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January 28, 2002

Mrs. Blanca S. Bayó
Director, Division of the Commission
Clerk and Administrative Services
Florida Public Service Commission
2540 Shumard Oak Boulevard
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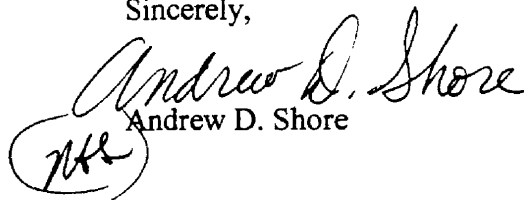
Re: Docket No. 990649-TP (UNE Docket)

Dear Mrs. Bayó:

Enclosed is an original and fifteen copies of BellSouth Telecommunications, Inc.'s revised Direct Testimony of Daonne D. Caldwell, and an original and fifteen copies of the revised Surrebuttal Testimony of Daonne D. Caldwell, which we ask that you file in the captioned docket. Please note, that in order to assist the Commission and the parties in identifying the changes to the testimony, we have also attached a redlined version of the testimony.

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 to the parties shown on the attached Certificate of Service.

Sincerely,


Andrew D. Shore

Cc: Parties of Record
Marshall M. Criser III
R. Douglas Lackey
Nancy B. White

00990-02 thru 00993-02

CERTIFICATE OF SERVICE
Docket No. 990649A-TP

I HEREBY CERTIFY that a true and correct copy of the foregoing was served via
Email and Federal Express this 28th day of January, 2002 to the following:

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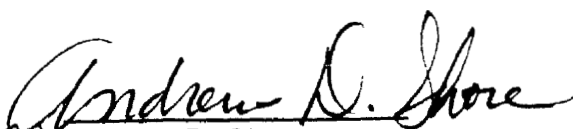
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(+) **Signed Protective Agreement**

1 BELLSOUTH TELECOMMUNICATIONS, INC.
2 DIRECT TESTIMONY OF D. DAONNE CALDWELL
3 BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION
4 DOCKET NO. 990649A-TP
5 (120-DAY ITEMS)
6 NOVEMBER 8, 2001
7 AMENDED JANUARY 28, 2002

8
9 **Q. PLEASE STATE YOUR NAME, ADDRESS AND OCCUPATION.**

10

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

15

16 **Q. ARE YOU THE SAME D. DAONNE CALDWELL THAT PREVIOUSLY**
17 **FILED TESTIMONY IN THIS DOCKET?**

18

19 A. Yes.

20

21 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

22

23 A. In its May 25, 2001 Order No. PSC-01-1181-FOF-TP ("Order") in this docket, the
24 Florida Public Service Commission ("Commission") outlined a number of issues
25 that required responses by BellSouth within 120 days. The Order listed the

1 following as 120-day items: (1) Hybrid Copper/Fiber xDSL-capable loop, (2)
2 xDSL nonrecurring costs that exclude the Design Layout Record ("DLR"), test
3 point, and order coordination, (3) network security and inventory issues, (4)
4 network interface device ("NID") costs, (5) explicit modeling of loops, and (6)
5 inflation. On September 24, 2001, BellSouth filed cost studies in this docket to
6 address these "120-day" issues. On October 2, 2001, however, the Commission
7 reversed its ruling on inflation in Order No. PSC-01-2051-FOF-TP; therefore,
8 revised cost studies were filed on October 8th to include the impact of inflation.
9 Further, on October 23, 2001, the Commission identified a number of issues
10 precipitating from BellSouth's filing, with the objective of resolving them during
11 this phase of the docket. My testimony responds to those issues associated with
12 cost development. In doing so, I will present and support the ~~revised~~ cost studies
13 filed on October 8, 2001 and subsequently revised on January 28, 2002.

14
15 ***Issue 1(a): Are the loop cost studies submitted in BellSouth's 120-day filing***
16 ***compliant with Order No. PSC-01-1181-FOF-TP?***

17
18 **Q. PLEASE EXPLAIN WHY THE LOOP COST STUDIES BELLSOUTH**
19 **FILED ON OCTOBER 8, 2001, AND SUBSEQUENTLY REVISED ON**
20 **JANUARY 28, 2002, 2001COMPLY WITH ORDER NO. PSC-01-1181-FOF-**
21 **TP.**

22
23 **A.** The Commission outlined a number of modifications that impact both the
24 recurring and nonrecurring cost results for loops. Some of these adjustments are
25 relatively easy to implement, while others required BellSouth to not only expend

substantial resources, but also to alter the manner in which costs were developed. The simpler Commission-ordered modifications reflected in BellSouth's October 8th and January 28, 2002 cost studies include:

Cost of Capital – The Commission set the forward-looking cost of capital for BellSouth at 10.24% (60/40 equity/debt ratio, debt = 7.3%, equity = 12.2%).

Depreciation - The Commission adjusted the economic lives for metallic cable accounts and digital switching equipment. The Commission accepted BellSouth's salvage values. The chart below compares BellSouth's initially proposed economic lives and the ones ordered by the Commission. The Commission-ordered lives are reflected in the studies filed on October 8, 2001 and January 28, 2002.

	BellSouth	Commission –Ordered
Digital Switching	10	13
Aerial Metallic Cable	15	18
Underground Metallic Cable	14	23
Buried Metallic Cable	15	18
Submarine Metallic Cable	15	18

BellSouth asked for reconsideration on two other depreciation modifications originally reflected in the Commission-ordered rates; i.e., modifications to analog switching equipment and to submarine fiber cable. In its October 2, 2001 ruling

1 (Order PSC-01-2051-FOF-TP), the Commission agreed that the analog switching
2 equipment economic life should be retained as BellSouth's input. In that ruling,
3 however, the Commission rejected the other request and stated that the Order did
4 alter the submarine fiber cable life and that it should be set at 20 years. The cost
5 study ~~filed on October 8, 2001~~ reflects the analog switching equipment life of 1.6
6 years and the submarine fiber cable life of 20 years.

