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CONNERS ■ BERRY PLC

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February 27, 2004

Honorable Deborah Taylor Tate, Chairman
Tennessee Regulatory Authority
460 James Robertson Parkway
Nashville, TN 37243-0505

Re: Implementation of the Federal Communications Commission's Triennial
Review Order (Nine-month Proceeding) (Switching)
Docket No. 03-00491

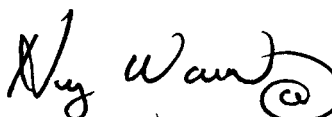
Dear Chairman Tate:

Enclosed for filing is the original and 4 copies of the Rebuttal Testimony, and 1 CD-ROM with the exhibits for Jay M. Bradbury, John C. Klick, Cheryl Bursh, Mark Argenbright, Mark Van De Water and Don Wood on behalf of AT&T.

If you have any question, please contact me.

Very truly yours,

BOULT, CUMMINGS, CONNERS & BERRY, PLC

By: 
Henry Walker

HW/pp

CERTIFICATE OF SERVICE

I hereby certify that on February 27, 2004, a copy of the foregoing document was serviced on the parties of record, via US mail

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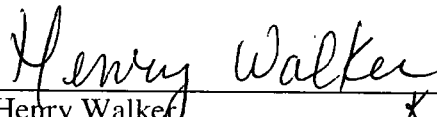
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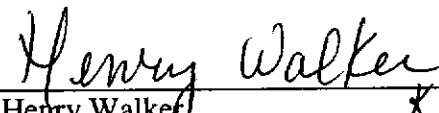
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BEFORE THE TENNESSEE REGULATORY AUTHORITY

NASHVILLE, TENNESSEE

IN RE:

**IMPLEMENTATION OF THE FEDERAL)
COMMUNICATIONS COMMISSION'S)
TRIENNIAL REVIEW ORDER - 9 MONTH)
PROCEEDING MASS MARKET SWITCHING)**

**DOCKET NO.
03-00491**

REBUTTAL TESTIMONY OF MARK DAVID VAN DE WATER

ON BEHALF OF

AT&T COMMUNICATIONS OF THE SOUTH CENTRAL STATES, LLC

FEBRUARY 27, 2004

1 Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

2 A. My name is Mark David Van de Water. My business address is 7300 East
3 Hampton Avenue, Room 1102, Mesa, AZ 85208-3373.

4 Q. ARE YOU THE SAME MARK DAVID VAN DE WATER THAT
5 PREVIOUSLY FILED DIRECT TESTIMONY IN THIS DOCKET ON
6 JANUARY 16, 2004?

7 A. Yes, I am.

8 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

9 A. My Rebuttal testimony responds to portions of the direct testimony of BellSouth's
10 witness A. Wayne Gray.

11 **CLEC to CLEC Cross Connects**

12 Q. ON PAGES 4-6 OF HIS TESTIMONY, MR. GRAY DISCUSSES CROSS-
13 CONNECTS. WAS THE PROVISION OF CLEC TO CLEC CROSS
14 CONNECTS ADDRESSED IN THE TRIENNIAL REVIEW ORDER
15 ("TRO")?

16 A. Yes. As the following makes clear, BellSouth is obligated to provide cross
17 connects under the TRO.

18 First in Paragraph 478:

19 *Incumbent LEC Provisioning of Competitive LEC-to-Competitive LEC*
20 *Cross -Connects.* We further find that an incumbent LEC's failure to
21 provide cross-connections¹⁴⁷³ between the facilities of two competitive
22 LECs on a timely basis can also result in impairment. Competition in the
23 absence of unbundled local circuit switching requires seamless and timely
24 migration not only to and from the incumbent's facilities, but also to and
25 from the facilities of other competitive carriers.¹⁴⁷⁴ Such interconnection

1 requires that the incumbent LEC place cross connections between the
2 competitive carriers' facilities in its central office on a timely basis. The
3 incumbent's failure to do so will tend to delay competitors' entry, and thus
4 to increase competitors' costs. We conclude that in some cases, such
5 failure can give rise to impairment in the absence of unbundled local
6 circuit switching.

7 ¹⁴⁷³ Cross-connection is the "attachment of one wire to another usually by anchoring
8 each wire to a connecting block and then placing a third wire between them so that
9 an electrical connection is made." *Id.*; see also AT&T Brenner Decl. at para. 21; Z-Tel
10 Comments, Declaration of Peggy Rubino at para. 12.

11 (emphasis added). Second, in Paragraph 514:

12 *Competitive LEC – to – Competitive LEC Cross Connects.* We have also
13 determined that an incumbent LEC's failure to provide cross-connections
14 between the facilities of two competitive LECs on a timely basis can result
15 in impairment. Therefore, a state commission considering whether to find
16 "no impairment" with regard to mass market switching must evaluate
17 whether such delays increase requesting carriers' costs to such a degree
18 that entry into the market is rendered uneconomic in the absence of
19 unbundled switching. **Evidence relevant to this inquiry would include,**
20 **for example, information regarding the incumbent's practices and**
21 **procedures with regard to provision of cross-connects linking**
22 **competitive carriers' facilities,** competitive LECs' complaints regarding
23 the incumbent's past performance in this area, the incumbent LEC's
24 response to these complaints, the **costs incurred in connection with**
25 **deficient performance in this regard, and the degree to which those**
26 **costs render entry into a given market uneconomic.**

27 (emphasis added). And in the TRO rules, Section 51.319 which states:

28 "Specifically, the state commission shall examine whether....difficulties in
29 obtaining cross-connects in an incumbent LEC's wire center render entry
30 uneconomic for requesting telecommunications carriers in the absence of
31 unbundled access to local circuit switching."

32 **Q. ON PAGE 5 OF HIS TESTIMONY, MR. GRAY DESCRIBES TWO TYPES**
33 **OF CROSS CONNECTS. PLEASE COMMENT ON THE FIRST TYPE OF**
34 **CROSS CONNECT.**

35 **A.** First, Mr. Gray discusses a cross connect arrangement that BellSouth *permits*,
36 whereby a CLEC can connect its collocation arrangement, via cabling, to another

1 CLEC's collocation arrangement. As BellSouth is simply **permitting** cross
2 connects via cabling, instead of **providing** cross connects via attachment of one
3 wire to another usually by anchoring each wire to a connecting block and then
4 placing a third wire between them so that an electrical connection is made, this
5 method is clearly not compliant with the requirements of the TRO described
6 above.

7 **Q. BELLSOUTH ALSO REFERENCES A SECOND TYPE OF CROSS**
8 **CONNECT THAT IT WILL BEGIN TO MAKE AVAILABLE VIA FCC**
9 **TARIFF. WILL THIS SECOND TYPE OF CROSS CONNECT COMPLY**
10 **WITH THE TRO REQUIREMENTS?**

11 **A.** No. Further, in proceedings in other states where this issue has been raised,
12 BellSouth does not even assert that it is providing this second type of cross
13 connect in response to the TRO.

