needs) without BellSouth intervention and without paying inflated costs for BellSouth to review loop make-up information and engineer a loop for a CLEC. Line sharing, which simply is the provision of xDSL services over the high frequency portion of *a basic voice grade loop*, on its face dispels any doubt that CLECs only need a basic, copper voice grade loop to provide xDSL services. Indeed, a BellSouth witness in the Florida generic cost proceeding has confirmed this in testimony: "Significantly, the same copper loops that are used to provide DSL services are also utilized to provide voice service to BellSouth's customers, as well as to other [CLECs'] customers." (Exhibit 3, Direct Testimony of W. Keith Milner at p. 6).

Second, UCLs can be provisioned using existing loops, rather than "new facilities." BellSouth assumes that each time a UCL order is placed, a loop not in service must be located, qualified, and assigned. Realistically, however, UCL orders can be met by providing a CLEC access to "existing facilities," such as providing a CLEC access to a loop previously used by a BellSouth customer who switches service to a CLEC. The time, tasks, and costs for UCL orders would decrease dramatically under these circumstances, yet BellSouth has failed in other states to incorporate such basic realities into its cost model.

Third, BellSouth's studies assume high levels of manual intervention for pre-ordering and ordering. If CLECs have electronic access to loop make-up information and can place orders electronically, then there will be little or no need for manual intervention by BellSouth. As described in more detail below, BellSouth has a legal obligation to provide electronic OSS access, and CLECs should not be penalized with exorbitant nonrecurring rates because of BellSouth's failures to meet its legal obligations.

The Data Coalition proposes that the Authority adopt as interim rates for the UCL, subject to true up, the current rates in Tennessee for a basic 2-wire analog voice grade loop (SL1). As noted in the chart below, there is significant support for the Authority to adopt such interim rates, as other ILECs around the country are providing simple voice grade loops to CLECs for DSL.

Comparison of CLEC Proposal/BellSouth Rates and Rates from Other ILECs				
ILEC	State	xDSL capable loop description	Nonrecurring (1st)	Nonrecurring (Add'l)
CLEC Proposal – BellSouth	**Tennessee – (Docket No. 97-01262, BellSouth Compliance Cost Study Filing 06/09/00)**	**2-wire analog voice grade (SL1)**	**$31.99**	**20.02**
BellSouth	Tennessee (BlueStar Amend.; Exhibit 1)	2-wire unbundled copper loop	$270.01	$234.63
BellSouth	Florida (region-wide best rate) (BlueStar Florida Amend.; Exhibit 4)	2-wire unbundled copper loop	$113.85	$99.61
BellSouth	North Carolina	2-wire UCL-short (< 18 kft.) 2-wire UCL -long (>18 kft.)	$296.48 (short) $200.08 (long)	$14.21 (short) $43.11 (long)
SBC	Arkansas	2-wire copper only loop	$41.05	$16.50
SBC	Kansas	2-wire copper only loop	$70.00	$29.25
SBC	Missouri	2-wire copper only loop	$26.07	$11.09
SBC	Oklahoma	2-wire copper only loop	$37.50	$15.65
SBC	Texas	2-wire copper only loop	$15.03	$6.22
SBC/Ameritech	Illinois	2-wire ADSL capable loop	$38.25	$38.25
SBC/Ameritech	Indiana	2-wire ADSL capable loop	$43.90	$43.90
SBC/Ameritech	Michigan	2-wire ADSL capable loop	$25.02	$25.02
SBC/Ameritech	Ohio	2-wire ADSL capable loop	$47.23	$47.23
SBC/Ameritech	Wisconsin	2-wire ADSL capable loop	$56.50	$56.60
U S WEST	Washington	2-wire unbundled copper loop	$26.04	$26.04
Bell Atlantic	Virginia	2-wire ADSL capable loop	$56.48 (with premises visit) $11.61 (no premises visit)	$30.62 (with premises visit) $11.62 (no premises visit)

As this chart demonstrates, the Data Coalition's proposed interim nonrecurring rates are consistent with the rates for similar loops charged by other ILECs. It is also important to note that the rates in this chart for Ameritech, and possibly the other ILECs, include the manual service order charge. In addition, the Data Coalition proposes that the monthly recurring rate for a UCL loop, regardless of length, should be $12.16, which is the rate contained in the BlueStar Tennessee Amendment. (See Exhibit 1)

2. <u>Loop Conditioning</u>

Like the charges for UCLs, BellSouth's rates for loop conditioning (the removal of load coils, bridged taps, repeaters and other disturbers) have been grossly inflated. Based on review of cost studies filed in other states, BellSouth's rates for the removal of load coils, bridged taps and other disturbers are dramatically overstated for at least four reasons. As a preliminary matter, in a forward looking network built to modern engineering standards, which BellSouth purports to have been following for the past 20 years, loops under 18,000 feet are not built with load coils or excessive bridged tap. Therefore, conditioning costs should be zero. Even if the Authority decides that some charge for conditioning should be assessed, BellSouth's proposals are unacceptable for many reasons. First, BellSouth attempts to double recover by assessing nonrecurring conditioning charges for activities that are part of routine maintenance and grooming and that have already been charged to ratepayers. Second, BellSouth proposes to condition loops in a completely inefficient manner. Third, BellSouth's cost studies are not forward looking because they ignore the importance of (and the reality that) BellSouth, like all other ILECs, must prepare their networks for explosive growth in the demand for advanced telecommunications services such as DSL. Fourth, BellSouth's cost studies have included a number of other faulty assumptions. (See Exhibit 2, at pp. 134-57)

When these problems with BellSouth's cost studies identified above are corrected, loop conditioning rates drop dramatically. For example, BellSouth has been (or should have been) conditioning many of its loops as part of routine maintenance and grooming. Both BellSouth and Sprint agree that load coils have not been needed on these loops. BellSouth's witness in the Florida generic cost docket recently testified that "for loops less than 18,000 feet the impact of [removing load coils] on voice grade service will be minimal since load coils neither enhance nor impair the quality of voice transmission for loops of that length." (Exhibit 5, Direct Testimony of D. Daonne Caldwell at p. 58). Likewise, Sprint commented in its Tennessee cost study that [l]oad coils are not required . . . for loops that are less than 18,000 feet in length." (p. 14 of Sprint's 6/30/00 cost study). Consequently, as part of routine maintenance and grooming, load coils and most bridged taps should have been removed from BellSouth's network during the course of the last 20 years. Moreover, any costs for this maintenance and grooming have likely been recovered as part of the monthly recurring costs already charged to ratepayers. Indeed, documents BellSouth has produced in other cost dockets indicate that BellSouth does not charge its retail customers for loop conditioning for digital services. Similarly, Bell Atlantic does not charge for load coil removal on loops less than 18,000 feet.[4] In addition, both the Utah Public Service Commission and Minnesota Public Utilities Commission also adopted a $0 rate for loop conditioning. See Exhibit 6 (copies of orders). Thus, the Authority should set the rate for conditioning loops 18,000 feet or less at $0.[5]

In other states, BellSouth has proposed conditioning loops up to 18,000 feet ten pairs at a time and greater than 18,000 feet one pair at a time. This approach is completely inefficient. Loops are deployed in the network in binder groups, which are comprised of a minimum 25 loops and could include many hundreds. BellSouth's cost studies assume that a technician sent to a location to condition a loop will condition only 1 or 10 loops in a binder group, when common sense and efficiency dictates that an entire binder group be conditioned at once. According to BellSouth, if another CLEC needs a loop conditioned the next day, BellSouth would have to deploy another technician to condition a separate loop. In BellSouth's cost studies, much of the expenses for loop conditioning are due to travel time and preparing the site (e.g. a manhole). The actual time to remove a load coil or a bridged tap is relatively small. If BellSouth conditioned an entire binder at a time, the cost on a per pair basis would drop dramatically because the travel and preparation time would be incurred only once. This

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[4] *See* Panel Testimony of Bell Atlantic – New York on Costs and Rates for ADSL/HDSL-Compatible Loops and Digital-Designed Loops, Case No. 98-C-1357, at 43 (Oct. 18, 1998) (Exhibit 7).

[5] Although the Data Coalition does not believe there should be any charge for conditioning loops up to 18,000 feet in length, it is worth noting that Sprint's Tennessee cost study, in stark contrast to BellSouth's costs studies, produces a rate of $1.30 for load coil removal for such loops.

approach also makes sense because by taking the forward looking approach of conditioning full binders, BellSouth will prepare its network to meet the increasing demand for DSL services, from both CLEC customers and BellSouth's own customers. Moreover, the conditioning of full binders at a time will not endanger the provision of voice services because BellSouth's network contains sufficient spare facilities.

For loops greater than 18,000 feet in length, the Data Coalition proposes that the Authority adopt as interim loop conditioning rates, subject to true up, the rates recently adopted by the Public Utility Commission of Texas.[6] The Texas Commission, after thorough analysis, agreed that loops should be conditioned in full binders. The chart below contains a comparison of loop conditioning rates.

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[6] Petition of Rhythms Link Inc. and Covad Communications for Arbitration to Establish an Interconnection Agreement with Southwestern Bell Telephone Company, Dockets No. 20226 et al., Arbitration Award (Nov. 30, 1999), affirmed by Order Approving Interconnection Agreements (Feb. 7, 2000) ("*Texas Order*") (Exhibit 8, at pp.90-97).

Comparison of CLEC Proposal/BellSouth Rates and Rates from Other ILECs				
			Greater than 18,000 feet	
ILEC	State	Type of loop conditioning	Nonrecurring (1st)	Nonrecurring (Add'l)
CLEC Proposal (from Public Utility Commission of Texas Order)	**Texas**	**Removal of Repeater**	**$16.25**	**$13.42**
		Removal of Bridged Tap and Repeater	**$37.89**	**$32.23**
		Removal of Bridged Tap	**$24.46**	**$18.81**
		Removal of Bridged Tap and Load Coil	**$59.35**	**$53.72**
		Removal of Load Coil	**$40.55**	**$34.89**
		Removal of Repeater and Load Coil	**$53.99**	**$48.34**
BellSouth	Tennessee (BlueStar Amend.; Exhibit 1)	Removal of Load Coil/Equipment	$765.29	$23.74
		Removal of Bridged Tap (per pair)	$105.34	
BellSouth	Region-wide best rate – NC	Removal of Load Coil/Equipment	$719	$23.65
		Removal of Bridged Tap (per pair)	$65.54	
U S WEST	Utah	All loop conditioning	$0	$0
U S WEST	Minnesota	All loop conditioning	$0	$0
Sprint[7] Proposed Rates	Tennessee	Load Coil Removal (Underground Site)	$299.69	$1.74
		Load Coil Removal (Aerial Site)	$28.19	$1.68
		Load Coil Removal (Buried Site)	$28.19	$1.68
		Bridged Tap Removal (Underground Site)	$298.30	$0.35
		Bridged Tap Removal (Aerial Site)	$26.82	$0.32
		Bridged Tap Removal (Buried Site)	$26.82	$0.32
		Repeater Removal (Underground Site)	$298.30	$0.35
		Repeater Removal (Aerial Site)	$26.82	$0.32
		Repeater Removal (Buried Site)	$26.82	$0.32

Again, a comparison with other ILECs shows that BellSouth's rates are highly inflated.

3. Access to Loop Make-Up Rate

The Data Coalition anticipates that BellSouth will propose both manual and electronic rates for access to loop make-up information. BellSouth's proposals to date have again been highly inflated and problematic. First, BellSouth has proposed extremely high manual loop make-up inquiry rates. In the North Carolina cost docket, BellSouth is proposing a $186 nonrecurring rate. BellSouth's best manual offer to date appears to be a $100 loop make-up inquiry (with the charge applied to the nonrecurring loop charge) contained in an interconnection amendment signed by BlueStar in Kentucky. (Exhibit 9) Even this rate, like other BellSouth manual rates, is too high because it consists of excessive work times performed by high salaried

[7] The Data Coalition does not believe that these Sprint rates should be adopted as permanent rates. These rates are used only for comparison to highlight the stark difference with BellSouth's rates.

engineers rather than lower salaried employees. By comparison, Sprint, in this proceeding, has proposed a manual loop qualification charge of $30.49 (which is still unacceptably high).

Second, and more important, BellSouth should be allowed to charge only its rate for electronic access to loop make-up information -- $0.6888 in its Florida cost study -- for all loop make-up inquiries, whether placed electronically or manually. BellSouth has been under a legal obligation to provide nondiscriminatory access to loop make-up information under both the FCC's *Local Competition First Report and Order*[8] and *UNE Remand Order*.[9] Because BellSouth and its affiliates have electronic access to a number of loop make-up databases (LFACS, LQS, etc.), BellSouth has been ordered to provide CLECs with such electronic access as well. As the FCC stated in the *Local Competition First Report and Order*, "an incumbent that provisions network resources electronically does not discharge its obligation under section 251(c)(3) by offering competing providers access that involves human intervention, such as facsimile-based ordering."[10] Moreover, BellSouth apparently provides access to electronic loop make-up information to its affiliates at no charge. The nondiscriminatory tenets of the Telecommunications Act of 1996 require BellSouth to provide similar access at no charge.

BellSouth has been promising to provide electronic access to loop make-up information since at least late 1999. Most recently, it had promised electronic access by July 2000. Now, BellSouth has announced that it began beta testing on July 29, 2000, but, to date, no firm

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[8] *In the Matter of Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, *First Report and Order* (rel. Aug. 8, 1996) ("*Local Competition First Report and Order*").

[9] *In the Matter of Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, *Third Report and Order and Fourth Further Notice of Proposed Rulemaking* ¶¶ 427, 431 (rel. Nov. 5, 1999) ("*UNE Remand Order*").

[10] *First Report and Order* ¶ 523; *see also* ¶¶ 523-38.

availability date has been announced. Thus, as of today, BellSouth still is unable to provide nondiscriminatory electronic access to loop make-up information for ordering xDSL services. CLECs, therefore, have no choice but to place orders manually. CLECs should not be penalized by paying manual rates due to BellSouth's failures to comport with federal law. The $0.6888 electronic rate proposed by the Data Coalition is an acceptable interim rate, subject to true up, for all loop make-up inquiries. This proposal seems particularly reasonable given that BellSouth does not appear to attribute any loop make-up costs to its own retail ADSL unit.[11]

4. Line Sharing

BellSouth's proposed costs for its line sharing UNE are also excessive. Line sharing rates must comply with the FCC's guidance in its *Line Sharing Order*.[12] Moreover, the Authority must ensure that rates established are nondiscriminatory. In other words, BellSouth cannot charge CLECs more for line sharing than it charges itself or its affiliates. Based on filings with the FCC and other state generic cost dockets, it does not appear that BellSouth charges itself or its affiliates the costs discussed below for line sharing for its own customers.

Because of the complexity of analyzing BellSouth's line sharing cost study, which the Pre-Hearing Officer described as a "black box . . . that needs to be opened up" (Transcript of Proceedings at 32 Aug. 3, 2000), the Data Coalition proposes that the rates contained in the BlueStar Line Sharing Agreement, dated June 7, 2000 (Exhibit 9, which contains the rate sheet)

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[11] The Texas Commission determined that charges for manual access to loop make-up information should be set at $0 until SWBT's real-time loop make-up database is operational. *Texas Order* at 74-75, 97-100.

[12] *Third Report and Order in CC Docket No. 98-147 and Fourth Report and Order in CC Docket No. 96-98,* FCC 99-355 (rel. Dec. 9, 1999) ("*Line Sharing Order*").

be used as interim rates, subject to true up. Nonetheless, the Data Coalition would like to highlight some glaring problems with BellSouth's cost studies.

First, BellSouth's recurring "per Line Activation – Central Office" charge -- $3.48 per month – is comprised almost entirely of a $73 million expense to implement OSS software for line sharing (p. 124 of Public Version of BellSouth's 6/30/00 cost study). The FCC, however, in its *Line Sharing Order* clearly stated 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 expedited manner and at <u>modest cost</u>."[13] Seventy-three million dollars is hardly modest and dwarfs the expenditures of other ILECs.

Second, like many of BellSouth's other UNEs, BellSouth's line sharing costs include substantial amounts for manual ordering, which an automated OSS system will eliminate. Third, BellSouth's splitter costs suffer from at least two general problems. Because BellSouth forces CLECs to purchase either a 96-line or 24-line splitter, rather than allowing CLECs to purchase splitter capacity one port at a time, CLECs must incur the costs of paying for capacity that they do not need. By contrast, Sprint and other ILECs, such as Verizon, allow CLECs to purchase splitter capacity on a per-port basis. BellSouth's nonrecurring splitter charges also allow BellSouth to double recover splitter installation costs because its cost study assumes that each time a new CLEC wants to order line sharing out of a particular central office, a new splitter will be installed, even though that is not the case.

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[13] *Id.* at ¶ 127 (emphasis added).

5. Riser Cable/Network Terminating Wire

BellSouth's proposed costs for access to intrabuilding network cable (INC) and network terminating wire (NTW) include a number of unnecessary expenses, such as site surveys and excessive engineering time. However, because the appropriate pricing for INC and NTW requires the Authority to address various network and policy issues, such as whether there should be one minimum point of entry (MPOE) established in a multitenant building, whether an access terminal is needed, and who owns the INC, the Data Coalition proposes that the Authority adopt BellSouth's best region-wide rates as appropriate interim rates, subject to true up. The best rates appear to be those contained in BlueStar's Kentucky interconnection agreement, which are as follows:

Intrabuilding Network Cable (INC) - Riser Cable	Interim Rates
Unbundled NTW, recurring	$0.6011
NTW Site Visit – Set up, per Terminal	$39.43 (1st) $36.42 (add'l)
NTW Access Terminal Provisioning including first 25 pair panel, per terminal	$101.09 (1st) $100.25 (add'l)
NTW Existing Access Terminal Provisioning, 2nd 25 pair panel, per terminal	$29.75 (1st) $28.90 (add'l)
NTW Pair Provisioning, per pair	$4.48 (1st) $3.64 (add'l)
NTW Service Visit, Per Request, per MDU/MTU Complex	$21.18

Conclusion

The Data Coalition urges the Authority to adopt the Data Coalition's proposed interim rates for the UNEs and products discussed above so that fuller competition can begin to flourish immediately, rather than subsequent to the adoption of final permanent rates, which are many months away. All rates would be subject to true up so that BellSouth would not be prejudiced.

Respectfully submitted,

THE DATA COALITION

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing has been forwarded via U.S. Mail, postage prepaid to the following on this 18th day of August, 2000.

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* By Hand
** By email, with exhibits to follow by overnight delivery

STIPULATION
(Tennessee)

THIS STIPULATION between BellSouth Telecommunications, Inc. ("BellSouth") and BlueStar Networks, Inc. ("BlueStar") is entered into and effective this 12th day of April, 2000. BellSouth and BlueStar are collectively referred to herein as the "Parties."

WHEREAS, BlueStar filed a Petition for Arbitration with BellSouth pursuant to the Telecommunications Act of 1996 ("Petition") on December 7, 1999 with the Tennessee Regulatory Authority (the "Authority");

WHEREAS, the Parties have continued to negotiate to resolve the issues contained in the Petition; and

WHEREAS, the Parties have resolved Issue 15 of the Petition and have agreed to set interim rates subject to true up for elements covered by Issue 11.

NOW, THEREFORE, the Parties hereby agree as follows:

1. The Parties have resolved Issue 15 of the Petition in Tennessee and have agreed in Tennessee to set interim rates subject to true up for elements covered by Issue 11. An Amendment reflecting this resolution and agreement is attached.

2. All other issues not resolved by the Parties remain pending in this proceeding.

3. Either or both of the Parties shall submit this Stipulation to the Authority.

IN WITNESS WHEREOF, the Parties hereto have caused this Stipulation to be executed by their respective duly authorized representatives on the date indicated below.

BlueStar Networks, Inc.	**BellSouth Telecommunications, Inc.**
By: Norton Cutler	By: [signature]
Name: NORTON CUTLER	Name: Jerry D. Hendrix
Title: VP Regulatory + General Counsel	Title: Sr. Director
Date: April 12, 2000	Date: 4/13/00

**AMENDMENT TO THE
AGREEMENT BETWEEN
BLUESTAR NETWORKS, INC.
AND BELLSOUTH TELECOMMUNICATIONS, INC.
DATED DECEMBER 28, 1999
(Tennessee)**

Pursuant to this Amendment, BlueStar Networks, Inc. ("BlueStar") and BellSouth Telecommunications, Inc. ("BellSouth"), hereinafter referred to individually as a "Party" or collectively as the "Parties," hereby amend that certain Interconnection Agreement between the Parties dated December 28, 1999 (the "Interconnection Agreement") in the state of Tennessee.

WHEREAS, the Parties entered into an Interconnection Agreement on December 28, 1999; and

WHEREAS, the Parties desire to amend that Interconnection Agreement.

NOW THEREFORE, in consideration of the mutual provisions contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby covenant and agree as follows:

1. The ADSL/HDSL rates contained in Attachment 2, Exhibit C are hereby revised as follows:

2-Wire Asymmetrical Dig Subscriber Line (ADSL) Compatible Loop	USOC	**Tennessee Rates***
Per Month	UAL2X	$12.16
NRC- First	UAL2X	$270.01
NRC – Add'l	UAL2X	$234.63
NRC – Disconnect – First	SOMAN	$74.54
NRC – Disconnect – Add'l	SOMAN	$39.14
Order Coordination for Specified Conversion Time		$34.29
2-Wire High Bit Rate Digital Subscriber Line (HDSL) Compatible Loop		
Per Month	UHL2X	$8.78
NRC – First	UHL2X	$270.01
NRC – Add'l	UHL2X	$234.63
NRC – Disconnect – First	SOMAN	$74.54
NRC – Disconnect – Add'l	SOMAN	$39.14
Order Coordination for Specified Conversion Time		$34.29

* All rates are interim, subject to true-up once rates are ordered by the TRA.

2. The Unbundled Copper Loop (UCL) rates and Loop Conditioning rates for Tennessee in the January 27, 2000 Amendment are hereby revised as follows:

2.1.2.8.1 The following rates for Tennessee are interim rates subject to true-up.

2-Wire Unbundled Copper Loop (18 kft. or less)	USOC	**Tennessee Rates***
Recurring	UCLPB	$12.16
Non-Recurring, 1st	UCLPB	$270.01
Non-Recurring, Add'l	UCLPB	$234.63
Disconnect – 1st	UCLPB	$74.54
Disconnect - Add'l	UCLPB	$39.14
Order Coordination	UCLMC	$34.29
2-Wire Unbundled Copper Loop (> 18 kft.)		
Recurring	UCL2L	$12.16
Non-Recurring, 1st	UCL2L	$270.01
Non-Recurring, Add'l	UCL2L	$234.63
Disconnect – 1st	UCL2L	$74.54
Disconnect – Add'l	UCL2L	$39.14
Order Coordination	UCLMC	$34.29
Loop Conditioning**		**Tennessee Rates***
Remove Equipment <18kft		
First Install		$70.04
Add'l Install		$70.04
Remove Equipment > 18kft		
First Install		$765.29
Add'l Install		$23.74
Remove Bridge Tap		
Per Pair		$105.34

* All rates are interim rates, subject to true-up once final cost are determined. However, until final cost are determined, the UCL rates will be true-up based on the ADSL/HDSL rates once final costs are determined.