7
8 Taxes – The Commission ordered Florida-specific tax rates as follows: a combined
9 state and federal income tax rate of 38.57% and an ad valorem tax rate of .9515%.
10 Also, the "gross receipts tax" factor was set at .15%. The cost study reflects these
11 modifications.

12
13 Each of the Commission-ordered adjustments discussed above impact the
14 development of the shared and common cost factors. Thus, BellSouth
15 appropriately reflected these modifications in the Shared and Common
16 Application, which develops the shared and common cost factors.
17 Additionally, the deaveraging of loops was based upon the methodology adopted
18 by the Commission and the details provided in Appendix B of the Order, which
19 listed the wire centers by zone.

20
21 **Q. YOU MENTIONED THAT THERE WERE ADDITIONAL COMMISSION-**
22 **ORDERED MODIFICATIONS THAT WERE MORE DIFFICULT TO**
23 **MAKE. WHAT WERE THOSE MODIFICATIONS?**

24
25 **A.** The first modification that was more difficult to incorporate into the studies was the

1 nonrecurring work time estimates. The Order detailed the extensive examination
 2 of three representative UNEs; the ADSL loop, CCS7 Signaling and Interoffice
 3 Transport – DS0. Based on the Commission’s analysis of these three UNEs,
 4 adjustments to the work time estimates were recommended and outlined as listed
 5 below (Order, page 364):

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Category	Approved Adjustments for BellSouth's Installation and Disconnect Work Groups and Work Times
CRSG Incremental Time	Eliminate work times
CRSG	Reduce work times by 55%
LCSC	Reduce work times by 75%
SAC	Reduce work times by 50%
AFIG	Reduce work times by 50%
CPG	Reduce work times by 50%
UNEC Provisioning Variables	Eliminate work times
UNEC	Reduce work times by 45%
WMC	Reduce work times by 65%
CO I&M	Reduce work time by 20%
SSI&M	Reduce work times by 35%

1	Category	Approved Adjustments for BellSouth's
2		Installation and Disconnect Work Groups
3		and Work Times
4	Travel	No Adjustment
5		
6	All other work groups	Reduce work times by 45%

7 These are the modifications BellSouth used to develop the nonrecurring costs
8 contained in the ~~October 8th~~ cost studies. In order to implement these reductions,
9 BellSouth went into each input file and recalculated the originally proposed time
10 estimates. In fact, in order to allow review of BellSouth's calculations, the input
11 files show the Commission's modifications in red. The Commission also ordered
12 a 50/50 sharing of the cost of access to sub-loop elements, which is also reflected
13 in both BellSouth's input files and cost results.

14
15 The other Commission-ordered modification that was difficult to implement was
16 one specifically listed as a "120-day" item – the explicit modeling of "all cable and
17 associated supporting structure engineering and installation placements." (Order,
18 Page 242) BellSouth has provided, as ordered by the Commission, a "bottoms-up"
19 study of outside plant cable and structures using the BellSouth
20 Telecommunications Loop Model ("BSTLM[®]"). Whenever possible, either actual
21 data or subject matter experts' estimates have been used in the BSTLM. Execution
22 of the "bottoms-up" directive required activities such as: code modifications to the
23

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25 Reserved (BSTLM)

1 BSTLM, which BellSouth witness Mr. Stegeman addresses, review of outside
2 contractor contracts, weighting of contractor prices by relative use, development of
3 structure sharing percentages, estimation of BellSouth placing and splicing hours,
4 and determination of probabilities by terrain and density.

5

6

7 **Q. ARE THERE OTHER MODIFICATIONS THAT HAVE BEEN MADE TO**
8 **THE NONRECURRING COSTS IN ADDITION TO THOSE CONTAINED**
9 **IN THE ORDER?**

10

11 A. Yes. As noted in the cost study there were further changes to nonrecurring cost
12 development that need to be considered. These modifications reduce the
13 provisioning time and thus, should reduce the nonrecurring cost. These additional
14 input changes are detailed on pages 25-30 of the cost study. For example, the
15 amount of time a loop is not found in LFACS was lowered from 58% to 20% and
16 Work Management Center ("WMC") time was set at 2 minutes (down from 15).

17

18 **Q. PLEASE PROVIDE AN OVERVIEW OF THE INPUTS USED IN**
19 **BELLSOUTH'S "BOTTOMS-UP" COST DEVELOPMENT.**

20

21 A. BellSouth's "bottoms-up" inputs were obtained from two basic sources. First
22 Outside Plant Contractor costs for each district in Florida were reviewed. These
23 contracts provided the individual work item price, e.g. the price to place a pole, to
24 bore a driveway, or to bury a cable. BellSouth then used the amount of usage that
25 occurred during 2000 to develop an average contractor cost for each type of activity.

1 Attachment 3 in Appendix B of the cost study details the calculations performed to
2 develop the contractor cost input associated with pole placement, conduit, manhole,
3 and their placements, buried cable placement, etc.

4
5 The second input source was the Outside Plant Construction Management
6 ("OSPCM") system. The OSPCM is the same system used by BellSouth's Network
7 organization to estimate job costs. Attachment 4 in Appendix B of the cost study
8 provides the source code data and assumptions taken from the OSPCM system for
9 the development of splicing and placing time inputs.

10
11 **Q. CAN YOU PROVIDE A DESCRIPTION OF THE SOURCES AND**
12 **ASSUMPTIONS USED IN THE DETERMINATION OF EACH**
13 **CATEGORY OF INPUT IN THE "BOTTOMS-UP" ANALYSIS?**

14
15 A. Yes. The following discussion will describe how each category of input, as they
16 correspond to the BSTLM input tables, was derived. Attachment 1 in Appendix B
17 of the cost study displays the resulting input.