14 **Q. PLEASE DESCRIBE YOUR CONCERNS REGARDING BELLSOUTH'S**
15 **PROVISION OF CLEC TO CLEC CROSS CONNECTS FOR USE WITH**
16 **MASS MARKET CUSTOMERS VIA ITS FCC ACCESS TARIFF IN**
17 **MORE DETAIL.**

18 **A.** BellSouth's new FCC tariffed "Special Access product" will require that the
19 CLECs wishing to have BellSouth provide such a cross connection on BellSouth's
20 frame between a connecting facility assignment ("CFA") from one CLEC's
21 collocation to a CFA in a second CLEC's collocation to engage in "line splitting"
22 of a local loop (not otherwise subject to the FCC's jurisdiction) certify that the
23 traffic carried on that CFA to CFA connection (a frame jumper wire) meet the

1 FCC's de minimus (10%) interstate rule.¹ This unnecessarily subjects a non-
2 complex Plain Old Telephone Service ("POTS") mass market line to cumbersome
3 procedures such as certification and audits, and irrelevant obligations such as the
4 requirement that the line carry at least 10% interstate traffic.²

5 Further, BellSouth's new "product" cannot be ordered efficiently. UNE
6 local loops are ordered on a Local Service Request ("LSR"). When such a loop is
7 to be "split" between two CLECs, BellSouth will require that the connection
8 necessary to accomplish the "split" be ordered and provisioned out of its FCC
9 Access Tariff using an Access Service Request ("ASR"). There will be no means
10 of electronically ordering such an arrangement and the coordination, through
11 relating the LSR and ASR, that will be required to establish working services
12 (voice and ADSL) for the customer. Thus the voice CLEC must issue an LSR,
13 the data CLEC must issue an LSR, and one of the CLECs (depending on the
14 routing of the loop between the two) must issue an ASR. Manual processing will
15 be required for all three ordering documents. Such a manual and restrictive
16 process creates operational and economic barriers to providing Digital Subscriber
17 Line ("DSL") services to mass market customers.

18 Further, BellSouth has assigned the exorbitant rate of \$350.00 per 2 wire
19 circuit for this access service. In contrast, BellSouth's rate for a cross connect for
20 local service is in the \$10.00 range.³ BellSouth's proposed policies and practices

¹ See Exhibit MDV-R1 for a copy of BellSouth's FCC tariff.

² It makes no sense for BellSouth to offer cross connects via an access tariff in this mass market proceeding when it has clear responsibilities to provide cross-connects for mass markets under the TRO.

³ The exorbitant rate and tortured procedures offered for CLEC to CLEC 2 wire cross connects is belied by the testimony of BellSouth witness Varner, who at page 28 of his direct testimony states, "As previously stated in this testimony, the cross-connect process is a very basic procedure that BellSouth performs

1 for this service are designed to complicate and hinder the provision of line
2 splitting service to CLEC customers and should be rejected by this Commission.

3 **Collocation**

4 **Q. ON PAGES 2-4 OF HIS TESTIMONY, MR. GRAY DISCUSSES**
5 **COLLOCATION. WAS THE ISSUE OF COLLOCATION SPACE**
6 **AVAILABILITY ADDRESSED IN THE TRIENNIAL REVIEW ORDER**
7 **("TRO")?**

8 **A.** Yes. The FCC identified available collocation space as an issue.

9 "We find that the absence of sufficient collocation space in the incumbent
10 central office or offices might in some markets render competitive entry
11 impossible and thus result in impairment. We therefore direct the state
12 commissions to consider evidence concerning the costs and physical
13 constraints associated with collocation in a particular market. We direct
14 state commissions to consider whether competitive entry is inhibited, or is
15 likely to be inhibited going forward, by the exhaustion of available
16 collocation space in the incumbent LEC's central offices. Evidence
17 relevant to this inquiry would include, for example, *the amount of space*
18 *currently available in those central offices*; the expected growth or
19 decline, if any, in the amount of space available; and the expected growth
20 or decline, if any, of requesting carriers' collocation space needs,
21 assuming that access to unbundled switching were curtailed."

22
23 TRO ¶ 513 (emphasis added)

24 **Q. HAS BELL SOUTH PROVIDED THE TRA THE EVIDENCE**
25 **REGARDING THE AMOUNT OF COLLOCATION SPACE IT HAS**
26 **AVAILABLE THAT THE FCC ASKED THE TRA TO CONSIDER?**
27

28 **A.** No. Mr. Gray has simply asserted that space is available. He provided no details
29 regarding the amount available in each central office. Therefore, the TRA has no

frequently on an ongoing basis. There is no appreciably greater difficulty involved in providing co-carrier cross-connect as compared to a cross-connect between BellSouth and a CLEC. A cross-connect is a cross-connect."

1 information to assess the impact that curtailing unbundled switching would have
2 on collocation availability.

3 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

4 **A.** Yes, it does.

TARIFF DISTRIBUTION

FILE CODE: 680.3400

FILE PACKAGE NO.: 778

DATE:

January 9, 2004

STATE:

FCC

EFFECTIVE DATE:

01/09/2004

TYPE OF DISTRIBUTION:

Approved

PURPOSE:

Introduce Cross Connect Service

<u>TARIFF SECTION</u>	<u>PAGE NUMBER</u>	<u>PAGE REVISION</u>
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1000	8.2	004
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1000	25	010
1000	26	001
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1000	27.2	008
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1013	13-76.17	000
1013	13-76.18	000
1020	20-12	007
1020	20-13	006
1020	20-14	004
1020	20-17	005

BELLSOUTH TELECOMMUNICATIONS, INC.
 BY: Operations Manager - Pricing
 29657, 675 W. Peachtree St., N.E.
 Atlanta, Georgia 30375
 ISSUED: JANUARY 8, 2004

TARIFF F.C.C. NO. 1
 653RD REVISED PAGE 1
 CANCELS 652ND REVISED PAGE 1

EFFECTIVE: JANUARY 9, 2004

ACCESS SERVICE
 CHECK SHEET

The Title Page and Pages 1 to 29-6 inclusive of this tariff are effective as of the date shown.

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1	653rd*	22	23rd	56	5th
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2	198th*	23	7th	58	4th
2.1	65th*	24	7th	59	7th
3	67th*	25	10th*	60	9th
3.1	10th	26	1st*	61	3rd
4	161st*	27	5th*	62	7th
4.1	11th*	27.0.1	3rd*	63	3rd
5	134th*	27.1	4th	63.1	3rd
5.1	90th	27.2	8th*	64	4th
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6	94th	27.4	4th	66	3rd
6.1	28th	27.5	Original	67	9th*
6.2	Original	27.5.1	Original	67.1	2nd
7	124th	27.6	5th	68	5th
8	49th	27.7	10th	69	5th
8.1	50th*	27.7.1	3rd	69.1	Original
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14	6th	45	7th	2-6	1st
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15	8th	47	2nd	2-8	2nd
16	3rd	48	5th*	2-8.1	Original
17	14th	49	7th	2-9	1st
18	15th*	50	5th	2-9.1	Original
18.1	4th	51	8th	2-10	Original
19	5th	52	5th	2-11	1st
20	13th	53	5th		
21	13th	54	8th		

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 *New or Revised Page *****

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2ND REVISED PAGE 1.1
CANCELS 1ST REVISED PAGE 1.1

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2-18.3	5th				
2-18.4	2nd				

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TARIFF F.C.C. NO. 1
 198TH REVISED PAGE 2
 CANCELS 197TH REVISED PAGE 2
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2-44	5th	2-49.0.18.11	Original		
2-44.1	2nd	2-49.0.18.11.1	Original		
2-44.2	3rd	2-49.0.18.12	1st		
2-45	7th	2-49.0.18.13	Original		
2-45.1	Original	2-49.0.19	6th*		
2-46	7th	2-49.1	17th*		

All BellSouth marks contained herein and as set forth in the trademarks and servicemarks section of this Tariff are owned by BellSouth Intellectual Property Corporation.
 *New or Revised Page

BELLSOUTH TELECOMMUNICATIONS, INC.
BY: Operations Manager - Pricing
29657, 675 W. Peachtree St., N.E.
Atlanta, Georgia 30375
ISSUED: JANUARY 8, 2004