** The Loop Conditioning charges apply in addition to the UCL NRCs.

The Parties agree that the prices reflected herein shall be "trued-up" (up or down) based on final prices either determined by further agreement or by final order, including any appeals, in a proceeding involving BellSouth before the regulatory authority for the state in which the services are being performed or any other body having jurisdiction over this agreement, including the FCC. Under the "true-up" process, the price for each service shall be multiplied by the volume of that service purchased to arrive at the total interim amount paid for that service ("Total Interim Price"). The final price for that service shall be multiplied by the volume purchased to arrive at the total final amount due ("Total Final Price"). The Total Interim Price shall be compared with the Total Final Price. If the Total Final Price is more than the Total Interim Price, Bluestar shall pay the difference to BellSouth. If the Total Final Price is less than the Total Interim Price, BellSouth shall pay the difference to Bluestar. Each party shall keep its own records upon which a "true-up" can be based and any final payment from one party to the other shall be in an amount agreed upon by the Parties based on such records. In the event of any disagreement as between the records or the Parties regarding the amount of such "true-up," the Parties agree that such differences shall be resolved through arbitration.

3. Section 12 of the General Terms and Conditions is hereby deleted in its entirety and replaced with the following language:

12. Resolution of Disputes

The Parties agree that it is in their interest to resolve disputes arising under this contract in an expedited manner. To expedite resolution of disputes, such as access to collocations or provisioning, the Parties agree to form an Intercompany Board. Each Party will designate one person (and one alternative person in case the primary designee is unavailable) with sufficient authority to resolve disputes quickly. If a dispute arises that is not being resolved quickly in the ordinary course, a Party's designee shall contact the other Party's designee. The two will then work together to resolve the dispute within 2 business days. If the dispute cannot be resolved within the 2 business days, either Party may file a Petition or Complaint or otherwise seek resolution of the dispute from the Tennessee Regulatory Authority.

4. This Amendment shall have an effective date of April 12, 2000.

5. All other provisions of the Interconnection Agreement dated December 28, 1999 shall remain in full force and effect.

6. Either or both of the Parties shall submit this Amendment to the appropriate Commission for approval subject to Section 252(e) of the Federal Telecommunications Act of 1996.

IN WITNESS WHEREOF, the Parties hereto have caused this Amendment to the Interconnection Agreement be executed by their respective duly authorized representatives on the date indicated below.

BlueStar Networks, Inc.	**BellSouth Telecommunications, Inc.**
By: [signature]	By: [signature]
Name: Norton Cutler	Name: Jerry D. Hendrix
Title: VP Regulatory + General Counsel	Title: Sr. Director
Date: April 12, 2000	Date: 4/13/00

loops), advanced services like xDSL were at that time in their infancy of competitive deployment. Hence, CLPs did not scrutinize BellSouth's proposed ADSL/HDSL loops as comprehensively as they would if provided the same opportunity today.

4. **<u>BellSouth's Proposal</u>**

a. **<u>The Unbundled Copper Loop</u>**

Q. (TO THE PANEL) DOES BELLSOUTH PROPOSE A RATE FOR AN xDSL LOOP IN THIS PHASE OF THE PROCEEDING?

A. BellSouth has proposed an "Unbundled Copper Loop" (the "UCL") apparently designed as a "generic" xDSL loop offering. The UCL is a copper loop free of electronic devices (a so called "dry" copper loop). According to BellSouth's UNE documentation, it does not warrant that UCL loops will meet the requirements to support any particular service. The only guarantee BellSouth makes is that these loops will have electrical continuity and balance relative to tip and ring. BellSouth has proposed two UCL varieties. The UCL-Short may be up to 18,000 feet in length and have up to 6000 feet of bridged tap, exclusive of loop length. The UCL-Long is any unbundled copper loop longer than 18,000 feet.

b. **<u>UCL Rates Are Overstated</u>**

Q. (TO THE PANEL) DOES BELLSOUTH'S UCL MEET THE NEEDS OF CLPS FOR AN xDSL LOOP?

A. No. First, BellSouth unnecessarily splits the UCL into two separate products: one over 18,000 feet and one under 18,000 feet. This unnecessarily complicates the ordering process for these loops and artificially limits the range of the UCL short.

Second, BellSouth's UCL is substantially "over designed" and overpriced. BellSouth's rates for an xDSL capable loop (i.e., the UCL) do not reflect the actual work that is required to provision a simple voice grade copper loop and are not reasonably cost based.

Q. (TO THE PANEL) HOW DO BELLSOUTH'S PROPOSED UCL RATES COMPARE WITH RATES FOR XDSL LOOPS ADOPTED BY OTHER COMMISSIONS?

A. We review cost studies and provide testimony before state commissions across the country. In the nearly 30 individual TELRIC cases in which we have participated in the last 4 years, we have never seen an unbundled loop, non-recurring charge (either proposed by an ILEC or adopted by a Commission) of the magnitude proposed by BellSouth in this proceeding for its UCL element. The following table compares the BellSouth's UCL non-recurring with non-recurring charges assessed by incumbent local exchange carriers in other jurisdictions for loops similar to BellSouth's UCL:

COMPARISON - BellSouth UCL NRC to other ILEC comparabe NRCs

	ILEC	State	xDSL capable loop description	Non-Recurring First	Non-Recurring Additional	Bellsouth Prop. Rates $296.48 First	Bellsouth Prop. Rates $189.88 Additional
1	SBC	Arkansas	2-wire, Copper only loop	$41.05	$16.50	722.24%	1150.79%
2	SBC	Kansas	2-wire, Copper only loop	$70.00	$29.25	423.54%	649.16%
3	SBC	Missouri	2-wire, Copper only loop	$26.07	$11.09	1137.25%	1712.17%
4	SBC	Oklahoma	2-wire, Copper only loop	$37.50	$15.65	790.61%	1213.29%
5	SBC	Texas	2-wire, Copper only loop	$15.03	$6.22	1972.59%	3052.73%
6	SBC / Ameritech	Illinois	2-wire, ADSL capable loop	$38.25	$38.25	775.11%	496.42%
7	SBC / Ameritech	Indiana	2-wire, ADSL capable loop	$43.90	$43.90	675.35%	432.53%
8	SBC / Ameritech	Michigan	2-wire, ADSL capable loop	$25.02	$25.02	1184.97%	758.91%
9	SBC / Ameritech	Ohio	2-wire, ADSL capable loop	$47.23	$47.23	627.74%	402.03%
10	SBC / Ameritech	Wisconsin	2-wire, ADSL capable loop	$56.60	$56.60	523.82%	335.48%
11	US West	Washington	2-wire unloaded copper loop	$26.04	$26.04	1138.56%	729.19%

Table 1: BellSouth and Other RBOC xDSL Rates

As the table above clearly shows, BellSouth's non-recurring UCL rates exceed those charged by other carriers across the country by more than 1,900% in some circumstances (Texas). Indeed, of all the comparable nonrecurring charges that we could find from other ILECs around the country, BellSouth's NRC comes closest in comparison to SBC's rates adopted in Kansas. Nonetheless, BellSouth's non-recurring charge still exceeds those rates by more than 4 times (or 423.54%). These comparisons make an important point. This Commission must ask itself how BellSouth has created cost studies based on the same basic ubiquitous phone systems once built and managed by AT&T and yet arrived at NRC charges that are from 400% to 1,900% more expensive than those estimated by other incumbent carriers. Something is seriously wrong with the manner and/or the underlying assumptions by which BellSouth calculates these costs and its subsequent charges. If BellSouth's proposed UCL charges are adopted as proposed by BellSouth, they will stall (if not completely foreclose) entry into one of the fastest growing consumer markets in the industry (i.e., advanced services).

Q. **(TO THE PANEL) ARE THERE OTHER INDICATIONS THAT BELLSOUTH'S PROPOSED UCL NON-RECURRING RATE IS SIGNIFICANTLY OVERSTATED?**

A. Yes, there are. CLPs will purchase BellSouth's UCL loop for purposes of combining the UCL with their own xDSL equipment that is collocated in the BellSouth central office (generally a DSLAM). The CLPs will then solicit orders from their own customers and provision xDSL services in competition with

BellSouth's FastAccess℠ and other packet switched, xDSL services. Pursuant to New Entrants' First Data Requests, Item No. 4, 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:

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It is important to note that even though BellSouth will, when providing a UCL, have to undertake only **: ** activities identified in its FCC study (i.e. the CLP 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 loop facility (i.e., the UCL) is nearly double the **$______** it estimates for provisioning its entire ADSL service as an end-to-end retail product. This example highlights the inconsistency inherent in BellSouth's UCL nonrecurring cost study (compared to its own ADSL cost study filed at the FCC), and also illustrates the significant competitive advantage that will accrue to BellSouth if its UCL nonrecurring rate proposal is adopted. While BellSouth will incur only **$______** to provision its entire xDSL product, CLPs will be forced to incur $296.48 in nonrecurring costs solely to access the loop. When you add to that amount the time and effort (and hence expenses) associated with the CLP's own technicians assigning ATM, Interoffice transport and DSLAM capacity to provision the 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 able to exercise a significant (and inappropriate) competitive advantage.

Q. **(TO THE PANEL) PLEASE EXPLAIN IN MORE DETAIL HOW BELLSOUTH OVERSTATES ITS NON-RECURRING EXPENSES ASSOCIATED WITH A UCL LOOP.**

A. BellSouth makes three general assumptions that most directly impact the exaggerated nature of its UCL non-recurring charges. First, BellSouth assumes that a UCL loop must be a "designed circuit" wherein BellSouth engineers will require significant time (almost 3 hours per loop) to study loop make-up data in an effort to determine the architecture of individual loops before being able to assign a loop to the CLP. Second, BellSouth assumes that 90% of all UCL loops will be "new facilities" and that 100% of all UCL loops will require BellSouth to dispatch a technician to provision the loop. Third, BellSouth assumes that a large portion of the pre-ordering, ordering and provisioning functions for a UCL will be accomplished via manual intervention. For example, BellSouth's UCL "fallout rates" (or the number of orders that will "fall out" from the mechanized process and thereby require the time and effort of BellSouth's labor forces) are very large compared to other unbundled loop elements (and in excess of previous Commission rulings as will be discussed in more detail later). The result of these excessive fallout rates is a need for substantial, costly manual intervention. All three of these assumptions when taken together result in the highly exaggerated nature of BellSouth's proposed non-recurring UCL charge of $296.48.

Q. (TO THE PANEL) WHAT IS A DESIGNED CIRCUIT?

A. Mr. Mitchell, of TriVergent, discusses this point more extensively in his testimony. However, simply stated, a designed circuit is a facility that is "designed" by the BellSouth engineering staff to support a specific service. Expenses associated with designing a circuit are generally associated with (1) placing a test point on the facility, (2) ensuring that the loop plant in question will support particular electrical parameters (and determining the extent to which adding or removing equipment will adequately alter these parameters), and (3) performing various other tasks added-on unnecessarily as a "designed" loop moves through BellSouth's provisioning process (for example, the creation of a "design layout record").

Q. (TO THE PANEL) IS A UCL A DESIGNED CIRCUIT?

A. It should not be. The UCL should not be provisioned as a designed circuit. Given proper access to loop make-up information, it is possible (and preferable) that the CLPs themselves undertake the time and effort necessary to "qualify" or "disqualify" facilities capable of supporting the xDSL services they choose to provision. There is no need (nor has BellSouth been requested by the CLECs) to test a UCL for anything other than continuity and voice-grade resistance (i.e., "tip and ring"). Both of these parameters are part of every unbundled voice-grade loop and do not require additional work on the part of BellSouth beyond those expenses already recovered in the more traditional 2-wire, voice-grade unbundled loop non-recurring charge ($57.99). As a general rule, there is no reason why BellSouth should be required to expend time and effort on the provision of a UCL beyond that required to provision a standard, 2-wire unbundled loop.

Q. (TO THE PANEL) IS IT NECESSARY FOR BELLSOUTH TO "DESIGN" UCLS TO ENSURE THAT AN "ALL COPPER LOOP" IS PROVIDED AND/OR TO ENSURE THAT A LOOP OF WORKABLE LENGTH IS PROVISIONED?

A. No. As I stated earlier, if CLPs are provided proper access to loop-makeup information as required by paragraphs 424-431 of the *UNE Remand Order*, it is the CLP (not BellSouth) who will determine whether a facility exists specific to their standards (i.e., to choose a facility with an appropriate "design"). Likewise, pursuant to BellSouth's proposed "Loop Makeup with Service Inquiry and Reservation" offering, the CLP will not only be able to "design" its own loop, but also to reserve a loop facility that meets its design standards. After the CLP has reserved a facility in this manner, the CLP then can include the Facility Reservation Number ("FRN") on the UCL service request form. This information provides the BellSouth provisioning departments with the information necessary simply to provision the loop that is requested. No further design activities (including the large amounts of time that are included in BellSouth's cost study for a BellSouth engineer to choose and/or assign a qualified loop or to develop a "design layout record") are required.

Q. **(TO THE PANEL) DOES BELLSOUTH NEED TO REMOVE LOAD COILS OR OTHER DISTURBERS FROM A LOOP, IN SOME CIRCUMSTANCES?**

A. Yes, however, BellSouth has a stand-alone rate that it proposes for this activity (its Unbundled Loop Modification charges which we describe in more detail in another section of this testimony). Hence, these cost are not recovered via the UCL nonrecurring charges.

Q. (TO THE PANEL) DOES BELLSOUTH'S OWN DOCUMENTATION SUGGEST THAT BELLSOUTH WILL NOT "DESIGN" A UCL?

A. Yes, it does. BellSouth includes on its website (under the title "Interconnection Products"), a number of documents that explain, in more detail than provided in BellSouth's cost studies or any other information provided by BellSouth in this docket, the unbundled network elements BellSouth provides to CLPs. 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.[16]

It is clear that BellSouth is not "designing" UCL 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 UCL 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). As such, it isn't necessary that BellSouth's engineers undertake any "design" activities associated with provisioning the facility in a manner consistent with a given service (i.e. the definition of a "designed" circuit). In short, BellSouth does not currently

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

"design" UCL circuits and will not in the future be selling the UCL as a designed loop. CLPs prefer to take the copper facilities constituting a UCL "as is" without any promises or guarantees beyond that provided in a standard 2-wire unbundled loop, and without a lot of unnecessary added expenses.

Q. (TO THE PANEL) PLEASE EXPLAIN WHY BELLSOUTH BELIEVES THAT 90% OF THE UCL LOOPS IT PROVISIONS WILL BE "NEW FACILITIES."

A. Neither BellSouth's testimony nor its cost study documentation provides any rationale in support of BellSouth's assumption that 90% of its UCL loops will be provisioned as "new facilities." At this point, no explanation exists for this assumption on the part of BellSouth even though this assumption significantly increases the costs included in the BellSouth UCL NRC cost study.

Q. (TO THE PANEL) PLEASE EXPLAIN THE SIGNIFICANCE OF BELLSOUTH'S ASSUMPTION THAT 90% OF ITS UCL LOOPS WILL BE "NEW FACILITIES."

A. BellSouth's cost documentation suggests that its non-recurring cost study is constructed on the assumption that 90% of all UCL loops are provisioned as new facilities. However, this assumption does not appear to flow-through to its actual cost study. BellSouth's non-recurring cost study actually appears to assume that

100% of its UCL orders will be provisioned with new facilities.[17] This apparent oversight in BellSouth's study exacerbates the unnecessarily increased costs caused by this unreasonable assumption.

Q. (TO THE PANEL) HOW DOES BELLSOUTH DEFINE A "NEW FACILITY" AND HOW DOES AN ASSUMPTION THAT ALL UCLS WILL BE NEW FACILITIES IMPACT THE COST STUDY?

A. BellSouth generally defines a "new facility" as a loop that is newly assigned from facilities not currently servicing customers.[18] 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 UCL loops ordered by CLPs were "existing loops," the vast majority of the time and effort BellSouth estimates within the UCL non-recurring charge will be unnecessary. Indeed, every aspect of BellSouth's proposed non-recurring cost study, except for the service inquiry work steps, are impacted by the assumption that 90% (actually 100%) of BellSouth's UCL orders will be serviced using new loops.

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[17] *See* spreadsheets provided in the CD-ROM version of the BellSouth models at *:\invstmt\default\nc\nc-ucl.xls*, spreadsheet "*WP100*," cells e13:e23.

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

Q. (TO THE PANEL) PLEASE IDENTIFY A CIRCUMSTANCE WHEREIN A UCL COULD BE PROVISIONED AS AN "EXISTING" LOOP.

A. In many circumstances after having reviewed BellSouth's loop makeup information, CLPs will determine that the loop currently servicing a customer's voice service is suitable to support its advanced services offerings. Because the CLPs advanced services offering will provide the customer both voice and data services over the same telephone line, no "new facility" used to support the xDSL service is required. Hence, the CLP 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 a UCL. Under this circumstance there is no need to provision a "new facility" or any reason that large amounts of engineering and outside plant work assumed within BellSouth's UCL non-recurring cost study would be necessary.

Q. (TO THE PANEL) ARE THERE OTHER CIRCUMSTANCES WHEREIN A "NEW FACILITY" CAN BE AVOIDED?

A. Yes. Imagine a situation wherein a CLP wins the ADSL service of a business customer who currently subscribes to BellSouth's ADSL offering (FastAcess^{SM} DSL). Obviously, the loop facility BellSouth was using to provision ADSL to the customer is capable of supporting ADSL for the CLP. Hence, there is no need to "qualify" the loop, design the loop to specific electrical parameters, or identify another facility to support the service. An identified loop obviously exists and, indeed, the loop obviously provides exactly the characteristics needed to support the CLP's ADSL needs. Likewise, there is no need to dispatch a technician to connect segments of the loop to ensure loop continuity or to test the loop.

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. Hence, 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 CLP is successful in marketing xDSL service to the new resident. The new resident already has two spare loops "connected through" to 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. (TO THE PANEL) ARE THERE OTHER BELLSOUTH DOCUMENTS, WHICH INDICATE THAT BELLSOUTH FULLY EXPECTS TO PROVISION SOME NUMBER OF UCLS OVER EXISTING LOOPS?

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.[19]

Q. (TO THE PANEL) 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 over 11 hours of labor may be required to provision a single UCL order (664.91 minutes).[20] The vast majority of this time and labor (nearly 80%) is associated with locating and 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"). These activities would not be required if it were assumed that a CLP were merely "winning" a customer whose existing second phone line (for example) could be used to provision the competing service. Obviously, 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

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

[20] Compare this amount of time to the **_____** 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.

wherein a "new loop" is not required, nearly 80% of BellSouth's entire UCL non-recurring expenses simply aren't necessary.

Q. (TO THE PANEL) EARLIER YOU MENTIONED THAT BELLSOUTH'S UNREASONABLY HIGH "FALLOUT RATES" INFLATE THE UCL NRC. PLEASE EXPLAIN THIS POINT IN MORE DETAIL.

A. BellSouth assumes within its non-recurring cost study for a UCL that "fallout" rates will range from 15% to 30% for certain installation functions. BellSouth provides no rationale for these fallout ratios nor does it explain why a higher percentage of UCL orders will "fallout" of the mechanized process than is expected for other 2-wire unbundled loops.

Q. (TO THE PANEL) HAS THE COMMISSION ALREADY ESTABLISHED A FALLOUT RATE FOR BELLSOUTH ORDERS?

A. Yes. In its December 10, 1998 Order *Adopting Prices for Unbundled Network Elements* issued previously in this docket, the Commission in Finding of Fact No. 22 stated as follows:

> 22. The reasonable and appropriate fallout rate for use by the ILECs in their calculations of nonrecurring costs is 10%.

The Commission adopted a10% fallout rate for all non-recurring charges for all ILECs that participated in the original phase of the proceeding.

Q. (TO THE PANEL) HAS THE COMMISSION ORDERED A CHANGE IN THE FALLOUT RATE?

A. No. The Commission did not alter this finding in its August 18, 1999 *Order Ruling on Motions for Reconsideration and Clarification and Comments*. Likewise, BellSouth provides absolutely no support for its deviation from the Commission's previous ruling. We urge the Commission to reject BellSouth's exaggerated fallout rates.

Q. (TO THE PANEL) IN LIGHT OF THE DISCUSSION ABOVE, HOW SHOULD THE COMMISSION REVISE BELLSOUTH'S NON-RECURRING CHARGES FOR A UCL?

A. The Commission should find that BellSouth's expenses associated with the following activities are unreasonable:

(1) "Designing" a UCL circuit,

(2) Providing 100% of its UCLs as "new facilities" and

(3) Exaggerating its level of "fall out" beyond that allowed by the Commission.

Also, the Commission should recognize that without these unreasonable assumptions and the significant expenses they generate, BellSouth's provision of a UCL is no more expensive than provisioning a standard 2-wire, voice grade analog loop (Service Level 1). Indeed, because the CLP does the "qualification" and facility reservation work itself through the "Loop Makeup and Reservation" process, the cost to provision a UCL loop should be less than the cost to provision a 2-wire analog loop. However, for purposes of consistency and to provide a reasonable alternative, the New Entrants recommend that the Commission simply require BellSouth to charge a UCL nonrecurring rate not to exceed the nonrecurring rates already approved by this Commission for a Service Level 1, 2-wire voice grade unbundled loop.

Q. **(TO THE PANEL) DO YOU HAVE CONCERNS WITH THE MONTHLY RECURRING RATES BELLSOUTH HAS PROPOSED FOR ITS UNBUNDLED COPPER LOOP?**

A. Yes, we do. First, BellSouth's proposed rate structure draws an arbitrary distinction between UCLs less than 18,000 feet in length and UCLs greater than 18,000 feet in length. Nowhere else does BellSouth attempt to sell a loop "by the foot." Second, the manner by which BellSouth calculates is UCL monthly recurring costs is seriously flawed and tends to ignore cost savings that will result from providing an unbundled loop on an all-copper basis for use by xDSL providers. Third, BellSouth's testimony, its cost study documentation, nor the cost studies themselves provide any reason why BellSouth's UCL rate should be any different than the Commission approved rate for a 2-wire, voice grade unbundled loop.

standards only. Keeping in mind that xDSL technology optimizes high frequency applications using digital transmission; voice grade repeaters, like load coils, can significantly distort the data stream of most DSL products resulting in high bit-rate error ratios that would ultimately result in unacceptable transmission levels. On the other hand, some digital repeaters may very well support the use of some xDSL technologies (for example IDSL and HDSL) by allowing those technologies to work on longer loops than would otherwise be possible without the repeaters. As a general rule, voice grade repeaters are not compatible with xDSL service and digital repeaters may, or may not, be helpful (or may simply be tolerable for some DSL services) depending upon the particular xDSL technology being deployed and the parameters of the service in general.