18
19 **Aerial Structure Contract Labor**

20 Contract labor costs for placing poles were obtained from actual outside contractor
21 contracts in each district in Florida. Each district contractor's price was weighted
22 by the amount of usage in the district in 2000 to arrive at a weighted average price
23 for an average size pole placement in the state. Contract labor associated with
24 placement of anchors was also obtained from the outside contractor contracts in
25 each district in Florida. Guys are placed by BellSouth personnel, and the time

1 required to install a guy was obtained from the OSPCM system.

2

3 **Aerial Structure (Material)**

4 Pole material prices were also obtained from actual outside contractor contracts in
5 each district in Florida. Each district contractor's price was weighted by the
6 amount of usage in the district in 2000 to determine a weighted average material
7 price for an average size pole in the state. The material costs of anchors and guys
8 are exempt material and are captured in the exempt material loading for poles.

9

10 **Buried Excavation Contract Labor**

11 While the BSTLM input tables were modified to allow contractors' buried
12 excavation prices to vary dependent on the terrain type, agreements between
13 BellSouth and its outside contractors do not differentiate prices by terrain type.
14 Therefore, all excavation cost values are the same, regardless of terrain type.
15 Excavation costs were determined in the same manner as the aerial structure
16 contract labor costs. Contract labor costs for buried excavation activities were
17 obtained from actual outside contractor contracts in each district in Florida. Each
18 district contractor's price was weighted by the amount of usage in the district in
19 2000 to arrive at a weighted average price per foot for buried excavation in the
20 state.

21

22 **Underground Excavation Contract Labor**

23 While the BSTLM input tables were modified to allow contractors' underground
24 excavation prices to vary dependent on the terrain type, the agreements between
25 BellSouth and its outside contractors do not differentiate prices by terrain type.

1 Therefore, all underground excavation cost input is the same regardless of terrain
2 type. Underground excavation costs were determined in the same manner as the
3 buried excavation contract labor costs. Contract labor costs for underground
4 excavation activities were obtained from actual outside contractor contracts in each
5 district in Florida. Each district contractor's price was weighted by the amount of
6 usage in the district in 2000 to calculate a weighted average price per foot for
7 underground excavation in the state.

8 **Structure Sharing**

9 BellSouth only expects to share in the cost of buried structure approximately 6% of
10 the time in Florida. When sharing occurs, BellSouth has assumed that BellSouth
11 and two other parties will share in the cost of buried placement. Therefore, buried
12 sharing is calculated as follows:

13

14
$$94\% \times 100\% = 94\%$$

15
$$6\% \times 33.33\% = 2\%$$

16
$$\text{Total} \qquad \qquad 96\%$$

17 The 96% reflects the amount of buried structure cost assigned to BellSouth.

18

19 For aerial plant sharing, BellSouth owns approximately 40% of the poles in its
20 territory in Florida. Therefore, BellSouth has used 40% as the amount of pole
21 costs assigned in its cost studies.

22

23 For underground sharing, BellSouth rarely, if ever, shares conduit placement costs
24 with another party. BellSouth does lease a small amount of its conduit space to
25 others and has included that amount in the underground sharing percentage as

1 follows:

2

3	Duct feet in Florida	192,128,640
4	Leased to others	129,754
5	Assigned to BellSouth	99.93%

6

7 **Facility Sharing (between feeder and distribution)**

8 The BSTLM provides the ability for sharing of structure between feeder and
9 distribution cables when both are located along the same path; however, this type
10 of sharing of structure rarely occurs according to Network subject matter experts.
11 This lack of sharing between feeder and distribution occurs for many reasons
12 including the fact that placement of feeder and distribution cables do not always
13 coincide in timing, often access to distribution cables is needed more frequently
14 than manhole spacing for feeder cable would allow, etc. Based on the fact that
15 experts predict very little sharing of structure between distribution and feeder,
16 BellSouth has assumed that when both are found on the same path that sharing of
17 structures occurs 25% of the time in a forward-looking environment. While
18 BellSouth believes the actual sharing will be less, the 25% reflects the expected
19 upper limit.

20

21 **Media Sharing**

22 In BellSouth's previous filing, the Media Sharing table was populated with input
23 values that resulted in a 50%/50% sharing of structure between copper and fiber
24 when both copper and fiber cables were placed on, or in, the same structure. These
25 values were not used in previous filings since all structure costs resulted from

1 either in-plant factors or pole/conduit factors in the BellSouth Cost Calculator
2 rather than from the BSTLM, itself. However, since the BSTLM is calculating
3 structure costs in this filing, the BSTLM approach was changed to improve the
4 logic previously provided through this table. Now, instead of using the Media
5 Sharing table, the logic of the updated BSTLM apportions, on both distribution
6 and feeder routes that have both copper and fiber cables, the costs of structure
7 (poles, trenching, etc.) between the media based on the number of DS0 equivalents
8 on each cable. This is consistent with how DLC common equipment, fiber, and
9 the structure for fiber are apportioned in the model. Additionally, in its Order in
10 this docket, the Commission found with respect to the use of DS0 equivalents: "Of
11 the two factors, competitive impact or causal linkage, we believe that where
12 possible, cost causal connections should get the nod when designing cost models.
13 Thus, based on the evidence, we find that the BSTLM method of allocating shared
14 investments based on DS0 equivalents is reasonable." (Order, Page 134)

15

16 **Feeder Distribution Interface (FDI) Placing Hours**

17 The BSTLM is designed to assume that FDIs are placed by telephone company
18 personnel (i.e., placement hours X labor rate), however, FDIs are typically placed
19 by outside contractors in BellSouth. This inconsistency in the BSTLM approach
20 and BellSouth input was not discovered in time to correct the model. Therefore,
21 BellSouth has taken contractor costs and converted them to hours by dividing the
22 contractor costs by the BellSouth installation labor rate. Further, the outside plant
23 contracts have a fixed placement cost for FDIs weighing between 101 and 800
24 pounds, another cost for 801 to 1700 pounds, and a third price for 1701 to 4000
25 pounds. These contractor costs for various weights have been used for each

1 applicable FDI size in the BSTLM after being converted to labor hours to fit the
2 format of the BSTLM input table.