TARIFF F.C.C. NO. 1
65TH REVISED PAGE 2.1
CANCELS 64TH REVISED PAGE 2.1

EFFECTIVE: JANUARY 9, 2004

ACCESS SERVICE

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3-1	3rd	5-9.1	2nd		
3-2	4th	5-10	6th		
3-3	5th	5-11	11th		
3-4	4th	5-11.0.1	4th		
3-5	1st	5-11.1	10th		
3-6	1st	5-11.1.1	2nd*		
3-7	2nd	5-11.2	9th		
3-8	Original	5-12	19th*		
3-9	Original	5-13	12th*		
3-10	1st	5-14	3rd		
3-10.1	2nd	5-15	9th*		
3-11	2nd	5-16	1st		
3-12	2nd	5-17	2nd*		
3-13	2nd	5-18	2nd*		
3-14	6th	5-19	8th*		
3-15	4th	5-19.1	2nd*		
3-16	4th	5-19.2	1st		
3-17	4th	5-20	11th		
3-17.1	3rd	5-20.1	Original		
3-18	48th	5-21	10th		
4-1	2nd	5-21.1	4th		
4-2	2nd	5-22	13th		
4-3	3rd	5-22.1	2nd		
4-4	3rd	5-23	8th*		
4-5	16th	5-23.1	2nd		
4-6	30th	5-23.2	3rd		
4-7	20th				
4-8	14th				
4-9	18th				
5-1	18th*				
5-1.1	11th*				
5-1.1.1	Original*				
5-1.2	8th				
5-1.2.1	4th				
5-1.2.2	1st				
5-1.3	7th				
5-1.3.1	2nd				
5-1.4	3rd				
5-2	7th				
5-2.0.1	2nd				
5-2.1	3rd				
5-3	7th				
5-4	6th				
5-5	8th				
5-6	8th				
5-7	8th				
5-8	8th				
5-8.1	3rd				
5-9	7th				

All BellSouth marks contained herein and as set forth in the trademarks and servicemarks section of this Tariff are owned by BellSouth Intellectual Property Corporation.
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BELLSOUTH TELECOMMUNICATIONS, INC.
 BY: Operations Manager - Pricing
 29657, 675 W. Peachtree St., N.E.
 Atlanta, Georgia 30375
 ISSUED: JANUARY 8, 2004

TARIFF F.C.C. NO. 1
 67TH REVISED PAGE 3
 CANCELS 66TH REVISED PAGE 3

EFFECTIVE: JANUARY 9, 2004

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6-1	6th				
6-2	4th	6-25.13	Original	6-60	5th
6-3	7th	6-25.14	Original	6-61	3rd
6-3.1	1st	6-25.15	Original	6-62	5th
6-4	7th	6-25.16	Original	6-63	3rd
6-5	4th	6-26	8th	6-64	6th
6-6	7th	6-27	11th	6-65	4th
6-7	14th	6-27.0.1	Original	6-66	3rd
6-7.1	Original	6-27.1	9th	6-67	3rd
6-8	12th	6-27.2	2nd	6-68	3rd
6-9	6th	6-27.3	2nd	6-69	6th
6-10	5th	6-27.4	Original	6-70	2nd
6-11	9th	6-28	12th	6-71	3rd
6-11.1	6th	6-28.1	4th	6-72	3rd
6-11.2	5th	6-29	10th*	6-73	4th
6-11.3	2nd	6-30	4th	6-74	7th
6-11.4	4th	6-31	4th	6-75	7th
6-12	5th	6-32	4th	6-75.1	10th
6-12.1	6th	6-33	5th	6-75.2	8th
6-13	7th	6-34	5th	6-75.3	3rd
6-14	6th	6-34.1	4th	6-75.4	4th
6-15	5th	6-35	4th	6-75.5	2nd
6-16	5th	6-36	6th	6-75.6	1st
6-17	5th	6-37	5th	6-75.7	1st
6-18	5th	6-38	5th	6-75.8	2nd
6-18.1	7th	6-39	5th	6-75.9	2nd
6-19	6th	6-40	4th	6-75.10	4th
6-20	6th	6-41	6th	6-75.10.1	Original
6-21	7th	6-42	5th	6-75.11	2nd
6-22	9th	6-43	5th	6-75.12	1st
6-22.1	5th	6-44	5th	6-75.13	4th
6-23	4th	6-45	7th	6-75.14	3rd
6-23.1	3rd	6-46	10th	6-75.15	1st
6-24	7th	6-47	8th	6-75.16	1st
6-25	10th	6-48	9th	6-75.17	Original
6-25.1	7th	6-49	11th	6-75.18	1st
6-25.2	4th	6-50	9th	6-75.19	Original
6-25.3	9th	6-51	8th	6-75.20	Original
6-25.3.1	2nd	6-52	9th	6-75.21	Original
6-25.4	3rd	6-52.0.1	Original	6-75.22	1st
6-25.5	3rd	6-52.1	5th	6-75.22.1	Original
6-25.6	4th	6-53	7th	6-75.23	2nd
6-25.7	2nd	6-53.1	5th	6-75.24	Original
6-25.8	Original	6-54	6th	6-76	6th
6-25.9	1st	6-55	9th	6-77	6th
6-25.10	2nd	6-56	1st	6-77.1	5th
6-25.10.1	2nd	6-57	5th	6-78	6th
6-25.11	Original	6-58	3rd	6-78.1	3rd
6-25.12	Original	6-58.1	1st	6-79	6th
		6-59	4th		

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 *New or Revised Page *****

BELLSOUTH TELECOMMUNICATIONS, INC.
 BY: Operations Manager - Pricing
 29657, 675 W. Peachtree St., N.E.
 Atlanta, Georgia 30375
 ISSUED: JANUARY 8, 2004

TARIFF F.C.C. NO. 1
 161ST REVISED PAGE 4
 CANCELS 160TH REVISED PAGE 4

EFFECTIVE: JANUARY 9, 2004

ACCESS SERVICE
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6-141	4th	6-157.2	7th	6-160.23	Original
6-141.1	4th*	6-157.2.1	10th	6-160.24	Original
6-142	6th	6-157.2.2	10th	6-160.25	Original
6-143	1st	6-157.2.3	11th	6-160.26	Original
6-144	4th	6-157.2.4	7th	6-160.27	Original
6-145	4th	6-157.2.5	7th	6-160.28	Original
6-146	4th	6-157.2.6	7th	6-160.29	Original
6-147	5th	6-157.2.6.1	2nd	6-160.30	Original
6-148	6th	6-157.2.7	13th	6-160.31	Original
6-149	4th	6-157.2.8	11th	6-160.32	Original
6-150	5th	6-157.3	4th	6-160.33	Original
6-151	4th	6-158	5th	6-160.34	Original
6-151.1	2nd	6-159	7th	6-160.35	Original
6-152	5th	6-159.1	5th	6-160.36	Original
6-152.1	2nd	6-159.1.1	6th	6-161	25th
6-153	7th	6-159.1.1.1	5th	6-162	5th
6-153.1	1st	6-159.1.2	4th	6-163	5th
6-154	8th	6-159.1.3	2nd	6-164	5th
6-154.1	Original	6-160	6th	6-164.1	12th
6-155	7th	6-160.1	4th	6-165	7th
6-155.1	4th	6-160.2	8th	6-165.1	1st
6-155.2	4th	6-160.3	2nd	6-165.2	2nd
6-156	15th	6-160.4	4th	6-166	6th
6-157	13th	6-160.5	4th	6-167	5th
6-157.1	5th	6-160.6	4th	6-168	6th
6-157.1.0.1	Original	6-160.7	6th	6-169	9th
6-157.1.0.2	1st	6-160.8	5th	6-169.1	Original
6-157.1.0.3	3rd	6-160.9	6th	6-170	5th
6-157.1.0.4	Original	6-160.10	3rd	6-171	5th
6-157.1.0.5	Original	6-160.11	7th	6-172	6th
6-157.1.0.6	1st	6-160.12	Original	6-173	6th
6-157.1.0.7	Original	6-160.13	Original	6-174	3rd
6-157.1.0.8	Original	6-160.14	Original	6-175	4th
6-157.1.1	8th	6-160.15	Original	6-176	20th
6-157.1.1.1	5th	6-160.16	Original	6-177	10th
6-157.1.2	7th	6-160.17	Original	6-177.1	4th
6-157.1.2.1	6th	6-160.18	Original	6-178	8th
6-157.1.3	12th	6-160.19	Original	6-178.1	7th
6-157.1.3.1	8th	6-160.20	Original	6-178.2	6th
6-157.1.4	9th	6-160.21	Original		
6-157.1.5	9th	6-160.22	Original		

