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RECORDS AND REPORTING

August 21, 2000

Mrs. Blanca S. Bayo
Director, Division of Records and Reporting
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399

RE: Docket No. 990649-TP

Dear Mrs. Bayo:

Enclosed are an original and 15 copies of BellSouth Telecommunications, Inc.'s. Rebuttal Testimony of D. Daonne Caldwell, William H. B. Greer, Wiley G. (Jerry) Latham, W. Keith Milner, Joseph H. Page, Ronald M. Pate, Walter S. Reid, James W. Stegeman and Alphonso J. Varner. Please file these documents in the captioned docket.

A copy of this letter is enclosed. Please mark it to indicate that the original was filed and return the copy to me. Copies have been served on the parties shown on the attached Certificate of Service.

Sincerely,

Bennett L. Ross (SW)

Bennett L. Ross

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Enclosures

cc: All Parties of Record
M. M. Criser, III
N. B. White
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CERTIFICATE OF SERVICE
Docket No. 990649-TP

I HEREBY CERTIFY that a true and correct copy of the foregoing was served via Federal Express and Electronically this 21st day of August, 2000 to the following:

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ORIGINAL

BELLSOUTH TELECOMMUNICATIONS, INC.

REBUTTAL TESTIMONY OF D. DAONNE CALDWELL

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 990649-TP

(PHASE II)

AUGUST 21, 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 the development of economic costs.

Q. ARE YOU THE SAME D. DAONNE CALDWELL THAT FILED DIRECT TESTIMONY AND PHASE I REBUTTAL TESTIMONY IN THIS DOCKET?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. My testimony addresses the issues that the Florida Public Service Commission ("Commission") intends to consider in Phase II of this proceeding. Thus, my testimony is devoted to responding to cost development issues raised in the

testimony filed by intervening parties. Specifically, I respond to allegations made by Sprint witnesses, Steven M. McMahon, Talmage O. Cox, James W. Sichter, and Kent W. Dickerson, Broadslate/Cleartel/FL Digital/Network Telephone ("The Coalition") witness, Mark Stacy, FCTA witness, William J. Barta, FCCA witness, Joseph P. Gillan, AT&T/MCI WorldCom witnesses, Brenda J. Kahn, John C. Donovan, Brian F. Pitkin, Greg Darnell, and Jeffrey King, BlueStar/Covad/Rhythms Links ("Data ALECs") witnesses, Joseph P. Riolo and Terry L. Murray.

REBUTTAL OF TESTIMONY

Q. CAN YOU SUMMARIZE THE COMMENTS MADE BY INTERVENING PARTIES WITH RESPECT TO COST DEVELOPMENT?

A. Yes. The main thrust of the criticism can be divided into the following areas:

1) Nonrecurring Cost Development – especially for xDSL loops, loop modification, and access to BellSouth's loop make-up databases. Additionally, there appears to be an underlying implication that BellSouth is seeking to double recover labor costs in both its recurring and nonrecurring costs.

2) Models - BSTLM assumptions, engineering rules, and network design and the SST© model. (BellSouth witness Joe Page is filing rebuttal testimony in response

to AT&T/MCI witness Catherine Pitts' comments concerning BellSouth's SST model. Additionally, Jim Stegeman, on behalf of BellSouth, will address the BSTLM. BellSouth witness Keith Milner will address the underlying engineering assumptions utilized in the BSTLM.)

3) Factors – shared and common cost factors, inflation, in-plant factors, and loadings. (BellSouth witness Walter Reid is addressing the common cost factor in his rebuttal testimony.)

4) Deaveraging – which elements display cost variation by geographic location and thus, should be deaveraged. It appears as if Sprint is the only party advocating deaveraging anything but the loop. (BellSouth witness Al Varner will support BellSouth's proposed deaveraging methodology in his rebuttal testimony.)

5) Network Terminating Wire/Intrabuilding Network Cable ("NTW/INC") – several parties are questioning BellSouth's proposed method of access and the associated costs. BellSouth witness Keith Milner will respond to the comments concerning the provisioning of NTW/INC. I will discuss the cost development.

Q. BOTH THE FEDERAL COMMUNICATIONS COMMISSION ("FCC") AND THE EIGHT CIRCUIT COURT HAVE ISSUED ADDITIONAL RULINGS THAT AFFECT THIS PROCEEDING. PLEASE COMMENT.

A. Since the last proceeding in which the Commission established cost-based rates, the FCC issued its UNE Remand Order. While the FCC's UNE Remand Order did not

alter the Total Element Long Run Incremental Cost ("TELRIC") methodology, it basically expanded the universe of elements BellSouth is obligated to offer to Alternative Local Exchange Carriers ("ALECs"). On July 18, 2000 the United States Court of Appeals for the Eighth Circuit issued an opinion that struck down the FCC's TELRIC pricing rules. The Court held that unbundled network element ("UNE") costs should be determined using forward-looking costs of the Incumbent Local Exchange Company's ("ILEC's") existing network rather than on the costs of a hypothetical network of an imaginary carrier.

BellSouth has not fully evaluated the impacts of the Court's decision on the cost methodology for UNEs, further, the full impacts will not be known until the FCC issues new rules consistent with the Eighth Circuit's decision. Therefore, BellSouth has not made any changes to the underlying TELRIC methodology, used in the August 16th filing, to reflect the affect of the Eighth Circuit Court's decision. Thus, BellSouth's costs are forward-looking but are conservative (low) based on the Eight Circuit's opinion.

Several parties have dusted off their crystal balls and are making predictions as to the impact of the recent Eighth Circuit Court's Ruling with respect to cost development. As I stated previously, BellSouth feels it is premature to anticipate the full impact or the eventual outcome of this decision. However, let me state that Ms. Murray's belief that this ruling can somehow be construed to exclude consideration of shared and common costs in the rate setting process is not supported by the Court's decision. (Murray Testimony, Page 13)

Additionally, FCCA witness Mr. Gillan's belief that the Court's decision advances the exclusion of "fixed" costs such as costs associated with land and buildings is unsupportable. (Gillan Testimony, Page 13) In fact, this short-run methodology is in direct violation of the long-run principle of cost development.

Supra witness Mr. Nilson also offers another short-run approach he claims follows the Eighth Circuit's intent. At page 5, he states that because of the Eighth Circuit's ruling, "ILECs should be required to provide the current time in service of each and every piece of equipment comprising the UNEs to be priced." In other words, as I understand Mr. Nilson's point, BellSouth should determine the remaining life of every piece of equipment and every facility that comprise the network being unbundled. This would be a daunting task to say the least, and is an absurd proposition on its face. Furthermore, using remaining lives to establish forward-looking costs is inconsistent with a forward-looking cost approach since all costs are variable in the long run.

NONRECURRING COST DEVELOPMENT

Q. PLEASE EXPLAIN THE DIFFERENCES BETWEEN CAPITALIZED LABOR AND NONRECURRING LABOR EXPENSE.

A. Since the majority of the parties' testimony centers on the loop, I will use it as an example. The labor associated with the installation of the loop (i.e., the construction of the loop) is capitalized based on accounting rules. Part 32 of the FCC's Code of Federal Regulations states: "In accounting for construction costs, the utility shall charge to the telephone plant accounts, all direct and indirect costs."

Included in the direct and indirect costs are the "wages and expenses of employees directly engaged in or in direct charge of construction work." Thus, BellSouth has appropriately included these labor-related costs (construction costs) in the calculation of the investment; i.e., as part of the capitalized plant account. The costs associated with the investment (material plus installation costs) are expressed on a recurring (monthly) basis and are comprised of capital costs and operating expenses.

Nonrecurring costs, on the other hand, include activities associated with provisioning the service after the loop has been installed. In other words, these are costs BellSouth incurs as a result of a service request.

Q. SEVERAL WITNESSES SEEM TO BE CONFUSED BY THIS DEFINITION OF NONRECURRING COSTS AND ASSERT THAT BELLSOUTH INAPPROPRIATELY REFLECTS ITS LABOR COSTS IN ITS STUDY. PLEASE COMMENT.

A. Ms. Murray's statement on page 55 that "the recurring cost that new entrants incur already includes costs for all installation work that BST also seeks to include in its nonrecurring cost study" is false. As I mentioned previously, the nonrecurring costs BellSouth incurs to provision an unbundled loop for an ALEC are incremental to BellSouth's capitalized costs associated with installing the facilities in the first place. The nonrecurring costs reflect the activities required to activate the circuit, such that it is working for the ALEC and only once BellSouth receives a service request from the ALEC. Examples

of nonrecurring activities include running the jumpers at the cross-box, making the physical connection at the Network Interface Device ("NID"), and testing the circuit to ensure that it meets the transmission requirements set for the specific loop ordered. None of the costs of these activities are included in BellSouth's recurring costs and therefore, there is no double recovery of costs.

Q. SEVERAL OF THE WITNESSES FEEL THAT ACTIVITIES BELLSOUTH CATEGORIZED AS NONRECURRING ARE ALREADY RECOVERED IN THE RECURRING MAINTENANCE FACTOR. ARE THEY CORRECT?

A. No. Joseph Riolo's contention that loop conditioning costs are included in BellSouth's plant maintenance costs is false. (Riolo Testimony at Page 12) Mr. Riolo feels that load coil removal is part of BellSouth's modernization program and thus, the costs associated with that activity are captured as part of BellSouth's maintenance budget, ultimately ending up in BellSouth's plant specific expense. However, BellSouth is not aggressively removing load coils as part of any rehabilitation initiative.[1] The load coils that are currently on loops less than 18 Kft have been placed for a purpose at some point in time and unless specific trouble occurs in the cable, they are not removed. It is the ALEC's service request that causes BellSouth to incur the cost to remove load coils or bridged tap. Thus, BellSouth is justified in charging the ALEC for the

[1] Ms. Murray's discussion, at page 46, of SBC's "Project Pronto" is illustrative of such a modernization initiative. BellSouth has not evaluated such a project. Furthermore, costs of such a magnitude ($6 billion) have not been considered in BellSouth's cost study.

activity.

Sprint witness Steven McMahon, makes a similar mistake on page 26 of his testimony in equating trouble resolution activities to maintenance activities that are considered in the recurring cost of the loop. Again, this is a misrepresentation of the correct classification of labor costs. BellSouth cannot close the ALEC's service request until all troubles are cleared and the circuit is available for the ALEC's desired use. The costs associated with clearing a trouble as part of a service request are obviously not part of the routine maintenance costs included in the recurring cost component and are appropriately calculated as a nonrecurring expense.

One important aspect that distinguishes a nonrecurring cost from a recurring cost is that a nonrecurring cost reflects a one-time activity; i.e., it is not part of a recurring on-going routine. The conditioning and testing activities discussed by Mr. Riolo and Mr. McMahon are one-time tasks undertaken only after a service request is received.

Q. SEVERAL OF THE WITNESSES HAVE ARGUED THAT A NETWORK BASED ON A FORWARD-LOOKING DESIGN WOULD NOT HAVE LOAD COILS AND BRIDGED TAP AND THUS, BELLSOUTH SHOULD NOT BE ENTITLED TO RECOVER ANY COSTS ASSOCIATED WITH CONDITIONING. PLEASE RESPOND.