3. <u>Efficient Conditioning Methods</u>

Q. (TO THE PANEL) HAVE ALL THREE ILECS PROPOSED RATES FOR CONDITIONING?

A. Yes, but to various degrees they are all overstated.

Q. (TO THE PANEL) HOW DO ILECS OVERSTATE THE RATES FOR LOOP CONDITIONING?

A. The ILECs' cost studies fall short in three respects. <u>First</u>, they do not assume efficient conditioning methods. <u>Second</u>, all three cost studies ignore the need to ready their networks for the exploding demand for digital services. <u>Third</u>, each of the ILECs' cost studies contains a number of additional faulty assumptions.

Combined, these factors contribute to excessive conditioning rates. If adopted, these rates will prove to be a major obstacle to the deployment of advanced services throughout North Carolina.

Q. (TO THE PANEL) PLEASE EXPLAIN HOW EACH OF THE ILECS HAS FAILED TO RECOGNIZE THE NEED TO REMOVE DISTURBERS IN AN EFFICIENT MANNER.

A. First, it is important to understand how cable pairs are deployed in the network. Individual loops (also referred to as cable pairs or copper pairs are wrapped together in large bundles referred to as binder or cable groups. Binder groups come in different sizes, but the smallest is a 25-pair binder group. Binder group sizes range from 25 to 100 or more pair. In some manner, all of the ILECs assume that Disturbers will be removed on a single pair basis and only after the specific request of a CLP. For example, BellSouth's cost studies assume that for loops extending beyond 18,000 feet in length, upon a CLP's request to condition a loop, BellSouth will dispatch a technician to remove a load coil from the single copper pair that will serve the CLP's customer (even if 100 vacant copper pairs are loaded at the same location, using the same load coil). If another CLP or BellSouth itself requires another "digital capable" pair in that same area on the very next day, again, BellSouth's study assumes that it will send another technician to the <u>same</u> portion of the network, reopen the cable splice where the load is incorporated, and duplicate the <u>exact same</u> activity. If a network technician is deployed to a location to condition a single loop, common sense dictates that as many loops as possible in the same binder group be conditioned at the same time subject to limitations we will discuss later. This will avoid the necessity that the technician makes the same trip for the same purpose in the near future. We refer to this method as "multiple-pair efficiency." The majority of the cost of conditioning a loop is the travel time to the site and preparation of the site (e.g., a manhole). The actual time to remove a load coil, for instance, is a small fraction of the time required. Deploying a technician to condition a single loop on a per request basis is like writing out a shopping list and then making a separate trip to the grocery store for each item on the list. This one-by-one approach is not an efficient use of time or resources. The Commission should require that ILECs condition all loops in a binder group at the same time.

Q. (TO THE PANEL) WHAT IMPACT DO THE ILECS' PROPOSED CONDITIONING METHODS HAVE ON THE DEMAND FOR DIGITAL SERVICES?

A. All three ILECs should be conditioning their networks as quickly as possible for prepare them for the increasing demand for xDSL and other digital services. Using multiple-pair efficiency methods will enable ILECs to meet the demand of their own retail customers and the demand of the CLP industry for a digital ready network.

Q. (TO THE PANEL) EXPLAIN WHAT YOU MEAN WHEN YOU SUGGEST THAT THE ILECS SHOULD REMOVE LOAD COILS, BRIDGED TAP AND OTHER DISTURBERS IN A PRO-ACTIVE AND COST EFFECTIVE MANNER.

A. Demand for digital services and the facilities that will support them have been exploding over the past few years. Indeed, BellSouth's own data shows that in North Carolina, since 1992, its demand for digital access lines has increased by 327.23% while its demand for analog lines has increased by only 38.37% over the same period. The same data shows that between 1998 and 1999, BellSouth added more than 300,000 digital access lines in North Carolina, more than 4 times the number of analog lines added to its system (74,344) over the same timeframe.[54] 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.

The ILECs understand that their networks are today, primarily structured to support analog voice-grade services, not digital services. As such, they realize that they must quickly make a concerted effort to migrate their existing facilities toward a more "digital friendly" network architecture. To do this in the most cost effective manner, they must take every opportunity that arises to (1) deploy new facilities that support both voice grade and digital services (a step that they are

[54] 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 **Exhibit NEP-5**

already taking with accelerated deployment of Fiber in the Loop ("FITL"), and (2) manipulate their current network facilities in such a fashion that expands the facilities capable of supporting digital services growth.

Q. (TO THE PANEL) WHY ARE STEPS NECESSARY TO MANIPULATE EXISTING NETWORK FACILITIES FOR PURPOSES OF MAKING "DIGITAL FRIENDLY" FACILITIES AVAILABLE?

A. Obviously, the deployment of new equipment and new network architectures don't take place overnight. Hence, the facilities required to support the majority of digital access line growth that will occur in the short term (the next few years), must come from existing facilities that have been "made ready" for digital services. This must be accomplished by a concerted, pro-active effort on the part of the ILECs to remove from existing plant, devices that inhibit the effective transmission of digital services. As I described earlier, one such means by which to migrate facilities in this respect is to condition multiple outside plant facilities each time a technician is dispatched to accommodate a given conditioning request.

Q. (TO THE PANEL) WHAT STEPS HAVE THE ILECS TAKEN FOR THEIR RETAIL CUSTOMERS?

A. For more than a decade, BellSouth has been preparing its network for digital services. An internal document BellSouth produced in this proceeding illustrates the efforts it has undertaken in this respect.[55] The document produced by BellSouth describes outside plant engineering methods and procedures for the design and administration of facilities to support a variety of digital products including tariff DS1 services and Integrated Services Digital Network ("ISDN") Primary Rate Access. Like the xDSL services discussed in this testimony, all of services discussed in the Facilities Design Methods document require that a copper loop be free of load coils, bridged tap and other Disturbers.

Q. (TO THE PANEL) WHAT DOES THE FACILITIES DESIGN METHODS DOCUMENT SAY ABOUT BELLSOUTH'S PREPARATIONS FOR DIGITAL SERVICES?

A. In this internal document, BellSouth takes a very proactive approach toward readying its network for digital services.

> Customer DS1 Services are expected to be a flagship offering and the foundation on which additional service will be marketed in the future. As such the Company would take <u>a pro-active approach</u> toward Customer DS1 Services <u>and plan the network accordingly.</u>[56]

This document makes it clear that BellSouth recognizes to plan its network for its own retail digital services. The Facilities Design Methods document was written before competition. Certainly the advent of competition and the continued

[55] 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")

[56] *Id.*, p. 6 (emphasis added).

demand for digital services dictates that this proactive approach toward network planning be continued. Indeed, BellSouth acknowledges as much:

> The provisioning of DS1 Services has recently undergone a dramatic increase. Increasing competition, Marketing efforts, and the customer's desire to enhance telecommunications and reduce monthly bills with digital offerings will surely bring further demand for Customer DS1 services. [57]

However, BellSouth's approach in this proceeding toward conditioning loops for CLP xDSL services is completely contrary to the philosophy described in this BellSouth document.

Q. (TO THE PANEL) DOES THE FACILITIES DESIGN METHODS DOCUMENT SHED ANY MORE LIGHT ON HOW BELLSOUTH CONDITIONS ITS NETWORK FOR ITS RETAIL DIGITAL SERVICES?

A. Yes. Section 4 of the document describes how special construction charges are to be charged to BellSouth's retail customers. Special Construction charges are defined as "extraordinary expenses associated with Customer DS1 provisioning"[58] and they are to be passed "on to the customer in the form of an initial non-recurring charge, should they apply."[59] However, the document sets out a list of situations in which the special construction charges should <u>not</u> apply. The document states that removing load coils and bridged tap is a special construction charge that should <u>not</u> be passed on to the retail customer. In other words, the

[57] Id., p.7

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

[59] *Id.*

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 plan rearrangements, <u>such as unloading/loading cable pairs, removing bridged taps</u>, line and station transfers or cable throws, required to provide a service are <u>not</u> to be considered for a Special Construction Charge.[60]

Q. (TO THE PANEL) IS THE APPROACH TOWARD NETWORK PLANNING DESCRIBED IN THE BELLSOUTH DOCUMENT CONSISTENT WITH THE LOOP CONDITIONING CHARGES THE ILECS ARE PROPOSING?

A. No. A proactive approach to network planning for digital services includes conditioning multiple pairs in the same binder group each time a technician is dispatched. In other words, rather than conditioning only the pair for which the service order is issued, as many additional pairs as possible should be conditioned during that same visit to the site. However, when it comes to accommodating ILEC networks for CLP digital services, the ILECs want to condition only one loop at a time. This approach is completely contrary to the "proactive" network planning BellSouth and other ILECs use to support their own retail services.

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

Q. (TO THE PANEL) HAVE OTHER STATE COMMISSION'S AGREED THAT SUCH A PRO-ACTIVE APPROACH SHOULD BE TAKEN?

A. Yes, they have. The Texas Commission in its Arbitration Award in Docket Nos. 20226 and 20272 (Covad and Rhythms Arbitration, Released in November 1999) specifically recognized the need for a managed transition toward a digital ready network. Indeed, the Texas Commission found that SBC had already implemented such a transition strategy for its own services; it simply wasn't assuming that it would employ the same process when conditioning facilities on behalf of its competitors:

> The Arbitrators also modify the cost studies to reflect the costs of efficient conditioning. SWBT states that it does not intend to condition more loops than the CLEC requests. For example, if a CLEC requests conditioning on one loop in a binder group of 50 pairs, SWBT would dispatch a technician to condition only the single loop. However, SWBT's more efficient internal practice is to condition at least 50 loops at a time when it is necessary to dispatch a technician. Therefore, the Arbitrators modify SWBT's xDSL conditioning cost study to reflect the more efficient practice of conditioning several loops, or entire binder groups, when a technician is dispatched and the cable splice is entered. Because of the smaller sized binder groups used in longer cabling, the Arbitrators find an appropriate unit size for the purpose of calculating conditioning charges for loops at or in excess of 18,000 feet in length to be 25. The Arbitrators use a unit size of 50 when calculating the charges for removing load coils, bridged taps, and/or repeaters on xDSL loops greater than 12,000 feet in length but less than 18,000 feet in length.[61]

Q. (TO THE PANEL) HOW SHOULD THE COMMISSION ENSURE THAT THE ILECS IN THIS PROCEEDING USE REASONABLE ASSUMPTIONS WITH RESPECT TO CONDITIONING ACTIVITIES?

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[61] *Arbitration Award*, Public Utility Commission of Texas, Docket Nos. 20226, 20272, Released November 1999, page number 98 (footnotes omitted).

A. The new entrants recommend that the North Carolina Commission require BellSouth, GTE and Sprint to assume that, on average, 25 copper pairs will be conditioned at each opportunity when a field technician is dispatched to perform a loop conditioning work order. This process will ensure that the cost estimates provided by the ILECs in their loop conditioning studies reflect network initiatives aimed at managing the transition to a digital friendly network environment and that competitors will experience conditioning costs more closely aligned with those that the ILECs themselves incur in providing their own digital services. Likewise, absent such a managed initiative already being undertaken by the ILECs, this assumption will encourage a more reasoned approach toward network modernization.

4. **<u>BellSouth's Proposed Loop Conditioning Rates</u>**

Q. (TO THE PANEL) WITHIN ITS "UNBUNDLED LOOP MODIFICATION" STUDIES DID BELLSOUTH ASSUME THAT A TECHNICIAN WOULD, ON AVERAGE, CONDITION 25 PAIRS AT EACH DISPATCH OPPORTUNITY?

A. No, it did not. BellSouth assumed that for loops less than 18,000 feet in length it would condition only 10 loops upon each dispatch. For loops greater than 18,000 feet BellSouth assumed that only a single loop, the loop required by the CLP, would be conditioned per dispatch.

Q. (TO THE PANEL) ARE BELLSOUTH'S ASSUMPTIONS REASONABLE?

A. No, they are not. BellSouth's assumptions fail to capture the full effect of network transition strategies it is currently deploying on its own behalf and will require that CLPs pay conditioning charges above and beyond those that BellSouth will incur in the provision of its own digital services.

Q. (TO THE PANEL) WHY HAS BELLSOUTH INSISTED IT CAN CONDITION ONLY 10 COPPER PAIRS ON SHORTER LOOPS AND 1 COPPER PAIR ON LONGER FACILITIES?

A. BellSouth has argued that conditioning more than 10 copper pairs on shorter facilities and 1 copper pair on longer facilities will endanger its ability to provision high-quality voice grade services. The foundation of this argument appears to be that spare facilities sufficient to accommodate conditioning at levels greater than that proposed by BellSouth won't exist in the network. Hence, to meet with a more aggressive conditioning strategy, BellSouth would need to condition loops that are either slated for voice-grade growth, or that already support voice-grade services.

Q. (TO THE PANEL) DO YOU AGREE THAT, ON AVERAGE, CONDITIONING 25 LOOPS AT EACH DISPATCH WILL ENDANGER BELLSOUTH'S ABILITY TO PROVIDE HIGH-QUALITY VOICE GRADE SERVICE?

A. No. First, the information above regarding growth trends on the BellSouth network indicate that BellSouth has much more reason to be worried about how it will accommodate digital access line growth than how it will accommodate growth for analog services. As early as 1992 BellSouth was adding more digital access lines to its North Carolina network each year then it added analog lines. Indeed, since 1992, BellSouth's digital line growth has exceeded its analog line growth by 200,000 access lines. Over the last two years, more than 80% of BellSouth's growth lines have been for data service.

Second, while there may be some limited circumstances where 25 pair cannot be conditioned by a technician within a single dispatch because sufficient spare facilities simply do not exist, there will likewise be situations where entire cables can be conditioned at a single dispatch providing many hundreds of clean copper cables that will support digital services, while leaving adequate quantities of unconditioned line for growth in voice lines (see above for example where the Texas Commission required SBC to assume that 50 pair would be conditioned on average within larger feeder facilities versus only 25 pair on distribution facilities). Our recommendation, as described above, is simply that *on average*, conditioning 25 pair per dispatch is a reasonable and conservative assumption.

Third, with the advent of digital loop carrier ("DLC") deployment, the availability of spare copper pairs not currently assigned to voice grade services is on the rise. Copper facilities "freed-up" by the accelerated deployment of DLC technology (many times representing hundreds of copper cables), represent prime targets for bulk conditioning undertaken to provide digital-ready facilities.

Fourth, BellSouth has already assumed within its unbundled loop study that it will maintain 34% of its copper feeder and 56.4% of its copper distribution facilities as spare facilities.[62] That is, at any point in time, 34% to 54% 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 40%-60% should provide ample spare facilities for purposes of conditioning an average of at least 25 copper pairs on a single dispatch.

Q. (TO THE PANEL) ARE THERE OTHER ADVANTAGES TO CONDITIONING 25 PAIRS PER TECHNICIAN VISIT?

A. Yes, there are. Each time a technician opens a splice case in the outside plant network for purposes of loading or deloading cable pairs (regardless of the number of pairs loaded or deloaded), the process of opening, manipulating and closing the splice case can result in significant wear and tear not only on the apparatus itself, but on the contents as well. Splice cases are waterproof housings that generally accommodate a significant number of spliced cables. The contents of a splice case have often been described as a "bunch of grapes." This analogy is

[62] *See* the Commission's *Order on Reconsideration* in this proceeding at page 56.

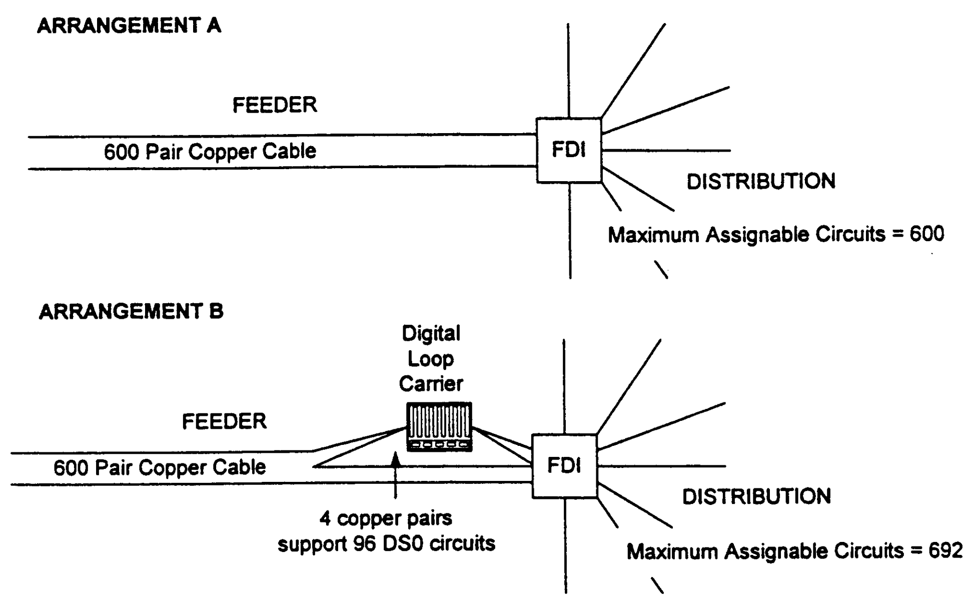
derived from the fact that the contents of the splice case may contain hundreds of cable pairs that are spliced individually or in groups (generally individual pairs are spliced via "Scotch Locks" that look in some fashion like a grape, therefore, hundreds of cable pairs spliced via Scotch Locks within a splice case look like a vine of grapes). Regardless, the contents are generally comprised of a difficult to manage mass of tangled wires that must first be released from the splice case and then returned to the splice case upon closing. This process not only deteriorates the quality of the splice case itself, but also the integrity of the cables that are housed inside. The fewer times a technician is required to open/close a splice case for purposes of loading or deloading cable pairs, the less the network is degraded as a result. Deloading 25 pairs per technician visit would significantly reduce the number of times a technician would need to open/close any particular splice case within the network thereby minimizing the negative impacts of this type of work on the network.

Q. (TO THE PANEL) PLEASE EXPLAIN FURTHER YOUR CONTENTION THAT THE ACCELERATED PLACEMENT OF DIGITAL LOOP CARRIER FACILITIES WILL "FREE UP" COPPER CABLES THAT CAN BE CONDITIONED IN BULK TO PROVIDE DIGITAL SERVICES.

A. When engineers today require additional facilities to support a given serving area (generally defined as a "distribution area"), they no longer dig trenches and place additional copper cables.[63] Instead, they deploy electronic digital loop carrier

[63] *See* BellSouth's response to New Entrants' Third Data Requests, Item No. 38, pages 1-2.

devices that support multiple voice grade circuits over far few copper facilities. The following diagram depicts such a situation:



<u>Figure 1</u>: Digital Loop Carrier Architecture

In the situation above, the route in question originally included a 600 pair copper feeder cable providing 600 workable circuits to the distribution area (Arrangement A). Assume that 520 of those 600 pair were providing service (or 86% fill, far more aggressive than the fill factors assumed in BellSouth's actual unbundled loop studies). At that point, and likely much earlier given current growth trends, network engineers would likely tag this route as a prime candidate for reinforcement. Given current technology, such reinforcement would most likely be provided via the deployment of a digital loop carrier system. Arrangement B in the diagram above represents the architecture that would result from the placement of a DLC. Assume the digital loop carrier system in our diagram above is a 96 DS0 carrier (i.e., it is capable of supporting 96 DS0 - voice grade - circuits).[64] To support this 96 DS0 capable carrier, the network planner would need to allocate 4 copper pairs from the original feeder cable to provide the T-1 connectivity that is required to allow the DLC to communicate with the central office. As a result, the network planner "trades" the capacity of 4 copper cables for the ability to support 96 new DS0 circuits (a net gain of 92 DS0 circuits). Now, the system has the following capacity available for future deployment: 96 DLC fed DS0 circuits and 76 copper pairs (80 pair that were originally spare minus the four copper pairs that were required to connect the DLC to the central office). If we assume that 75 of the original 80 available copper pairs were "loaded" (3 binder groups of 25 copper pairs apiece), then certainly 1 of those binder groups (25 pairs), if not 2 binder groups (or 50 pair), could be "de-loaded" to support future digital services growth without depleting voice grade circuits available to support future voice service demands. The following table highlights the fact that DLC deployment, when undertaken with an eye toward readying the network for digital service, can yield benefits not only toward reinforcing network facilities to accommodate future voice grade growth, but also to accommodate both voice and digital services growth:

[64] DLC systems capable of supporting 96 DS0 circuits are common and are used often to supplement smaller cable routes that don't show substantial growth opportunities. DLC systems that support as many as 2,016 or more DS0 circuits are available and are deployed in situations with higher growth potential. Where these larger systems are deployed, even greater opportunities are available to "free-up" copper cables for use by digital circuits. It is also important to highlight the fact that DLC equipment is easily expandable. Such that, even if a 96 DSO capable DLC was placed today, an additional 96 or greater circuits could be added at a later date simply by adding another shelf of circuit packs to the existing DLC carrier. In this way, even if voice-grade growth exploded in this area, there still would be no need to re-harvest the copper pairs that had been conditioned for digital services.

Copper Feeder Cable (Arrangement A)	
Original # of copper pairs in route	600
Original # of copper pairs already assigned	520
Total # of pairs available for assignment	80
After DLC Deployment (Arrangment B)	
Copper pairs needed to support DLC	4
# of Copper pairs that remain available for assign.	76
# of DLC DS0 circuits available for assign.	96
Total # of Circuits available for assignment	172
After de-loading 1 Binder Group	
Total # of "de-loaded" pairs used solely for digital	25
Total # of circuits available for voice assign.	147

67 Number of voice grade circuits gained
25 Number of digital circuits gained
92 Total circuits gained

Figure 2: Digital Capacity Gained By Digital Loop Carrier

Q. (TO THE PANEL) DOES THE INCREASED DEPLOYMENT OF DLC TECHNOLOGY AID IN FREEING UP COPPER PAIRS ONLY FOR UNASSIGNED FACILITIES AS DESCRIBED ABOVE?