BELLSOUTH TELECOMMUNICATIONS, INC.
 BY: Operations Manager - Pricing
 29G57, 675 W. Peachtree St., N.E.
 Atlanta, Georgia 30375
 ISSUED: JANUARY 8, 2004

TARIFF F.C.C. NO. 1
 11TH REVISED PAGE 4.1
 CANCELS 10TH REVISED PAGE 4.1

EFFECTIVE: JANUARY 9, 2004

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7-1	5th	7-36.1	4th		
7-2	11th	7-37	4th		
7-2.1	1st	7-38	3rd		
7-3	7th	7-38.1	5th		
7-4	12th*	7-38.2	3rd		
7-4.1	Original	7-38.3	5th		
7-5	6th	7-38.4	4th		
7-6	6th	7-38.5	5th		
7-6.1	7th	7-38.5.1	Original		
7-7	9th	7-38.6	4th		
7-8	7th	7-38.7	1st		
7-8.1	12th	7-38.7.1	Original		
7-8.1.1	3rd	7-38.8	2nd		
7-8.1.2	Original	7-38.9	4th		
7-8.2	4th	7-38.9.1	Original		
7-8.3	4th	7-38.10	3rd		
7-8.3.1	1st	7-38.11	4th		
7-8.4	2nd	7-38.12	Original		
7-9	2nd	7-39	1st		
7-10	2nd	7-40	2nd		
7-11	2nd	7-41	2nd		
7-12	2nd	7-42	1st		
7-13	8th	7-43	1st		
7-13.0.1	1st	7-44	3rd		
7-13.1	3rd	7-45	3rd		
7-14	5th	7-46	3rd		
7-14.1	1st	7-47	5th		
7-14.2	1st	7-48	7th		
7-14.3	1st	7-49	6th		
7-14.4	Original*	7-49.0.1	2nd		
7-15	3rd	7-49.1	5th		
7-16	9th	7-49.4.0.1	Original		
7-17	6th	7-49.1.1	3rd		
7-18	7th	7-49.2	5th		
7-19	9th	7-49.3	7th		
7-20	1st	7-49.3.1	2nd		
7-21	1st	7-49.4	6th		
7-22	2nd	7-49.4.0.1	2nd		
7-23	1st	7-49.4.1	4th		
7-24	1st	7-49.5	4th		
7-25	1st	7-50	3rd		
7-26	3rd	7-51	4th		
7-27	2nd	7-52	4th		
7-28	2nd	7-53	5th		
7-29	2nd	7-54	4th		
7-30	4th				
7-31	2nd				
7-32	3rd				
7-33	2nd				
7-34	2nd				
7-35	1st				
7-36	3rd				

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BELLSOUTH TELECOMMUNICATIONS, INC.
 BY: Operations Manager - Pricing
 29657, 675 W. Peachtree St., N.E.
 Atlanta, Georgia 30375
 ISSUED: JANUARY 8, 2004

TARIFF F.C.C. NO. 1
 134TH REVISED PAGE 5
 CANCELS 133RD REVISED PAGE 5
 EFFECTIVE: JANUARY 9, 2004

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7-55	3rd	7-68	5th	7-96	2nd
7-55.1	2nd	7-68.1	1st	7-97	2nd
7-56	9th	7-69	8th	7-98	1st
7-57	8th	7-70	15th	7-99	2nd
7-57.1	7th	7-70.1	11th	7-99.1	1st
7-57.1.1	Original	7-71	3rd	7-99.2	1st
7-57.2	7th	7-71.1	3rd	7-99.3	1st
7-57.2.1	2nd	7-72	2nd	7-100	9th
7-57.3	8th	7-73	3rd	7-100.1	Original
7-58	8th	7-74	4th	7-101	7th
7-58.1	5th	7-74.1	6th	7-101.1	7th
7-58.2	3rd	7-75	4th	7-101.2	Original
7-58.3	4th	7-76	1st	7-102	8th
7-58.4	1st	7-77	1st	7-102.1	7th
7-58.5	2nd	7-78	1st	7-103	10th
7-58.6	4th	7-79	24th	7-103.1	6th
7-58.6.1	4th	7-79.1	Original	7-103.1.1	2nd
7-58.7	1st	7-80	6th*	7-103.2	4th
7-58.7.1	3rd	7-80.1	3rd	7-103.3	5th
7-58.7.2	Original	7-81	6th	7-103.3.1	3rd
7-58.8	5th	7-81.1	2nd	7-103.4	2nd
7-58.8.1	1st	7-81.2	1st	7-103.5	3rd
7-58.9	3rd	7-82	4th	7-103.6	7th
7-58.9.1	1st	7-83	5th	7-103.6.1	2nd
7-58.10	6th	7-84	10th	7-103.7	4th
7-58.10.0.1	Original	7-84.1	6th	7-103.8	5th
7-58.10.1	2nd	7-85	12th	7-103.8.1	3rd
7-58.11	6th	7-86	2nd	7-103.9	1st
7-58.11.1	2nd	7-86.1	9th	7-103.10	3rd
7-58.12	7th	7-86.1.1	4th*	7-103.11	3rd
7-58.13	8th	7-86.2	5th	7-103.11.1	1st
7-58.14	6th	7-86.2.1	2nd	7-103.12	2nd
7-58.15	3rd	7-86.3	7th	7-103.12.1	1st
7-58.16	3rd	7-86.3.1	Original	7-103.13	7th
7-58.17	4th	7-86.4	4th	7-103.13.1	Original
7-58.17.1	2nd	7-87	8th	7-103.14	7th
7-58.18	3rd	7-88	2nd	7-103.14.1	Original
7-58.19	1st	7-88.1	5th	7-103.15	3rd
7-28.20	Original	7-89	5th	7-103.15.1	1st
7-28.21	Original	7-90	6th	7-103.16	3rd
7-28.22	Original	7-90.1	5th	7-103.17	1st
7-59	7th	7-91	8th	7-103.18	3rd
7-60	5th	7-91.0.1	1st	7-103.18.1	4th
7-61	4th	7-91.1	1st	7-103.18.2	Original
7-61.1	1st	7-92	3rd	7-103.19	3rd
7-62	3rd	7-92.1	7th	7-103.20	3rd
7-63	2nd	7-92.2	1st	7-103.21	1st
7-64	1st	7-93	2nd		
7-65	5th	7-94	3rd		
7-66	4th	7-94.1	2nd		
7-67	4th	7-95	1st		

All BellSouth marks contained herein and as set forth in the trademarks and servicemarks section of this Tariff are owned by BellSouth Intellectual Property Corporation.