A. I agree with the postulate that a forward-looking network being designed today

would not include load coils. In fact, load coils are not included in BellSouth's forward-looking loop recurring cost studies. However, the fact remains that ALECs are requesting unloaded copper loops from BellSouth's existing network, which contains both load coils and bridged tap. The removal of these elements is a very real on-going cost that BellSouth will incur each and every time that an ALEC requests that BellSouth condition a loop. As long as BellSouth is required to remove load coils and bridged tap at the ALEC's request, BellSouth must be allowed to recover those costs. This is completely consistent with the FCC's views that, "under our rules, the incumbent should be able to charge for conditioning such loops." (¶193, FCC CC Docket 96-98 UNE Remand Order)

On pages 85-86 of her testimony, Ms. Murray attempts to interpret the FCC's intent. First, I agree with Ms. Murray that "a state commission may require an incumbent to recover any nonrecurring costs through recurring charges." This is an issue addressed in Phase I of this proceeding, and both the Tennessee Regulatory Authority and the North Carolina Utilities Commission have adopted this approach for certain nonrecurring costs. It is this Commission's decision as to how costs should appropriately be charged, constrained by practical considerations, such as, the ability to bill. It is Ms. Murray's second point, however, that requires comment. She asserts that "the incumbent's *recurring* costs and charges for unbundled loops will completely capture the forward-looking costs for providing loops free of load coils, excessive bridged tap and other devices." As I have discussed previously, this is simply not the case. Further, the loop portion of the cost study provides costs for loops free of load coils and bridged tap, but does not include costs for removing them.

Q. ON PAGE 72, MR. RIOLO ALLEGES THAT LOOP CONDITIONING IS PROVIDED AT NO CHARGE FOR BELLSOUTH'S RETAIL ADSL SERVICE. IS HE CORRECT?

A. No. BellSouth offers two distinct retail ADSL services, Industrial Class and Business Class. As the document from which Mr. Riolo quotes states, "Industrial Class service is provisioned as a non-design 'as-is' service." (Page 7, 915-800-019PR – Outside Plant Engineering Methods and Procedures for BellSouth® ADSL Service). The Industrial Class service was intended for the residential market, and BellSouth does not ordinarily condition a loop in order to make the service work for that customer. The efforts Mr. Riolo lists in his testimony are made only in limited cases and only in the event BellSouth mistakenly told the customer that the loop would meet ADSL parameters when in fact it could not. Thus, BellSouth felt obligated to attempt to make the loop work and absorb the cost of doing so. On the other hand, for Business Class service, BellSouth will make an effort to make the loop compliant with ADSL standards. The cost associated with this conditioning effort was reflected in the cost study for BellSouth's retail ADSL service and allocated to all Business Class ADSL loops.

Q. ON PAGE 54 OF HER TESTIMONY, MS. MURRAY CONTENDS THAT BELLSOUTH "INAPPROPRIATELY PRESUMES THAT IT SHOULD BUNDLE MANUAL LOOP QUALIFICATION AND CONDITIONING RELATED COSTS INTO THE COST TO PROVISION DSL-CAPABLE LOOPS." PLEASE RESPOND.

A. As discussed in my revised direct testimony filed on August 18, 2000, BellSouth has revised its nonrecurring costs in its August 16th filing to separate the costs associated with producing a manual loop make-up from the provisioning of the xDSL loop. Rebuttal Exhibit DDC-7 outlines the impact of the revised nonrecurring costs for xDSL loops. This change should address at least part of Ms. Murray's concerns.

Ms. Murray's second point that BellSouth included conditioning costs in its xDSL provisioning costs is accurate. As I explained in my rebuttal testimony filed in Phase I of this proceeding, BellSouth has endeavored to expand the universe of xDSL-capable loops for short loops by unloading 10 pairs each time conditioning takes place. The conditioning cost has been allocated among those 10 pairs. It is projected that of the 10 conditioned loops, an ALEC will purchase 2 and BellSouth will utilize 4 pairs. That leaves 4 pairs whose conditioning costs will not be recovered. BellSouth developed an additive that is applied to ADSL-compatible loops, HDSL-compatible loops, and Unbundled Copper Loops ("UCLs") - Short in order to compensate BellSouth for the unrecovered costs based on the probability of xDSL loops requiring conditioning. This additive is displayed on Rebuttal Exhibit DDC-7 as ULM Additive.

Q. REBUTTAL EXHIBIT DDC-7 SHOWS A COST FOR MECHANIZED LOOP MAKE-UP ("LMU"). PLEASE EXPLAIN WHAT THAT COST REFLECTS.

A. First, let me state that BellSouth's August 16th filing substantially reduced the cost from $1.08 per query to $.69 per query. This reduction was the result of lower than expected costs for implementing mechanized LMU. Second, the cost associated with the mechanized loop make-up reflects the investment-related expenses for the newly installed computer servers and data communications equipment. The vendor-installed prices and installation costs for the incremental investments are identified along with their associated hardware maintenance expenses. This cost also includes software expenses for system development, contractor expenses for the development, enhancement and implementation for the computer applications, and ongoing computer application support.

Q. MR. RIOLO ASSERTS ON PAGE 50 THAT "THE PRICE FOR THIS FUNCTION SHOULD NOT EXCEED THE INCREMENTAL COST OF THE PROCESSOR TIME ASSOCIATED WITH SUCH A DIP." PLEASE COMMENT.

A. Obviously, from reviewing my previous response, BellSouth incurs costs for more than a mere "dip" into its database. Software must be installed, additional equipment must be purchased, and programming must be preformed in order for ALECs to make use of the mechanized LMU. Each of these activities causes BellSouth to incur a cost, which is caused by the ALECs, and thus, should be recovered from the ALECs.

Q. IN DEVELOPING NONRECURRING COSTS, MR. RIOLO IMPLIES THAT NETWORK PERSONNEL "MERELY AGREED TO ACCEPT THE

COST ESTIMATES PROVIDED TO [THEM] BY THE COST GROUP." (PAGE 25) PLEASE RESPOND.

A. Let me explain the process BellSouth used to update the nonrecurring cost information. Existing input information was gathered, and the different activities for each loop were compared to other loops that had similar provisioning requirements. This comparison was provided to the product teams for review, possible update, and final concurrence.

If Mr. Riolo is alleging that the cost analyst produced the inputs that went into the study, he is sadly mistaken. As I described previously, the current product teams were provided then existing inputs that had been provided to the cost group as a starting point for the product team's review. The product teams could accept, reject, or modify those inputs. The original inputs also were obtained from network experts that participated on prior product teams and were in no way, shape, or form "developed" by the cost analyst.

Q. MR. RIOLO ALSO CLAIMS TO HAVE DISCOVERED DISCREPANCIES BETWEEN THE COST STUDY AND SUPPORTING DOCUMENTS. ARE HIS CLAIMS ACCURATE?

A. No. On page 16, Mr. Riolo claims that BellSouth's cost study inappropriately includes two test procedures and thus, overstated the costs. The real problem is one of terminology and perspective. From the viewpoint of the UNE Center ("UNEC"), it is coordinating one test, but for two locations, one inside the central

office and one in the field. Thus, in actuality there is one test that takes 54 minutes (2X27).

On page 19, Mr. Riolo states that BellSouth "erroneously" used 61.8 minutes instead of 45 minutes for Complex Resale Support Group ("CRSG") time. Mr. Riolo apparently disregarded the second page of the CRSG document upon which Mr. Riolo relies. This document clearly states that the 45 minutes "Assumes perfect flow". Of course, "perfect flow" is rarely achieved. Thus, the additional 16.8 minutes is appropriately considered for resolving order complications. Mr. Riolo also implies that BellSouth did not consider the fact that multiple loops may be ordered at the same time when calculating CRSG work times. (Page 25) This is not true. BellSouth's cost study reflects a "First and Additional" rate structure, designed to recognize just such cost savings. Further, if one were to review the input file, it is clear the work times for the CRSG differ between First and Additional.

Also on page 19, Mr. Riolo claims that BellSouth has overstated the Local Carrier Service Center ("LCSC") work time for service inquiry by 15 minutes. The document upon which Mr. Riolo relied is outdated and was not used by the cost organization in developing the time for LCSC functions. The 45 minute assumption was provided by the LCSC subject matter expert based on more current information.

On page 27, Mr. Riolo asserts that BellSouth has double counted travel time. If one were to review the explanation of the activities that comprise his 115.2

minutes, however, it is evident that these minutes relate to activities that take place only after the technician is at the work site. Because the technician is not magically transported to the work location, travel time must be included! Travel time is not reflected in the 115.2 minutes, notwithstanding, Mr. Riolo's claim to the contrary. The 20 minutes contained in the equation in the input file reflects the time required for the technician to receive and analyze the service request, not for travel. This information is also contained in the document that generated the chart Mr. Riolo presented as part of his testimony.

Q. AT&T WITNESS JEFFERY KING CONTENDS THAT BELLSOUTH HAS "INTRODUCED UNNECESSARY WORKGROUPS." (PAGE 12) ARE HIS ASSERTIONS JUSTIFIED?

A. No. Mr. King's elimination of the LCSC and UNEC/Access Customer Advocate Center ("ACAC") work centers is based upon an incorrect premise. His reasoning that "BellSouth's own retail operations do not incur" costs associated with these work centers misses the point. In the retail environment, BellSouth has a business office that corresponds to the LCSC and an ACAC for Access customers. The LCSC and the ACAC are integral centers involved in the provisioning of UNEs and UNE combinations and the cost of operating these centers must be reflected in developing forward-looking costs.

Q. SPRINT WITNESS STEVEN MCMAHON CLAIMS THAT BELLSOUTH'S NONRECURRING COSTS FOR ENHANCED EXTENDED LINKS ("EELS") EXCEEDS THE SUM OF THE INDIVIDUAL COMPONENTS.

(PAGE 30) PLEASE COMMENT.

A. Mr. McMahon failed to realize that BellSouth's Voice Grade Local Loop for Combinations (Element P.17.10) is valid for all voice-grade loops; i.e., it reflects an average provisioning time for the various types of 2-wire and 4-wire loops. Thus, a comparison between an average rate for a combination and a single rate for a specific element is not a valid comparison. Furthermore, the notion that nonrecurring costs for EELs exceeds the sum of the individual components is not universally true, as reflected in my Rebuttal Exhibit DDC-8. For example, for a 4-wire Voice Grade Loop with DS1 IOF, the sum of the UNEs is $710.23 and the cost of the combination is $673.99. Similarly, for a DS3 Loop with DS3 IOF, the sum of the UNEs is $1,515.97, and the nonrecurring cost of the combination is $1,050.83.

MODELS

Q. ON PAGE 14, AT&T/MCI WORLDCOM WITNESS JEFFREY KING COMMENTS ON BELLSOUTH'S MODELS. PLEASE RESPOND.

A. Mr. King's broad statement that "Many computations were found to be in error", makes it difficult, if not impossible, to respond in any meaningful manner. However, BellSouth filed an updated cost study on August 16, 2000 that should remedy Mr. King's concerns, particularly the "incorrect cell references" and "hard coding" problems Mr. King identifies.

Q. ON PAGES 45-46 OF THEIR TESTIMONY, MR. PITKIN AND MR. DONOVAN LIST THE "FLAWS" THEY FEEL NEED TO BE

CORRECTED IN BELLSOUTH'S BSTLM. PLEASE SUMMARIZE BELLSOUTH'S POSITION ON EACH OF THEIR PROPOSED MODIFICATIONS.