A. No. The discussion above describes the benefits associated solely with freeing-up *unassigned* facilities to be conditioned and available for digital services after a DLC has been placed. DLC deployment can also free up currently assigned copper facilities to be conditioned and made available for digital services. For example, assume that in our discussion above, the network planner were to deploy a DLC capable of supporting 288 DS0 circuits. Assume also that the network planner directed technicians to migrate existing voice grade customers currently using copper facilities to the new DLC system (what is commonly referred to as a "Line Station Transfer"). For every customer that is migrated from an existing copper loop to the DLC system, another copper loop capable of supporting digital services becomes available. If an entire binder group of voice grade services were transferred from their copper facilities to the DLC facility, this would provide an additional 25 copper pairs that could be conditioned to provide suitable digital transmission. These digital-ready loops could then stand ready for assignment to support digital services provided either by BellSouth to its own retail customers or to CLPs for use by their customers. This process, which is undertaken as a normal course of business in outside plant design provides for the possibility that far greater numbers of copper cables can/will be made available for use by digital services.

Q. (TO THE PANEL) DO BELLSOUTH'S INTERNAL DOCUMENTS INDICATE THAT IT IS UNDERTAKING AN INITIATIVE AIMED AT READYING ITS NETWORK TO SUPPORT A WIDER ARRAY AND GREATER VOLUME OF DIGITAL SERVICES CONSISTENT WITH WHAT YOU'VE DESCRIBED ABOVE?

A. Yes, they do. In 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 **

**[65] 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.

Q. (TO THE PANEL) DOES THE LOOP DEPLOYMENT DIRECTIVE PROVIDE BELLSOUTH NETWORK PLANNERS SPECIFIC GUIDANCE WITH RESPECT TO PROVISIONING DIGITAL SERVICES?

A. Yes, throughout the Loop Deployment Directive BellSouth dictates the manner by which it will provision digital services (including ISDN, ADSL, IDSL and HDSL services) including the manner by which its outside plant personnel should remove disturbing devices from metallic facilities to accommodate these services. For example, **

[65] *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.

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Q. (TO THE PANEL) HOW DOES THE INFORMATION ABOVE IMPACT BELLSOUTH'S PROPOSAL THAT ONLY 10 COPPER PAIRS BE CONDITIONED FOR LOOPS LESS THAN 18,000 FEET AND 1 PAIR BE CONDITIONED FOR LOOPS GREATER THAN 18,000 FEET?

A. The information above highlights the fact that BellSouth is already migrating its network toward a more digital supportive architecture. In the process, it is deploying larger amounts of digital loop carrier equipment that are continuing to free-up copper facilities that can be conditioned (where necessary) and used/reserved for digital services. Likewise, to support its own digital services offerings, it 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 **

**[66]

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

Q. (TO THE PANEL) TO THE EXTENT THAT BELLSOUTH RECOVERS EXPENSES ASSOCIATED WITH CONDITIONING LOOPS AND TRANSFERRING EXISTING VOICE GRADE CUSTOMERS TO NON-COPPER FACILITIES FROM ITS ** ** INSTEAD OF FROM ITS CUSTOMERS, WHY IS THAT SIGNIFICANT?

A. LTDD Table I1, Page 1 clearly highlights the fact that **

** This is of tremendous significance given the fact that BellSouth takes exactly the opposite approach where its **wholesale** customers are concerned. When a wholesale customer requests a loop that requires conditioning, BellSouth not only intends to charge that customer directly for the conditioning work, it also intends to assess those charges on a "onsey twosey" basis that unnecessarily exaggerates the costs involved. This is *prima facie* discrimination and will serve only to place BellSouth at a competitive advantage over its competitors.

Q. (TO THE PANEL) WHY WOULD BELLSOUTH RECOVER LOOP CONDITIONING EXPENSES ASSOCIATED WITH PROVIDING DIGITAL SERVICES TO ITS CUSTOMERS FROM ITS GROWTH BUDGET?

A. We believe that this is the proper approach. Once a loop is conditioned to provide digital services, it can provide those digital services on a going forward basis to any customer (retail or wholesale) that can be reached by that loop (or loop segment). As such, conditioning a loop to provide digital service is a network investment that results in a more flexible and valuable network. The ultimate beneficiary of this investment is BellSouth and/or any other party who uses the network.

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. Indeed, 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-time fees were assessed to recover those expenses. The expenses associated with originally conditioning the loop (i.e., adding a load coil) were simply capitalized and included in the direct cost of a loop. It makes little sense to recover expenses associated with conditioning the loop again by removing these very same devices in exactly the opposite fashion. Indeed, economic inefficiencies will result from inappropriately recovering conditioning costs through non-recurring charges that penalize the "first man in."

An example best demonstrates this point. Assume that CLP-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 CLP-A were to serve this customer, it would be responsible for paying to remove the load coils the subscriber's loop (and, absent "eating" those expenses, the CLP 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 CLP-A has already undertaken the investment necessary to make Customer X's line digital-ready. BellSouth, in such a circumstance, has a tremendous competitive advantage over CLP-A because it can market services to the customer without facing the same costs that faced CLP-A (indeed, BellSouth or any other CLP 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, CLP-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. (TO THE PANEL) DOES BELLSOUTH CONSIDER REUSABILITY IN ITS NETWORK PLANNING?

A. Yes. The following excerpts from the BellSouth Facilities Design Methods document make this evident.

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[67]* * *

[67] *Facilities Design Methods*, p. 6.

[68]**

Q. (TO THE PANEL) GIVEN THE DISCUSSION ABOVE, HOW SHOULD LOOP CONDITIONING COSTS BE RECOVERED?

A. Loop conditioning investments are already being recovered via the monthly recurring rates that CLPs pay for unbundled loops. The loop rates that CLPs pay already include expenses associated with loop conditioning. That is, BellSouth includes within its unbundled loop study factors that recover network management and network maintenance activities that it undertook in 1998. It incorporates these expenses by comparing them with investments made in 1998, developing a ratio between those two figures (i.e., expenses/investments) and applying that ratio to the level of investment generated by its cost model. This process ensures that BellSouth recovers, via unbundled loop charges, its investments in unbundled loop facilities, as well as any expenses associated with managing the deployment of those facilities and maintaining those facilities over time. Indeed, based upon the myriad of factors that are employed within the BellSouth loop model it is highly probable that CLPs already pay (within their unbundled loop rates) expenses associated with placing the very load coils that BellSouth intends to charge them to remove.[69]

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[68] *Id.*, p. 7
[69] See the BellSouth "Expense to Investment" factors included on the BellSouth CD-ROM at :/Doc/Xappendix/Appendix A/Plsp99Ey.

BELLSOUTH TELECOMMUNICATIONS, INC.
DIRECT TESTIMONY OF W. KEITH MILNER
BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 990649-TP
MAY 1, 2000

Q. PLEASE STATE YOUR NAME, YOUR BUSINESS ADDRESS, AND YOUR POSITION WITH BELLSOUTH TELECOMMUNICATIONS, INC. (BELLSOUTH).

A. My name is W. Keith Milner. My business address is 675 West Peachtree Street, Atlanta, Georgia 30375. I am Senior Director - Interconnection Services for BellSouth. I have served in my present role since February 1996, and have been involved with the management of certain issues related to local interconnection, resale, and unbundling.

Q. PLEASE SUMMARIZE YOUR BACKGROUND AND EXPERIENCE.

A. My business career spans over 29 years and includes responsibilities in the areas of network planning, engineering, training, administration, and operations. I have held positions of responsibility with a local exchange telephone company, a long distance company, and a research and development company. I have extensive experience in all phases of telecommunications network planning, deployment, and operations (including research and development) in both the domestic and in a manner that supports "data-only" ISDN that will better meet the needs of ALECs that want to deploy IDSL.

<u>Issue 3(b)</u>: Should a cost study for xDSL-capable loops make distinctions based on loop length and/or the particular DSL technology to be deployed?

Q. WHAT IS THE IMPACT OF LOOP LENGTH AND/OR THE PARTICULAR DSL TECHNOLOGY ON COST?

A. The usefulness of BellSouth's unbundled loops for the provisioning of DSL services depends on a variety of factors, including the end user's distance from the serving wire center, as well as the length and gauge of the copper wire that serves the customer. Significantly, the same copper loops that are used to provide DSL services are also utilized to provide voice service to BellSouth's customers, as well as to other ALECs' customers.

BellSouth ensures that the unbundled loops it provides meet appropriate technical standards. As the FCC recognized: "[p]rovision of xDSL service is subject to a variety of important technical constraints. One is the length of the subscriber loop: ADSL, the most widely deployed xDSL-based service, generally requires loops of less than 18,000 feet using current technology. Another is the quality of the loop, which must be free of excessive bridged taps, loading coils, and other devices commonly used to aid in the provision of analog voice and data transmission, but which interfere with the provision of xDSL services. 'Conditioning' loops to remove those impediments, or constructing fiber-based digital loop carrier systems to overcome loop length difficulties, can be expensive." See Third Report and Order in CC Docket No. 98-147, rel. Dec. 9, 1999, ¶ 8, n. 9.

As a result of the above and as discussed in Issue 3(a) above, it is quite evident that the cost of provisioning xDSL services is a function of both the loop length and the particular DSL technology to be deployed. As a result, it is appropriate for a cost study for xDSL-compatible loops to recognize distinctions based on loop length for the particular DSL technology to be deployed.

<u>Issue 4(b)</u>: How should access to such sub-loop elements be provided, and how should prices be set?

Q. WHAT IS BELLSOUTH'S POSITION ON THIS ISSUE?

A. BellSouth believes that access to such sub-loop elements should be provided in a similar manner as approved by this Commission in its order in Docket No. 990149-TP wherein the Commission approved BellSouth's method of providing MediaOne with access to the sub-loop element called Network Terminating Wire (NTW) in multiple dwelling units (MDU's). As I will discuss in the following paragraphs, the considerations applicable to access to a sub-loop element are the same whether the access point is at

STIPULATION
(Florida)

THIS STIPULATION between BellSouth Telecommunications, Inc. ("BellSouth") and BlueStar Networks, Inc. ("BlueStar") is entered into and effective this 1st day of March, 2000. BellSouth and BlueStar are collectively referred to herein as the "Parties."

WHEREAS, BlueStar filed a Petition for Arbitration with BellSouth pursuant to the Telecommunications Act of 1996 ("Petition") on December 7, 1999 with the Florida Public Service Commission (the "Commission");

WHEREAS, Issues 1, 2, 3, 4, 5, 6a-e, 7, 8, 9, 10a-b, 11,12, 13, 15 and 16 had previously been resolved by the Parties;

WHEREAS, Issue 14 was removed from the Florida arbitration by an order of the Florida Public Service Commission's staff dated January 25, 2000, which is the subject of a Motion for Reconsideration filed February 4, 2000;

WHEREAS, the Parties have continued to negotiate to resolve the issues contained in the Petition; and

WHEREAS, the Parties have reached a resolution of Issues 10c and 10d in Florida only.

NOW, THEREFORE, the Parties hereby agree as follows:

1. The Parties have resolved Issues 10c and 10d in Florida only pursuant to the Amendment of March 1, 2000, a copy of which is attached hereto.

2. Either or both of the Parties shall submit this Stipulation to the Commission.

IN WITNESS WHEREOF, the Parties hereto have caused this Stipulation to be executed by their respective duly authorized representatives on the date indicated below.

BlueStar Networks, Inc.	**BellSouth Telecommunications, Inc.**
By: Norton Cutler	By:
Name: Norton Cutler	Name: Jerry Hendrix
Title: General Counsel	Title: Senior Director
Date: 3/1/00	Date: 3/1/00

AMENDMENT TO THE AGREEMENT BETWEEN BLUESTAR NETWORKS, INC. AND BELLSOUTH TELECOMMUNICATIONS, INC. DATED DECEMBER 28, 1999 (Florida)

Pursuant to this Amendment, BlueStar Networks, Inc. ("BlueStar") and BellSouth Telecommunications, Inc. ("BellSouth"), hereinafter referred to individually as a "Party" or collectively as the "Parties," hereby amend that certain Interconnection Agreement between the Parties dated December 28, 1999 (the "Interconnection Agreement").

WHEREAS, the Parties entered into an Interconnection Agreement on December 28, 1999; and

WHEREAS, the Parties desire to amend that Interconnection Agreement.

NOW THEREFORE, in consideration of the mutual provisions contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby covenant and agree as follows:

1. The Unbundled Copper Loop (UCL) rates and Loop Conditioning rates for Florida in the January 27, 2000 Amendment are hereby revised as follows:

2.1.2.8.1 The following rates for Florida are interim rates subject to true-up.

2.1.2.8.1 In exchange for the following interim NRC UCL rate in Florida, BlueStar agrees to the Loop Conditioning rates set forth below. Any CLEC adopting this amendment must agree to both the NRC UCL and Loop Conditioning rates set forth in this amendment for the state of Florida.

2-Wire Unbundled Copper Loop (18 kft. or less)	Florida
Recurring	$18.00
Non-Recurring, 1st	$113.85
Non-Recurring, Add'l	$99.61
Manual Svc. Order – 1st	$47.00
Manual Svc. Order – Add'l	$21.00
Order Coordination	$16.00

The UCL Rates listed above may be used for UCLs longer than 18kft. until a cost study is done for long UCLs (greater than 18kft).

Loop Conditioning	Florida
Remove Equipment <18ft	
First Install	$485.00
Add'l Install	$25.00
Remove Equipment > 18ft	
First Install	$775.00
Add'l Install	$25.00
First Disconnect	$775.00
Add'l Disconnect	$25.00
Remove Bridge Tap all	
First Install	$485.00
Add'l Install	$20.00

The Loop Conditioning charges apply in addition to the UCL NRCs.
All rates listed above are subject to true-up once final cost are determined.

The Parties agree that the prices reflected herein shall be "trued-up" (up or down) based on final prices either determined by further agreement or by final order, including any appeals, in a proceeding involving BellSouth before the regulatory authority for the state in which the services are being performed or any other body having jurisdiction over this agreement, including the FCC. Under the "true-up" process, the price for each service shall be multiplied by the volume of that service purchased to arrive at the total interim amount paid for that service ("Total Interim Price"). The final price for that service shall be multiplied by the volume purchased to arrive at the total final amount due ("Total Final Price"). The Total Interim Price shall be compared with the Total Final Price. If the Total Final Price is more than the Total Interim Price, Bluestar shall pay the difference to BellSouth. If the Total Final Price is less than the Total Interim Price, BellSouth shall pay the difference to Bluestar. Each party shall keep its own records upon which a "true-up" can be based and any final payment from one party to the other shall be in an amount agreed upon by the Parties based on such records. In the event of any disagreement as between the records or the Parties regarding the amount of such "true-up," the Parties agree that such differences shall be resolved through arbitration.

2. This Amendment shall have an effective date of March 1, 2000.

3. All other provisions of the Interconnection Agreement dated December 28, 1999 shall remain in full force and effect.

4. Either or both of the Parties shall submit this Amendment to the appropriate Commission for approval subject to Section 252(e) of the Federal Telecommunications Act of 1996.

IN WITNESS WHEREOF, the Parties hereto have caused this Amendment to the Interconnection Agreement be executed by their respective duly authorized representatives on the date indicated below.

BlueStar Networks, Inc.	BellSouth Telecommunications, Inc.
By: Norton Cutler	By: [signature]
Name: Norton Cutler	Name: Jerry D. Hendrix
Title: General Counsel	Title: Sr. Director
Date: 3/1/00	Date: 3/1/00

BELLSOUTH TELECOMMUNICATIONS, INC.

DIRECT TESTIMONY OF D. DAONNE CALDWELL

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 990649-TP

MAY 1, 2000

Q. PLEASE STATE YOUR NAME, ADDRESS AND OCCUPATION.

A. My name is D. Daonne Caldwell. My business address is 675 W. Peachtree St., N.E., Atlanta, Georgia. I am a Director in the Finance Department of BellSouth Telecommunications, Inc. (hereinafter referred to as "BellSouth"). My area of responsibility relates to economic costs.

Q. PLEASE PROVIDE A BRIEF DESCRIPTION OF YOUR EDUCATIONAL BACKGROUND AND WORK EXPERIENCE.

A. I attended the University of Mississippi, graduating with a Master of Science Degree in mathematics. I have attended numerous Bell Communications Research, Inc. ("Bellcore") courses and outside seminars relating to service cost studies and economic principles.

My initial employment was with South Central Bell in 1976 in the Tupelo, Mississippi, Engineering Department where I was responsible for Outside Plant Planning. In 1983, I transferred to BellSouth Services, Inc. in Birmingham, Alabama, and was responsible for the Centralized Results System Database. I incumbent has placed its DSLAM in a remote terminal. The incumbent will be relieved of this unbundling obligation only if it permits a requesting carrier to collocate its DSLAM in the incumbents remote terminal." (¶313, FCC Docket CC 96-98 UNE Remand Order) BellSouth has developed the cost associated with allowing an ALEC to collocate in the remote terminal and has filed those costs in this proceeding.

The FCC's UNE Remand Order also states "where incumbent LECs provide customized routing, lack of access to the incumbents' OS/DA service on an unbundled basis does not materially diminish a requesting carrier's ability to offer telecommunications service." (¶441, FCC Docket CC 96-98 UNE Remand Order) Since BellSouth deploys customized routing, it is not obligated to provide operator call processing and directory assistance services. This Commission has established permanent rates for customized routing based on the use of Line Class Codes in Docket Nos. 960757-TP, 960833-TP, and 960846-TP. In this docket, BellSouth is revising those costs and also submitting costs for the AIN-based solution to customized routing (response to Issue #10).

Issue #11: "What is the appropriate rate, if any, for line conditioning, and in what situations should the rate apply?"

Q. WHAT COST SUPPORT HAS BELLSOUTH DEVELOPED IN RESPONSE TO THIS ISSUE?

A. BellSouth has structured the Loop Conditioning (Loop Modification) costs to appropriately reflect the way in which the costs to provide this service will occur. Costs were developed for loops less than 18,000 feet and for loops greater than 18,000 feet. In its study, BellSouth assumed for loops less than 18,000 feet that 10 pairs will be conditioned at the same time. This is based on projected demand for the conditioned loops. Additionally, for loops less than 18,000 feet the impact of this procedure on voice grade service will be minimal since load coils neither enhance nor impair the quality of voice transmission for loops of that length. However, for loops greater than 18,000 feet, the removal of intermediary electronics would likely degrade the voice grade transmission quality, rendering it unusable for voice grade transmission. Thus, to minimize the quantity of voice grade circuits that will be unavailable for transmission of voice grade level service, BellSouth practices assume only one circuit will be conditioned initially.

One may argue that intermediary devices are not required for loops less than 18,000 feet and thus, BellSouth is not entitled to recover costs to remove those devices. However, the FCC responded to such arguments and states: "We agree that networks built today normally should not require voice-transmission enhancing devices on loops of 18,000 feet or shorter. Nevertheless, the devices are sometimes present on such loops, and the incumbent LEC may incur costs in removing them. Thus, under our rules, the incumbent should be able to charge for conditioning such loops." (¶193, FCC CC Docket 96-98 UNE Remand Order)

Issue #12: "Without deciding the situations in which such combinations are required, what are the appropriate recurring and non-recurring rates for the following UNE combinations:

- BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH -

In the Matter of an Investigation)
Into Collocation and Expanded)
Interconnection)

DOCKET NO. 94-999-01
PHASE III PART C
REPORT AND ORDER

ISSUED: June 2, 1999

SHORT TITLE

Phase III Part C: USWC's Unbundled Network Element TELRIC Costs and Prices

SYNOPSIS

Prices are set for unbundled Network elements, including the Two- and Four-Wire loop; the sub-loop unbundling elements Network Interface Device, Loop Distribution, Loop Feeder, and Loop Concentrator/Digital Loop Carrier; the local switching, non-traffic sensitive elements End Office Analog Line Port and Local Switching per Minute of Use; and the Tandem Switching Minute-of-Use. Policy decisions are made with respect to loop conditioning (grooming), extension charges, and Feature Groups One and Two. For this Docket only, we adopt the definition of urban, suburban and rural exchanges recommended by US West Communications, Inc. (USWC) and the Division of Public Utilities (Division). Choice of a Total Element Long-Run Incremental Cost (TELRIC) cost-estimation model and related input assumptions is deferred to a later Docket.

APPEARANCES

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APPENDIX 1. EXCHANGE CLASSIFICATION 17

I. PROCEDURAL HISTORY

We have previously provided procedural histories for these proceedings in our Order issued October 24, 1997, in Phase I of this Docket dealing with wholesale discount rates based on avoided retail costs, and in our Order issued April 8, 1998 (April Order) in Phase II dealing with the unbundled network element loop cost and price. In Phase III, Part C, of this Docket, dealing with the costs and prices of USWC's unbundled network elements (UNE), parties filed written testimony beginning August 1998. Hearings were held in December 1998.

II. SCOPE

In Phase III of this Docket we establish costs and prices for a number of unbundled network elements. As in Phase II (the April Order), our decisions are guided by public policy objectives, criteria by which contending cost-estimation models are evaluated, and parallel proceedings underway at the Federal Communications Commission (FCC). Proprietary cost-estimation models were then and are now a subject of dispute. Parties do not agree on an approach to cost modeling.

We conclude that cost models have not reached an acceptable level of development and therefore we do not select one in this proceeding. The Division's analysis of the models reveals that USWC's estimates tend to be high, and AT&T's, low. We accept this Division conclusion. Because we believe prices for unbundled elements must be established now, we blend model results to obtain the necessary cost estimates. This blended approach will offset, we believe, the conflicting cost-estimation tendencies identified by the Division. Before discussing this subject further, we briefly review the role of forward-looking economic costs in reaching public policy objectives, the relationship between costs and prices, and the criteria an acceptable cost-estimation model must meet.

A. PUBLIC POLICY OBJECTIVES

As we explain in the April Order:

Section 251 (d) (1) of the 1996 Federal Act requires a price, or rate, determined "without reference to a rate-of-return or other rate-base proceeding," which must be nondiscriminatory and based on cost. "Cost" includes a "reasonable profit." The 1995 State Act requires us to consider total service long-run incremental cost (TSLRIC) when establishing rates for service, but leaves room for other factors, like universal service, to influence our decisions. (54-8b-3.3) Both Acts call for just and reasonable rates (prices).

In its rulemaking [1] to implement the 1996 Federal Act, the FCC defines "cost" as forward-looking economic cost.[2] The FCC accepts the economist's rationale that prices based on forward-looking economic cost will promote competition in the industry the appropriate way, through economically efficient entry of new firms. The 1995 State Act had already directed us to consider a variant of forward-looking economic cost, TSLRIC, as a basis for pricing retail services. With attention now on unbundled network elements, not retail services, the FCC Rules call for a different version of forward-looking economic cost, TELRIC, to be used for pricing them.

[1] Local Competition Order, CC Docket No. 96-98, First Report and Order, August 8, 1996.