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BELLSOUTH TELECOMMUNICATIONS, INC.
 BY: Operations Manager - Pricing
 29657, 675 W. Peachtree St., N.E.
 Atlanta, Georgia 30375
 ISSUED: JANUARY 8, 2004

TARIFF F.C.C. NO. 1
 50TH REVISED PAGE 8.1
 CANCELS 49TH REVISED PAGE 8.1

EFFECTIVE: JANUARY 9, 2004

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13-1.1	3rd	13-44	3rd	13-76.2	5th
13-2	4th	13-45	4th	13-76.3	2nd
13-3	1st	13-45.1	2nd	13-76.4	1st
13-4	1st	13-45.2	Original	13-76.5	2nd
13-5	4th	13-46	5th	13-76.6	Original
13-6	5th	13-47	4th	13-76.7	1st
13-7	5th	13-48	1st	13-76.8	2nd
13-8	6th	13-49	1st	13-76.9	2nd
13-9	9th	13-50	2nd	13-76.10	1st
13-10	7th	13-51	1st	13-76.11	Original
13-10.1	5th	13-52	1st	13-76.12	Original
13-11	11th	13-53	1st	13-76.13	1st
13-11.1	4th	13-54	1st	13-76.14	Original*
13-12	11th	13-55	1st	13-76.15	Original*
13-12.1	5th	13-56	Original	13-76.16	Original*
13-13	9th	13-57	Original	13-76.17	Original*
13-14	7th	13-58	Original	13-76.18	Original*
13-15	3rd	13-59	Original	13-77	Original
13-16	4th	13-60	1st	14-1	2nd
13-17	3rd	13-61	5th	15-1	1st
13-18	Original	13-62	3rd	15-2	1st
13-19	Original	13-63	3rd	15-3	1st
13-20	Original	13-64	3rd	15-4	1st
13-21	Original	13-65	2nd	15-5	Original
13-22	Original	13-66	2nd	15-6	1st
13-23	1st	13-67	3rd	15-7	1st
13-24	Original	13-68	2nd	15-8	1st
13-25	Original	13-69	5th	15-9	1st
13-26	2nd	13-70	4th	15-10	Original
13-27	4th	13-71	5th	15-11	1st
13-28	4th	13-72	1st	15-12	1st
13-29	4th	13-73	1st	15-13	1st
13-30	1st	13-74	2nd	15-14	1st
13-31	1st	13-74.1	4th	15-15	1st
13-32	1st	13-74.2	2nd	15-16	Original
13-33	1st	13-74.3	3rd	15-17	Original
13-34	1st	13-74.4	4th	15-18	1st
13-35	1st	13-74.5	3rd	15-19	1st
13-36	1st	13-74.6	3rd	15-20	1st
13-37	1st	13-74.7	3rd		
13-38	1st	13-74.8	3rd		
13-39	1st	13-74.9	3rd		
13-40	1st	13-74.10	3rd		
13-41	1st	13-75	7th		
13-42	1st	13-76	2nd		

Certain material previously appearing on this page now appears on 4th Revised Page 8.2.

All BellSouth marks contained herein and as set forth in the trademarks and servicemarks section of this Tariff are owned by BellSouth Intellectual Property Corporation.

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BELLSOUTH TELECOMMUNICATIONS, INC.
BY: Operations Manager - Pricing
29G57, 675 W. Peachtree St., N.E.
Atlanta, Georgia 30375
ISSUED: JANUARY 8, 2004

TARIFF F.C.C. NO. 1
4TH REVISED PAGE 8.2
CANCELS 3RD REVISED PAGE 8.2
EFFECTIVE: JANUARY 9, 2004

ACCESS SERVICE

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16-1.1	Original				
16-2	2nd				
16-3	1st				
17-1	Original				
18-1	4th				
18-2	5th				
18-3	13th				
18-4	1st				
18-5	1st				
18-6	1st				
18-7	16th				
18-8	1st				
18-9	1st				
18-10	1st				
18-11	2nd				
18-12	2nd				
18-13	3rd				
18-14	3rd				
18-15	2nd				
18-16	Original				
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EXPLANATION OF SYMBOLS

C	-	To signify changed regulation
D	-	To signify discontinued rate or regulation
I	-	To signify increase
M	-	To signify matter relocated without change
N	-	To signify new rate or regulation
R	-	To signify reduction
S	-	To signify reissued matter
T	-	To signify a change in text but no change in rate or regulation
Z	-	To signify a correction

EXPLANATION OF ABBREVIATIONS

ac	-	alternating current
ACNA	-	Access Carrier Name Abbreviation
ACTL	-	Access Carrier Terminal Location
AML	-	Actual Measured Loss
ANI	-	Automatic Number Identification
AP	-	Program Audio
ASR	-	Access Service Request
ATP	-	Access Transport Parameter
AT&T-C	-	AT&T Communications
BAN	-	Billing Account Number
BCLID	-	Bulk Calling Line Information Delivery
BD	-	Business Day
BHMC	-	Busy Hour Minutes of Capacity
BOC	-	Bell Operating Company
BSA	-	BellSouth SWA Basic Serving Arrangement
BSE	-	Basic Service Element
CAROT	-	Centralized Automatic Reporting on Trunks
CCSAC	-	BellSouth SWA Common Channel Signaling Access Capability
CI	-	Channel Interface
CN	-	Charge Number
CO	-	Central Office
COCTX	-	Central Office Centrex
Cont'd	-	Continued
CPE	-	Customer Provided Equipment
CPN	-	Calling Party Number
CSP	-	Carrier Selection Parameter
CSPP	-	Channel Services Payment Plan
Ctx	-	Centrex
DA	-	BellSouth Directory Assistance
DADAS	-	BellSouth Direct Access to Directory Assistance Service
dB	-	decibel
dBmO	-	Decibel (s) Relative to 1 Milliwatt at 0 TLP
dBrnC	-	Decibel Reference Noise C-Message Weighting
dBrnC0	-	Decibel Reference Noise C-Message Weighted 0

(N)

BELLSOUTH TELECOMMUNICATIONS, INC.
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TARIFF F.C.C. NO. 1
8TH REVISED PAGE 2-12.0.1
CANCELS 7TH REVISED PAGE 2-12.0.1
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ACCESS SERVICE

2 - General Regulations (Cont'd)

2.3 Obligations of the Customer (Cont'd)

2.3.10 Jurisdictional Report Requirements¹ (Cont'd)

(A) Jurisdictional Reports (Cont'd)

(1) Percent Interstate Usage (PIU) (Cont'd)

(b) (Cont'd)

The Telephone Company will bill according to actual measured minutes of use or messages for all services listed in (1)(c) and (2) following, with the exception of those listed below:

- BellSouth SWA Local Channel
- BellSouth SWA Dedicated Interoffice Channel
- BellSouth Billing Name and Address
- BellSouth Inward Operator Service
- BellSouth Line Information Data Base Service (LIDB)
- Virtual Access Cross Connect Service
- Physical Access Cross Connect Service
- Intra-Office Collocation Cross Connect Service
- BellSouth Electronic White Pages Access Service
- BellSouth Operator Assistance Access Service
- BellSouth Flat Rated DA Trunk
- Channelization Equipment
- DNALs associated with BellSouth SWA LSBSA
- Public Packet Switching Network (PPSN)

Where the Telephone Company receives insufficient call detail to determine the jurisdiction, the Telephone Company will apply the customer's projected PIU factor to apportion the usage between interstate and intrastate. In the event the customer does not supply the projected PIU and the Telephone Company does not have sufficient call detail to determine the jurisdiction of the call, only then will a PIU of 50 percent be applied. For the purpose of this tariff, where the customer is a Third-Party Provider ("Third-Party Provider") of CCS7 services to its customers ("Third-Party Customers"), the Third-Party Provider will develop its projected PIU factor based upon a weighted average of the PIUs of its Third-Party Customers' end user traffic in accordance with the procedures described below. A Third-Party Provider may elect to have the

Note 1: Except where indicated herein, references to BellSouth SWA FGs will also include the applicable BellSouth Basic Serving Arrangement as detailed in Section 6.1.3.(A)(5)(j) (e.g., the term BellSouth SWA FGA represents both BellSouth SWA FGA and BellSouth SWA LSBSA).