A. Mr. Pitkin and Mr. Donovan raise twelve issues concerning the BSTLM. I will address the following issues:

1) Use of BellSouth's "Combo" scenario to reflect use of integrated digital loop carrier systems;
2) Use of the plant-specific factors recommended by Mr. Darnell;
3) Use of the expense development factors recommended by Mr. Darnell;
4) BellSouth's alleged attempts to double-count the effects of inflation;
5) BellSouth's installation and engineering factors versus the Commission's prior unit-cost determinations;
6) BellSouth's installation and engineering factors for DLC equipment;
7) BellSouth's use of multiple vendors for Digital Loop Carrier ("DLC") equipment;
8) BellSouth's method of allocating common equipment based on DS0 capacity;
9) BellSouth's land and building investment calculations.

BellSouth witness Walter Reid also will respond to Mr. Pitkin and Mr. Donovan's recommendations for expense adjustments (Issue 3). BellSouth witness Jim Stegeman will discuss how the BSTLM utilizes DS0s in sizing equipment and thus, why this Commission should reject AT&T/MCI WorldCom's proposal with respect to Issue 8. Mr. Stegeman will also respond to the following issues:

1) Adjusting the loop length criteria to reflect the most efficient network design consistent with the Commission's decision in the USF proceeding;
2) Requiring BellSouth to evaluate and "correct" routing algorithms;
3) Requiring BellSouth to "correct" drop calculations.

Mr. Pitkin and Mr. Donovan also propose that this Commission adopt the depreciation and cost of capital input presented by AT&T/MCI WorldCom. These issues will be resolved as part of the Phase I decision in this docket.

Q. ON PAGE 6 OF THEIR TESTIMONY, MR. PITKIN AND MR. DONOVAN STATE THAT THE BSTLM "ESTIMATE[S] THE FORWARD-LOOKING COSTS OF PROVIDING UNBUNDLED NETWORK ELEMENTS USING CURRENT TECHNOLOGY." IS THIS AN ACCURATE ASSESSMENT?

A. Well, they got half of it right. The BSTLM does estimate forward-looking costs. However, it is not based upon the "current" technology BellSouth has deployed in its network today to the extent such "current" technology is not forward-looking. In fact, the model builds a network using the most efficient network design, which utilizes forward-looking technology to obtain that goal.

The forward-looking investments determined by the BSTLM are in turn used to determine the forward-looking maintenance costs associated with those investments. Thus, Ms. Murray's analogy on page 42 of the ALECs paying for building a "brand-new" car and absorbing the cost of maintaining an "older"

vehicle is incorrect. The BSTLM develops the cost of building and maintaining a forward-looking network.

Q. ON PAGE 9 OF HIS TESTIMONY, MR. PITKIN MAINTAINS THAT EVEN AFTER THREE VERSIONS OF RSERVICE.SYS FILES FROM BELLSOUTH, HE HAS NOT BEEN ABLE TO REPLICATE BELLSOUTH'S FILING RESULTS USING THE BSTLM. PLEASE COMMENT.

A. The BSTLM develops material investments based on the scenario selected and a set of characteristics identified on a Report Services (Rservice) screen in the Reports section of the model. The Rservice setup determines: 1) the components of the network included in the UNE ; 2) the services used as the universe for each UNE; 3) the special characteristics/restrictions (e.g., only include locations served less than 18,000 feet from the wire center) that apply to each UNE; and 4) the central office adders that should be included with the UNE.

While Mr. Pitkin is correct that BellSouth originally filed an Rservice.sys file that contained errors, the file was correct for most of the UNEs. Therefore, the erroneous Rservice.sys file did not prevent Mr. Pitkin from replicating BellSouth's filing for most of the UNEs. Additionally, BellSouth's Rservice screens were set up for three different scenarios, each intended to be used to develop specific UNE costs. Mr. Pitkin has chosen to use only one scenario – the Combo scenario – for all UNEs. This, along with many of the other changes Mr. Pitkin attempted to incorporate into the BSTLM, has more to do with Mr. Pitkin's inability to match

BellSouth's results than did the incorrect Rservice.sys file. Furthermore, BellSouth has corrected the Rservice.sys file in its August 16th filed cost study.

Q. YOU STATED THAT THE BSTLM DEVELOPS MATERIAL BASED ON THE SCENARIO SELECTED. WHILE BELLSOUTH USED THREE SCENARIOS, ON PAGE 13, MR. PITKIN CLAIMS THAT ONLY ONE SCENARIO IS NEEDED. (MS. MURRAY ALSO ADVANCES THIS CLAIM.) CAN YOU ELABORATE ON THE SCENARIOS BELLSOUTH USED IN ITS FILING OF THE BSTLM AND WHY EACH IS REQUIRED?

A. BellSouth uses three scenarios to develop the costs of the various UNEs and the loop component of combinations in this filing. First, the BST2000 scenario is used to develop material investments for all of the non-copper only, non-UNE Combination UNEs. Second, the Copper Only scenario is used to develop those UNEs served only on unloaded copper feeder and distribution facilities. Third, a Combo scenario is used to develop material associated with the two loops used in UNE combinations (the 2-wire analog voice grade loop and the 2-wire ISDN loop).

The BST2000 scenario reflects the fact that all UNE loops (other than those combined with a port in the Combo scenario) served via a fiber feeder based digital loop carrier ("DLC") system must operate on a non-integrated basis since these unbundled loops are not terminated directly into the BellSouth switch. This is accomplished in the BSTLM by setting all of the switched services to "non-switched" so the model will build the network such that these loops terminate in a

central office terminal rather than terminating in a directly integrated DS1 into the switch.

The Copper Only scenario is necessary in order to develop costs for non-loaded copper facilities requested by the ALECs. Neither the BST2000 scenario nor the Combo scenario can be used for these loops since both of those scenarios limit loops served on copper to approximately 12,000 feet. However, ALECs want access to available copper loops at any distance and do not want to be limited to access to loops of specific length. Therefore, if either the BST2000 scenario or the Combo scenario is used to develop costs for any of the "copper only" loops, the costs developed by the BSTLM would be based only on those loops less than 12,000 feet. Since BellSouth did not want to limit copper-only loops to 12,000 feet or less, the new "Copper Only" scenario was created with a crossover from copper to fiber set beyond the wire center boundaries resulting in all loops in this scenario served on copper feeder and distribution cable.

The Combo scenario, as noted above, is used only for the 2-wire analog voice grade and 2-wire ISDN loops used in combination with a port. Since combination loop/port offerings can be served via integrated DLC, this scenario sets all switched services back from the "non-switched" setting used in BST2000 to the "switched" setting. With this setting, all switched services are designed using integrated DLC.

Q. ON PAGE 41 OF HER TESTIMONY, MS. MURRAY ASSERTS THAT THE "USE OF A SINGLE, CONSISTENT NETWORK DESIGN

PREVENTS THE INCUMBENTS FROM DOUBLE-RECOVERING" COSTS. IS SHE CORRECT?

A. No. Ms. Murray's proposition of using one network would, in fact, lead to an under-recovery of BellSouth's costs because not all possible uses for a loop to a specific customer location are considered with a single scenario. For example, assume a customer is located 15,000 feet from the central office. If the Combo scenario was used exclusively, this customer would never be considered for an unbundled copper loop since in the Combo run all loops over 12,000 feet are served via DLC or fiber. Also, if this loop was used to provide a stand-alone loop that connects to an ALEC switch, the cost is understated. Before a voice grade circuit can go to an ALEC switch, this loop must be removed from the DLC digital DS1, converted to voice grade, and terminated on the main distribution frame ("MDF"). The costs for this conversion and the MDF termination are not included in the Combo run. Multiple scenarios are the only way to ensure that all costs of the various UNEs are identified.

In each of the scenarios BellSouth built, the "total quantity of facilities" was considered; i.e., each scenario had the same overall line count. This methodology is appropriate since BellSouth cannot anticipate the ultimate use for any particular loop. A loop delivering voice grade service today potentially can be utilized to provide digital service tomorrow. Thus, Ms. Murray's contention that BellSouth failed to consider "the total quantity of facilities and functions" is without merit.

Q. MR. PITKIN CLAIMS ON PAGE 15 THAT COPPER-ONLY UNES SHOULD BE DEVELOPED FROM THE "COMBO" NETWORK SCENARIO. IS HE CORRECT?

A. No, for two reasons. First, the combo scenario is based on loops being provided on fiber-based DLC systems directly integrated into the switch at the central office. As I've already discussed, this is not a realistic assumption for unbundled loops served on copper. Copper only unbundled loops do not terminate in BellSouth switches and, therefore, cannot be terminated at a DS1 level directly into the switch. In fact, copper-only loops cannot be served via DLC on fiber.

Second, the Combo scenario assumes all loops greater than 12,000 feet from the wire center are served on fiber-fed DLC systems. Therefore, the Combo scenario only develops costs for copper loops less than 12,000 feet. If one were to accept Mr. Pitkin's argument, the average cost of all copper-only loops would be based only on those loops less than 12,000 in length. Since the ALECs request copper-only loops of all lengths, Mr. Pitkin's approach is unreasonable.

Q. ON PAGE 29 OF HER TESTIMONY, MS. MURRAY STATES THAT BELLSOUTH HAS NOT ASSUMED THE MOST EFFICIENT DLC TECHNOLOGY BY NOT ASSUMING THE USE OF IDLC. IS SHE CORRECT?

A. No. BellSouth's studies reflect Integrated Digital Loop carrier ("IDLC"), as Ms. Murray notes, in its "Combo" scenario since these loops are combined with a

switch port and can be terminated directly into BellSouth's switch. However, BellSouth cannot use IDLC and directly integrate stand-alone loops into BellSouth's switch at the DS0 level. Mr. Milner addresses this issue in greater detail. While an ALEC could buy a full DS1 from the DLC remote terminal into the central office, BellSouth has an offering for an unbundled DS1 loop that the ALEC can purchase. However, if the ALEC orders individual 2-Wire Voice Grade Unbundled Loops, then by definition those loops cannot terminate in BellSouth's switch. Therefore, they cannot ride integrated DLC.

Q. ON PAGE 34 OF MR. DONOVAN'S AND MR. PITKIN'S TESTIMONY, THEY STATE THAT THEY HAVE CHOSEN THEIR SECOND DESIGN OPTION OF "USING EXTENDED RANGE LINE CARDS ABOVE 13,000 FEET WITH A MAXIMUM LOOP LENGTH OF 16,800 FEET ON 26-GAUGE COPPER CABLE, WITH NO 24-GAUGE COPPER CABLE". IS THERE A FLAW IN THIS ANALYSIS?

A. Yes. First, it ignores BellSouth's design principles, which are addressed by Mr. Milner. Second, through no fault of their own, Mr. Donovan and Mr. Pitkin analysis is flawed because in the original cost filing, BellSouth inadvertently set all extended range line card costs equal to the normal line card costs. This was an oversight on BellSouth's part that has been corrected in the August 16th filing. Based on the fact that Mr. Donovan and Mr. Pitkin did not adjust these card costs, as evidenced by Exhibit JCD/BFP-10, their comparative analysis of the two engineering approaches is invalid.