3

4 **Aerial Structure Placing Hours (Telco)**

5 Since outside contractors place poles for BellSouth, this table is only used for the
6 time to place a guy, which is handled by BellSouth personnel.

7 **DTBT Splicing and Placing Hours**

8 Times for closure and setup, cross connects and splicing were obtained from the
9 OSPCM system used by BellSouth to estimate job costs for internal purposes.
10 While the material prices for terminals of sizes 100 pairs or less are exempt
11 material, the labor to install these terminals is not. Therefore, the times are
12 populated for all sizes of terminals.

13

14 **Media Splicing and Placing Hours**

15 Times for placing and splicing aerial, buried and underground copper and fiber
16 cables were obtained from the OSPCM system used by BellSouth to estimate job
17 costs for internal purposes. Since outside contractors place buried cable, buried
18 placing costs are zero in this table.

19

20 **FDI Splicing**

21 Times for FDI splicing were obtained from the OSPCM system used by BellSouth
22 to estimate job costs for internal purposes.

23

24 **Percent Activities**

25 Similar to other proxy-type cost models, the BSTLM requires knowledge of not

1 only the cost of various activities associated with placing the structure for cable,
2 but also the likelihood that each of those activities will occur in various density
3 zones and various terrain types. Actual data regarding these probabilities by
4 density and terrain type does not exist. However, BellSouth's subject matter
5 experts previously reviewed the default percentages used in the BenchMark Cost
6 Proxy Model ("BCPM") and found them to be a reasonable reflection of BellSouth
7 experience in various terrain and density combinations. Additionally the
8 Commission approved the use of these "percent activities" in the Universal Service
9 Fund ("USF") Docket No. 980696-TP. BellSouth used those same percentages in
10 this filing. Modifications were required, however, since the BCPM included nine
11 density zones and separated feeder from distribution. The BSTLM, on the other
12 hand, includes a breakdown into three density groups (which are groupings of the
13 density zones) – urban, suburban and rural – and combines feeder and distribution
14 into one table. Thus, BellSouth combined the feeder percent activities previously
15 approved by the Commission such that areas with fewer than 200 lines per square
16 mile are classified as rural, areas with between 201 and 5000 lines per square mile
17 are treated as suburban, and areas with more than 5000 lines per square mile are
18 considered urban.

19

20 **Other Material Loadings**

21 While BellSouth has used the capabilities of the BSTLM to develop a "bottoms-
22 up" approach to determining installation and engineering costs, there remain
23 certain items of investment that are calculated via factors. Those items include
24 sales tax, exempt material, supply expense, and other items such as indirect labor
25 costs, right of way and tree trimming associated with initial cable placements, and

1 interest during construction. These items are included in this filing in the Material
2 Loading table. Attachments 5 and 5A in Appendix B to the cost study provide a
3 description and explain the development of these factors.

4
5 **Pole, Guy and Anchor, and Manhole Spacing**

6 Pole spacing was determined by examining 12/31/00 ARMIS Report 43-08 for
7 Florida to determine the number of poles in the state relative to the sheath distance
8 of aerial cable in the state. Worksheets displaying the development of the pole
9 spacing input are shown in Attachment 1 of Appendix B to the cost study. The
10 number of poles owned by BellSouth in Florida were adjusted by the percentage of
11 poles owned by BellSouth to arrive at the total number of poles to which BellSouth
12 cable is attached in Florida. Then, this adjusted number of poles was divided into
13 the aerial sheath feet in Florida. The result was 112 feet of aerial sheath per pole.
14 BellSouth rounded this up to an even 120 feet. This result is extremely
15 conservative given the fact that this methodology assumes only one existing
16 BellSouth sheath on each pole line route, when in reality there are often two or
17 more sheaths on a given pole line. If one were to assume 1.5 sheaths, on average,
18 per pole line, the spacing interval would drop to approximately 75 feet.

19
20 Anchor and guy spacing is estimated to be every 500 feet (roughly every 4 poles)
21 and manhole spacing is assumed to be every 625 feet based on subject matter
22 expert estimates.

23
24 **Underground Conduit and Manhole Contractor Costs**

25 Conduit duct costs and manhole costs, like the underground excavation contract

1 labor costs, were also obtained from actual outside contractor contracts in each
2 district in Florida. Each district contractor's price was weighted by the amount of
3 usage in the district in 2000 to determine a weighted average price for furnishing
4 and installing conduit and manholes in the state. As specified in the contracts,
5 contractors charge to place manholes on a per cubic foot basis. Therefore, the
6 BSTLM inputs for manhole costs were based upon the total cubic feet of the
7 different sizes.

8 9 Engineering

10 The BSTLM's internal logic in the previous filing (August 2000) calculated
11 engineering as a loading on material. For the 120-day filing, the BSTLM logic
12 has been modified to now calculate engineering costs by applying factors to the
13 total of non-engineering investments (i.e., as a loading on material, installation
14 labor, sales tax, and other loadings.) The engineering factors used and included in
15 the January 28, 2002 filing are account-specific and were developed from the
16 same data source previously used to derive in-plant factors, the 1998 State and
17 Local Sales Taxes, Resource Tracking Analysis and Planning ("RTAP") System,
18 and Special Report/File 542 - 1998 Investments. The basic factor calculation is
19 (TELCO Engineering + Vendor Engineering)/(TELCO Labor + Vendor Labor +
20 Exempt Material + Non-exempt Material + Other)

21 Engineering

22 ~~Engineering costs were obtained from the OSPCM system. While previous filings~~
23 ~~treated engineering as a linear factor of non-exempt material, the engineering input~~
24 ~~from OSPCM is applied as a factor of total non-engineering investments (i.e., as a~~
25 ~~loading on non-exempt material, exempt material, labor, contractor costs, sales tax,~~