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ACCESS SERVICE

2 - General Regulations (Cont'd)

2.3 Obligations of the Customer (Cont'd)

2.3.10 Jurisdictional Report Requirements¹ (Cont'd)

(A) Jurisdictional Reports (Cont'd)

(1) Percent Interstate Usage (PIU) (Cont'd)

(b) (Cont'd)

Telephone Company determine the weighted PIU and in so doing the Third-Party Provider shall name and identify their Third Party Customers. In the event a Third Party Provider does not provide a projected PIU or does not elect to have the Telephone Company determine the PIU, a 50 percent PIU will be utilized for that Third-Party Provider, until such time as the Telephone Company obtains sufficient data to develop the PIU as specified in c. following.

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The customer will provide in its initial order the projected Percent Interstate Usage (PIU) at a statewide level on a local exchange company specific basis. When the customer computes the PIU it will subtract the developed PIU from 100 and the difference is the percent intrastate usage. The sum of the interstate and intrastate percentages will equal 100 percent. A PIU of less than 100 percent is not allowed where the interstate service is not also available in the appropriate intrastate access tariff. The projected PIU may include up to two decimals.

The Telephone Company will designate the number obtained by subtracting the projected interstate percentage furnished by the customer from 100 (100 - customer percentage = intrastate percentage) as the projected intrastate percentage of use.

For usage originating from or terminating to an end office that is located in a state that is part of a LATA of a different state (cross boundary), the customer will provide a statewide PIU per service type for the state where the end office is physically located.

- (c) When the customer initially orders service(s), as defined in the following, the customer will state in its order the Percent Interstate Usage separately for each, as set forth in (1)(a) and (1)(b) preceding.

Note 1: Except where indicated herein, references to BellSouth SWA FGs will also include the applicable BellSouth Basic Serving Arrangement as detailed in Section 6.1.3.(A)(5)(j) (e.g., the term BellSouth SWA FGA represents both BellSouth SWA FGA and BellSouth SWA LSBSA).

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ACCESS SERVICE

2 - General Regulations (Cont'd)

2.3 Obligations of the Customer (Cont'd)

2.3.10 Jurisdictional Report Requirements¹ (Cont'd)

(A) Jurisdictional Reports (Cont'd)

(1) Percent Interstate Usage (PIU) (Cont'd)

(c) (Cont'd)

- BellSouth SWA FGA
- BellSouth SWA FGB
- BellSouth SWA FGD
- BellSouth SWA 500
- 700 Service Access
- BellSouth SWA 8XX Toll Free Dialing Ten Digit Screening Service
- BellSouth SWA 900
- BellSouth SWA Local Channel
- BellSouth SWA Dedicated Interoffice Channel
- BellSouth CCS7 Access Arrangement
- Channelization Equipment
- DNALs associated with BellSouth SWA LSBSA²
- Virtual Access Cross Connect Service
- Physical Access Cross Connect Service
- Intra-Office Collocation Cross Connect Service
- BellSouth Billing Name and Address
- BellSouth Inward Operator Services
- BellSouth Line Information Data Base Service (LIDB)
- BellSouth Electronic White Pages Access Service
- BellSouth Operator Assistance Access Service
- BellSouth Flat Rated DA Trunks
- Public Packet Switching Network (PPSN)
- BellSouth IPTG Terminating Service

The Percent Interstate Usage (PIU) factors associated with BellSouth SWA FGA, BellSouth SWA FGB, BellSouth SWA FGD, BellSouth SWA 500, 700, BellSouth SWA 8XX Toll Free Dialing Ten Digit Screening service, and BellSouth SWA 900, will apply to all associated elements and services, e.g., Carrier Common Line, Local Switching, BellSouth SWA Common Interoffice Channel, Interconnection, Access Tandem Switching, Common Trunk Port service and minute of use based multiplexer rate elements, where applicable.

Note 1: Except where indicated herein, references to BellSouth SWA FGs will also include the applicable BellSouth SWA Basic Serving Arrangement as detailed in Section 6.1.3.(A)(5)(j) (e.g., the term BellSouth SWA FGA represents both BellSouth SWA FGA and BellSouth SWA LSBSA).

Note 2: Where BellSouth SWA LSBSA is provisioned with a DNAL, the DNAL rates should be apportioned between interstate and intrastate using the same PIU factor as is applied to the associated BellSouth SWA LSBSA.

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ACCESS SERVICE
2 - General Regulations (Cont'd)

2.3 Obligations of the Customer (Cont'd)

2.3.10 Jurisdictional Report Requirements¹ (Cont'd)

(A) Jurisdictional Reports (Cont'd)

(1) Percent Interstate Usage (PIU) (Cont'd)

(c) (Cont'd)

The customer will provide a single factor as the projected Percent Interstate Usage (PIU) to apportion the usage between interstate and intrastate. This factor will be applied to the following categories:

- BellSouth SWA Local Channel
- BellSouth SWA Dedicated Interoffice Channel
- Channelization Equipment

The PIU category, BellSouth SWA Local Channel, includes Dedicated End Office Trunk Port Service and Dedicated Tandem Trunk Port Service charges and other flat rated charges not specifically covered by other PIU categories.

The PIU factor provided for each of the foregoing facilities categories (Switched Local Channel, Switched Dedicated Interoffice Channel, Channelization Equipment and Switched Virtual and Physical Access Cross Connect Service) will reflect the combination of all traffic types which traverse such facility category.

(1)
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Note 1: Except where indicated herein, references to BellSouth SWA FGs will also include the applicable BellSouth Basic Serving Arrangement as detailed in Section 6.1.3.(A)(5)(j) (e.g., the term BellSouth SWA FGA represents both BellSouth SWA FGA and BellSouth SWA LSBSA).

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ACCESS SERVICE

2 - General Regulations (Cont'd)

2.4 Payment Arrangements and Credit Allowances (Cont'd)

2.4.4 Credit Allowance for Service Interruptions (Cont'd)

(B) When a Credit Allowance Applies

In case of an interruption to any service, allowance for the period of interruption, if not due to the negligence of the customer, shall be as follows:

- (1) For BellSouth SWA Dedicated Interoffice Channels, Channelization Equipment and Switched Local Channels, Dedicated End Office Trunk Port Service and Dedicated Tandem Trunk Port Service Special Access (a.k.a. BellSouth SPA) services other than SMARTRing service (a.k.a. BellSouth SPA Dedicated Ring), BellSouth Dedicated Ring, SMARTPath service (a.k.a. BellSouth SPA DS1 Shared Ring), and SMARTPath DS3 Transport service (a.k.a. BellSouth SPA DS3 Shared Ring), LightGate service (a.k.a. BellSouth SPA Point to Point Network), DS1 (a.k.a. BellSouth SPA DS1) service, BellSouth DS1 Diverse Service, Program Audio (a.k.a. BellSouth SPA Program Audio), DS3 Digital Video Service (a.k.a. BellSouth SPA DS3 Digital Video) and Broadcast Quality Video (a.k.a. BellSouth SPA Broadcast Quality Video) services, Intra-Office Collocation Cross Connect Service, Physical Access Cross Connect Service and Virtual Access Cross Connect Service, no credit shall be allowed for an interruption of less than 30 minutes. The customer shall be credited for an interruption of 30 minutes or more at the rate of 1/1440 of the monthly charges for the facility or service for each period of 30 minutes or major fraction thereof that the interruption continues. (C)

The credits will apply no more than once per month and the total of all credits, including those provided in other sections of this Tariff, shall not exceed the monthly rate for the service. The monthly charges used to determine the credit shall be as follows:

- (a) The monthly charge shall be the total of all the monthly rate element charges associated with the highest level inoperative channelized service:
- For BellSouth SWA Transport: BellSouth SWA Local Channel, Dedicated End Office Trunk Port Service and Dedicated Tandem Trunk Port Service, BellSouth SWA Dedicated Interoffice Channel, Channelization Equipment (if applicable) and any Optional Features and Functions.
 - For Special (a.k.a. BellSouth SPA) two-point services: two Local Channels, Interoffice Channel and Optional Features and Functions.
- (b) For multipoint services, the monthly charge shall be only the total of all the monthly rate element charges associated with the highest level channelized service for that portion of the service that is inoperative (i.e., a local channel per customer premises, interoffice channel and optional features and functions).
- (c) For Special Access (a.k.a. BellSouth SPA) channelized services, the monthly charge shall be the total of all the monthly rate element charges associated with that portion of the highest level channelized service that is inoperative.