Q. MR. PITKIN AND MR. DONOVAN ARGUE THAT CERTAIN "FIXED" INVESTMENTS; SUCH AS, DLC COMMON EQUIPMENT AND FIBER CABLE SHOULD NOT BE ALLOCATED TO THE SERVICES USING THOSE FACILITIES ON THE BASIS OF DS0 EQUIVALENTS. INSTEAD, THEY ARGUE THAT ALLOCATION SHOULD BE BASED ON PAIR EQUIVALENTS. (PAGES 35-39) DO YOU AGREE WITH THEIR APPROACH?

A. Absolutely not. First of all, I continue to believe the best approach of assigning investment of items, such as DLC common equipment and fiber facilities, is on the basis of DS0 equivalents. This methodology represents a reasonable approach and, in many cases, the equipment is actually sized based on DS0 equivalents. While one could debate the assignment of these costs, the fact is that the BSTLM uses DS0 equivalents not only to assign "fixed" investments among services, but it also uses DS0 equivalents to size the equipment. Therefore, as Mr. Pitkin and Mr. Donovan point out on page 39 of their testimony, they have indeed adjusted down the capacity requirements of the DLC optical equipment. To illustrate my point, a DS1 requires 24 DS0s or 2 pairs. Using 2 lines instead of 24 DS0s as input, the BSTLM would size the equipment to support only 2 DS0s, not the 24 DS0s that are really required. The bottom line is that this adjustment proposed by Mr. Pitkin and Mr. Donovan understates the equipment requirements generated by the BSTLM and therefore, understates the costs. For this reason alone, this Commission should disregard their results from the model.

Q. IN DISCUSSING BELLSOUTH'S ISDN COSTS, MS. MURRAY

MAINTAINS THAT THE BELLSOUTH STUDY INAPPROPRIATELY ASSUMES THAT HIGHER BANDWIDTH OF DIGITAL LOOPS RESULTS IN HIGHER COSTS OF CENTRAL OFFICE AND REMOTE TERMINAL COSTS. IS SHE CORRECT?

A. No. BellSouth's study correctly apportions a greater cost of DLC equipment to ISDN, which requires greater bandwidth requirements, than to POTS-type services. As Ms. Murray notes, "each of the incumbents" has done this. This is not a "BellSouth" methodology. Cost studies typically assign DLC common costs and fiber costs on the basis of DS0 equivalents. Sprint's methodology basically mirrors what BellSouth has done with respect to this issue.

Q. ON PAGE 26 OF HER TESTIMONY, MS. MURRAY COMPARES BELLSOUTH'S RECURRING COST FOR A 2-WIRE ANALOG SERVICE LEVEL ("SL")1 LOOP TO THE COST OF AN UNBUNDLED COPPER LOOP. IS HER COMPARISON VALID?

A. No. First, if such a cost comparison were to be made, it should be a comparison of an SL2 (designed loop) and the unbundled copper loops (short and long) both designed. By using an SL1 loop, Ms. Murray distorts the example. Second, Ms. Murray uses another inappropriate comparison on page 39 where she states that "BST proposes a statewide average monthly recurring rate for ISDN-capable loops of $29.80, about 67% more expensive than BST's proposed charge for analog loops." Her math is only correct if one compares an SL1 (non-designed loop) to the ISDN-capable loop, which is an invalid comparison.

Q. BELLSOUTH'S COST STUDY INCLUDES SEPARATE COSTS FOR A SHORT (<18KFT) UNBUNDLED COPPER LOOP ("UCL") AND FOR A LONG (>18KFT) UNBUNDLED COPPER LOOP. FROM A COST METHODOLOGY PERSPECTIVE, IS THIS RATE STRUCTURE APPROPRIATE?

A. Yes. As I have explained earlier in my testimony, a special run was made in the BSTLM based on the assumption that all potential xDSL customer locations are served via copper, the Copper Scenario. Two investment reports are then generated from the BSTLM, one that reflects loops less than 18Kft (UCL-Short) and one that reflects loops greater than 18kft in length (UCL-Long).

Everyone recognizes that loop length is a major cost driver. However, this is especially true for loops that are 100% copper, where digital loop carrier costs and fiber cable costs are not considered in the calculations. In fact, the cost of copper loops increases practically linearly with length. This relationship can be seen from the information presented below:

Loop	Average Length	Cost
2-wire UCL-Short	10,139 feet	$18.06
2-wire UCL – Long	42,844 feet	$53.24
4-wire UCL – Short	8,380 feet	$26.05
4-wire UCL – Long	40,140 feet	$93.13

(The length data was obtained from BSTLM reports.)

Because there is a distinct difference between the long and the short versions of the UCL, costs should be developed that reflect this fact. Thus, this is not a "pricing scheme" as Ms. Murray alleges on page 24, but instead it is a definite reflection of the physical make-up of the loop. Therefore, this Commission should ignore Ms. Murray's recommendation that it "reject BST's proposed distinctions based on loop length." (Murray testimony, Page 24)

Q. MR. PITKIN AND MR. DONOVAN HAVE PROPOSED USING INPUTS FROM THE COMMISSION'S DECISION IN THE UNIVERSAL SERVICE FUND ("USF") PROCEEDING. IS THIS ADVISABLE?

A. No. While Mr. Pitkin's and Mr. Donovan's attempt to limit the number of areas of potential controversy by relying on previous Commission decisions is laudable, an important distinction between the current proceeding and the Universal Service Fund proceeding exists. Universal Service Funding is designed to set a subsidy level for all providers, while the UNE proceeding is designed to set permanent rates for BellSouth. In its discussion of the use of forward-looking economic costs with respect to USF, the FCC stated that, "long run, forward-looking economic cost best approximates the costs that would be incurred by an efficient carrier in the market." (Paragraph 224, Report and Order Docket No. 96-45) With that objective in mind, this Commission issued its USF Order relying heavily on input from Sprint, considered by this Commission to be representative of an "efficient

provider." On the other hand, the rates set here should be set at a level that compensates BellSouth (not Sprint) for the use of BellSouth's (not Sprint's) network.

In fact, the FCC's Third Report and Order alluded to this subtle, but important difference; the "benchmark of forward-looking cost and existing network design most closely represents the incremental costs incumbents actually expect to incur in making network elements available to new entrants." (Paragraph 685, FCC Third Report and Order, emphasis added) The Eight Circuit Court's recent ruling only underscores the need to use inputs that reflect the cost to BellSouth of the use of BellSouth's network and not some hypothetical efficient provider.

Q. ON PAGES 28-29 OF THEIR TESTIMONY, MR. PITKIN AND MR. DONOVAN PROPOSE THAT THE BSTLM BE MODIFIED TO CHOOSE THE LEAST COST VENDOR FOR DLC PLACEMENTS? PLEASE COMMENT.

A. Programming the model to evaluate alternative vendors for each DLC site once the site was sized would be a nightmare. BellSouth's solution simplified the execution of the program without significantly sacrificing the accuracy of the results. Using BellSouth's methodology, if one were to examine the cost of each DLC site individually, some would potentially be high, but others would be lower than if one were to use the methodology proposed by Mr. Pitkin and Mr. Donovan. On the average, however, the costs would be reflective of the cost BellSouth is expected to incur on a going-forward basis.

Q. SINCE BELLSOUTH DID NOT FULFILL THEIR REQUEST TO REPROGRAM THE BSTLM, MR. PITKIN AND MR. DONOVAN DECIDED TO USE ONLY ONE VENDOR. PLEASE COMMENT.

A. Mr. Pitkin's and Mr. Donovan's single-vendor approach is unreasonable because BellSouth will be employing multiple vendors on a going-forward basis to deploy its network and to provision unbundled network elements. Multiple vendors generate competition and the beneficial discounts obtained because of that competition are reflected in the investments BellSouth presented in its cost study. Additionally, exclusive contracts may result in a price above the market-driven price in later years. Also, there is no guarantee the price for the life of the contract will always be the lowest available. At some point in time, switching to the low cost provider may be more costly due to equipment compatibility issues.

Another aspect of using more than one vendor is accessibility to the supplier. Use of multiple vendors ensures BellSouth will be able to obtain the necessary equipment in a timely manner. Single-sourced operations potentially suffer from lack of parts due to delays in equipment delivery. Anyone who construes a forward-looking "least cost" methodology to mandate choosing only one vendor or weighting more toward the "least-cost" vendor misinterprets this guideline. Only by having multiple vendors can equipment prices be driven to the levels BellSouth's cost studies reflect and only by considering the on-going distribution between vendors that BellSouth actually utilizes can costs reflect BellSouth's incurred costs and ensure adequate equipment supply.

Q. AFTER THEY MADE ALL OF THEIR ADJUSTMENTS, MR. PITKIN AND MR. DONOVAN PRODUCED A COST OF $7.42 FOR A 2-WIRE UNBUNDLED COPPER LOOP (SL1). PLEASE COMMENT.

A. This result should definitely call into question the adjustments AT&T and MCI WorldCom are proposing. The last time this Commission established the rate of an unbundled 2-wire loop in Florida for BellSouth, the Commission used $17.00. There is no reason that Messrs. Donovan and Pitkin offer for the cost of a 2-wire loop to decline so precipitously in such a short period of time. Obviously, something is very wrong with the revisions made to the model and inputs proposed by Mr. Pitkin and Mr. Donovan.

Q. SPRINT WITNESS KENT DICKERSON DISCUSSES BELLSOUTH'S DEVELOPMENT OF COSTS FOR HIGH CAPACITY LOOPS. PLEASE RESPOND TO HIS CONCERNS.

A. It appears that Mr. Dickerson does not have any problem with the manner in which BellSouth developed its material prices nor with the underlying study methodology. On page 17, however, he states "I have a concern with the weighting factors (Probability of Occurrence) used to determine the frequency of occurrence of each Synchronous Optical Network (SONET) Terminal type." I will address his concerns. On page 22, he displays a chart that compares BellSouth's inputs to Sprint's inputs for these items:

	BST Local Loop	Sprint
OC - 3	75%	64.58%
OC - 12	20%	22.92%
OC - 48	5%	12.50%

Mr. Dickerson laments that "BellSouth has a much greater occurrence of Urban Wire Centers" and thus, should have at least comparable distributions to Sprint. Mr. Dickerson fails to realize that BellSouth has two distinct offering, Local Loops and Local Channels. If one introduces both types of loops into Mr. Dickerson's chart, it is apparent that the two companies are using basically the same inputs.

	BST Local Loop	BST Local Channel	BST Average	Sprint
OC - 3	75%	55%	65.0%	64.58%
OC - 12	20%	25%	22.5%	22.92%
OC - 48	5%	20%	12.5%	12.50%

Of course while I have used a straight average rather than a weighted average, this straightforward analysis indicates that the disparity about which Mr. Dickerson is concerned should be no concern at all.

Q. ON PAGE 19, MR. DICKERSON STATES THAT "NO EXPLANATION IS PROVIDED FOR THE EQUIPMENT UTILIZATION LEVELS" FOR HIGH CAPACITY LOOPS. PLEASE COMMENT ON THIS

STATEMENT.