[2] Forward-looking economic costs means "the cost of producing services using the least cost, most efficient, and reasonable technology currently available for purchase with all inputs valued at current prices." CC Docket No. 96-45, Universal Service Order, May 8, 1997, paragraph 224, ff 573.

Id., p. 5. (Footnotes in original.)

FCC rules prescribing how to cost and price unbundled network elements were vacated by a July 18, 1997 ruling of the United States Court of Appeals for the Eighth Circuit. The U. S. Supreme Court, however, reinstated almost all of these rules on January 25, 1999, but directed reconsideration of the FCC's "necessary and impair" standard.(1) Our intended approach to costing and pricing UNEs is consistent with the FCC rules in that it is based on TELRIC, or forward-looking economic costing principles.

Parties differ with respect to marginal-cost versus average-cost pricing, the allocation of joint and common costs, and the relationship of unbundled element costs to total service costs. In theory, marginal-cost pricing of a product or service, in the production of which a large component of fixed costs is required, may result in incomplete recovery of fixed costs. Optimal prices require recovery of fixed costs in a manner that minimizes market distortions. Pricing telecommunications services is a "second best"(2) proposition because of several characteristics of a telecommunications network. First, fixed costs are a large proportion of total costs. Second, many joint and common costs are shared in the provision of multiple services. Third, marginal or incremental costs, which vary with the provision of different services, may only be a small proportion of total cost. If the prices of network elements were to equal marginal cost, the failure to recover fixed and shared costs would threaten the financial viability of the enterprise. Thus, prices, though based on forward-looking economic costs, must permit recovery of a reasonable proportion of fixed and shared costs, which necessarily must be allocated to the several elements and services. Accordingly, we set prices to recover the costs of network elements that an efficient, forward-looking provider would incur to provide telecommunications services.

B. THE RELATIONSHIP BETWEEN COSTS AND PRICES

The April Order outlined the relationship we found acceptable:

No party disputes and we conclude that under the 1995 State Act and the 1996 Federal Act, we have the authority to decide what costs are relevant, how cost estimates should be calculated, what methods and models are appropriate, and the weight to be accorded to evidence and the factors advocated by the parties. Moreover, since neither statute requires a price that is equal to the estimated unbundled loop cost, we have latitude to establish the proper relationship between cost estimates and price. That is to say, we may consider all factors relevant to pricing unbundled network elements rather than simply equating the price to a cost estimate from a particular cost model.

Setting the prices or rates for unbundled network elements does not require us to depart from the long-standing regulatory practice which identifies the public interest in just and reasonable rates with a set of ratemaking objectives. Our ratemaking decisions have rested, and should continue to rest, upon a record-based, balanced approach to attaining them. Economic efficiency is an important objective. We believe our pricing decisions should encourage efficient entry.

Prices based on forward-looking economic costs should encourage competition through efficient entry. Such prices should place the incumbent and competitors on equal footing. The record in this Docket contains no evidence on the proper empirical relationship between costs and prices, however. Though we continue to believe that we must establish a proper relationship between cost and price, the prices we herein determine will equal the cost estimates we find acceptable as there is no record basis to do otherwise.

C. CRITERIA FOR MODEL SELECTION

Our April Order adopted the following cost-modeling recommendations:

1. The least-cost, most efficient, reasonable technology currently being deployed to provide service will be modeled. The incumbent local exchange carrier's existing wire centers will be the center of the loop network, to which outside plant will terminate. Wire center line counts will equal actual counts. Loop design will not impede the provision of advanced services.

2. A network function or element necessary to produce a service will have an associated cost.

3. Only long-run, optimal forward-looking costs will be modeled.

4. The rate of return will be that authorized by the FCC on interstate services or by the state on intrastate services. Economic lives and future net salvage values will be used to calculate depreciation rates, which will be within the FCC-authorized range.

5. The cost of providing service to all businesses and households within a geographic region will be estimated so economics of scale are properly reflected.

6. A reasonable allocation of joint and common costs will be assigned to a service.[4]

7. Calculations will be deaveraged to the wire center serving area level, or if feasible to smaller areas such as a Census Block Group, Census Block, or grid cell.

4 The term "service" is used by the FCC because these recommendations were developed in the Universal Service Docket there. Phase III considers the cost of unbundled network elements, not services. We will consider whether this necessitates differences in cost modeling at the appropriate point.

Id., pp. 9-10. (Footnote in original.)

With the exception of differing positions on the cost of capital, depreciation rates, and the method of deaveraging, the records of both Phase II and Phase III of this Docket support these guidelines for forward-looking economic cost modeling. We again conclude that any model proposed for use in this State should meet them.

Based on the Phase III record, however, we clarify two of these points. Point number one states that loop design may not impede the provision of advanced services. This has implications for the level of quality and transmission capacity that is to be expected of an unbundled loop. Number seven requires geographic deaveraging of costs. We conclude that models must be capable of accepting Commission-specified geographic boundaries, such as the urban, suburban, and rural areas suggested by USWC and the Division, and that changes in area designations should not affect the total cost of the statewide system.

The April Order also adopted openness and flexibility as primary modeling criteria, and stated: "Openness means the model, and all underlying data, formulae, computations, and software, should be available to the parties for evaluation." Further: "Underlying data should be verifiable, engineering assumptions reasonable, and model outputs plausible. Flexibility means a party should be able to examine and modify critical assumptions, engineering principles, and input values." Nothing in this Docket alters the relevance of these criteria, and we believe they must be met.

The Order continued:

USWC states that a cost model should be consistent, flexible, stable, reliable, and realistic; that is, assumptions should be consistent, parties should be able to conduct sensitivity tests, results should be stable when the model is updated, the model should be reliable so correction of mistakes has an insignificant effect on results, and only realistic assumptions about the design, planning, and construction of facilities should be used. In agreeing that a cost model should be open and verifiable, the Division testifies that if full documentation is not provided the model will be a "black box" and independent evaluation will not be possible. In AT&T's and MCI's view, a model should be completely documented so an independent analyst can understand how it operates and can test the adequacy of its algorithms; a model should be flexible enough to allow adjustment and testing of inputs by users; a model should be stable as to the sensitivity of results to changes in inputs and assumptions; and, finally, a model should employ non-proprietary data available to the public.

USWC suggested that embedded costs should be used as a reality check. But Section 251 (d) (1) of the 1996 Federal Act requires a price, or rate, determined "without reference to a rate-of-return or other rate-base proceeding. . . " It is clear prices may not be based on embedded cost in any direct manner.

We reaffirm openness and flexibility as the primary criteria for model evaluation, supplemented by the above discussion. We expect complete documentation of models. As we said in the April Order:

The practical requirement suggested by "complete documentation" is not explicit on this record, though its common sense meaning is clear enough. Our standard is simply that models must be documented well enough to allow independent evaluation. . . .

Parties may come to us if this requirement is not being met. Our existing procedures will be used to protect information determined to be proprietary. Because the record shows that analysts and users must be able to vary a model's assumptions and data inputs, in order to test the sensitivity of results to such changes and to evaluate the model itself, we adopt the recommended flexibility criterion as well.

III. ISSUES FOR DECISION

A. COST ESTIMATION

Because of inadequate model development and documentation, the Division, an independent analyst, cannot determine whether the HAI model's algorithms reflect a network based on best engineering practices and economic principles of network design. Further, we find, based on Division testimony, that USWC's Integrated Cost Model (ICM) does not produce a forward-looking, economically efficient network. Expert testimony leaves no doubt that the models on the record cannot pass the tests imposed by the openness and flexibility criteria. Both models also have other flaws.

A shortcoming of the ICM, employed by both USWC and the Division, is its failure to produce a comprehensive, efficient, forward-looking result. Instead, the ICM prorates a sample of recent historical costs based on characteristics of various exchanges. It does not design a network, but mimics the embedded costs and practices of recent network experience. This is an accounting, or statistical, rather than an engineering approach. Division testimony highlights this shortcoming of the ICM model, though in the context of explaining its upward bias:

ICM does not hypothetically build a scorched node network completely from scratch. Rather, using its original RLCAP base it uses statistical prototypes for the various density groups, and because it does not hypothetically build the network completely from scratch, any new lines must be attributed to existing density groups, affecting weighting and creating the upward bias from smaller to greater density groups.

L. Jeppson, December 11, 1998, p. 3.

The record shows that the HAI model employs a forward-looking, economically efficient approach. Nevertheless, we find significant problems with the algorithms that locate and design distribution plant. The HAI model does not locate a large percentage of the customers that are known to exist (particularly in rural exchanges), but establishes proxy locations for them. When illogical or implausible customer locations are assigned, plant design is inaccurate. For this reason, we are skeptical of the reasonableness and accuracy of the final design, though we are not convinced by USWC testimony that the HAI model necessarily builds a deficient amount of outside plant.

These modeling problems lead us to conclude that the models on the record could not be used individually and should not be adopted in Phase III, Part C. They also fail to meet the criteria explained above. A future docket to examine the FCC's Hybrid Cost Proxy Model (HCPM) and later versions of the current models may offer us an opportunity to choose a model that both designs a reliable forward-looking economically efficient network and provides plausible TELRIC costs. We encourage USWC and AT&T either to join the Division's examination of the HCPM or to upgrade their own models to meet the criteria. In the case of the ICM, this would require incorporation of algorithms to develop a forward-looking, economically efficient network.

Differences in the cost estimates the models, as applied by the parties, produce are significant. The HAI, using AT&T's input values and assumptions, yields an $11.40 statewide weighted average monthly cost estimate for the two-wire loop. The ICM, with USWC's assumptions, input values, and prescribed cost of capital and depreciation rates, yields $21.51. But when the Division's input values are used, the ICM yields $16.45.[(3)] Because of the problems we have identified with these models, we determine cost of the two-wire loop to be the average of the estimates produced by USWC's version of the ICM and AT&T's HAI. We will use the Division's estimate as a cross check. The average of the two models is $16.46; the Division's estimate is $16.45.

Where possible, we follow the same procedure for the remaining unbundled elements. If the record contains an estimate from but one of the two models, we accept the Division's adjusted ICM estimate, or no price is set. If the USWC estimate is the only estimate and it is lower than the Division's, we accept the USWC estimate. If both HAI and ICM estimates are higher than the Division's, an average of the two is calculated and this number is averaged with the Division's estimate to arrive at a result we accept.

B. POLICY ISSUES

1. Geographic Deaveraging

The Division, AT&T, Nextlink, and MCI favor deaveraging TELRIC costs now to provide the proper cost basis for prices and to allow reasonable comparability of costs for competitors. In Phases II and III, USWC testifies that deaveraging should only occur when retail rates are rebalanced and deaveraged. During the last general rate case, Docket No. 97-049-08, significant adjustments to service prices were made to bring them closer to cost. Pursuant to Section 54-8b-2.4-(2)-(i), further adjustments could have been proposed by USWC or other parties. This did not occur, and we are precluded from making further retail rate adjustments. We conclude, however, that we may deaverage UNE prices at this time.

The Joint Exhibit filed by the parties in this Docket classifies wire centers as urban, suburban, and rural. Based on the record, the primary criterion for the categories is the grouping of wire centers by USWC according to the applicable host - remote exchange (switch) relationship. USWC classifies the host as urban, suburban, or rural, and this determines the category of the remote switch. It gives rise to certain anomalies, however, in that, to all appearance, some switches classified rural are not (for example, Logan, Park City, St. George), and some classified urban are not (for example, Alta, Mt. Green). See Appendix I for a list of exchanges. Despite these anomalies, we believe it is important to deaverage costs geographically to promote competition in furtherance of state and federal policy objectives. In addition, the FCC will ultimately require deaveraged costs. We therefore accept the categories, even with these imperfections, and will deaverage costs where appropriate.

We direct the parties to develop the modeling capability to deaverage costs in the following manner. Models must first calculate an optimal statewide network, on a TELRIC or forward-looking, economic cost basis, without regard to exchange classification, and in a second step report each wire center's or, if appropriate, smaller serving area's average UNE costs as calculated in step one. We believe the information this requires is already available because the models now compute costs on a weighted basis. We believe it necessary for costs to be reported for given geographic areas without requiring the entire model to be rerun.

2. Line Conditioning (Grooming) and Extension Charges

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.(4) Accordingly, we disallow charges for line conditioning or grooming. A similar rationale and conclusion applies to line extension charges.

3. Feature Groups

Proponents of the HAI and ICM models define the equipment or features that should be included with an unbundled loop differently. AT&T, using the HAI model, includes Feature Groups One and Two in the cost of the unbundled loop. USWC and the Division, using ICM, do not. AT&T states that the equipment to provide these features is an integral part of the hardware for a loop, and therefore includes the cost and functionality of them in all loops. USWC separately allocates Feature Group costs and therefore maintains that they should be priced separately. We rely on the technical fact that CLECs with their own switches are able to provide Feature Groups in order to conclude that Feature Groups should be priced, not as part of a two-wire loop, but separately.

C. PRICING UNBUNDLED NETWORK ELEMENTS

A record basis upon which to estimate, as we would for sound reasons of public policy, the relationship prices should bear to costs, does not exist at this phase of the Docket. We have no choice but to set prices for unbundled network elements equal to the costs we have determined appropriate. These prices are in Table A, following which we give such explanation as we believe is required.

Table A. Unbundled Network Element Prices

Element	Price		
	Urban	Suburban	Rural
Two-Wire Loop	$14.41	$17.47	$24.14

Sub-Loop Unbundled Elements (Two-Wire Loop)			
Network Interface Device	$0.43	$0.48	$.052
Loop Distribution	$10.66	$14.86	$19.51
Loop Feeder	$1.91	$2.36	$3.95
Loop Concentrator/Digital Loop Carrier	$1.96	$2.07	$2.14
Feature Group One	$0.72	$0.88	$1.00
Feature Group Two	$3.20	$5.67	$4.50
Four-Wire Loop	$23.57	$28.57	$39.47
Local Switching Non-Traffic Sensitive			
End Office Analog Line Port	$0.89	$0.90	$1.02
Local Switching per minute of use	$0.002299	$0.002664	$0.002896
Tandem Switching per minute of use	$0.001058	$0.001025	$0.001059

1. Unbundled two-wire loop and feature group pricing.

The statewide weighted average cost of the unbundled two-wire local loop is on this record to be found in the range bounded by $11.40 and $21.51. The Division's estimate is $16.45, plus $4.48 for two feature groups. Because we have decided to exclude feature groups from the loop, and using the averaging approach discussed above, we set the statewide average price for an unbundled two-wire loop at $16.46. The statewide average price for Feature Group One will be $0.77, and for Feature Group Two, $3.71.

2. Four Wire Loop Pricing.

We set the price of a four-wire loop at 163.5 percent of a two-wire loop. Though USWC and the Division each suggest that doubling the two-wire price is appropriate, neither submitted such a price in the Joint Exhibit. Rather than basing their recommendations on cost, the record instead reveals an arbitrage concern on the part of the Division and USWC. It is obvious that some savings, at minimum for placement, must exist. A doubling of the two-wire loop price is therefore unreasonable. The record does reference a study suggesting 127 percent of the two-wire price on a cost basis, though USWC argues the study is weak because it assumes that all loops are converted to four-wire. USWC, however, failed to produce a study of its own. The record also shows that the FCC uses a national average cost of 160 percent of the two-wire cost. The average of the record estimates, 127 percent and 200 percent, is 163.5 percent, close to the FCC figure. This is the price we select, noting that it does not include feature groups.

3. Other Unbundled Network Elements

Shared Transport and Operational Support Systems are the subject of separate proceedings in this

Docket and therefore prices for them are not set here. Further, many signaling and transport unbundled network elements found in the Joint Exhibit cannot be priced here because parties differ as to the definitions of these elements. This difficulty can be overcome when common definitions are submitted.

IV. ORDER

Wherefore, based upon the evidence received, the Commission sets prices for unbundled network elements as shown in Table A above.

These prices are final, and effective on the date of this Report and Order. The Commission intends to revisit the cost basis for these prices in the future.

DATED at Salt Lake City, Utah, this 2nd day of June, 1999.

/s/ Stephen F. Mecham, Chairman

/s/ Constance B. White, Commissioner

/s/ Clark D. Jones, Commissioner

Attest:

/s/ Julie Orchard
Commission Secretary

APPENDIX 1. EXCHANGE CLASSIFICATION

City or Exchange		
Urban	**Suburban**	**Rural**
ALTA	AMERICAN FORK	BEAVER
BOUNTIFUL	LEHI	BRIANHEAD
CLEARFIELD	OREM	BRIGHAM CITY
COTTONWOOD	PAYSON	CEDAR CITY
DRAPER	PLEASANT GROVE	COALVILLE
FARMINGTON	PROVO	CORINNE
HOLLADAY	SALEM	DUCHESNE
HUNTSVILLE	SANTA QUINN	DUGWAY
KAYSVILLE	SPANISH FORK	EAST CARBON
KEARNS	SPRINGVILLE	EPHRIAM
LAYTON EAST		GRANTSVILLE
MAGNA		HANKSVILLE

MIDVALE		HEBER CITY
MOUNTAIN GREEN		HELPER
MURRAY		HURRICANE
OGDEN MAIN		HYRUM
OGDEN NORTH		LEADS
OGDEN SOUTH		LOGAN
OGDEN WEST		MONROE
RIVERTON		MORGAN
SALT LAKE EAST		MOUNT PLEASANT
SALT LAKE MAIN		NEPHI
SALT LAKE SOUTH		PARK CITY
SALT LAKE WEST		PAROWAN
WEST JORDAN		PRICE
		RICHFIELD
		RICHMOND
		ROOSEVELT
		SALINA
		SMITHFIELD
		SPRINGDALE
		ST. GEORGE
		TOOELE
		VERNAL
		VEYO
		WENDOVER

1. The 1996 Federal Act makes available, at cost-based prices, all UNEs that are necessary for a CLEC to do business; those which, if not available would harm ("impair") the CLEC. The FCC rule, which the Supreme Court found too broad, would require that all UNEs which could be made available must be.

2. The "second best" concept urges policy makers to consider that in the presence of practical constraints, standard economic answers like pricing at marginal cost will not yield optimal results. See "The MIT Dictionary of Modern Economics," Third Edition. Editor David W. Pearce. The MIT Press: Boston, Massachusetts 1989.

3. All cost estimates are contained in the Joint Exhibit submitted by the Division, USWC and AT&T.

4. Industry standards suggest that voice grade lines should be capable of transmitting from 300 to 3400 Hz with minimal distortion; e.g., modems designed to function in the spectrum below 3400 Hz will function at their designed capacity. In general, 4000 Hz, including guard zones, is set aside for voice grade service. Though such technical specifications are beyond the scope of this Docket, parties should address unbundled loop transmission capability in future dockets.

Shirley

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Gregory Scott	Chair
Edward A. Garvey	Commissioner
Joel Jacobs	Commissioner
Marshall Johnson	Commissioner
LeRoy Koppendrayer	Commissioner

In the Matter of a Generic Investigation of US West Communications, Inc.'s Cost of Providing Interconnection and Unbundled Network Elements

ISSUE DATE: March 15, 2000

DOCKET NO. P-442, 5321, 3167, 466, 421/CI-96-1540

ORDER GRANTING RECONSIDERATION, SETTING PRICES AND ORDERING COMPLIANCE FILING

PROCEDURAL HISTORY

On December 2, 1996, the Commission issued its ORDER RESOLVING ARBITRATION ISSUES AND INITIATING A US WEST COST PROCEEDING in Docket Nos. P-442, 421/M-96-855, P-5321, 421/M-96-909, and P-3167, 421/M-96-729 (Consolidated Arbitration Proceeding). In that Order the Commission established interim prices for interconnection and unbundled network elements (UNEs) in the territory served by US West Communications, Inc. (US West). The Commission also initiated the present proceeding to establish prices to replace the interim prices.

By its March 12, 1997, NOTICE AND ORDER FOR HEARING, the Commission referred to an administrative law judge (ALJ) the task of making recommendations regarding the cost of UNEs, unbundling, collocation, interconnection access operational support systems, call completion services, directory assistance, interim number portability, and related matters

On November 18, 1998, the Commission received the Report of the ALJ (the Report). The Report recommended, among other things,

- using the HAI model to estimate US West's UNE costs,
- using the Collocation Cost Model sponsored by AT&T Communications of the Midwest, Inc. (AT&T) and MCI Communications (MCI) to estimate collocation costs,
- using the AT&T/MCI Non-Recurring Cost Model (NRCM) to estimate non-recurring costs,
- estimating the costs of special access lines on a pair-equivalent basis in the distribution plant and on a circuit-equivalent basis in the feeder plant, and
- denying recovery of operator support system (OSS) costs until US West provides competitive local exchange carriers (CLECs) non-discriminatory access to OSS interfaces

On May 3, 1999, the Commission issued its ORDER RESOLVING COST METHODOLOGY, REQUIRING COMPLIANCE FILING, AND INITIATING DEAVERAGING PROCEEDING, adopting the ALJ's findings. The Commission directed the parties to make a compliance filing containing costs developed in a manner consistent with those findings.

On May 24, 1999, the Minnesota Department of Public Service (now known as the Department of Commerce) (the Department) filed a Motion for Clarification and Reconsideration. The Department noted that the Commission had directed the ALJ to propose prices for network elements, interconnection, and methods of obtaining access to unbundled elements (collectively, "elements"). The ALJ recommended setting prices through the use of the HAI Model, Collocation Model and NRCM sponsored by AT&T/MCI. These models, however, do not propose prices for a variety of potential services an incumbent local exchange carrier (ILEC) might provide to a CLEC. The Department's motion contained a modified version of Exhibit 638a, a table which the Department claims reflects the catalog of elements, and the parties' positions regarding the price of each element.

On June 16, 1999, US West filed a reply to the Department's motion, and moved to strike modified Exhibit 638a.

On June 18, 1999, both AT&T Communications of the Midwest, Inc., and US West made compliance filings containing prices for unbundled network elements, non-recurring costs for UNEs, and collocation rates.

On September 14, 1999, the Commission granted the Department's request to solicit further comments on outstanding issues. On October 15, 1999, the Commission received comments from ATI (Cady), AT&T/MCI WorldCom, the Department, Hometown Solutions, Sprint, US West, and a group of competitive local exchange carriers (CLEC Group).

The Commission met to consider this matter on January 25, 2000.

FINDINGS AND CONCLUSIONS

I. Background

The purpose of the federal Telecommunications Act of 1996, codified at 47 U.S.C. § 151 *et seq.*, is to provide the benefits of competition to U.S. citizens by opening all telecommunications markets to competition. (Conference Report accompanying S. 652). The Act opens markets in three ways:

(1) by requiring incumbent local exchange carriers to permit new entrants to purchase their services wholesale and resell them to customers;

(2) by requiring incumbent local exchange carriers to permit competing providers of local service to interconnect with their networks on competitive terms; and

(3) by requiring incumbent local exchange carriers to unbundle the elements of their networks and make them available to competitors on just, reasonable, and nondiscriminatory terms.