1 ~~and other loadings). The BSTLM logic in the previous filing calculated~~
2 ~~engineering as a loading on material. For this filing, the BSTLM logic has been~~
3 ~~modified to now calculate engineering in the same manner as the OSPCM by~~
4 ~~applying the factor to the total of non-engineering investments.~~

5
6 **Outside Contractor Use (Engineering Rules)**

7 This input table was not used in the previous filing by BellSouth since all
8 contractor and BellSouth labor was calculated via in-plant factors in the Cost
9 Calculator. This table directs the BSTLM to use either contractor installation or
10 BellSouth personnel installation ("Y" indicates contractor while "N" indicates
11 BellSouth personnel). Since poles are placed by contractors and guys are placed
12 by BellSouth personnel, the table was modified to include a third option for Poles
13 ("B" indicates that both contractor and BellSouth installation is required).
14 Additionally, even though not used, this table was populated in the previous filing
15 and two entries required correction. The indicators for DTBT and FDI were
16 changed from "Y" to "N" to reflect the fact that BellSouth personnel placed FDI's
17 (see discussion of FDI placing hours above) and terminals.

18
19 **Q. HOW DO THE RECURRING COSTS OBTAINED FROM USE OF THE**
20 **"BOTTOMS-UP" APPROACH COMPARE TO COSTS USING IN-PLANT**
21 **FACTORS?**

22
23 **A.** Some of the element costs have increased, while others have decreased, even
24 though all costs are based on the same "bottoms-up" input values and BSTLM
25 algorithms. For example, the Service Level 1 ("SL1"), SL2, ISDN, and 4 wire

1 DS1 loops have increased in every zone as compared with the current
2 Commission-ordered rates. On the other hand, 2 wire and 4 wire UCL-Long loops
3 have decreased in every zone. Additionally, for a given element, one deaveraged
4 zone cost may have increased while another zone cost has decreased. For
5 example, the 2 wire UCL-Short loop's zone 1 cost increased while zones 2 and 3
6 decreased. Exhibit DDC-1_120 compares BellSouth's "bottoms-up" cost study to
7 the revised Commission-ordered rates contained in Appendix A of Order PSC-01-
8 2051-FOF-TP. (The Commission-ordered rates are those that reflect the impact of
9 inflation.) As one can see from reviewing this exhibit, the differences do not seem
10 to follow any pattern.

11

12 *Issue 1(b): Should BellSouth's loop rates or rate structure previously approved*
13 *in Order No. PSC-01-1181-FOF-TP be modified? If so, to what*
14 *extent, if any, should the rates or rate structure be modified?*

15

16 **Q. FROM A COST PERSPECTIVE, WHAT IS YOUR OPINION ON THIS**
17 **ISSUE?**

18

19 A. First, the Commission must also consider Order PSC-01-2051-FOF-TP, which re-
20 instated the impact of inflation. Once the decisions contained in that ruling are
21 considered, there is no reason to modify the loop rates or the rate structure. From
22 the discussion I have presented on the input development, one can see that the
23 "bottoms-up" approach taken by BellSouth is a much more complex study of loop
24 costs than the previously filed study based upon the use of in-plant factors and
25 structure loading factors. BellSouth continues to believe, however, that the use of

1 in-plant factors and structure loading factors produces reasonable, accurate results
2 and that the ordered rates should remain as is. Cost studies produce estimates of
3 cost, not absolute results. While the "bottoms-up" approach produces very specific
4 results, these results are a combination of a much larger number of influencing
5 variables and inputs than was present under the factor approach. Under the
6 "bottoms-up" method, depending upon the customer location, the type and size of
7 facilities, and number of services, the costs can vary substantially, as Exhibit
8 DDC-1_120 illustrates. In contrast, in-plant and loading factors reflect
9 experienced cost relationships between material prices and labor/engineering costs.

10
11 Furthermore, the "bottoms-up" approach introduces an extensive set of new inputs
12 that can be questioned, criticized and manipulated by intervening parties. While
13 BellSouth is not afraid of this scrutiny, it does not believe that the end-result of
14 such an effort will produce either a better quality result or a more "TELRIC-
15 compliant" result.

16
17 ***Issue 2(a): Are the ADUF and ODUF cost studies submitted in BellSouth's***
18 ***120-day filing compliance filing appropriate?***

19 **Q. WHY DID BELL SOUTH FILE ADUF AND ODUF COSTS IN THIS PHASE**
20 **OF THE DOCKET?**

21
22 **A.** Even though the Commission's Order did not specifically include these elements
23 in the 120-day requirement, substantial changes to the study inputs necessitated
24 that BellSouth advise the Commission. The costs for the DUF elements BellSouth
25 filed ~~on October 8, 2001~~ reflect the applicable Commission-ordered modifications

1 I discussed previously. As I explain below, BellSouth is revising the DUF element
2 costs further and is filing a revised cost study simultaneously with this testimony
3 (Cost Study - Revision 2).
4

5 **Q. PLEASE BRIEFLY EXPLAIN WHAT THE ADUF AND ODUF**
6 **ELEMENTS ARE AND HOW THE COSTS WERE DEVELOPED.**
7

8 A. In fact, there are three different daily usage offerings; Access Daily Usage Files
9 ("ADUF"), Optional Daily Usage Files ("ODUF"), and Enhanced Optional Daily
10 Usage Files ("EODUF"). Each of the offerings provides electronic billing data to
11 the ALECs:
12

13 ADUF – information of end user's daily originating and terminating access carrier
14 messages. BellSouth extracts and distributes call detail on these access messages.
15

16 ODUF – call detail information for billable messages transported through
17 BellSouth's network and processed in BellSouth's CRIS (Customer Records
18 Information System) billing system. BellSouth extracts and distributes call detail
19 on messages such as, Measured Local, IntraLATA Toll, and operator-handled calls
20 if the ALEC purchases Operator Services from BellSouth. This element is
21 applicable to both UNEs and resale.
22

23 EODUF – usage data for local calls that originate from resold, flat-rated business
24 and residential lines. BellSouth extracts and distributes call detail on these
25 messages.