A. Utilization is developed and applied in the SONET model and does vary based on network functionality, transmission level, and study area. Utilization is multiplexed down to accommodate the required transmission level and the formulas are shown in the UTIL table in the SONET model. BellSouth obtained utilization data from the Loop Engineering Information System ("LEIS").

Q. FCTA WITNESS WILLIAM BARTA SUGGESTS CERTAIN INPUT MODIFICATIONS TO THE BSTLM. PLEASE COMMENT.

A. Mr. Barta recommends that BellSouth's cost study be "modified to include two additional parties sharing pole facilities." (Page 27) If I understand this correctly, Mr. Barta is proposing that BellSouth incur 1/3 of the pole costs. Even though the model now allows structure sharing percentages as an input, BellSouth's filed cost study still relies on a loading factor to determine pole investment associated with aerial cable. Any structure sharing is reflected in the plant specific factors in the form of rents received. However, based on a review of the number of poles BellSouth owns, the number of non-BellSouth poles to which BellSouth attaches, and rents, the percentage should be closer to 40%, not the 33% proposed by Mr. Barta.

On page 28, Mr. Barta implies BellSouth "deploy[ed] facilities to satisfy demand that is not expected to materialize." If this were true, the result would be low utilization rates, which is not the case with the BSTLM. Furthermore, as I

explained in my direct testimony, the BSTLM builds to existing customer locations, thus, the demand is already there! Therefore, Mr. Barta's concerns with respect to utilization are unfounded.

FACTORS

Q. MR. DONOVAN AND MR. PITKIN CLAIM THAT BELLSOUTH'S COST CALCULATIONS IMPROPERLY DOUBLE COUNT THE EFFECTS OF INFLATION. ARE THEY CORRECT?

A. No. On page 17 Mr. Donovan and Mr. Pitkin state, "The cost of capital employed by BellSouth, the Commission, and Mr. Hirshleifer are 'nominal' costs of capital. Nominal costs of capital compensate investors not only for the time value of money and business and financial risk, but also for the effects of inflation." They then claim that because of this BellSouth's proposed costs double-count inflation because a unit-cost inflation factor is also applied to the material investment generated by the BSTLM.

Mr. Donovan and Mr. Pitkin have ignored the fact that there are two distinct types of inflation that impact the cost BellSouth will incur; one to compensate investors for the use of their funds and the other to capture the increase/decrease in cost of the plant itself. The cost of capital, as they state, compensates investors for the use of their funds and of course, this must consider inflation effects. On the other hand, the loop material costs are the actual costs BellSouth incurs in running the business. To imply that the costs BellSouth faces in purchasing plant are immune to inflation is ridiculous. BellSouth must pay both for its facilities and to reimburse its

investors.

AT&T witness Mr. Hirshleifer's testimony addresses the appropriate cost of capital, period. Nowhere does he state that it is incorrect to apply inflation to the loop material costs. Furthermore, Mr. Hirshleifer cites work by Thomas Copeland in his testimony.

The following discussion from Mr. Copeland's economic text supports my position:

Source: "Financial Theory and Corporate Policy", 3rd edition by Thomas E. Copeland and J. Fred Weston, 1988 Addison-Wesley Publishing Company, page 62-63:

> The market data utilized in the estimated current capital costs will include a premium for anticipated inflation. But while the market remembers to include an adjustment for inflation in the discount factor, the cash flow estimates used by the firm in the capital budgeting analysis may fail to include an element to reflect future inflation. Given that the cost of capital (observed using market rates of return) already includes expected inflation, the decision maker can correct for inflation either (a) by adding an estimate of inflation to the cash flows in the numerator or (b) by expressing the numerator without including an adjustment for inflation and removing an inflationary factor from the market rate in the denominator... Sound analysis requires that the anticipated inflation

rate be taken into account in the cash flow estimates.

Thus when anticipated inflation is properly reflected in both the cash flow estimates in the numerator and the required rate of return from market data in the denominator, the resulting NPV calculation will be in both real and nominal terms. This was noted by Findlay and Frankle [1976] as follows: "Any properly measured, market-determined wealth concept is, simultaneously, *both nominal and real.* NPV, or any other wealth measure gives the amount for which one can 'cash out' now (nominal) and also the amount of today's goods that can be consumed at today's prices (real)" (p.84). Thus if inflation is reflected in both the cash flow estimates and in the required rate of return, the resulting NPV estimate will be free of inflation bias.

Clearly, according to the economic theory relied upon by AT&T and MCI's own expert witness, accounting for inflation both in the cost of capital and in the cash flow analysis is the correct methodology. Thus, BellSouth's reflection of inflation both in the investment calculation and as a consideration in establishing the cost of capital is valid.

Q. SPRINT WITNESS KENT DICKERSON ALSO ATTEMPTS TO DISCREDIT BELLSOUTH USE OF INFLATION FACTORS. DOES HE HAVE A VALID ARGUMENT?

A. No. Let me note that Mr. Dickerson does not question the appropriateness of an inflation factor. Rather, he alleges that the methodology BellSouth uses to determine the inflation factors for use with material prices involves adding a loading factor to inflation and then subtracting productivity. Unfortunately, Mr. Dickerson has confused the process by which BellSouth projects plant specific expenses for future years with how the inflation adjustment factor that is used in conjunction with material prices is developed. In determining future plant specific expenses, BellSouth appropriately uses the following components to project a growth rate; load (percent change in average access lines in service), inflation related to labor, and productivity offset. This calculation appropriately recognizes the fact that expenses related to maintenance; i.e. plant specific expenses, are highly labor intensive.

The inflation factor is developed to recognize the increase/decrease in prices BellSouth pays for physical pieces of plant on average over a three-year period. Exhibit DDC-9 (from file InflinLv2.xls in the BellSouth cost study) illustrates that this calculation is nothing more than a straight average of the cumulative effect of inflation over the study period.

Q. A NUMBER OF PARTIES RAISE CONCERNS WITH BELLSOUTH'S RELIANCE ON IN-PLANT FACTORS TO DETERMINE ENGINEERING AND INSTALLATION COSTS. PLEASE RESPOND.

A. BellSouth utilizes in-plant loading factors to add engineering and installation labor and miscellaneous equipment to the material price and/or vendor installed price. That is, the in-plant loading converts the material price to an installed investment.

On pages 23-26 of their testimony, Mr. Donovan and Mr. Pitkin allege BellSouth's outside plant in-plant factors overstate the costs of larger sized cables. While the relationship of the combined costs of installation labor, exempt material, sales tax and engineering to total material costs may not be perfectly linear, the use of in-plant factors produces representative cost results when viewed on a total cable placement basis. While the use of in-plant factors may potentially overstate, to some degree, the costs for large size cables, Mr. Donovan and Mr. Pitkin conveniently disregard the fact that if one believes that in-plants overstate the cost of large sized cables, then the corollary is also true; i.e., that the in-plants potentially understate, to some degree, the costs for small size cables.

Rebuttal Exhibit DDC-10 depicts: 1) the cable route feet placed by cable size produced by the BSTLM and 2) the actual cable route feet placed by cable size during 1998 as derived from the Vintage Retirement Unit Cost ("VRUC") extract. For copper cable placement, the following points are relevant:

1) The 1998 VRUC data, upon which BellSouth's in-plants are based, reflects somewhat of a bell-shaped curve with most copper placement related to 25 pair (12%), 50 pair (26%), 100 pair (21%), 200 pair (14%), and 300 pair (7%). Only 20% of BellSouth's 1998 placements relate to cable sizes of 400 pair and larger. The in-plant factors are theoretically based on the composite total installed and

material costs for the universe of cables placed in 1998.

2) The network placed by the BSTLM assumes a greater incidence of small cable placement; i.e., 25 pair (42%), 50 pair (14%), 100 pair (9%), 200 pair (12%), 300 pair (5%) with about 18% of the placements related to cable sizes of 400 pair and larger.

Thus, if the theory advanced by Mr. Donovan and Mr. Pitkin were true, BellSouth has understated the cost of its copper loop network since the BSTLM has projected a greater percent of small cable placements then what was used to develop the factors.

Referencing page 25 of their testimony, the statement that "the true cost of placing a 400-pair cable is not significantly higher than the cost of placing a 25-pair cable" may be, as literally written, technically true. (Emphasis added.) However, the implication that the total cost of placing a 400-pair cable into service (including engineering, exempt material, and especially, splicing costs), is not significantly higher than the cost of putting a 25-pair cable into service is very misleading.

Also on page 25, Mr. Donovan and Mr. Pitkin advocate the use of Standard Time Increments in lieu of in-plant factors for developing installation costs. While Standard Time Increments are available, such an approach should only be used in an environment where detailed engineering information is available for the specific network segment being installed. The BSTLM does not contain all of the necessary engineering criteria; and if Standard Time Increments were employed, numerous

assumptions would have to be made based on typical situations or probable occurrences. The cost results would be subject to some of the same frailties that Mr. Donovan and Mr. Pitkin criticize in the use if BellSouth's in-plant process. Once again, BellSouth's in-plant factors produce representative cost results when viewed from a total cable placement basis, and whatever distortions may be present from a "size of cable placed" perspective are minimal.

Q. SPRINT WITNESS KENT DICKERSON ALSO DISCUSSES BELLSOUTH'S USE OF IN-PLANT FACTORS ON PAGES 7-14 OF HIS TESTIMONY. PLEASE RESPOND TO HIS COMMENTS.

A. Mr. Dickerson asserts that the application of BellSouth's outside plant in-plant factors overstates the "per pair" costs of wire centers in higher density areas and understates the "per pair" cost of wire centers in rural areas. Mr. Dickerson also implies that BellSouth makes no distinction between the type of facility being studied; and therefore, engineering and installation costs are loaded equally fiber and copper. He also implies that BellSouth's use of in-plants causes projected installation costs to vary linearly with the number of pairs placed.

Mr. Dickerson is wrong. First, BellSouth developed unique in-plant factors for each type of cable (aerial copper, aerial fiber, underground copper, underground fiber, buried copper, buried fiber, etc.) based on costs incurred during 1998 in placing hundreds of thousands of cable sheath feet. Since BellSouth developed unique in-plants for each type of cable, it is obvious that BellSouth does not load engineering and installation costs equally to all loops ignoring the type of cable,

fiber or copper, as alleged by Mr. Dickerson.

Second, as mentioned previously, BellSouth in-plant factors are designed to convert a material cost into a fully installed, ready-for-service cost; and therefore, they do not vary linearly with the number of pairs placed as alleged by Mr. Dickerson. It is true, however, that BellSouth's installed, ready-for-service costs vary linearly with the material costs of the specific cable type. Whatever distortions that may be present from a "wire center density" or "size of cable placed" perspective are minimal in BellSouth's cost study.

Mr. Dickerson compares potential cost differences based at the extremes of "cable sizes." The reality is that actual cable placements, generated by the BSTLM, basically follows somewhat of a bell shaped curve with the great preponderance (over 75%) of cable placement affecting only 25 pair, 50 pair, 100 pair, and 200 pair cable placements. (Refer to Rebuttal Exhibit DDC-10.) BellSouth almost never places the extreme cable sizes Mr. Dickerson uses as examples in his testimony, which calls into serious question the usefulness of his analysis.

Q. MR. DONOVAN AND MR. PITKIN STATE THAT BELLSOUTH'S ENGINEERING AND INSTALLATION COSTS ARE OVERSTATED FOR DIGITAL LOOP CARRIER SYSTEMS. (PAGES 27-28) ARE THEIR CONCERNS JUSTIFIED?