47 U.S.C. § 251(c). Under the terms of the Act, a CLEC desiring to provide local exchange service can seek agreements with an ILEC related to interconnection with the ILEC's network, the purchase of finished services for resale, and the purchase of the incumbent's UNEs. 47 U.S.C. §§ 251(c), 252(a). If the ILEC and the CLEC cannot reach an agreement within the time frame specified in the Act, either party may petition the State commission to arbitrate unresolved issues and to order terms consistent with the Act. 47 U.S.C. § 252(b). In particular, parties may ask the Commission to determine the total element long-run incremental cost (TELRIC) of UNEs, interconnection, and methods of obtaining access to UNEs. 47 C.F.R. §§ 51.501, 51.505. The resulting costs would represent the prices of those items.[1]

TELRIC pricing is designed to promote effective competition:

> Adopting a pricing methodology based on forward-looking economic costs best replicates, to the extent possible, the conditions of a competitive market. In addition, a forward-looking cost methodology reduces the ability of an incumbent LEC to engage in anti-competitive behavior. Congress recognized in the 1996 Act that access to the incumbent LECs' bottleneck facilities is critical to making meaningful competition possible. As a result of the availability to competitors of the incumbent LEC's unbundled elements at their economic cost, consumers will be able to reap the benefits of the incumbent LECs' economies of scale and scope, as well as the benefits of competition. Because a pricing methodology based on forward-looking costs simulates the conditions in a competitive marketplace, it allows the requesting carrier to produce efficiently and to compete effectively, which should drive retail prices to their competitive levels. We believe that our adopting of a forward-looking cost-based pricing methodology should facilitate competition on a reasonable and efficient basis by all firms in the industry by establishing prices for interconnection an unbundled elements based on cost similar to those incurred by the incumbents....[2]

II. Procedural Matters

A. Reconsideration

The Department does not find fault with what the Commission has done in this docket; rather, the Department argues that the Commission left too much undone. The Department asks the Commission to establish appropriate rates for elements overlooked in its prior Order. While the CLECs that participated in the proceeding may not anticipate needing the overlooked elements, other CLECs may. AT&T and Cady support the Department's request.

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[1] "[W]e [the FCC] are adopting a cost-based methodology for states to follow in setting interconnection and unbundled element rates." In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC Docket No. 96-98, 11 FCC Rcd 15499 (August 8, 1996) (Local Competition First Report & Order) ¶ 625.

[2] *Id* at ¶ 679.

No party opposes the Department's motion. US West acknowledges that the Commission's Order generally addressed the elements requested by AT&T and MCI. However, US West suggests that the Commission address these matters in the context of compliance filings in which US West proposes rates for various unpriced elements.

The Commission initiated this docket to set prices for US West's UNEs, unbundling, collocation interconnection access operational support systems, call completion services, directory assistance, interim number portability, and related matters. The Department's request is within the docket's scope. The Commission does not see the need to defer to another context to address these matters; to the extent that US West proposes rates for these elements, the Commission will consider those proposals as well. With no party opposing the Department's request for reconsideration, the Commission will grant the request.

B. Motion to Strike Exhibit 638a

US West moves to strike the modified Exhibit 638a attached to the Department's Motion for Clarification and Reconsideration. US West argues that many of the recommendations contained within that exhibit are unreasonable and not supported by the record. Moreover, US West claims that it has not had an opportunity to respond to the Department's positions set forth in the modified exhibit - not during cross-examination, not during briefs to the ALJ, not in response to the Department's exceptions to the Report. And again, US West notes that it has, and will, propose rates for unpriced elements in compliance filings; US West argues that those filings provide a better context in which to address the issue of pricing unpriced elements.

The Department opposes US West's motion. The Department disputes the contention that US West lacked opportunity to comment on the Department's proposals regarding unpriced elements. Moreover, the Department argues that the modified exhibit represents a visual aid setting forth the Department's understanding of the parties' positions. Since the Department does not argue that the modified exhibit constitutes evidence, US West lacks a basis for striking it.

Since the time US West moved to strike the modified exhibit, the Commission granted all parties the opportunity to comment on the Department's proposal. Therefore, the Commission finds US West's objections moot. The Commission will consider modified Exhibit 638a on the same basis as it considers any party's briefs and pleadings.

III. Substantive Matters

C. Unpriced Elements for Which Commission-Approved Models Provide a Price

The ALJ's Report recommended the use of the HAI Model, the NRCM and the Collocation Model, the adoption of certain assumptions as inputs to that model; and the application of that model and those inputs to determine the price of elements. The Commission adopted that report, and directed parties to make a compliance filing "setting forth the resulting rates." AT&T/MCI submitted a compliance filing setting forth the rates for the elements in which they had an interest

But the HAI Model also provides rates for elements in which neither AT&T nor MCI have a particular interest. Specifically, it provides the cost of directed trunked transport (DS1 and DS3) per month, the cost of entrance facilities for transport (DS1 and DS3) per month, and cost of 8xx database queries per query. The Department has taken the initiative to propose that the Commission approve the use of the HAI Model for the purpose of determining the recurring cost of these "orphan" elements. No party objects. The Commission finds the proposal reasonable and will approve it.

B. Unpriced Elements for Which Commission-Approved Models Do Not Provide a Price

In its compliance filing, US West proposed rates for a variety of "elements" for which Commission-approved models provided no price. In its Motion for Clarification and Reconsideration, the Department made its own recommendations regarding prices for these orphan elements. The Commission addresses these proposals as follows:

1. Elements for Which the Department Recommended that No Price be Allowed

Parties disagree about whether and to what extent the Commission should authorize US West to charge a separate fee for ISDN extension technology and loop conditioning to a CLEC that orders a loop.

In order to provide the services of an integrated services digital network (ISDN) over a long line, a LEC may attach electronics called ISDN extension technology to the loop. Also, in order to improve voice transmission capability and gain flexibility, a LEC may add a bridge tap, loop coil or similar device to a loop. Such devices, however, diminish the loop's capacity to deliver advanced services such as ISDN or digital subscriber line (DSL). "Loop conditioning" means removing bridge taps and similar devices from the loop.[3]

US West argues that the HAI Model is designed to model the cost of providing "plain old telephone service" (POTS). It was not designed to model the cost of providing advanced services. US West built its network with loops sometimes exceeding 18,000 feet. Occasionally, US West adds ISDN extension technology or bridge taps and load coils to the line. If a CLEC seeks to provide a service for which ISDN extension technology or loop conditioning are necessary, US West argues that the CLEC should have to pay for the added service.

AT&T argues that these matters were resolved by the ALJ, whose report was adopted by the Commission. The Commission has the obligation to establish the costs of a forward-looking network; since a forward-looking network would not require ISDN extension technology or bridge taps, then the Commission should not consider them in establishing element prices. Additionally,

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[3] In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC Docket No. 96-98, __ FCC Rcd __ (November 5, 1999) (Local Competition Third Report and Order) at ¶ 172.

because US West did not seek rehearing on these issues, all of US West's proposals now are untimely.

Cady and the Department join AT&T in also arguing that the cost of loops capable of supporting advanced services is already reflected in the price of other elements. They note that the cost of a loop already reflects maintenance costs, which includes loop conditioning. Additionally, the HAI Model assumes shorter loops than US West actually has. There are two aspects to this assumption First, the HAI Model projects the need for more loops than US West actually requires. This aspect of the model tends to support costs that are higher than US West's actual costs. Second, by assuming a shorter loop length, the HAI Model assumes no need for bridge taps (and hence no need for removing them) and no need for ISDN extension technology. This aspect of the model tends to support costs that are lower than US West' actual costs. The financial consequences of these two aspects offset each other to an unspecified extent.

In any event, Cady and the Department argue that when a CLEC buys a loop from a LEC, it is entitled to receive a fully functioning loop. It should not have to pay extra to receive the capabilities that the loop is supposed to provide.

In response, US West acknowledges that the HAI Model incorporates maintenance expense into the cost of loops, which incorporates loop conditioning costs. But US West argues that at the time the FCC collected that data upon which the HAI Model was designed, telephone companies had little occasion to condition lines. As a result, the data underlying the HAI Model and inputs do not reflect much expense for loop conditioning. The growing popularity of advanced services has created a new demand for loop conditioning services, according to US West, but the HAI Model does not account for this new reality.

The Commission will decline to grant US West the authority to charge a stand-alone price for ISDN extension technology and loop conditioning. The FCC's definition of local loop already incorporates these two items:

> The local loop network element is defined as a transmission facility between a distribution frame (or its equivalent) in an incumbent LEC central office and the loop demarcation point at an end-user customer premises.... The local loop network element includes all features, functions, and capabilities of such transmission facility. Those features, functions, and capabilities include, but are not limited to, ... *attached electronics* (except those electronics used for the provision of advanced services, such as Digital Subscriber Line Access Multiplexers), and *line conditioning*.

47 C.F.R. § 51.319(a)(1) (emphasis added).

The Commission cannot conclude, on the basis of the record, that the HAI Model fails to account for the amount of loop conditioning that US West now performs. Moreover, the Commission would be disinclined to update the record of this case simply on this one issue. Costing models and inputs reflect the state of the art at a given point in time, but telecommunications technology and customer demand changes constantly.[4] Assuming communications technology and customer demand continue to change, the models and inputs approved in this docket will gradually deviate from the state of the art. As a result, the price of some elements will exceed US West's future costs, and the price of other elements will be less than US West's future costs. The Commission is reluctant to update one aspect of the case without updating all other aspects as well. This reasoning comports with traditional regulatory principles such as the test year (determining revenue requirement on the basis of costs and revenues from the same period), the matching principle (determining revenue requirement on the basis of all costs and revenues related to a given line of business), and the avoidance of single-issue ratemaking (not setting rates on the basis of one issue without also considering potentially offsetting issues).

In this docket, the Commission is establishing the terms of a contract that will expire in 2002. Parties will have the opportunity to advocate for these kinds of adjustments at that time.

2. Elements for Which the Department Recommended Using US West's Cost Model

As noted above, in its compliance filing US West proposed rates for a variety of "elements" for which the HAI Model, the Collocation Model and the NRCM generate no price. US West generated these rates from its own cost studies, which the Commission has not approved. For the following subset of these elements, the Department recommended accepting rates derived from US West's cost model, albeit using Commission-approved inputs:

- the recurring and non-recurring price of local switching for ISDN ports,
- the per-call price of directory assistance,
- the per-call price of operator services,
- the per-call price of Complete-a-Call, and
- the recurring and non-recurring price of multiplexing, except multiplexing ordered in conjunction with a USWC transport channel.

Cady opposes this proposal, noting that the Commission has not approved the use of US West's cost studies for setting rates.

US West's cost studies are virtually the only basis in the record for pricing these elements. But Cady argues that the lack of an alternative proposal does not imply acquiescence. Rather, it reflects the fact that these elements are only of interest to small CLECs, and small CLECs have not participated in this docket because they had not entered Minnesota at the time the docket began, and lack the resources to participate in this lengthy arbitration. Indeed, even if the Commission were to initiate further proceedings to establish the price of these elements, Cady suggests that small CLECs may not have the resources to participate.

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[4] "[The FCC] acknowledged ... the rapid pace and ever-changing nature of technological advancement in the telecommunications industry...." Local Competition Third Report and Order at ¶ 144.

As an alternative to either accepting costs generated by US West's cost studies, or immediately initiating a proceeding to establish a price for these elements, Cady proposes a middle path. The Commission could direct US West to set prices for these elements provisionally, as recommended by the Department. Then, to the extent that a CLEC considered a resulting rate unreasonable, it could launch an inexpensive, quick challenge.

Specifically, the challenger would submit a letter to the Commission, with a copy to the Department, setting forth reasonable grounds for challenging the rate. For example, the CLEC might allege that US West offered a similar element for a lower price in another state, or that another Bell Operating Company offers a similar element at a significantly lower price. The Commission could then direct US West to respond within 14 calendar days with evidence supporting the reasonableness of the rate in question. US West would have the option of accepting the CLEC's proposed rate. Otherwise, the Commission would set the matter for hearing under the Commission's expedited complaint procedures, or more informally, with the goal of resolving the dispute within two weeks.

During the hearing the Department recommended adoption of Cady's proposal.

The Commission finds Cady's proposals to be reasonable. It does not provoke immediate litigation, with its concomitant costs. But neither does it preclude the possibility of litigation if a CLEC thinks that a discrepancy in the cost of an element warrants the cost of contesting the discrepancy. And the proposal helps to lower the cost of contesting a discrepancy. The Commission will direct the parties to develop rates for the elements in question provisionally, based on US West's cost studies and Commission-approved inputs. In the event a CLEC wants to challenge the provisional rate, the CLEC may avail itself of the procedure set forth above

3. Elements for Which the Department Recommended Using AT&T's Proposed Rates

In its compliance filing, AT&T proposed prices for dark fiber, and for optional ISDN port features for local switching. Regarding dark fiber, AT&T proposes the following:

- Two dark fibers, recurring price: \$.002 per foot per month
- Two dark fibers with connections, recurring price: \$.004 per foot per month

Regarding the port features, AT&T proposed the following:

- Optional ISDN switch port features, nonrecurring price: \$.24 per service order
- Optional ISDN switch port features, recurring price: \$0

AT&T justifies a \$0 recurring price for optional ISDN switch port features on the grounds that US West already recovers any related costs through the nonrecurring price for the ISDN port features.

During the hearing US West asserted its opposition to the prices advanced by AT&T, but offered no argument in support of its position. US West declined to propose rates for dark fiber. The Department supports AT&T.

The Commission finds the prices proposed by AT&T to be reasonable, and will adopt them.

4. Elements for Which the Department Recommended Acquiring More Information

In their compliance filings, AT&T/MCI and US West each proposed non-recurring prices for a DS3 entrance facility and for a DS3 trunk for direct trunked transport. US West used its own cost studies to justify its cost because, it says, the NRCM does not provide a non-recurring price for such elements. If this assertion is true, then it is unclear to the Commission how AT&T/MCI generated their prices.

Rather than make a decision on the basis of the current record, the Commission will direct AT&T/MCI to explain how they derived their nonrecurring prices for these elements, and, if appropriate, to revise their calculation of these prices based on the changes approved in this Order.

5. Four-Wire Analog Loops

Analog loops consist of cable containing wires – typically two or four wires – and a Network Interface Device (NID) which permits the loop to connect to the wiring in the end user's premises.[8] The HAI Model establishes a monthly price for two-wire analog loops and for NIDs, but not for four-wire analog loops. But the Model may provide sufficient information to permit the calculation of the cost of a four-wire loop.

At first glance, intuition suggests that the price of a four-wire analog loop might be equal to twice the price of a two-wire analog loop. However, that calculation would double-count the cost of the NID; a four-wire loop would not require two NIDs. Consequently, a more reasonable price would be equal to twice the price of a two-wire analog loop, minus the cost of the second NID.

AT&T/MCI, the Department and US West each recommend that the Commission authorize a monthly price for four-wire analog loop equal to twice the price of two-wire analog loop, less the cost of a NID. With no party opposing the proposal, the Commission finds it reasonable, and will adopt it.

IV. Compliance Filing Issues

Given the changes noted above, the Commission will direct parties to recalculate prices for elements incorporating those changes.

A. HAI Model

The Department recommends that the Commission direct the parties to submit another compliance filing, reflecting the decisions set forth herein and in the Commission's May 3 Order. The Department further recommends that the Commission adopt this set of models and inputs, rather

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[8]47 C.F.R. § 51.319(b).

than merely adopt the resulting element prices. According to the Department, adopting the models and inputs would lay the foundation for producing new prices to reflect changing circumstances.

US West notes that the Telecommunications Act of 1996 provides for the Commission to establish specific prices for elements, not merely to adopt models or inputs.

The Commission will accommodate the wishes of all parties. With no party objecting, the Commission will direct the parties to submit another compliance filing, reflecting the decisions set forth herein and in the Commission's May 3 Order. The Commission will adopt the models and inputs as approved herein and in the Commission's May 3 Order, and the resulting prices.

1. Tax Rate

The HAI Model generates UNE costs based on assumptions about operating costs. One operating cost is the local tax rate. The HAI Model was developed to apply in jurisdictions throughout the United States; as such, it assumes a national average tax rate unless provided with a different rate. However, Minnesota Statues § 237.12, subdivision 4, says:

> For telephone companies with more than 50,000 access lines, the prices for interconnection or network elements to be established by the commission in any pending or future proceeding shall be based on a forward-looking economic cost methodology which shall include, but is not limited to, consideration of … Minnesota tax rates....

Parties filed testimony noting the application of this statute to the current docket, and recommending the use of Minnesota-specific tax rates. Nevertheless, the ALJ did not include such a recommendation in his Report, the Commission did not make any mention of it in its May 3 Order adopting the Report, and the parties did not include it in their compliance filings

The Department recommends that the Commission order the adjustment be made in the next compliance filing. The Department generally opposes making substantive changes during the compliance phase of the proceeding, but acknowledges the need to do so in this case due to the statutory mandate, and the record support. US West supports this recommendation.

AT&T/MCI oppose the recommendation as untimely, and not adequately supported by the record.

The Commission will adopt the recommendation. Since statute directs that element prices be established on the basis of Minnesota tax rates, the Commission will act accordingly.

2. Special Access Line Counts

The cost of loops represents a major component of the cost of providing landline telephone service. A "loop" typically consists of a pair of wires completing an electric circuit connecting a customer to a LEC's switch, which in turn is connected to the rest of the LEC's network. But some loops, called "special access lines," do not consist of a single pair of wires, and do not connect to the LEC's switch. They typically consist of digital service (DS) lines, which come in various sizes.

DS1 lines consist of two pairs of wires, but can transmit the equivalent of 24 circuits. DS3 lines consist of two pairs of wires, but can transmit the equivalent of 672 circuits. Business customers may use such loops to provide a direct connection between computers at different locations.

The question arises whether to count a DS1 line as two lines or 24, and whether to count DS3 lines as two lines or as 672. The ALJ addressed this question as follows:

> 124. ....Some special access lines require a singe pair, but others, including all digital services, require two pairs.. .
>
> 125. It is the Department's position that special access lines should be counted one way in the distribution plant and another way in the feeder plant. In the distribution plant, special access lines should be counted on a "pair-equivalent" basis. That is, two pairs of wires (a four-wire circuit) should be counted as two lines regardless of how many circuits may actually be provided for the facility. For example, a DS1 circuit is capable of providing up to 24 circuits or "lines" for customers but it only requires two pairs of wires in the distribution plant. Since only two pairs of wires need be installed in the distribution plant to provide a DS1 circuit, only the costs of installing those pairs should be included in total facilities costs and not the cost of installing a cable of 24 or more pairs or lines. On a pair equivalent method of calculation, there are about 170,000 special access lines in US West's territory in Minnesota.
>
> 126. In the feeder plant, however, a different counting method, a "circuit-equivalent" method, is acceptable. Special access lines provisioned over fiber-fed digital loop carrier do not require cable pairs. For example, to operate at full capacity, a DS1 circuit in the feeder plant requires that 24 channels of the fiber's total channel capacity be available to it. Unlike distribution plant where a two-pair cable may provide 24 "lines" of services, in the feeder plant, 24 channels are needed to provide 24 "lines" of services. On a circuit-equivalent method of calculation, there are about 616,000 special access lines in US West's territory in Minnesota.

The Report at ¶¶ 124-26 (citations omitted). The ALJ recommended the Department's position in his Report, and the Commission adopted the Report's recommendation in its May 3 Order.

US West subsequently reported, however, that it does not maintain records in a manner that would permit the implementation of the Commission's decision. The Commission must now devise a second-best solution.

Regarding feeder plant: In its 1996 Automated Reporting Management Information System (ARMIS) report filed with the FCC, US West acknowledged that special access lines provide it with the equivalent of 573,108 circuits in the feeder portion of its current Minnesota network.[6]

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[6]The Commission incorporated this data into the Universal Service cost study it submitted to the FCC in Docket No. P-999/M-97-909 <u>In the Matter of Minnesota's Election to Conduct</u>

Except as noted below, AT&T/MCI, the Department and US West each state positions approximately equal to this number.

Regarding distribution plant: The ALJ's Report identified the equivalent of approximately 170,000 special access circuits in US West's Minnesota service area. US West's records support this number. US West Supplemental Filing at 3. AT&T/MCI support 170,215. The Department supports 170,125, which derives from US West testimony.[7] For purposes of selecting an input into the HAI Model, the Commission finds the differences between these numbers insignificant. The Commission will approve the use of the median figure, 170,125.

But US West has three objections to these counts for feeder and distribution plant. First, US West argues that non-switched private lines should be excluded in this calculation. Second, US West argues that the special access lines used to connect interexchange carriers to US West's central offices should be excluded. Neither of these types of lines are used to provide "plain old telephone service," or would be provisioned as an unbundled loop, US West asserts. Finally, US West argues that all special access lines should be excluded because they do not fit within the definition of "access line" as set forth at Minnesota Statutes § 237.69, subdivision 5.

The ALJ and the Commission have already addressed the issue of whether to include special access lines, including private lines, in the line count. In generating the loop cost, the HAI Model assumes certain economics of scale: the more loops, the lower the cost of each loop. The Report, ¶ 124. The existence of special access lines influences US West's average operating costs regarding all lines. The statutory definition of "access line" cited by US West occurs in the context of Minnesota's Telephone Assistance Plan for low-income subscribers; it has no bearing on the question of how to establish cost for US West's elements. Rather, the FCC provides a more compelling definition:

> Local Loop. The local loop network element is defined as a transmission facility between a distribution frame (or its equivalent) in an incumbent LEC central office and the loop demarcation point at an end-user customer premises.... The local loop includes, but is not limited to, DS1, DS3, fiber, and other high capacity loops....

47 C.F.R. § 51.319(a)(1). In adopting this definition, the FCC explicitly stated that "we reject US West's argument that we should exclude from the definition the loop facilities that underlie private line and special access interconnection.... "[8] Likewise, this Commission will decline US West's request to reconsider the matter

For purposes of calculating the cost of US West's elements, the Commission will direct the parties to assume that US West's special access lines contribute the equivalent of 573,108 feeder lines, and 170,125 distribution lines, in Minnesota.

<u>Its Own Forward-Looking Economic Cost Study to Determine the Appropriate Level Of Universal Service Support</u>.

[7]Rebuttal Testimony of William L. Fitzsimmons, Exh. WLF-3 (March 23, 1998).

[8]Local Competition Third Report & Order at ¶ 177.