1

2 BellSouth has developed unique programs at the ALEC's request in order to
3 extract the billing data they requested, in a format such that they can bill their end-
4 users. The costs associated with this on-going process and the computer resources
5 required to implement and support the programs are reflected in BellSouth's cost
6 study. These costs are incremental to BellSouth's normal billing process.

7

8 **Q. WHY WERE THESE COST STUDIES FOR THE DAILY USAGE FILE**
9 **("DUF") ELEMENTS REVISED?**

10

11 A. When BellSouth developed the cost study inputs in the original filing (August
12 2000), the actual number of records was low and rather stagnant. The projected
13 demand reflected this trend. Since the time the original cost study was filed in this
14 docket, however, BellSouth experienced a dramatic increase in the number of
15 message records. The increase in the number of resale to UNE-P (combination)
16 conversions may have caused this upswing. Since the cost results for the DUF
17 elements are demand-dependent, BellSouth included the DUF elements as part of
18 the 120-day items. In fact, in gathering cost input for the most recently initiated
19 generic cost docket in BellSouth's region (Georgia Docket No. 14361-U),
20 projected demand for ADUF and ODUF has increased over what was filed on
21 October 8th in Florida. (The EODUF demand has decreased, increasing the costs
22 slightly.) Exhibit DDC-1_120 displays the results of updating this demand. As I
23 mentioned previously, concurrent with the filing of this testimony, BellSouth is
24 filing its revised cost study to incorporate this change in demand to the DUF
25 elements. Only the DUF results changed from the study filed on October 8, 2001.

1 The DUF elements were not impacted by any of the revisions made with the
2 January 28, 2002 filing.

3

4 ***Issue 2(b): Should BellSouth's ADUF and ODUF rates or rate structure***
5 ***previously approved in Order No. PSC-01-1181-FOF-TP be***
6 ***modified? If so, to what extent, if any, should the rates or rate***
7 ***structure be modified?***

8

9 **Q. WHAT IS YOUR OPINION ON THIS ISSUE?**

10

11 A. The Commission should consider the updated information on DUF costs filed here.
12 BellSouth, in good faith, has advised this Commission of a supportable change to a
13 cost study input. Since the change results in a reduction of ADUF and ODUF
14 rates, the intervening parties would not be adversely affected by a decision to
15 consider the revised cost study. Let me clarify one point, the issue here is whether
16 or not the rates should be revised. It is NOT a question of whether or not DUF
17 rates are appropriate. This issue has already been litigated in the first phase of this
18 proceeding and the Commission established rates in both Order No. PSC-01-1181-
19 FOF-TP and in Order No. PSC-01-2051-FOF-TP, which considered inflation.

20

21 ***Issue 3(a): Are the UCL-ND loop cost studies submitted in BellSouth's 120-day***
22 ***filing compliant with Order No. PSC-01-1181-FOF-TP?***

23

24 **Q. WHY DID BELL SOUTH FILE A COST STUDY FOR UCL-ND IN THIS**
25 **PHASE OF THIS DOCKET?**

1
2 A. One of the "120-day" requirements identified by this Commission was to
3 determine xDSL nonrecurring costs that exclude the Design Layout Record
4 ("DLR"), test point, and order coordination. The Unbundled Copper Loop - Non-
5 Designed ("UCL-ND") fulfills that obligation. In addition, this all copper loop
6 offering satisfies the Commission's requirement that BellSouth provision SL1
7 loops and guarantee not to roll them onto another facility or convert them to
8 another technology. The UCL-ND gives the ALECs what they need to provide
9 xDSL service, but does not unduly restrict BellSouth in providing voice grade
10 service over the most efficient technology.

11

12 **Q. HOW DOES THE UNBUNDLED COPPER LOOP - NON-DESIGNED**
13 **DIFFER FROM THE UNBUNDLED COPPER LOOPS PREVIOUSLY**
14 **FILED BY BELL SOUTH IN THIS DOCKET?**

15

16 A. As the name implies, these loops do not go through the design process BellSouth
17 utilizes to provision UCL-Short and UCL-Long loops. Thus, they are not
18 provisioned with a test point and a DLR will not be provided. Additionally, the
19 UCL-ND loop will not have a specific length limitation. Since its resistance is
20 restricted to 1300 ohms, however, the UCL-ND loop generally will be 18,000 feet
21 or less. However, in some cases, the length may be longer based on gauge.

22

23 Even though the DLR is not provided with the UCL-ND loop, ALECs may request
24 an Engineering Information document from BellSouth (element A.1.8). This
25 document provides loop make-up information, similar to a DLR. The October 8th

1 cost study also includes the cost development for this optional element. The cost
2 of Element A.1.8 was not impacted by the January 28, 2002 revision.

3
4 **Q. HOW DOES THE RECURRING COST OF UCL-ND LOOPS COMPARE**
5 **TO OTHER TYPES OF LOOPS?**

6
7 A. The table below compares the statewide average recurring cost of an SL1, SL2,
8 ADSL, HDSL, UCL-Short and UCL-Long to the UCL-ND loop based on the
9 “bottoms-up” approach.