A. No. BellSouth's hardwire and plug-in factors were developed using hardwire and plug-in costs actually experienced during 1998 in placing 257C (DLC) equipment

into service. It does not reflect some theoretical approach to installing a DLC system with "cook-book" like engineering, placement, splicing, and testing components, but rather it reflects the real world experience of actually placing hundreds of these systems into service. The Donovan/Pitkin plug-in and hardware factors simply bear no resemblance to the real world costs associated with the complete job of placing digital subscriber line carrier into service. While we both agree on the relative portion of total costs related to engineering functions (about 3½ % of total costs), Mr. Donovan and Mr. Pitkin approximate installation costs at about 6 % of total installed costs while BellSouth attributes more than twice that amount to installation activities. Additionally, Mr. Donovan and Mr. Pitkin appear to completely ignore such small, but necessary, in-service costs as sales taxes, right of way costs, license/permit fees, etc. The fact of the matter is that the Donovan/Pitkin derived hardwire and plug-in factors simply do not represent the real costs associated with the complete job of placing digital subscriber line carrier into service.

Q. MR. DONOVAN AND MR. PITKIN ALSO QUESTION THE VALIDITY OF USING LOADING FACTORS TO REFLECT THE LAND AND BUILDING COSTS ASSOCIATED WITH CENTRAL OFFICE EQUIPMENT. (PAGES 43-44) PLEASE REPLY TO THEIR COMMENTS.

A. Mr. Donovan and Mr. Pitkin allege that the use of central office-related land and building investment loadings overstate the land and building investment associated with plug-in cards. While two plug-in cards of the same size should require relatively the same amount of central office-related land and building space, there is

no feasible way to measure the exact size of every conceivable type of plug-in card and other central office-related equipment.

While the use of BellSouth's land and building loading factors potentially overstate the costs for "high cost/small size" central office equipment, they also potentially understate the costs for "low cost/large size" central office equipment (a point ignored by Mr. Donovan and Mr. Pitkin). For the preponderance of central office-related items, the simple relationship of central office-related land & building investment to central office-related equipment investment appears to be a reasonable allocation method for recovering the costs of central office-related land and building investment. This methodology produces representative cost results when viewed from a total-central office equipment perspective.

Q. ARE THERE OTHER LOADINGS THAT BELLSOUTH USED WHICH HAVE BEEN CRITICIZED?

A. Yes. On pages 14-16 of his testimony, Mr. Dickerson implies that BellSouth's pole and conduit loading factors are based on a fixed installed cost loading per equivalent pair. He then goes into an exhaustive list of factors that influence the cost of pole and conduit placement and concludes this section of his testimony by stating that pole and conduit costs are not and cannot be uniform per pair.

BellSouth developed its pole and conduit loading factors based on a relationship of pole investment to aerial cable investment and conduit investment to underground cable investment, respectively. Obviously, BellSouth's pole and conduit loadings

are not based on a fixed installed cost loading per pair. While BellSouth's pole and conduit loading process does not individually capture each of the items contained in Mr. Dickerson's exhaustive list of cost drivers, BellSouth's loadings produce representative cost results when viewed from a total pole and conduit placement basis. Such loadings obviously do not translate to a uniform per pair amount. The relationship of pole investment to aerial cable investment and conduit investment to underground cable investment provides the best practical approach to developing representative pole and conduit costs.

Q. AT&T/MCI WORLDCOM WITNESS MR. DARNELL IMPLIES THAT BELLSOUTH'S EXPENSE AND COMMON COSTS ARE EXCESSIVE. (PAGE 2). IS HIS ASSESSMENT CORRECT?

A. No. BellSouth witness Walter Reid addresses Mr. Darnell's comments on BellSouth's shared and common cost calculations. However, I would like to respond to several concerns he raises concerning other expense items. First, let me mention that the 32.75% expense result BellSouth obtained in its calculation of the cost of a 2-wire loop is not out-of-line, as implied by Mr. Darnell. In its USF Order, for example, expense constitutes approximately 38% of the cost. In fact, the HAI model previously endorsed by AT&T produces results with over 30% of the cost related to expense. In fact, BellSouth's analysis of cost results based on the HAI model AT&T filed in Tennessee for an unbundled loop reflect that approximately 44% of the costs are expense related.

Q. ON PAGE 10 OF HIS TESTIMONY, MR. DARNELL ALLEGES THAT

BELLSOUTH IS FILING PLANT SPECIFIC EXPENSES THAT ARE HIGHER THAN THOSE FILED WITH THE FCC IN 1997 AND 1998. PLEASE COMMENT.

A. First, the plant specific expense factors BellSouth filed with the FCC in 1997 and 1998 were based on a 1995 base year and a 1997-1999 study period. The factors used in the current filing reflect a 1998 base year, projected to a 2000-2002 study period. Comparing data of different vintages is illogical.

Second, Mr. Darnell fails to acknowledge that the factors reflect a relationship between two items; expenses and investments. To base his argument on a perceived and unsupported decline in expense without addressing the trends in investment is inappropriate. Further, as evidenced by the chart presented below, only 6 out of the 11 categories of plant referenced by Mr. Darnell are experiencing an increase and the majority of those are insignificant.

Field Code	Current	1997/1998	Difference
377C	0.0221	0.0400	-0.0179
257C	0.0161	0.0169	-0.0008
357C	0.0133	0.0169	-0.0036
1C	0.0204	0.0179	0.0025
22C	0.0446	0.0558	-0.0112
822C	0.0103	0.0029	0.0074
5C	0.0202	0.0196	0.0006

85C	0.0036	0.0032	0.0004
45C	0.0462	0.0346	0.0116
845C	0.0057	0.0039	0.0018
4C	0.0026	0.0033	-0.0007

Thus, Mr. Darnell's concerns are unfounded and unsupported by any evidence in his testimony.

Q. ON PAGES 8-9, MR. DARNELL ALLEGES BELLSOUTH IS OVER-RECOVERING FOR LAND, BUILDING, AND POWER BECAUSE THE IMPACT OF COLLOCATION WAS NOT CONSIDERED. IS HE CORRECT?

A. No. BellSouth does not agree with Mr. Darnell's proposal that BellSouth offset Land, Building, and Power expense accounts with collocation revenue. While he contends that the situation is analogous to offsetting pole expenses with pole rent revenue, the situations are somewhat dissimilar. In the pole expense/rent revenue example, BellSouth is offsetting a narrowly defined expense category with an equivalently defined, directly related revenue. Pole attachment rentals are paid to compensate the receiving party for its cost of providing poles for attachments; there is a direct, definable relationship between pole maintenance expenses and pole attachment rent revenue. On the other hand, in the case of collocation revenue, while it is true that a portion of such revenue compensates BellSouth for power consumption and building floor space, there are other items of cost recovery related to collocation revenue. Additionally, a one-for-one direct relationship of

collocation revenue with a single expense category does not exist.

Portions of Land, Building, and Power expense are recovered in the revenue that BellSouth receives for numerous services/products/elements; however, it would make little sense to pursue some complicated cost recovery allocation process in order to account for this fact. Even if, hypothetically, BellSouth was able to allocate a portion of collocation revenue to each of the involved expense categories, the level of collocation revenue would be insignificant in terms of offsetting such expenses. Mr. Darnell's offsetting collocation revenue proposal is both impractical and irrelevant to the costs of providing UNEs.

Q. MR. DARNELL ALSO ALLEGES BELLSOUTH MAY BE OVER RECOVERING COSTS DUE TO ITS CORPORATE COMMUNICATIONS NETWORK. (PAGES 9-10) PLEASE REPLY TO HIS ARGUMENT.

A. Mr. Darnell alleges that BellSouth has opportunities for "over recovery" of costs if adjustments are not made to the "Corporate Communications account" for revenue contributions from competitive services related to Operator and Signaling services.

I believe that Mr. Darnell is confused as to the nature of assets and expenses contained in Account 2123.2000 Company Communications Equipment and Account 6123.2000 Company Communications Equipment Expenses, respectively. A significant portion of the costs related to these two accounts is allocated to shared and common costs.

Account 2123.2000 includes the original costs of stand-alone company communications equipment costing more than $2000 and the cost of private branch exchange and key system intra-systems, including the associated communications equipment, installed for official company use. Account 2123.2000 is basically composed of terminal equipment and associated wiring. Account 6123.2000 includes expenses related to equipment classified to Account 2123.2000. The costs of individual items of stand alone company communications equipment costing $2000 or less are included in this account, along with the costs of inside wiring and labor charges related to such equipment.

None of the costs of transport related to Operator or Signaling services are contained in these two accounts; and furthermore, neither account has a direct relationship to the costs or revenues associated with the provisioning of Operator or Signaling services. Thus, Mr. Darnell's concerns are without merit.

DEAVERAGING

Q. PLEASE SUMMARIZE THE GENERAL CONSENSUS WITH RESPECT TO WHICH ELEMENTS NEED TO BE DEAVERAGED.

A. Sprint appears to be the only party actively advocating that anything beyond local loops and local channels and combinations, which have local loops and local channels as components, be deaveraged. Of course, the original stipulation mandated that sufficient evidence be provided such that the Commission could review and analyze the results and ultimately decide which elements should be deaveraged based on geographic cost differentials. BellSouth has done so and has

submitted costs at the wire center level for usage, ports, features, and all types of loops. Additionally, deaveraged costs have been presented for combinations that involve a local loop.

Lack of support from any other party for Sprint's proposal should speak volumes. Sprint has limited its interpretation of how deaveraging should be implemented such that they have lost focus on the total picture. Yes, switching costs differ by wire center, but does it make sense to segment these costs when one considers how calls transverse the network? Since central offices do not work independently, it is irrational to attempt to isolate central office costs at the wire center level, as Sprint proposes. Sprint's narrowing of the analysis to a simple question of whether or not cost differences are present skews the intent of the deaveraging process.

Q. SPRINT WITNESSES, MR. COX, MR. DICKERSON, AND MR. SICHTER, PRESENT ARGUMENTS THAT SWITCHING AND INTEROFFICE TRANSPORT SHOULD BE DEAVERAGED. PLEASE COMMENT.

A. While both switching and interoffice transport may display cost differences at the wire center level, wire center level costs are not the only factors that need to be considered with respect to geographic deaveraging. The same argument that I discussed with respect to switching holds for interoffice transport; i.e., you must consider the network as a whole and look logically at the ramifications of deaveraging. For example, for interoffice transport, one end of the circuit (A) may be in an urban area and the other end (B) in a rural area. Then question becomes, which end of the circuit should be considered the cost driver, A or B? Both A and

B terminations must be considered since the traffic load riding the circuit is determined by both ends, not just one.

Another issue, totally ignored in Sprint's testimony, is the question of deaveraging combinations when components that comprise the combination fall into different zones. For example consider a loop/port combination. If this Commission rules that the loop cost should drive the combination to its zone, then potentially two ports (if ports are deaveraged) that reside in the same switch, one unbundled and one in combination, would be rated differently. This pricing schedule makes no sense.

This argument extends to EELs. The problems I discussed with loop/port combinations would also exist here; a dedicated interoffice DS1 could have one rate when sold alone and another when sold in combination. Again, this makes no sense.