B. Non-Recurring Cost Model

Just as it recommended regarding the HAI Model, the Department proposes that the Commission direct the parties to run the NRCM again using the latest inputs approved by the Commission, and adopt the resulting costs. With no party objecting, the Commission will adopt this proposal, and direct parties to submit a new model run within 30 days of this Order.

1. Cost for Placing Manual Orders Before Electronic Ordering is Available

US West notes that the Commission's inputs to the NRCM assumed the availability of an electronic ordering system. But US West cannot yet process all orders electronically. Until such a process is in place, US West suggests that the Commission permit it to recover the higher cost of operating its current manual system, as calculated by US West's cost studies. AT&T/MCI, the CLEC Group and the Department all oppose US West's proposal.

The Commission notes that it launched this docket to establish the forward-looking costs for providing elements. The forward-looking cost of providing ordering services is the cost of processing those services electronically.[9] Permitting US West to recover a higher cost for processing orders until the electronic system is in place would burden competitors, and would give US West an undue incentive to delay the provision of electronic ordering. As the ALJ noted,

> US WEST cannot benefit from having failed to comply with the FCC Order [to develop a non-discriminatory ordering system].... CLECs are entitled to a rate determined through forward-looking and efficient systems.

The Report at ¶ 265. The Commission will decline to adopt US West's proposal.

2. Cost for Placing Manual Orders After Electronic Ordering is Available

As noted above, US West alleges that it incurs additional costs to process orders submitted manually (e.g., by facsimile) rather than electronically. Currently those costs are unavoidable, because US West cannot yet process all orders electronically. Once US West implements its plan to be able to process all orders electronically, then US West could largely avoid the cost of manually processing orders.[10] Nevertheless, US West would continue to receive non-electronic orders if any CLEC would choose to submit them in that fashion. US West proposes that, under these circumstances, it be allowed to recover the actual cost of processing orders manually, based on its own cost model.

AT&T, Cady, the CLEC Group and the Department all oppose US West's proposal.

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[9] "Obviously, an incumbent that provisions network resources electronically does not discharge its obligations under [47 U.S.C. § 251(c)(3)] by offering competing providers access that involves human intervention, such as facsimile-based ordering." Local Competition First Report and Order at ¶ 525 (footnotes omitted).

[10] Occasionally even electronically-submitted orders will require manual intervention. The Commission-approved price for processing orders incorporates the cost of processing some small percentage of the orders manually. The Report at ¶ 250 *et seq.*

AT&T notes that the ALJ and the Commission rejected the use of US West's non-recurring cost model, and costs based on US West's manual order-processing system. Additionally, AT&T notes that US West failed to file a motion for reconsideration on this issue, so US West's proposal is untimely.

Cady echos many of AT&T's objections. Cady also disputes with particularity the manner in which US West generates its non-recurring costs for its manual order-processing system.

The CLEC Group, a group of competitive local exchange carriers, expresses concerns that the electronic system US West is developing will be prohibitively expensive for them to use. It notes that US West is able to process orders from interexchange carriers for a mere $5.

Both Cady and the Department argue that US West's proposal raises procedural concerns. Who would determine when US West's electronic ordering system was adequate, triggering US West's authority to begin charging the higher rate for processing non-electronic orders? The Department recommends that the Commission reject US West's proposal as premature. When US West believes that its electronic ordering system is adequate, then it may seek Commission approval to charge different rates for electronic and non-electronic order processing. The Commission would be able to make the relevant factual and policy determinations at that time.

The Commission finds this argument persuasive. Since US West's proposal is premature, the Commission will reserve judgment on this question. In the meantime, the Commission will decline to act on US West's proposal.

C. Collocation Cost Model

In its May 3, 1999 Order, the Commission approved the AT&T/MCI model for establishing collocation costs. US West alleges that it offers four optional collocation services for which the AT&T/MCI model provides no price. US West named these services Fiber Splicing, Essential AC Power, Essential AC Power Feed, and Composite Clock. US West proposes that the Commission establish the price for these elements based on US West's cost studies, but using the inputs that the Commission had approved.

Cady expresses concerns about US West's proposal. Cady questions whether some of these services are merely components of other elements, and whether the cost of these services is already recovered within the price of the elements of which they are a part.

The Commission need not resolve Cady's query in order to resolve this issue. To the extent that any of these four services are not included within other elements, or may be requested by a party that does not wish to purchase an element that encompasses it, then it is reasonable to establish a separate price for the service. And if the AT&T/MCI collocation costing model does not provide such a price, then the Commission must rely on the only other collocation costing model in the record: US West's. With the provisos stated herein, the Commission will approve US West's proposal to use its model, and the Commission's approved inputs, to price the four services. US West may charge the resulting rates to a CLEC that requests any such service, except to the extent that the CLEC requests the service as part of a larger Commission-approved element.

ORDER

1 The Department's motion for reconsideration is granted.

2 US West's motion to strike modified Exhibit 638a is denied.

3 The HAI Model is approved for the purpose of establishing the recurring prices of –

- Direct Trunked Transport (DS1 and DS3),
- Entrance Facilities for Transport, and
- 8xx Database Queries.

4. The nonrecurring price for loop conditioning shall be $0.

5. The nonrecurring price for ISDN extension technology shall be $0.

6. US West's cost studies are approved for provisionally establishing –

- the recurring and non-recurring price of local switching for ISDN ports,
- the per-call price of directory assistance,
- the per-call price of operator services,
- the per-call price of Complete-a-Call, and
- the recurring and non-recurring price of multiplexing, except multiplexing ordered in conjunction with a US West transport channel.

However, a CLEC may submit a letter to the Commission, with a copy to the Department, setting forth grounds for challenging a rate for the above-listed elements. The Commission may then direct US West to respond within 14 calendar days with evidence supporting the reasonableness of the rate in question. US West will have the option of accepting the CLEC's proposed rate. Otherwise, the Commission may set the matter for hearing under its expedited complaint procedures or otherwise. The Commission will endeavor to resolve the matter within two weeks.

7. The recurring price of two dark fibers shall be $.002 per foot per month.

8. The recurring price for two dark fibers with connections shall be $.004 per foot per month.

9. The non-recurring price for optional ISDN port features for local switching shall be $.24 per service order.

10. The recurring price for optional ISDN port features for local switching shall be $0.

11. AT&T/MCI shall provide an explanation of how they derived their non-recurring prices for –

- DS3 entrance facility and
- DS3 trunk for direct trunked transport,

and shall revise those prices, as necessary, to reflect this docket's Orders.

12. The price of a four-wire loop shall be equal to twice the price of a two-wire loop, minus the price of a network interface device.

13. Element prices shall reflect Minnesota tax rates.

14. Element prices shall reflect the assumption that US West has 573,108 feeder lines and 170,125 distribution lines.

15. US West's proposal that the Commission authorize the use of US West's proposed rate for processing orders manually is denied.

16. US West's cost studies are approved for the purpose of establishing the stand-alone price of

    - Fiber Splicing,
    - Essential AC Power,
    - Essential AC Power Feed and
    - Composite Clock.

    US West may charge the resulting rates to a CLEC that requests any such service, except to the extent that the CLEC requests the service as part of a larger Commission-approved element.

17. Parties shall recalculate element prices consistent with this docket's Orders, and shall make a compliance filing within 30 days of the effective date of this Order setting forth the list of elements and corresponding rates.

18. The Commission adopts the HAI Model and NRCM, and the inputs, as established and modified in this docket's Orders. The Commission also adopts the prices resulting from the models and inputs as set forth in the docket's Orders.

19. This Order shall become effective immediately.

BY ORDER OF THE COMMISSION

Burl W. Haar
Executive Secretary

(S E A L)

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Vancouver, WA 98668
Phone: (360) 906-9703
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New Edge Networks

Fax

To:	Michael Bressman	**From:**	Robert Y. McMillin
Fax:	(615) 778-7354	**Date:**	August 8, 2000
Phone:	(615) 778-7350	**Pages:**	
Re:	Utah and Minnesota Line Cond. Orders	**CC:**	

☐ **Urgent** x **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

•Comments:

Michael,

Attached are the loop conditioning orders for Minnesota and Utah.

Sincerely,

Rob McMillin

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Proceeding on Motion of the Commission to Examine New York Telephone Company's Rates for Unbundled Network Elements	Case 98-C-1357

PANEL TESTIMONY OF BELL ATLANTIC - NEW YORK ON COSTS AND RATES FOR ADSL/HDSL-COMPATIBLE LOOPS AND DIGITAL-DESIGNED LOOPS

Members of Panel:

Carmelo R. Curbelo
Richard L. Fowler
James Schafer
John White

October 18, 1999

Q. What charges is BA-NY proposing to recover load coil removal costs?

A. A non-recurring Removal of Load Coil Charge recovers the costs associated with such removal. It should be noted that this charge does *not* recover any costs associated with load coil reconnection if the loop is subsequently surrendered by the CLEC and is used by BA-NY as a POTS loop.

BA-NY will not impose the Load Coil Removal charge if load coils must be removed from loops less than 18,000 feet long, since load coils are generally not required for such loops under the design criteria applied by BA-NY.[20] Since the number of load coils on a loop depends, under BA-NY's design criteria, upon its length[21], the charge is loop-length-sensitive. Longer loops have more load coils, and thus generate greater load coil removal costs.

Q. Covad/Rhythms Links affiant Murray finds "implausible" BA-NY's assumption, in its original cost study, that 69% of load coil removals occur in an underground environment, while only 31% occur in an aerial

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[20] *See* Bellcore, "Telecommunications Transmission Engineering", ST-TEC-000063 (3d ed. 1990). BA-NY's load coil placements conform to these criteria, which are consistent with general industry standards.

[21] Three load coils are generally used on loops more than 18,000 feet in length. A fourth coil is used on lengths more than 24,000 feet in length.

DOCKET NO. 20226

PETITION OF RHYTHMS LINKS, INC. FOR ARBITRATION TO ESTABLISH AN INTERCONNECTION AGREEMENT WITH SOUTHWESTERN BELL TELEPHONE COMPANY	§ § § § §	PUBLIC UTILITY COMMISSION OF TEXAS

DOCKET NO. 20272

PETITION OF DIECA COMMUNICATIONS, INC., d/b/a COVAD COMMUNICATIONS COMPANY FOR ARBITRATION OF INTERCONNECTION RATES, TERMS, CONDITIONS AND RELATED ARRANGEMENTS WITH SOUTHWESTERN BELL TELEPHONE COMPANY	§ § § § § § § §	PUBLIC UTILITY COMMISSION OF TEXAS

ARBITRATION AWARD

an electronic gateway to a database that contains the loop makeup information. SWBT should not be allowed to delay the provision of the mechanized loop qualification process for competitors to a date uncertain. The Arbitrators require SWBT to meet the implementation schedule in Section VIII of this Award.

19(b). Until SWBT deploys the mechanized loop makeup information process, what should the process be for a manual process?

Parties' Positions

Rhythms contends that the manual request process should consist of the CLEC submitting requests for loop make-up information via facsimile and SWBT returning the information in the same manner. According to Rhythms witness Ms. Gentry, SWBT currently provides loop make-up information for its own retail operations in three to five days.[268]

Covad maintains that SWBT should be required to develop a mechanized interface for loop makeup information, and does not provide evidence on the manual process.

SWBT states that the centers that handle tariffed ADSL service requirements are required to manually type ADSL service orders.[269] SWBT witness Mr. Deere indicates that when a CLEC requests qualification for an xDSL loop, SWBT manually performs the engineering work to determine the loop makeup and provides the information to the CLEC.[270]

Award

Until a real-time loop makeup database is operational, the Arbitrators find that SWBT shall provide CLECs with manually-derived loop makeup information upon request at no charge. Transmittals and responses between CLECs and SWBT should be by the quickest means practical; facsimile, telephone, or e-mail. As indicated in response to DPL Issue No. 15(a), if a CLEC chooses

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268 ACI Exhibit 2, Direct Testimony of Jo Gentry at 11 (Feb. 19, 1999).

269 SWBT Exhibit 6, Rebuttal Testimony of Michael C. Auinbauh at 16 (April 8, 1999).

270 SWBT Exhibit 26, Supplemental Rebuttal Testimony of William C. Deere at 12 (May 28, 1999).

to employ SWBT's manual pre-qualification system in a central office that has not been inventoried, the interval for CLEC receiving the response should be no longer than 10 business days. If a CLEC elects to have SWBT provide actual loop makeup information through a manual process, then the interval should be established as 3 business days.

20(a). Should the CLEC be allowed to make the business decision as to the need for loop conditioning based on information provided by SWBT?

20(b). Should SWBT be allowed to make all determinations regarding loop conditioning for CLEC needs within its sole discretion?

Parties' Positions

Rhythms reasons that only the particular CLEC knows the parameters of the services it seeks to deploy, and therefore should be able to request the specific type of conditioning required for a particular loop.[271] Rhythms argues that SWBT has the opportunity to see the total outside plant inventory for retail services, thus allowing SWBT the opportunity to find spare or alternative loop facilities that may not need conditioning.[272] Rhythms believes that SWBT should not make business judgements regarding the technical capabilities of CLECs; the CLEC will be in the best position to make decisions regarding conditioning depending on the technology to be used.[273]

Covad asserts, based on the revised contract language proposed by SWBT, that SWBT appears to conceptually agree with this point. Covad maintains, however, that the contract language proposed by SWBT is not acceptable for other reasons. Covad points out that SWBT's own retail loop qualification flows automatically into the loop provisioning interval so that SWBT does not suffer the same delays as Covad.[274]

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271 ACI Exhibit 1, Direct Testimony of Eric H. Geis at 39-40 (Feb. 19, 1999); ACI Exhibit 2, Direct Testimony of Jo Gentry at 18 (Feb. 19, 1999).

272 ACI Exhibit 2, Direct Testimony of Jo Gentry at 19 (Feb. 19, 1999).

273 ACI Exhibit 1, Direct Testimony of Eric H. Geis at 39-40 (Feb. 19, 1999).

274 Tr. at 1955 (June 5, 1999).

the following rates to adequately compensate for all costs associated with the provisioning of shielded cross connects.[341]

Shielded Cross Connects

	Recurring	Nonrecurring
2-Wire Analog Shielded Cross Connect	$1.64	$17.29
4-Wire Analog Shielded Cross Connect	$3.28	$42.13
2-Wire Digital Shielded Cross Connect	$1.64	$17.29
4-Wire Digital Shielded Cross Connect	$7.46	$51.62

29. Should SWBT be allowed to charge additional ADSL "Conditioning" charges?

Parties' Positions

Rhythms contends that SWBT should not be allowed to charge additional xDSL conditioning charges.[342] However, Rhythms argues that should the Arbitrators find that conditioning charges are appropriate, SWBT's xDSL conditioning cost studies should be modified to reflect reasonable and efficient costs for xDSL loop conditioning.[343] Rhythms argues that SWBT's study of xDSL conditioning costs is inconsistent with the TELRIC methodology[344] and the recurring cost studies that were adopted in the Mega-Arbitration. Rhythms explains that assuming, as SWBT did, a different network for purposes of calculating recurring and non-recurring costs can result in double counting of costs.[345] More specifically, Rhythms argues that SWBT proposed cost study is incorrect because it does not propose unit costs, calculates costs using inefficient practices, utilizes unsupported task times, and inappropriately bundles the costs for removing and re-installing bridged

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341 *See* Appendix C for revised cost study.

342 Rhythms only uses the term "conditioning charges" to simplify the discussion. However, Rhythms feels the term may be misleading as the term has traditionally been used in telecommunications to refer to situations in which equipment must be *added* to a circuit. In contrast, DSL-capable loops require that unnecessary equipment be *removed* from the circuit. *See* ACI Exhibit 5, Direct Testimony of Terry L. Murray at 19 (Feb. 19, 1999).

343 ACI Exhibit 5, Direct Testimony of Terry L. Murray at 23-36 (Feb. 19, 1999); ACI Exhibit 5a, Direct Testimony of Terry L. Murray at 23-36 (Feb. 19, 1999).

344 "The assumption of a network in which repeaters, bridged taps, and load coils must be removed from certain loops to make those loops DSL capable is fundamentally incompatible with the least-cost, most efficient technology assumptions of a forward looking economic cost study." *See* ACI Exhibit 5, Direct Testimony of Terry L. Murray at 20-21 (Feb. 19, 1999).

345 ACI Exhibit 5, Direct Testimony of Terry L. Murray at 20 (Feb. 19, 1999).

tap.[346] Rhythms provides adjusted proposed conditioning charges that correct the above concerns with SWBT's proposed cost study.[347]

Covad suggests that SWBT's proposed conditioning charges are nothing more than an anticompetitive barrier to Covad's entry into the xDSL market. Covad concurs with Rhythms and argues that SWBT's proposed conditioning charges would only add to the customers' costs.[348]

SWBT argues that the need to compensate it for loop conditioning was recognized by the *Local Competition Order*.[349] Nevertheless, SWBT only proposes to charge conditioning charges on xDSL loops greater than 12,000 feet.[350] SWBT concedes that over time, load coils, repeaters, and bridged tap will be slowly migrated out of SWBT's network.[351] Therefore, most loop conditioning will not be necessary in the future. Nevertheless, SWBT explains that some loops in today's network will require conditioning in order to provision xDSL services. SWBT explains that the conditioning activities will be performed by SWBT at the direct request of a CLEC. Therefore, SWBT contends, it should be fairly compensated for the work that it would otherwise not have performed. SWBT supplies a TELRIC-based xDSL conditioning cost study that calculates SWBT's proposed conditioning charges.[352]

Award

The Arbitrators find that SWBT should be fairly compensated for the work it performs when conditioning analog and digital xDSL loops at the request of a CLEC. The Arbitrators also find that SWBT's conditioning charges should be based on forward looking cost principles.

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346 *Id.* at 24 - 25; ACI Exhibit 5, Direct Testimony of Terry L. Murray at 24-25 (Feb. 19, 1999).

347 ACI Post Hearing Brief at 109 (Aug. 17, 1999); ACI Exhibit 5, Direct Testimony of Terry L. Murray at 30-32 (Feb. 19, 1999).

348 Covad Exhibit 1, Direct Testimony of Charles A. Haas at 14 (Feb. 19, 1999); Covad Post Hearing Brief, at 57-58 (Aug. 17, 1999).

349 *Local Competition Order* at ¶ 382.

350 SWBT Exhibit 8, Rebuttal Testimony of Jerry Fuess at 7-8 (April 8, 1999).

351 *Id.* at 6.

352 *Id.* at 4, 6.

The Arbitrators find that on a forward-looking basis, xDSL loops less than 18,000 feet in length should rarely require conditioning. The Arbitrators believe there is sufficient evidence to support the conclusion that the retention or existence of repeaters or load coils on loops that are less than 18,000 feet in length is not consistent with the TELRIC principles as applied to develop a forward-looking network design. SWBT testifies that the presence of load coils and repeaters will be relatively rare. SWBT asserts that in most cases repeaters will not be on the loop unless ISDN is being provisioned.[353] Moreover, the forward looking cost studies utilized in the Mega-Arbitration did not assume the existence of load coils or repeaters on loops less than 18,000 feet in length; instead loops in excess of 12,000 feet in length were fiber.[354] In addition, SWBT's revised resistance design rules for loop plant only place disturbers on loops at 18,000 feet in length and beyond.[355] The Arbitrators find that on a forward-looking basis, load coils or repeaters should not be present on loops less than 18,000 feet in length. The Arbitrators find that the record suggests that the existence of bridged tap may be included in a forward looking network design.[356] Therefore, the Arbitrators believe that conditioning charges for the removal of repeaters and load coils should only apply to xDSL loops at or beyond 18,000 feet in length. This is 6,000 feet greater than SWBT's proposal to only charge conditioning charges on xDSL loops greater than 12,000 feet in length.[357]

However, the Arbitrators recognize that the FCC has recently found that the incumbent, in this instance SWBT, should be able to charge for conditioning on loops at or less than 18,000 feet in length.[358] Therefore, the Arbitrators find that appropriate TELRIC-based conditioning charges

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[353] Tr. at 1328 (June 4, 1999).

[354] *Id.* at 1222-1225.

[355] *Id.* at 1229-1230.

[356] Tr. at 1237-1238, 1303-1305, 1328-1329 (June 4, 1999).

[357] SWBT Exhibit 8, Rebuttal Testimony of Jerry Fuess at 7-8 (April 8, 1999).

[358] *UNE Remand Order* at ¶¶ 192-194. The FCC states in paragraphs 193 and 194:

> We agree that networks built today normally should not require voice-transmission enhancing devices on loops of 18,000 feet or shorter. Nevertheless, the devices are sometimes present on such loops, and the incumbent LEC may incur costs in removing them. Thus, under our rules, the incumbent should be able to charge for conditioning such loops.
>
> We recognize, however, that the charges incumbent LECs impose to condition loops represent sunk costs to the competitive LEC, and that these costs may constitute a barrier to offering xDSL services. We also recognize that incumbent LECs may have an incentive to inflate the charge for line conditioning by including additional common and overhead costs, as well as profits. We defer to the

for the removal of repeaters, bridged taps, and/or load coils shall apply to loops of any length greater than 12,000 feet.

SWBT's proposed conditioning cost study only considers the costs associated with conditioning loops less than 17,500 feet in length. SWBT did not supply any cost information with respect to conditioning loops in excess of 17,500 feet in length.[359] When questioned during the hearing, SWBT did not provide a cost basis for choosing 17,500 feet for a cutoff.[360] However, the Parties agree that "…17.5 is not a magic cutoff where the cost characteristics become radically different…."[361] Rhythms asserts that there are generally no differences between loops less than or in excess of 17,500 feet in length.[362] SWBT witness Deere explained that with some technologies, loops require repeaters after reaching 18,000 feet in length; in his words, "that's why the distance was kept below that."[363]

The Arbitrators acknowledge that the Parties testified that the cost studies utilized in the Mega-Arbitration were completed according to TELRIC principles and designed to create an efficient POTS network.[364] Therefore, the designed network did not normally include load coils or repeaters on loops less than 18,000 feet in length.[365] However, this network design is contrary to the network modeled in SWBT's proposed xDSL non-recurring cost studies for conditioning, which does assume the existence of disturbers on loops less than 18,000 feet in length. The Arbitrators find that the network design inconsistencies in the recurring and non-recurring cost studies do not result in correct xDSL costs and rates and consequently render the proposed charges invalid. Therefore,

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states to ensure that the costs incumbents impose on competitors for line conditioning are in compliance with our pricing rules for nonrecurring costs.
(Footnotes omitted.)

359 Tr. at 1226 (June 4, 1999).

360 *Id.* at 1241.

361 *Id.* at 1243, 1403.

362 ACI Exhibit 1, Direct Testimony of Eric H. Geis at 41 (Feb. 19, 1999).

363 Tr. at 1243 (June 4, 1999).

364 *Id.* at 1222.