10

11	A.1.1	2-Wire Analog Voice Grade Loop - Service Level 1	\$19.52
12	A.1.2	2-Wire Analog Voice Grade Loop - Service Level 2	\$21.72
13	A.6.1	2-Wire Asymmetrical Digital Subscriber Line (ADSL) Compatible Loop	\$15.66
14	A.7.1	2-Wire High Bit Rate Digital Subscriber Line (HDSL) Compatible Loop	\$13.60
15	A.13.1	2-Wire Copper Loop – short	\$15.66
16	A.13.7	2-Wire Copper Loop – long	\$32.19
17	A.13.12	2-Wire Copper Loop – ND	\$15.21

18

19 Note that the UCL-ND loop is less than both an UCL-Short loop and an SL1 loop,
20 and significantly less than the UCL-Long loop. This is consistent with the fact that
21 test points have been removed and that the UCL-ND has no length restriction, but
22 is generally less than 18,000 feet because of the 1300-ohm resistance limit. In
23 running the Copper-Only scenario in the BSTLM, the loop limit was set at 24,000
24 feet in order to capture those loops that potentially would still meet the 1300-ohm
25 restriction, but exceed the 18,000 feet limit. In fact, the average loop length for the

1 UCL-ND generated by the BSTLM is 13,258 feet.

2 **Q. HOW DOES THE NONRECURRING COST OF UCL-ND LOOPS**
3 **COMPARE TO OTHER TYPES OF LOOPS?**

4

5 A. The nonrecurring cost of an UCL-ND is less than the nonrecurring costs associated
6 with designed loops. Additionally, it is less than the SL1 because it is an all-
7 copper loop and thus, a plug-in does not have to be provisioned in the digital loop
8 carrier system.

9

10 **Q. ARE THERE OTHER ADJUSTMENTS TO THE COST STUDY THAT**
11 **ARE REQUIRED DUE TO THE UCL-ND OFFERING?**

12

13 A. Yes. As I mentioned previously, this type of loop is non-designed. Thus, no test
14 point is provisioned. ALECs, however, may desire a joint acceptance test to
15 benchmark the transmission quality of the loop and to ensure compatibility with
16 the xDSL service they wish to provide. These testing parameters include, but are
17 not limited to, testing for non-loading, balance of pair, and continuity from the
18 main distribution frame ("MDF") to the network interface device ("NID").
19 BellSouth filed Testing Beyond Voice (A.19 elements) previously in this docket.
20 These costs, however, only considered testing a designed loop that had been
21 conditioned. The adjusted loop testing elements also consider testing parameters
22 for non-designed loops (SL1 or UCL-ND). ~~Exhibit DDC 1-120 illustrates the~~
23 ~~difference in the A.19 costs between the current Commission ordered rates and the~~
24 ~~latest cost study.~~

25

1

2 *Issue 3(b): What modifications, if any, are appropriate and what should the*
3 *rates be?*

4

5 **Q. SHOULD THIS COMMISSION USE THE COSTS FILED HERE TO SET**
6 **RATES FOR UCL-ND ELEMENTS?**

7

8 A. No. As discussed in response to Issue 1(b), BellSouth does not believe that the
9 “bottoms-up” approach develops a more representative result than the use of
10 factors. Let me note that BellSouth has also filed the UCL-ND elements in Docket
11 No. 960786-TP (271 docket) based on the use of in-plants and loading factors.
12 Those cost studies reflect the Commission-ordered adjustments except for the re-
13 instatement of inflation. BellSouth requests that the Commission establish rates
14 for the UCL-ND related elements in Docket No. 960786-TP once inflation is
15 considered.

16

17 *Issue 4(a): What revisions, if any, should be made to NIDs in both the BSTLM*
18 *and the stand-alone NID cost study?*

19 *Issue 4(b): To what extent, if any, should the rates or rate structure be modified?*

20

21 **Q. ARE REVISIONS REQUIRED TO THE CALCULATION OF BOTH**
22 **TYPES OF NID COSTS?**

23

24 A. No. Adjustments are not required to both the NID cost considered in the BSTLM
25 and to the stand-alone NID costs. The stand-alone NID costs, however, do require

1 revision. Let me explain.

2 At pages 192-93 of Order No. PSC-01-1181-FOF-TP, the Commission noted an

3 inconsistency in the treatment of exempt/miscellaneous material for the stand-

4 alone NID and the exempt/miscellaneous material associated with the NID when it

5 is provisioned with the loop (via the BSTLM).

6

7 Typically, the NID is provisioned with the loop at the time the residence or

8 business is constructed and the drop wire is placed and treated as capitalized

9 investment. For most cable placements in BellSouth's studies, exempt material is

10 recovered through an In-Plant factor; however, a different approach is taken for the

11 NID and drop. BellSouth, in the BSTLM, directly identifies items normally

12 captured in an In-Plant factor (labor, exempt materials, sales tax, etc.) for the

13 capitalized drop and NID.

14

15 Thus, because the NID investment generated by the BSTLM already considers

16 exempt material, taxes, labor, etc., the BellSouth Cost Calculator does not need to

17 apply the In-Plant factors to drop and NID investments. BellSouth reflected this by

18 assigning special "sub-FRCs" to the drop and NID. These special sub-FRC codes

19 are 22C-01 or 45C-01. The "01" sub-FRCs instruct the BellSouth Cost Calculator

20 not to apply In-Plant factors to those items of plant. Therefore, BellSouth's NID

21 costs associated with unbundled loops are correct and no "double-counting" of In-

22 Plant costs associated with the NID or drop occurs.

23

24 On the other hand, Stand-Alone NID/NID Access is a separate UNE offering

25 designed for situations where the existing NID is not suitable for ALEC connection

1 and where BellSouth terminates its loop directly to the inside wire, or at the
2 ALEC's request. BellSouth charges a nonrecurring fee for the installation of,
3 material for, and cross connect (if appropriate) to the stand-alone NID. The stand-
4 alone NID material (housing, interface, and protectors) is exactly the same as the
5 NID placed with the loop. As found by the Commission in its Order, BellSouth
6 did not apply exempt materials in the stand-alone NID study. In fact, BellSouth
7 should indeed have included exempt material in its stand-alone NID costs.
8 BellSouth has included this adjustment in this filing. Further, these are the
9 appropriate costs to be used to establish rates for Stand-Alone NID/NID Access
10 elements.