Another factor ignored by Sprint is one of implementation; rating, administration, and billing of UNEs that potentially could change based on how they are used; i.e., whether they are sold as stand-alone UNEs or in combination! This nightmare expands if one considers that BellSouth offers19 unbundled loops, 7unbundled ports, and 9 IOF UNEs. This does not even consider the potential permutations of these elements to create combinations. Now multiply each of these by over 200 wire centers!

With respect to deaveraging, I'm advocating that the Commission consider more

than the mere cost results. Logic needs to be applied. BellSouth maintains, and most parties agree, that the loop is the major cost driver and only the loop should be deaveraged. Rates for other UNEs should remain at the statewide level.

NTW/INC

Q. PLEASE DESCRIBE WHAT BELLSOUTH INCLUDED IN THE COST DEVELOPMENT OF UNBUNDLED NETWORK TERMINATING WIRE ("UNTW") AND UNBUNDLED INTRA-BUILDING CABLE ("UINC").

A. The recurring cost of UNTW reflects two types of expenses that BellSouth has expressed on a recurring basis; network terminating wire ("NTW") maintenance expense and expense related to subscriber line testing. The nonrecurring costs reflect labor costs and the actual access terminal costs. The access terminal is typically located next to a garden terminal or in a wiring closet terminal, whose cost does not exceed $2,000 and thus is classified as an expense item.

UINC recurring costs reflect the NTW components as well as the costs associated with the intra-building cable (52C), building terminal (12C), and distribution terminal (52C) are included. The capital investments were developed from an extract from the BSTLM. The nonrecurring costs reflect the labor associated with provisioning UINC. Note that the point at which the ALEC gains access to BellSouth's intra-building cable is not included in this calculation. Rather it is included in elements A.2.19 and A.2.20.

Q. ON PAGE 7 OF HER TESTIMONY, AT&T/MCI WORLDCOM WITNESS

BRENDA KAHN COMPARES BELLSOUTH'S UNBUNDLED INTRA-BUILDING CABLE ("UINC") COSTS TO THE RECURRING COST OF A 2-WIRE LOOP. IS SUCH A COMPARISON VALID?

A. No. Ms. Kahn's comparison is invalid for a number of reasons. First, she is comparing apples-to–oranges. If one desired to make a comparison, the valid comparison would be INC costs versus 2-wire loop costs for those loops that have intra-building cable. Second, the $3.90 BellSouth calculated is for a specific unbundled element, which makes a comparison to other elements inappropriate. If an ALEC orders UINC, the cost should not be spread over all loops, but should stand on its own.

Q. ON PAGE 14, MS. KAHN STATES THAT "BELLSOUTH INCLUDES TWO TERMINALS IN THE BUILDING EQUIPMENT ROOM." IS SHE CORRECT?

A. No. BellSouth does not include two terminals in the building equipment room element (A.2.20). The input sheet to file FLUSL.xls reflects material costs that include one 25-pair connecting block, bridging clips, backboard, and wire guides. However, if Ms. Kahn is implying that BellSouth also includes the cost of a terminal in the recurring cost associated with INC, then she is correct. This is BellSouth's terminal and the one in the building equipment room is the ALEC's point of access, two separate items that are required thus, two costs. BellSouth witness Mr. Milner explains why this arrangement ensures the integrity of BellSouth's network and allows for a single point of contact for ALECs.

Q. MS. KAHN IMPLIES BELLSOUTH RELIES ON AN "EMBEDDED COST ANALYSES" WHEN DEVELOPING INPUTS SUCH AS DEPRECIATION AND COST OF CAPITAL. (PAGE 19-20) IS SHE CORRECT?

A. No. Ms. Kahn offers no support for her statement, which is an obvious attempt to raise concern where none is warranted. Depreciation rates and cost of capital inputs have been debated in Phase I of this docket. BellSouth will abide by the Commission's ruling, thus, Ms. Kahn's point is moot. If she desired to review BellSouth's proposed inputs, the BellSouth Cost Calculator incorporates these values and are easily accessible.

Q. WHY IS SUBSCRIBER LINE TESTING VALID FOR INC AND NTW?

A. Subscriber line testing is a generic cost applied to all loop and sub-loop elements. This cost reflects the activities required to determine the condition of plant on a routine basis, prior to assignment of facilities, during trouble reports, or corrective action. Since BellSouth still owns the network terminating wire, this function is still needed. The method BellSouth utilizes to determine this expense is to divide the annual expense by the average number of access lines and then to divide by 12 to reflect a recurring cost. Since the expense is spread over all loops, all loops, including sub-loops, should bear the cost. Also, BellSouth has excluded these expenses from the calculation of the plant specific factor in order to directly assigned them on a per loop basis.

Q. COALITION WITNESS MARK STACY CONTENDS THAT BELLSOUTH'S COST STRUCTURE FOR INC ACCESS IS IN VIOLATION OF THE FCC'S ADVANCED SERVICES ORDER. (PAGES 20-23) IS THIS TRUE?

A. No. The Advanced Services Order was designed to address fixed costs that could potentially benefit multiple carriers, including ALECs and the incumbent. Access terminals for INC are dedicated to a particular ALEC. Thus, multiple ALECs cannot utilize (benefit from) the placement of that terminal. BellSouth's structure reflects a feasible means of reflecting anticipated demand in a multi-unit location.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

Impact of Revised Nonrecurring Costs for XDSL Offerings

UNE	4/17 Filing Manual LMU Only		8/16 Filing Manual LMU		8/16 Filing Electronic LMU	
	First	Additional	First	Additional	First	Additional
ADSL						
Loop	$ 302.26	$ 194.26	$ 333.72	$ 195.13	$ 200.87	$ 117.49
ULM Additive	$ 120.98	$ 120.98	$ 57.99	$ 57.99	$ 57.99	$ 57.99
Mechanized LMU	$ -	$ -	$ -	$ -	$ 0.69	$ 0.69
Total	$ 423.24	$ 315.24	$ 391.71	$ 253.12	$ 259.55	$ 176.17
2-Wire HDSL						
Loop	$ 319.72	$ 211.72	$ 351.05	$ 212.46	$ 218.20	$ 134.82
ULM Additive	$ 120.98	$ 120.98	$ 57.99	$ 57.99	$ 57.99	$ 57.99
Mechanized LMU	$ -	$ -	$ -	$ -	$ 0.69	$ 0.69
Total	$ 440.70	$ 332.70	$ 409.04	$ 270.45	$ 276.88	$ 193.50
4-Wire HDSL						
Loop	$ 383.87	$ 268.16	$ 408.25	$ 241.62	$ 275.41	$ 192.03
ULM Additive	$ 120.98	$ 120.98	$ 57.99	$ 57.99	$ 57.99	$ 57.99
Mechanized LMU	$ -	$ -	$ -	$ -	$ 0.69	$ 0.69
Total	$ 504.85	$ 389.14	$ 466.24	$ 299.61	$ 334.09	$ 250.71
2- Wire UCL Short						
Loop	$ 300.38	$ 192.38	$ 331.86	$ 193.27	$ 199.01	$ 115.63
ULM Additive	$ 120.98	$ 120.98	$ 57.99	$ 57.99	$ 57.99	$ 57.99
Mechanized LMU	$ -	$ -	$ -	$ -	$ 0.69	$ 0.69
Total	$ 421.36	$ 313.36	$ 389.85	$ 251.26	$ 257.69	$ 174.31
2-Wire UCL Long						
Loop	$ 192.33	$ 109.17	$ 331.86	$ 193.27	$ 199.01	$ 115.63
ULM Additive	$ 120.98	$ 120.98	$ -	$ -	$ -	$ -
Mechanized LMU	$ -	$ -	$ -	$ -	$ 0.69	$ 0.69
Total	$ 313.31	$ 230.15	$ 331.86	$ 193.27	$ 199.70	$ 116.32
4- Wire UCL Short						
Loop	$ 355.69	$ 239.97	$ 380.29	$ 241.70	$ 247.44	$ 164.06
ULM Additive	$ 120.98	$ 120.98	$ 57.99	$ 57.99	$ 57.99	$ 57.99
Mechanized LMU	$ -	$ -	$ -	$ -	$ 0.69	$ 0.69
Total	$ 476.67	$ 360.95	$ 438.28	$ 299.69	$ 306.12	$ 222.74
4-Wire UCL Long						
Loop	$ 247.63	$ 156.76	$ 380.29	$ 241.70	$ 247.44	$ 164.06
ULM Additive	$ 120.98	$ 120.98	$ -	$ -	$ -	$ -
Mechanized LMU	$ -	$ -	$ -	$ -	$ 0.69	$ 0.69
Total	$ 368.61	$ 277.74	$ 380.29	$ 241.70	$ 248.13	$ 164.75
Unbundled Loop Modification						
Load Coil/Eq. Removal - Short	$ 70.68	$ 70.68	$ 65.40	$ 65.40	$ 65.40	$ 65.40
Load Coil/Eq. Removal - Long	$ 772.31	$ 23.96	$ 710.71	$ 23.77	$ 710.71	$ 23.77
Bridged Tap Removal	$ 82.06	$ 82.06	$ 65.44	$ 65.44	$ 65.44	$ 65.44

Note:
Local Service Request processing is charged seprately either through element N.1.1 or N.1.2.

Comparison of Individual UNE Costs vs. Combo Costs

	Individual UNE Costs	Combo Costs	
2-Wire VG Service Level 2 Loop (A.1.2)	$ 126.70	$ 195.63	VG Local Loop for Combo Use (P.17.10)
DS1 IOF (D.4.2)	$ 179.99		
Channelization 1/0 (A.18.1)	$ 183.57	$ 422.64	DS1 IOF w/ MUX (P.17.5)
Feature Activation (A.18.4)	$ 13.26	$ 12.26	Feauture Activation (P.17.16)
			Difference % Difference
Sub-total	$ 503.52	$ 630.53	$ 127.01 25.22%
Local Service Request Manual (N.1.2)	$ 65.19	$ 43.46	Local Service Request Manual (N.1.2)
			Difference % Difference
Total	**$ 568.71**	**$ 673.99**	$ 105.28 18.51%

2-Wire Voice Grade Loop with DS1 IOF and Muxing

	Individual UNE Costs	Combo Costs	
4-Wire VG Loop (A.4.1)	$ 279.73	$ 195.63	VG Local Loop for Combo Use (P.17.10)
DS1 IOF (D.4.2)	$ 179.99		
Channelization 1/0 (A.18.1)	$ 183.57	$ 422.64	DS1 IOF w/ MUX (P.17.5)
Feature Activation (A.18.4)	$ 13.26	$ 12.26	Feauture Activation (P.17.16)
			Difference % Difference
Sub-total	$ 656.55	$ 630.53	$ (26.02) -3.96%
Local Service Request Manual (N.1.2)	$ 65.19	$ 43.46	Local Service Request Manual (N.1.2)
			Difference % Difference
Total	**$ 721.74**	**$ 673.99**	$ (47.75) -6.62%