365 *Id.* at 1237, 1303, 1305.

the Arbitrators order SWBT to file new TELRIC-based cost studies for conditioning of analog and digital xDSL loops at or in excess of 18,000 feet in length. The Arbitrators also order SWBT to file a new TELRIC-based cost study for the removal of bridged tap, load coils, and repeaters on xDSL loops greater than 12,000 feet in length but less than 18,000 feet in length.

The Arbitrators order that both cost studies be based on the same network used to calculate xDSL loop rates,[366] incorporate the actual percentage of loops that require conditioning based on actual field experience, utilize efficient conditioning, and include a future discount. The Arbitrators find that evidence in the record suggests that over time, load coils, repeaters, and bridged tap will be migrated out of SWBT's network.[367] Therefore, most loop conditioning will not be necessary in the future. The Arbitrators also order SWBT to take into account any current plans and work in progress to rearchitect its network to push fiber deeper into the network structure, thereby reducing the likelihood that accreted devices, *e.g.*, load coils, would be present on loops. The Arbitrators order that this reduction in the likelihood of conditioning be reflected in the cost studies through a future discount. The Arbitrators also order that the modifications adopted below be addressed in the new cost studies. The Arbitrators invite Rhythms and Covad to file their own cost studies. Until new cost studies are approved by the Commission, the Arbitrators' interim conditioning rates shall apply.[368]

The Arbitrators adopt SWBT's proposed conditioning charges, with modification, on an interim basis. Specifically, the Arbitrators have removed the bridged tap re-installation from the cost of removing a bridged tap. The Arbitrators find, based upon the evidence in the record, that the CLEC should not be considered the appropriate "cost causer" for re-installing bridged taps.[369] *See* Attachment B, Paragraph D. The interim rates are based on TELRIC pricing principles. After the appropriate rate for each conditioning activity was determined, a 13.1% Common Cost Allocation Factor was applied.

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[366] *See* DPL at 62 (May 28, 1999).

[367] SWBT Exhibit 8, Rebuttal Testimony of Jerry Fuess at 6 (April 8, 1999).

[368] *See* Implementation Schedule, Section VIII of this Award.

[369] Tr. at 1347-1349 (June 4, 1999); SWBT Exhibit 8, Rebuttal Testimony of Jerry Fuess at 6 (April 8, 1999).

The Arbitrators also modify the cost studies to reflect the costs of efficient conditioning. SWBT states that it does not intend to condition more loops than the CLEC requests.[370] For example, if a CLEC requests conditioning on one loop in a binder group of 50 pairs, SWBT would dispatch a technician to condition only the single loop. However, SWBT's more efficient internal practice is to condition at least 50 loops at a time when it is necessary to dispatch a technician.[371] Therefore, the Arbitrators modify SWBT's xDSL conditioning cost study to reflect the more efficient practice of conditioning several loops, or entire binder groups, when a technician is dispatched and the cable splice is entered. Because of the smaller sized binder groups used in longer cabling, the Arbitrators find an appropriate unit size for the purpose of calculating conditioning charges for loops at or in excess of 18,000 feet in length to be 25. The Arbitrators use a unit size of 50 when calculating the charges for removing load coils, bridged taps, and/or repeaters on xDSL loops greater than 12,000 feet in length but less than 18,000 feet in length.[372]

Furthermore, the Arbitrators clarify that the additional charges for any mixed conditioning shall be the additional charge for the specific disturber unless an additional incidence of both disturbers exists on the loop. For example, when removing both bridged tap and load coils from a loop, the initial charge of $59.35 would apply. The $53.72 additional charge would only apply if the loop also necessitated the removal of additional bridged taps and additional load coils. If the loop *only* required the removal of additional bridged taps, the $18.81 additional bridged tap charge would then apply.

The Arbitrators stress that conditioning of xDSL loops shall only be performed at the request of the CLEC. The Arbitrators note for the record that SWBT could not testify that it has charged any SWBT retail ADSL customers the $900 conditioning charge listed in its federal tariff.[373] This appears to constitute a barrier to CLECs' offering of xDSL services, *i.e.*, charging wholesale customers conditioning charges, while excusing retail customers. Moreover, the likelihood of

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[370] SWBT Exhibit 8, Rebuttal Testimony of Jerry Fuess at 7 (April 8, 1999); ACI Exhibit 171, Staff Reserved RFI Responses (SWBT responses to ACI RFI 3-24) (June 5, 1999).

[371] ACI Exhibit 5, Direct Testimony of Terry L. Murray at 25-27 (Feb. 19, 1999); ACI Exhibit 171, Staff Reserved RFI Responses (June 5, 1999).

[372] *See* Appendix D for revised cost study.

[373] Tr. at 1327, 1401 (June 4, 1999).

SWBT applying conditioning charges to a retail customer is lower because SWBT has segregated "clean loops" for ADSL service, which is the type of xDSL service it initially intends to provision.[374] The record reflects that SWBT even considered pre-grooming loops for its own retail service, but has not pursued that option.[375]

The Arbitrators find that SWBT must make those "clean loops" available for all xDSL services and use by all xDSL providers. The Arbitrators find that opening access to the segregated binder groups to all xDSL providers for all xDSL services will help ameliorate the imbalance created by SWBT and decrease the likelihood of other xDSL providers incurring conditioning charges.[376] Therefore, when a CLEC orders an xDSL loop, SWBT must make available for use on a nondiscriminatory basis one of the segregated loops that does not need conditioning. If no more clean loops are available for use, then the conditioning charges stated below apply. The Arbitrators stress that SWBT's retail and/or advanced services affiliate shall not be given preferential access to such segregated clean loops, nor shall such clean loops be reserved exclusively for ADSL services.

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[374] Tr. at 1379, ll. 23-25-1380, ll. 1-24; 1382, ll. 8-12 (June 4, 1999):

A (Deere) Yes, it is. What we have done -- now, don't get confused between designating binding groups to be used for ADSL and preconditioning.
Q (Farroba) What's the difference?
A (Deere) Designating just says we have picked a binder group that does not have other digital services in it, and hopefully not adjacent to it, and designated it to be used for POTS and ADSL services.
Q (Farroba) Are you going to have to condition those designated fiber groups?
A (Deere) Again, as we've said before, we don't offer, on a retail basis, ADSL where the cables are loaded, and so we do not -- you know, we do not go out and remove load coils because we don't offer it where they're loaded because the POTS service isn't going to work, and we have not removed bridged taps, that I'm aware of anywhere. Again --
Q (Malone) So, Mr. Deere, you stated that Southwestern Bell has predetermined some binder groups that they will reserve for POTS and ADSL service?
A (Deere) They have designated, yes.
Q (Malone) Those are just for ADSL, not for any other flavor of DSL?
A (Deere) That is correct. We have said as part of the plan that we have put forth is that all other cable binder groups will be available for those services.
Q (Malone) Do you know how many wire centers you've already reserved binder groups in?
A (Deere) There are wire centers in the major metropolitan areas; a hundred plus. I don't have a number right off the top of my head.

See also Tr. at 1780-1785, 1793-1803 (June 5, 1999).

[375] ACI Exhibit 171, Staff Reserved RFI Responses (SWBT responses to ACI RFI 3-22, 3-23) (June 5, 1999); Tr. at 1381-1385 (June 4, 1999).

[376] *See* DPL at 30 (May 28, 1999).

The Arbitrators find that the interim conditioning charges, listed below, are applicable to every xDSL loop greater than 12,000 feet in length but less than 18,000 feet in length, in which the CLEC requests the removal of bridged tap, load coils, and/or repeaters.

	Nonrecurring Initial	Additional
Removal of Repeater	$10.82	$9.41
Removal of Bridged Tap and Repeater	$27.08	$24.19
Removal of Bridged Tap	$17.62	$14.79
Removal of Bridged Tap and Load Coil	$40.44	$37.62
Removal of Load Coil	$25.66	$22.83
Removal of Repeater and Load Coil	$35.06	$32.23

The Arbitrators find that the interim conditioning charges, listed below, are applicable to every xDSL loop, at or in excess of 18,000 feet in length, that requires the specific conditioning listed.

	Nonrecurring Initial	Additional
Removal of Repeater	$16.25	$13.42
Removal of Bridged Tap and Repeater	$37.89	$32.23
Removal of Bridged Tap	$24.46	$18.81
Removal of Bridged Tap and Load Coil	$59.35	$53.72
Removal of Load Coil	$40.55	$34.89
Removal of Repeater and Load Coil	$53.99	$48.34

Until such time as permanent conditioning charges are approved, SWBT shall condition xDSL loops, at the request of Petitioners, at the interim charges above. The conditioning charges are subject to refund/surcharge upon approval of permanent conditioning charges, back to the date the Interconnection Agreements resulting from this Award become effective.

30. Should SWBT be allowed to charge for a Loop Qualification Process?

Parties' Positions

See DPL Issue No. 18.

Award

The Arbitrators find that SWBT cannot impose a loop qualification process rather than provide information concerning loop makeup. Therefore, finding an appropriate charge for a loop qualification process is not necessary. *See* DPL Issue No. 18.

31. Is it appropriate to charge for loop makeup information?

Parties' Positions

Rhythms states the forward-looking cost of providing loop makeup information is $0. Rhythms notes that the *Local Competition Order* requires SWBT to offer its competitors access to the information existing in its OSS and related databases using mechanisms comparable to those available to its own personnel for accessing such information.[377] Additionally, Rhythms argues that the *Advances Services Order* concludes that new entrants should have full access to specific loop technical and engineering data as to "...the number of loops using advances services technology within the binder and type of technology deployed on those loops."[378] Rhythms states that the record reflects that SWBT can and will use its access to loop information to tailor a fully electronic loop qualification process for its own retail ADSL operations. Thus, Rhythms argues, pursuant to FCC requirements, SWBT is obligated to offer Rhythms electronic access to this same loop makeup information.[379]

Rhythms believes that the cost of the loop makeup information should reflect the forward-looking economic cost of providing the information to Rhythms via an electronic interface. Rhythms argues that the cost for such a process would be *de minimis* because it involves no more than a small incremental use of SWBT's processor capacity.[380]

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[377] ACI Post-Hearing Brief at 112 (Aug. 17, 1999); *Local Competition Order* at § 51.313(c).

[378] ACI Post-Hearing Brief at 112 (Aug. 17, 1999); *Advanced Services Order* at ¶ 73 (footnote omitted).

[379] ACI Post-Hearing Brief at 112 (Aug. 17, 1999).

[380] *Id.*

Covad agrees with Rhythms' rationale and argues that SWBT should provide CLECs with a computerized interface with its databases that will eliminate the need for SWBT to incur any expenses in providing loop makeup information to CLECs.[381]

SWBT offers to provide CLECs loop make-up information free of charge via the pre-qualification process.[382] The free information consists of one of three indicators that will identify the loop as a copper-based facility less than 12,000 feet, a copper based facility between 12,000 and 17,500 feet, or a copper based facility in excess of 17,500 feet, or a noncopper based facility.[383] SWBT states that it will negotiate a rate along with terms and conditions for providing additional information on a manual basis.[384]

Award

The Arbitrators find that SWBT should be fairly compensated for the real time access to its OSS functionalities required by DPL Issue No. 15. Because the OSS functionalities have not been created, the Arbitrators cannot adopt a cost-based rate for loop makeup information. However, during the interim, the Arbitrators find the non-recurring "dip charge" below to be appropriate. The Arbitrators find the "dip charge" to be in addition to any established service order charges applicable to Petitioners. The "dip charge" will apply on a per loop basis.

The Arbitrators order SWBT to file a cost study for the loop makeup information charge within one month after the implementation of its fully mechanized, real time, OSS functionalities as ordered in DPL Issue. No. 15. Until the Commission has approved a cost study, the Arbitrator's interim "dip charge" will apply. Until such time that a permanent loop make-up information charge is approved, SWBT shall provide Petitioners loop make-up information at the interim "dip charge" below. The interim "dip charge" is subject to refund/surcharge upon approval of a permanent loop

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[381] DPL at 68-69 (May 28, 1999).

[382] SWBT Post Hearing Brief at 42 (Aug. 17, 1999).

[383] SWBT Exhibit 7, Rebuttal Testimony of William C. Deere at 9 (April 8, 1999). The pre-qualification has been referred to as "red, yellow, green."

[384] *Id.*

make-up information charge back to the date the Interconnection Agreements resulting from this Award become effective.

The Arbitrators' decision is consistent with the terms of the SBC/Ameritech merger, in which the FCC found that "SBC/Ameritech is not required to eliminate extra charges for manual processing of service orders, provided that an electronic means of processing such orders is available to carriers. If, however, no electronic interface for processing orders of 30 lines or less is available to a carrier, SBC/Ameritech will eliminate any extra charge for manual processing and shall charge instead the rate for processing similar orders electronically."[385]

	Nonrecurring "Dip Charge"
Loop Makeup Information (Per Loop)	$0.10

32. If SWBT is permitted to require shielded cable for xDSL technologies, is there any additional cost associated with shielded intraoffice versus non-shielded cable?

Parties' Positions

See DPL Issue Nos. 7, 28(a), and 28(b).

Award

The Arbitrators find that SWBT is not permitted to require shielded cable for xDSL technologies. The Arbitrators add that all cross connect facilities, shielded or non-shielded, must be provided in a reasonable and non-discriminatory manner.[386]

35. How should cageless collocation be priced?

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[385] SBC/Ameritech Merger Order at ¶ 384.

[386] *UNE Remand Order* at ¶ 178.

**AMENDMENT TO THE
AGREEMENT BETWEEN
BLUESTAR NETWORKS, INC.
AND BELLSOUTH TELECOMMUNICATIONS, INC.
DATED DECEMBER 28, 1999
(Kentucky)**

Pursuant to this Amendment, BlueStar Networks, Inc. ("BlueStar") and BellSouth Telecommunications, Inc. ("BellSouth"), hereinafter referred to individually as a "Party" or collectively as the "Parties," hereby amend that certain Interconnection Agreement between the Parties dated December 28, 1999 (the "Interconnection Agreement") in the state of Kentucky.

WHEREAS, the Parties entered into an Interconnection Agreement on December 28, 1999; and

WHEREAS, the Parties desire to amend that Interconnection Agreement.

NOW THEREFORE, in consideration of the mutual provisions contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby covenant and agree as follows:

1. Attachment 2 of the Interconnection Agreement is hereby amended to include the following language as a new Section 2.1.5.

2.1.5 **Loop Make-Up Service Inquiry**

2.1.5.1 BellSouth shall use its best efforts to make available to BlueStar, a Loop Make-Up Service Inquiry process that will provide a description of available copper facilities for a specified customer location no later than June 1, 2000. This information will allow BlueStar to make a determination of the loops capabilities to support the service that Bluestar intends to provide to that customer. It will also allow Bluestar to determine what type of loop conditioning activities (using BellSouth's Unbundled Loop Modification product), if any, may be needed by BlueStar.

2.1.5.2 The information provided via this process includes: 1) the portion of the loop serviced by Digital Loop Carrier (if applicable), 2) cable lengths and gauges, 3) the presence and location of load coils, 4) the presence, location and length of bridged taps.

2.1.5.3 This process is available to BlueStar based on telephone number or specific address. Requests submitted based on telephone numbers will provide the loop make-up of the loop currently serving that telephone number. Requests submitted based on a specific address will contain a single Loop Make-Up for an available copper loop at that customer's location. Additionally, for requests to a specific address, when a copper facility is available and the LMU is returned to Bluestar, BellSouth will reserve that facility for four (4) business days and a Facility Reservation Number (FRN) will be provided to Bluestar.

2.1.5.4 The interval for this Loop Make-Up Service Inquiry process is seven (7) business days. This interval is separate from the Provisioning Interval stated in the Interval Guide.

2.1.5.5 If Bluestar subsequently wants to order the facility that was reserved, Blusestar shall submit an LSR with the BellSouth provided FRN to the LCSC. In these cases, BellSouth will reduce the Non-Recurring Charge (NRC) of the ordered xDSL-capable loop by an amount equivalent to the charge for the LMU process described in this addendum.

2.1.5.6 Rates for Loop Make-Up Service Inquiry are as follows:

Loop Make-Up Service Inquiry	USOC	State	Rate*
Per Service Inquiry	UMKLP	KY	$100.00

*These rates are interim, subject to true-up.

2. This Amendment shall have an effective date of May 31, 2000.

3. All other provisions of the Interconnection Agreement dated December 28, 1999 shall remain in full force and effect.

4. Either or both of the Parties shall submit this Amendment to the appropriate Commission for approval subject to Section 252(e) of the Federal Telecommunications Act of 1996.

IN WITNESS WHEREOF, the Parties hereto have caused this Amendment to the Interconnection Agreement be executed by their respective duly authorized representatives on the date indicated below.

BlueStar Networks, Inc.

By: Norton Cutler

Name: Norton Cutler

Title: VP Regulatory & General Counsel

Date: 5/9/00

BellSouth Telecommunications, Inc.

By: [signature]

Name: Jerry Hendrix

Title: Senior Director

Date: 5/9/00

**AMENDMENT TO THE
INTERCONNECTION AGREEMENTS BETWEEN
BLUESTAR NETWORKS, INC. AND
BELLSOUTH TELECOMMUNICATIONS, INC.**

THIS AMENDMENT ("Amendment") is made by and between BellSouth Telecommunications, Inc. ("BellSouth") and BlueStar Networks, Inc. ("BlueStar"), as of the 7th day of June 2000. (BellSouth and BlueStar are collectively referred to as the "Parties".)

WHEREAS, the Parties executed an Interconnection Agreement on December 28, 1999 (Florida, Georgia, Kentucky, and Tennessee), (collectively, the "Agreement"); and

WHEREAS, the Parties desire to amend the Agreement to set forth the terms and conditions relating to BellSouth providing to BlueStar unbundled access to the high frequency spectrum of BellSouth's local loops as a network element.

NOW, THEREFORE, for and in consideration of the promises contained herein, the parties to this Amendment, intending to be legally bound, hereby agree as follows:

1.0 Attachment 2 of the Agreement shall be amended by adding the following Section 12:

12.0 HIGH FREQUENCY SPECTRUM NETWORK ELEMENT

12.1 **GENERAL**

BellSouth shall provide BlueStar access to the high frequency portion of the local loop as an unbundled network element ("High Frequency Spectrum") High Frequency Spectrum at the rates set forth in Section 4 herein. BellSouth shall provide BlueStar with the High Frequency Spectrum irrespective of whether BellSouth chooses to offer xDSL services on the loop.

12.1.1 The High Frequency Spectrum is defined as the frequency range above the voiceband on a copper loop facility carrying analog circuit-switched voiceband transmissions. Access to the High Frequency Spectrum is intended to allow BlueStar the ability to provide Digital Subscriber Line ("xDSL") data services. The High Frequency Spectrum shall be available for any version of xDSL presumed acceptable for deployment pursuant to 47 C.F.R. Section 51.230, including, but not limited to, ADSL, RADSL, and any other xDSL technology that is presumed to be acceptable for deployment pursuant to FCC rules. BellSouth will continue to have access to the low frequency portion of the loop spectrum (from 300 Hertz to at least 3000 Hertz, and potentially up to 3400 Hertz, depending on equipment and facilities) for the purposes of providing voice service. BlueStar shall only use xDSL technology prices mandated by the state public utility commissions; however, no true up will be performed until mutually agreed to permanent prices are established or permanent prices are established by state public utility commissions. Once a docket in a particular state in BellSouth's region has been opened to determine permanent prices for the High Frequency Spectrum, BellSouth will provide cost studies for that state for the High Frequency Spectrum upon BlueStar's written request, within 30 days or such other date as may be ordered by a state commission. All cost related information shall be provided pursuant to a proprietary, non-disclosure agreement.

12.4.2 BellSouth and BlueStar enter into this Agreement without waiving current or future relevant legal rights and without prejudicing any position BellSouth or BlueStar may take on relevant issues before state or federal regulatory or legislative bodies or courts of competent jurisdiction. This clause specifically contemplates but is not limited to: (a) the positions BellSouth or BlueStar may take in any cost docket related to the terms and conditions associated with access to the High Frequency Spectrum; and (b) the positions that BellSouth or BlueStar might take before the FCC or any state public utility commission related to the terms and conditions under which BellSouth must provide BlueStar with access to the High Frequency Spectrum. The interim rates set forth herein were adopted as a result of a compromise between the parties and do not reflect either party's position as to final rates for access to the High Frequency Spectrum.

DESCRIPTION	USOC	FL	GA	KY	TN
SYSTEM, SPLITTER – 96 LINE CAPACITY	ULSDA				
Monthly recurring		$100	$100	$100	$100
Non Recurring – 1st		$150	$150	$300	$150
Non Recurring – Add'l.		$0	$0	$0	$0
Non Recurring – Disconnect Only		$150	$150	NA	$150
SYSTEM, SPLITTER – 24 LINE CAPACITY	ULSDB				
Monthly recurring		$25	$25	$25	$25
Non Recurring		$150	$150	$300	$150
Non Recurring – Add'l.		$0	$0	$0	$0
Non Recurring – Disconnect Only		$150	$150	NA	$150
LOOP CAPACITY, LINE ACTIVATION – PER OCCURRENCE	ULSDC				
Monthly recurring		$6.00	$6.00	$6.00	$6.00
Non Recurring – 1st		$40	$40	$40	$40
Non Recurring – Add'l.		$22	$22	$22	$22
SUBSEQUENT ACTIVITY – PER OCCURRENCE -	ULSDS				
Non Recurring – 1st		$30	$30	$30	$30
Non Recurring – Add'l.		$15	$15	$15	$15

12.4.3 Any element necessary for interconnection that is not identified above is priced as currently set forth in the Agreement.

2.0 BellSouth shall make available to BlueStar any agreement for the High Frequency Spectrum entered into between BellSouth and any other CLEC. If BlueStar elects to adopt such agreement, BlueStar shall adopt all rates, terms and conditions relating to the High Frequency Spectrum in such agreement.

3.0 In the event of a conflict between the terms of this Amendment and the terms of the Interconnection Agreement, the terms of this Amendment shall prevail.

4.0 All of the other provisions of the Agreement shall remain in full force and effect.

5.0 Either or both of the Parties is authorized to submit this Amendment to the respective state regulatory authorities for approval subject to Section 252(e) of the Federal Telecommunications Act of 1996.

IN WITNESS WHEREOF, the Parties hereto have caused this Amendment to be executed by their respective duly authorized representatives on the date indicated below.

BlueStar Networks, Inc.

By: Norton Cutler

Name: Norton Cutler

Title: General Counsel

Date: June 7, 2000

BellSouth Telecommunications, Inc.

By: [signature]

Name: Jerry Hendrix

Title: Senior Director

Date: 6/15/00