11

12 **Issue5 (a):** *What is a "hybrid copper/fiber xDSL-capable loop" offering and*
13 *is it technically feasible for BellSouth to provide it?*

14

15 **(b)** *Is BellSouth's cost study contained in the 120-day compliance*
16 *filing for the "hybrid copper/fiber xDSL-capable loop" offering*
17 *appropriate?*

18

19 **(c)** *What should the rate structure and rates be?*

20

21 **Q. THE COMMISSION'S ORDER STATED "WE BELIEVE BELL SOUTH IS**
22 **OBLIGATED, IF TECHNICALLY FEASIBLE, TO PROVIDE HYBRID**
23 **COPPER/FIBER xDSL-CAPABLE LOOPS TO DATA ALECS." WHAT**
24 **COST SUPPORT HAS BELL SOUTH FILED IN SUPPORT OF THE**
25 **HYBRID COPPER/FIBER LOOP?**

1

2 A. BellSouth filed the recurring and nonrecurring costs associated with providing data
3 ALECs the ability to utilize a loop served by fiber-fed digital loop carrier ("DLC")
4 systems (i.e., loops comprised of fiber feeder and copper distribution) to offer
5 digital subscriber line ("DSL") services to their end-users, without unbundling
6 packet switching. The distribution portion of the loop is comprised of a dedicated
7 2-wire physical transmission facility which is connected to a dedicated 16-port
8 Digital Subscriber Line Access Multiplexer ("DSLAM"). From the DSLAM, a
9 dedicated DS1 is required through the DLC remote terminal ("RT") to the central
10 office terminal ("COT") to the ALEC's collocated space in the central office.
11 Exhibit DDC-2_120 depicts the components of the Hybrid Copper/Fiber loop.
12 BellSouth witness Mr. Jerry Kephart addresses the feasibility issue and discusses
13 why this configuration fulfills the Commission's directive. I address how the costs
14 were developed.

15

16 The BSTLM developed the investments associated with the DS1 component of the
17 Hybrid Copper/Fiber Loop. Let me note that this sub-loop feeder DS1 is not the
18 same as the unbundled sub-loop feeder – 4-wire DS1 (element A.9.2) also filed in
19 this docket. The sub-loop feeder DS1 (A.9.2) includes the feeder portion of all
20 DS1 loops. These include DS1 loops served by both copper feeder and those
21 served by fiber feeder facilities to a remote DLC terminal. The Hybrid
22 Copper/Fiber DS1 (element A.20.1), on the other hand, only considers locations
23 served via a remote DLC terminal served by fiber. Thus, all of the locations used
24 in the calculation of the sub-loop feeder – 4-wire DS1 are not included in the cost
25 calculation of the Hybrid Copper/Fiber DS1. The material prices for the 16-port

1 DSLAM were obtained from vendor contracts.
2 The nonrecurring costs reflect the work activities required to connect and turn-up
3 the DS1 and the 2-wire transmission facility onto the DSLAM. In order to make
4 this a functional loop and to reflect the manner in which the loop will be
5 provisioned, the individual network components must be summed into (1) System,
6 (2) DS1, and (3) Activation elements.

7
8 **Q. PLEASE DESCRIBE WHICH COMPONENTS ARE CONSIDERED IN**
9 **THE SYSTEM, DS1, AND ACTIVATION COSTS.**

10
11 A. The System element represents the cost of the DSLAM (element A.20.3) with an
12 administrative DS1 (A.20.1), which is used for BellSouth's management of the
13 DSLAM. This administrative DS1 does not terminate at the ALEC's collocation
14 space. Instead, it terminates into a DSL hub bay in order to allow BellSouth to
15 control the provisioning, maintenance, and repair of the xDSL Hybrid
16 Copper/Fiber loop. The cost of the administrative DS1 does not differ from the
17 DS1 that terminates into the ALEC's collocation space.

18
19 The DS1 element accounts for the cost of the fiber DS1 that essentially connects
20 the DSLAM at the RT to the ALEC's collocated space in the central office. The
21 recurring cost is equal to the Hybrid Copper/Fiber DS1 (element A.20.1). The
22 nonrecurring cost is the sum of the DS1 establishment element (A.20.2) and the
23 nonrecurring cost associated with the Sub-loop Feeder per 4-wire DS1 element
24 (A.9.2). Let me note that the nonrecurring cost for A.9.2 was not restudied since
25 the Commission has set a rate for this element. Rather, the rate (\$133.77) was

1 hard-coded into the Final Cost Summary.
2 The Activation nonrecurring cost is the sum of the channel activation cost (element
3 A.20.4) and the nonrecurring cost associated with the 2-wire distribution sub-loop
4 (element A.2.2). ~~As with element A.9.2, the nonrecurring cost for A.2.2 was not~~
5 ~~restudied since the Commission has set a rate for this element. Rather, the rate~~
6 ~~(\$60.19) was hard coded into the Final Cost Summary.~~

7
8 ***Issue 6: In BellSouth's 120-day filing, has BellSouth accounted for the impact***
9 ***of inflation consistent with Order No. PSC-01-2051-FOF-TP?***

10
11 **Q. WHAT IS YOUR RESPONSE TO THIS ISSUE?**

12
13 A. BellSouth's cost studies are in compliance with the Commission's directive on
14 inflation. Order No. PSC-01-2051-FOF-TP states: "we hereby reconsider our
15 decision to reject BellSouth's proposed inflation factor, because it was based upon
16 a misinterpretation and misrepresentation of the facts presented." (Page 5) Thus,
17 the Commission found that the application of inflation factors to both the
18 investment and to labor rates is appropriate. The cost study filed on October 8,
19 2001 reflects the impact of inflation based on factors originally filed in this docket.
20 BellSouth made no adjustment to the inflation application in the January 28, 2002
21 filing.

22
23 ***Issue 7: Apart from issues 1-6, is BellSouth's 120-day filing consistent with***
24 ***the orders in this docket?***

25

1 Q. WHAT IS YOUR RESPONSE TO THIS ISSUE?

2

3 A. The cost studies filed by BellSouth incorporate all of the adjustments ordered by
4 this Commission. I have described the modifications as part of this testimony.

5 Further, the cost study contains a detailed discussion of the adjustments made by
6 BellSouth in order to comply with the Commission's directive.

7

8 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

9

10 A. Yes.

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25