4-Wire Voice Grade Loop with DS1 IOF and Muxing

	Individual UNE Costs	Combo Costs	
2-Wire ISDN Loop (A.5.1)	$ 220.42	$ 195.63	VG Local Loop for Combo Use (P.17.10)
DS1 IOF (D.4.2)	$ 179.99		
Channelization 1/0 (A.18.1)	$ 183.57	$ 422.64	DS1 IOF w/ MUX (P.17.5)
Feature Activation (A.18.4)	$ 13.26	$ 12.26	Feauture Activation (P.17.16)
			Difference % Difference
Sub-total	$ 597.24	$ 630.53	$ 33.29 5.57%
Local Service Request Manual (N.1.2)	$ 65.19	$ 43.46	Local Service Request Manual (N.1.2)
			Difference % Difference
Total	**$ 662.43**	**$ 673.99**	$ 11.56 1.75%

2-Wire ISDN Loop with DS1 IOF and Muxing

	Individual UNE Costs	Combo Costs	
4-Wire 19, 56 or 64 KBPS Loop (A.10.1)	$ 268.22	$ 195.63	VG Local Loop for Combo Use (P.17.10)
DS1 IOF (D.4.2)	$ 179.99		
Channelization 1/0 (A.18.1)	$ 183.57	$ 422.64	DS1 IOF w/ MUX (P.17.5)
Feature Activation (A.18.4)	$ 13.26	$ 12.26	Feauture Activation (P.17.16)
			Difference % Difference
Sub-total	$ 645.04	$ 630.53	$ (14.51) -2.25%
Local Service Request Manual (N.1.2)	$ 65.19	$ 43.46	Local Service Request Manual (N.1.2)
			Difference % Difference
Total	**$ 710.23**	**$ 673.99**	$ (36.24) -5.10%

4-Wire 19, 56 or 64 KBPS with DS1 IOF and Muxing

Comparison of Individual UNE Costs vs. Combo Costs

	Individual UNE Costs	Combo Costs	
4-Wire DS1 Loop (A.9.1)	$ 509.08	$ 351.39	DS1 Local Loop for Combo Use (P.17.11)
DS1 IOF (D.4.2)	$ 179.99	$ 298.12	DS1 IOF (P.17.4)
			Difference % Difference
Sub-total	$ 689.07	$ 649.51	$ (39.56) -5.74%
Local Service Request Manual (N.1.2)	$ 43.46	$ 43.46	Local Service Request Manual (N.1.2)
			Difference % Difference
Total	**$ 732.53**	**$ 692.97**	$ (39.56) -5.40%

DS1 Loop with DS1 IOF

	Individual UNE Costs	Combo Costs	
DS3 Loop (A.16.1)	$ 910.45	$ 391.32	DS3 Local Loop for Combo Use (P.17.12)
DS3 IOF (D.6.2)	$ 562.06	$ 616.05	DS3 IOF for Combo Use (P.17.7)
			Difference % Difference
Sub-total	$ 1,472.51	$ 1,007.37	$(465.14) -31.59%
Local Service Request Manual (N.1.2)	$ 43.46	$ 43.46	Local Service Request Manual (N.1.2)
			Difference % Difference
Total	**$ 1,515.97**	**$ 1,050.83**	$(465.14) -30.68%

DS3 Loop with DS3 IOF

Comparison of Individual UNE Costs vs. Combo Costs

	Individual UNE Costs	Combo Costs	
4-Wire DS1 Loop (A.9.1)	$ 509.08	$ 351.39	DS1 Local Loop for Combo Use (P.17.11)
DS3 IOF (D.6.2)	$ 562.06		
Channelization 3/1 (A.18.5)	$ 359.20	$ 838.33	DS3 IOF w/ MUX (P.17.8)
Feature Activation (A.18.6)	$ 13.26	$ 12.26	Feauture Activation (P.17.16)
			Difference % Difference
Sub-total	$ 1,443.60	$ 1,201.98	$(241.62) -16.74%
Local Service Request Manual (N.1.2)	$ 65.19	$ 43.46	Local Service Request Manual (N.1.2)
			Difference % Difference
Total	**$ 1,508.79**	**$ 1,245.44**	$(263.35) -17.45%

DS1 Loop with DS3 IOF with MUXing

1999

ACCOUNT AVERAGE LEVELIZED INFLATION LOADINGS
FOR FORWARD LOOKING STUDIES - THREE YEARS (2000 thru 2002)

BELLSOUTH		INFLATION FACTORS			CUMULATIVE INFLATION FACTORS				INVESTMENT INFLATION LOADINGS
		2000	2001	2002	2000	2001	2002	TOTAL	
		A	B	C	D	E	F	G	H
ACCOUNT NAME	FRC				=1+(A/100)	=1+(B/100)XD	=1+(C/100)XE	=D+E+F	=G/3
BUILDINGS	10C	2.3	2.5	2.5	1.023305	1.048500	1.074400	3.146205	1.048735
MOTOR VEHICLES	40C	1.0	1.0	1.0	1.010000	1.020100	1.030300	3.060400	1.020133
AIRCRAFT	140C	2.0	2.0	2.0	1.020000	1.040400	1.061200	3.121600	1.040533
GARAGE WORK EQ	340C	2.0	2.0	2.0	1.020000	1.040400	1.061200	3.121600	1.040533
OTHER WORK EQ	540C	2.0	2.0	2.0	1.020000	1.040400	1.061200	3.121600	1.040533
FURNITURE	30C	2.0	2.0	2.0	1.020000	1.040400	1.061200	3.121600	1.040533
OFFICE EQUIPMENT	430,718C	0.0	0.0	0.0	1.000000	1.000000	1.000000	3.000000	1.000000
OFF SUPPORT EQ		0.0	0.0	0.0	1.000000	1.000000	1.000000	3.000000	1.000000
OTH COMM EQ		0.0	0.0	0.0	1.000000	1.000000	1.000000	3.000000	1.000000
G.P. COMPUTERS	530C	-18.0	-17.0	-17.0	0.820000	0.680600	0.564900	2.065500	0.688500
GEN EQ COMPOSITE		-9.0	-7.0	-7.0	0.910000	0.846300	0.787100	2.543400	0.847800
ANALOG ELECTRONIC	77C	2.0	2.0	2.0	1.020000	1.040400	1.061200	3.121600	1.040533
DIGITAL ELECTRONIC	377C	1.0	1.0	1.0	1.010000	1.020100	1.030300	3.060400	1.020133
OPERATOR SYSTEMS	117C	0.0	1.0	1.0	1.000000	1.010000	1.020100	3.030100	1.010033
RADIO	67C	0.0	0.0	0.0	1.000000	1.000000	1.000000	3.000000	1.000000
CIRCUIT COMPOSITE		-1.0	-1.0	0.0	0.990000	0.980100	0.980100	2.950200	0.983400
ANALOG	57,457C	5.0	4.0	3.0	1.050000	1.092000	1.124800	3.266800	1.088933
DIGITAL SPG	257C	-2.0	0.0	0.0	0.980000	0.980000	0.980000	2.940000	0.980000
OTHER DIGITAL	157,357C	-1.0	-2.0	-2.0	0.990000	0.970200	0.950800	2.911000	0.970333
COE COMPOSITE		-1.0	0.0	0.0	0.990000	0.990000	0.990000	2.970000	0.990000
STATION APPARATUS	318C	-1.0	0.0	0.0	0.990000	0.990000	0.990000	2.970000	0.990000
LARGE PBX	258C	-1.0	-1.0	0.0	0.990000	0.980100	0.980100	2.950200	0.983400
PUBLIC TELEPHONES	198C	1.0	1.0	1.0	1.010000	1.020100	1.030300	3.060400	1.020133
OTH TERM EQ	558,858C	0.0	0.0	1.0	1.000000	1.000000	1.010000	3.010000	1.003333
STATION COMPOSITE		0.0	0.0	0.0	1.000000	1.000000	1.000000	3.000000	1.000000
ISP COMPOSITE		-1.0	0.0	0.0	0.990000	0.990000	0.990000	2.970000	0.990000

SOURCE: TPI from Network - Forecast Telephone Plant Indexes, Oct, 1998 Forecast of % Cost Change, Att. C, Pages 1 & 2

POLES	1C	3.7	3.8	3.8	1.037340	1.076300	1.116800	3.230440	1.076813

005208

1999

ACCOUNT AVERAGE LEVELIZED INFLATION LOADINGS
FOR FORWARD LOOKING STUDIES - THREE YEARS (2000 thru 2002)

BELLSOUTH		INFLATION FACTORS			CUMULATIVE INFLATION FACTORS				INVESTMENT INFLATION LOADINGS
		2000	2001	2002	2000	2001	2002	TOTAL	
		A	B	C	D	E	F	G	H
ACCOUNT NAME	FRC				=1+(A/100)	=1+(B/100)XD	=1+(C/100)XE	=D+E+F	=G/3
AERIAL CABLE		4.0	4.0	3.0	1.040000	1.081600	1.114000	3.235600	1.078533
COPPER	22C	4.0	4.0	4.0	1.040000	1.081600	1.124900	3.246500	1.082167
OPTICAL	822C	1.0	1.0	1.0	1.010000	1.020100	1.030300	3.060400	1.020133
U.G. CABLE		2.0	2.0	2.0	1.020000	1.040400	1.061200	3.121600	1.040533
COPPER	5C	5.0	4.0	4.0	1.050000	1.092000	1.135700	3.277700	1.092567
OPTICAL	85C	0.0	0.0	0.0	1.000000	1.000000	1.000000	3.000000	1.000000
BURIED CABLE		4.0	3.0	3.0	1.040000	1.071200	1.103300	3.214500	1.071500
COPPER	45C	4.0	3.0	3.0	1.040000	1.071200	1.103300	3.214500	1.071500
OPTICAL	845C	2.0	2.0	2.0	1.020000	1.040400	1.061200	3.121600	1.040533
SUBMARINE CABLE		3.0	3.0	3.0	1.030000	1.060900	1.092700	3.183600	1.061200
COPPER	6C	4.0	4.0	3.0	1.040000	1.081600	1.114000	3.235600	1.078533
OPTICAL	86C	2.0	3.0	3.0	1.020000	1.050600	1.082100	3.152700	1.050900
INBLDG NETWK CABLE		4.0	4.0	3.0	1.040000	1.081600	1.114000	3.235600	1.078533
COPPER	52C	5.0	4.0	4.0	1.050000	1.092000	1.135700	3.277700	1.092567
OPTICAL	852C	2.0	2.0	2.0	1.020000	1.040400	1.061200	3.121600	1.040533
CABLE COMPOSITE		4.0	3.0	3.0	1.040000	1.071200	1.103300	3.214500	1.071500
COPPER		4.0	4.0	4.0	1.040000	1.081600	1.124900	3.246500	1.082167
OPTICAL		1.0	1.0	1.0	1.010000	1.020100	1.030300	3.060400	1.020133
CONDUIT SYSTEMS	4C	3.2	3.7	3.5	1.032193	1.070000	1.107800	3.209993	1.069998
OSP STRUCTURES		3.4	3.7	3.6	1.034220	1.072500	1.111400	3.218120	1.072707
OSP COMPOSITE		3.6	3.2	3.2	1.035654	1.069000	1.102800	3.207454	1.069151
TOTAL COMPOSITE		0.0	1.0	1.0	1.000000	1.010000	1.020100	3.030100	1.010033

005209

COPPER CABLE PLACEMENT BY CABLE SIZE - FLORIDA