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ACCESS SERVICE

2 - General Regulations (Cont'd)

2.4 Payment Arrangements and Credit Allowances (Cont'd)

2.4.4 Credit Allowance for Service Interruptions (Cont'd)

(B) When a Credit Allowance Applies (Cont'd)

(1) (Cont'd)

(c) (Cont'd)

When the facility which is channelized or the Basic Channelization System itself is inoperative, the monthly charge shall be the total of all the monthly rate element charges associated with the highest level channelized service (i.e., the local channel, interoffice channel, central office channel interface(s) and any optional features and functions, including the Basic Channelization System on the facility to the Hub. When the service which rides a channel of the channelized facility is inoperative (assuming the highest level channelized service is still operative) the monthly charge shall be the total of all the monthly rate element charges associated with that portion of the lower level inoperative service from the Hub to a customer premises (i.e., local channels, interoffice channel, central office channel interface(s), and optional features and functions). For channelized service ordered under the Shared Network Arrangement, certain record keeping complexities necessitate that the host subscriber as well as each service user notify BellSouth Telecommunications, Inc. of any service outage in order to receive a credit allowance.

(d) For BellSouth SWA channelized services, the monthly charge shall be the total of all monthly rate element charges associated with that portion of the highest level channelized service that is inoperative. When the facility which is channelized or the Basic Channelization System itself is inoperative, the monthly charge shall be the total of all the monthly rate element charges associated with the highest level channelized service (e.g., the Switched Local Channel, Switched Interoffice Channels, Channelization Equipment, including the Basic Channelization System on the facility to the Hub, if applicable).

(e) For SMARTPath services (a.k.a. BellSouth SPA Shared Ring) and SMARTPath DS3 Transport service (a.k.a. BellSouth SPA DS3 Shared Ring), the monthly charge shall be the total of all the monthly rate element charges associated with the highest level inoperative channelized service (e.g., SMARTPath Area Connection and SMARTPath Area Junction).

(f) For Intra-Office Collocation Cross Connect, Physical Access Cross Connect, and Virtual Access Cross Connect elements specified in Section 13 of this Tariff, the monthly charge shall be that associated with the specific cross connect that is inoperative.

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ACCESS SERVICE

2 - General Regulations (Cont'd)

2.4 Payment Arrangements and Credit Allowances (Cont'd)

2.4.4 Credit Allowance for Service Interruptions (Cont'd)

(B) When a Credit Allowance Applies (Cont'd)

- (g) For SMARTGate service (a.k.a. BellSouth SPA Managed Shared Ring Network) and BellSouth Managed Shared Ring service, the monthly charge shall be the monthly charges associated with the service (e.g., On-Net or Off-Net). (M)
(M)
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- (2) For Program Audio (a.k.a. BellSouth SPA Program Audio) and Broadcast Quality Video (a.k.a. BellSouth SPA Broadcast Quality Video) and DS3 Digital Video (a.k.a. BellSouth SPA DS3 Digital Video) Special Access services (a.k.a. BellSouth SPA), no credit shall be allowed for an interruption of less than 30 seconds. The customer shall be credited for an interruption of 30 seconds or more as follows:
 - (a) For two-point services, when monthly rates are applicable, the credit shall be at the rate of 1/8640 of the monthly charges for the service for each period of 5 minutes or major fraction thereof that the interruption continues.
 - (b) For two-point services, when daily rates are applicable, the credit shall be at the rate of 1/288 of the daily charges for the service for each period of 5 minutes or major fraction thereof that the interruption continues.
 - (c) For multipoint services, when monthly rates are applicable, the credit shall be at the rate of 1/8640 of the monthly charges for all channel terminations, channel mileages and optional features and functions that are inoperative for each period of 5 minutes or major fraction thereof that the interruption continues.

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ACCESS SERVICE

2 - General Regulations (Cont'd)

2.4 Payment Arrangements and Credit Allowances (Cont'd)

2.4.9 Service Installation Guarantee

- (A) The Telephone Company assures that orders for services to which the Service Installation Guarantee applies will be installed and available for customer use no later than the Service Date as specified in 5.1.1 following. The Service Installation Guarantee is applicable only as specified in 2.4.9(E) following, Sections 6.7.1(D) and 7.4.1(C) of this Tariff and for the Cross Connect elements in Section 13 of this Tariff. (M)
- (B) The failure of the Telephone Company to meet this commitment will result in the credit of an amount equal to the nonrecurring charges associated with the individual service having the missed Service Date being applied to the customer's bill. The credit will include only nonrecurring charges associated with the services specified in Section 6.7.1(D), Section 7.4.1(C), the Connection rate element specified in 28.1.10(A), and Cross Connect elements in Sections 13.3.22, 13.3.23, and 13.3.24 of this Tariff, for which nonrecurring charges are applicable. The nonrecurring charges will be credited at the rate at which they were billed. The credit will not be provided if a credit of the same nonrecurring charge for the same service is provided under any other provisions of this Tariff. (M)
- (C) For Commercial Quality Video service (a.k.a. BellSouth SPA Commercial Quality Video) which is jointly provided by this Telephone Company and one or more other local exchange companies, the Service Installation Guarantee is applicable only for those portions of the Commercial Quality Video service (a.k.a. BellSouth SPA Commercial Quality Video) within this Telephone Company's serving territory and only if the failure to meet the commitment is the fault of this Telephone Company.
- (D) For BellSouth Dedicated Ring and SMARTRing service (a.k.a. BellSouth SPA Dedicated Ring), the Service Installation Guarantee is applicable for all channel interface rate elements. BellSouth Dedicated Ring and SMARTRing service (a.k.a. BellSouth SPA Dedicated Ring) ring level rate elements are excluded from the Service Installation Guarantee. BellSouth Dedicated Ring and SMARTRing service (a.k.a. BellSouth SPA Dedicated Ring) ring level rate elements are defined as follows: Local Channel, Interoffice Channel, Internodal Channel, Alternate Central Office Channel, Customer Node and Central Office Node.
- (E) The Service Installation Guarantee is applicable to DS1 Diverse service Local and Interoffice Channel rate elements for which nonrecurring charges are appropriate.
- (F) For BellSouth Enterprise DSL service, the Service Installation Guarantee is applicable only for the Connection rate element, and only if the failure to meet the commitment is the fault of this Telephone Company. (M)

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ACCESS SERVICE

2 - General Regulations (Cont'd)

2.4 Payment Arrangements and Credit Allowances (Cont'd)

2.4.9 Service Installation Guarantee (Cont'd)

(G) The Service Installation Guarantee applies for the following Fast Packet Access Services at DS0 and DS1 levels only: BellSouth Exchange Access Frame Relay Service, BellSouth Exchange Access Asynchronous Transfer Mode Service, Managed Shared Frame Relay Service, Managed Shared Asynchronous Transfer Mode Service. M
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(H) Service Installation Guarantees do not apply:

- (1) on Switched (a.k.a. BellSouth SWA) and Special Access (a.k.a. BellSouth SPA) services installations, moves and rearrangement of service with an agreed upon service date interval of four business days or less following the Application Date of the service order and on Digital Subscriber Line services installations, moves and rearrangement of service with an agreed upon service date interval of three business days or less following the Application Date of the service order. The Application Date for Switched (a.k.a. BellSouth SWA) and Special Access (a.k.a. BellSouth SPA) is as specified in 5.1.1(G) following. The Application Date for Digital Subscriber Line services is as specified in 28.1.4(A)(1) following.
- (2) on Special Access (a.k.a. BellSouth SPA) and Fast Packet Access service orders for installations, moves and rearrangement of services with service dates that have been advanced from the standard or negotiated service interval as specified in 5.1.1(H) following, or for Digital Subscriber Line Service specified in 28.1 following, or
- (3) when failure to meet the Service Date occurs because of:
 - (a) any act or omission, which shall include an accurate and complete service order, from this customer, any other customer or any third party, or of any other entity providing a portion of a service,
 - (b) labor difficulties, governmental orders, civil commotions, criminal actions against the Telephone Company, acts of God, war, or other circumstances beyond the Telephone Company's control,
 - (c) unavailability of the customer's facilities and/or equipment,
- (4) to service requiring Special Construction as set forth in BellSouth Telecommunications, Inc.'s Tariff F.C.C. No. 2,

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ACCESS SERVICE

2 - General Regulations (Cont'd)

2.4 Payment Arrangements and Credit Allowances (Cont'd)

(M)

2.4.9 Service Installation Guarantee (Cont'd)

(M)

(H) Service Installation Guarantees do not apply: (Cont'd)

(M)

(5) to Specialized Service or Arrangements or Individual Case Basis filings,

(M)
(M)

(6) to BellSouth Virtual Expanded Interconnection service arrangements, as set forth in Section 20 of this Tariff, or

(M)
(M)

(7) for jointly provisioned services except as stipulated in 2.4.9(C) preceding.

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In addition, Service Installation Guarantees will not apply during a declared National Emergency. Priority installation of National Security Emergency Preparedness (NSEP) telecommunications services shall take precedence.

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2.5 Connections

Equipment and Systems (i.e., terminal equipment, multiline terminating systems and communications systems) may be connected with BellSouth SWA and Special Access (a.k.a. BellSouth SPA) service furnished by the Telephone Company where such connection is made in accordance with the provisions specified in Technical Reference Publication AS No. 1 and in 2.1 preceding.

2.6 Definitions

Certain terms used herein are defined as follows:

Access Code

The term "Access Code" denotes a uniform seven digit code assigned by the Telephone Company to an individual customer. The seven digit code has the form 101XXXX and 950-XXXX.

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ACCESS SERVICE

5 - Ordering Options for BellSouth SWA and Special Access (a.k.a. BellSouth SPA) Service

5.1 General

This section sets forth the regulations and orders related to charges for Access Orders for BellSouth SWA and Special Access (a.k.a. BellSouth SPA) Services. These charges are in addition to other applicable charges as set forth in other sections of this tariff.

An Access Order is an order to provide the customer with BellSouth SWA service, Special Access (a.k.a. BellSouth SPA) Service, Fast Packet Access Services, Intra-Office Collocation Cross Connect Service, Physical Access Cross Connect Service, and Virtual Access Cross Connect Service, or to provide changes to existing services. An order for BellSouth ADSL service, must be submitted in a manner designated by the Telephone Company, after receipt of an appropriate logon and password that is required to access the ordering system(s). Ordering, Maintenance, NSP logon and password information may be obtained by choosing "Get Started" at the following website:
http://www.bellsouth.com/broadband/dsl_solutions/discover.

The Service Installation Guarantee, as set forth in 2.4.9 preceding, is applicable to specified services offered in this tariff. The Service Installation Guarantee is applied on a per service order basis for BellSouth SWA Services. The Service Installation Guarantee is applied on a per circuit basis for Special Access (a.k.a. BellSouth SPA) Services. The Service Installation Guarantee is applied on the Cross Connect elements only for Intra-Office Collocation Cross Connect Service, Physical Access Cross Connect Service, and Virtual Access Cross Connect Service.

5.1.1 Ordering Conditions

Ordering Conditions for BellSouth ADSL service are as specified in 5.1.1(J).

- (A) A customer may order any number of services of the same type and between the same premises on a single Access Order. All details for services for a particular order must be identical except for those for multipoint service.
- (B) The customer shall provide all information necessary for the Telephone Company to provide and bill for the requested service. In addition to the order information required in 5.2.2, 5.2.4, 5.2.6, 5.2.7 and 5.2.14 following, the customer must also provide:
 - Customer name and premises address(es).
 - Billing name and address (when different from customer name and address).
 - Customer contact name(s) and telephone number(s) for the following provisioning activities: order negotiation, order confirmation, interactive design, installation and billing.

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ACCESS SERVICE

5 - Ordering Options for BellSouth SWA and Special Access (a.k.a. BellSouth SPA) Service

5.1 General (Cont'd)

5.1.1 Ordering Conditions (Cont'd)

- (C) BellSouth SWA service orders for BellSouth SWA FGA and BellSouth SWA LSBSA shall be in lines. (M)
- (D) BellSouth SWA Service orders for BellSouth SWA FGB, BellSouth SWA FGD, BellSouth SWA TSBSA 1, BellSouth SWA TSBSA 3 and BellSouth IPTG Terminating service shall be in trunks. (M)
- (E) The day upon which the customer has provided to the Telephone Company a firm commitment for the service and complete and accurate information to allow for the processing of the Access Order by three o'clock p.m. Eastern Standard Time* is the Application Date. The Telephone Company will release an optional initial Pending Order Confirmation, which will include the Telephone Company order number and circuit identification. At the customer's request, when the Telephone Company facility availability is verified, either a Firm Order Confirmation, which will include critical date information, or a Design and Ordering Confirmation, which will include design as well as critical date information, will be released. Critical date information will include the service date. The service date is the date service is to be made available to the customer and billing will commence.
- (F) A Pending Order Confirmation is available for orders for Telephone Company-provided switched access dedicated transport services, where ordered separately from other switched access services, and for Telephone Company-provided special access services. A Design and Ordering Confirmation is not available for orders submitted by end users. A Pending Order Confirmation and a Design and Ordering Confirmation are not available for orders for services provided jointly with another Exchange Telephone Company. (M)

*Access Orders received after three o'clock p.m. EST will be processed the next business day, which will be the Application Date.

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ACCESS SERVICE

5 - Ordering Options for BellSouth SWA and Special Access (a.k.a. BellSouth SPA) Service (N)

5.1 General (Cont'd) (N)

5.1.1 Ordering Conditions (Cont'd) (N)

(G) Except for services listed in (H)(1) below, the following charges will apply for the installations, moves or rearrangement of services of Switched and Special Access service orders with an agreed upon service date interval of four business days or less following the Application Date. These charges are in addition to other applicable Switched and Special Access installation, move and rearrangement of service non-recurring charges. These charges will apply except for conversions made at the request of the Customer from a lower to a higher order of service as provided for in Section 2.4.8(A)(4) of this Tariff. The higher order of services are set forth in Section 2.4.8(A)(4)(b)(4) of this Tariff. This charge does not apply to services provided on a Special Services Arrangement or on an Individual Case Basis. In the event the agreed upon Service Date, as set forth above, is not met, these charges will not be applied. (N)

	Rate Per Service Order	USOC
Per Special Access Service Order	\$345.00	SOCSP
Per Switched Access Service Order	\$295.00	SOC SW

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ACCESS SERVICE

5 - Ordering Options for BellSouth SWA and Special Access (a.k.a. BellSouth SPA) Service (Cont'd)

5.3 Access Order Modifications

- (A) The customer may request a modification of its Access Order at any time prior to notification by the Telephone Company that service is earlier. The Telephone Company will make every effort to accommodate requested modification when it is able to do so with the normal work force assigned to complete such an order within normal business hours. If the modification cannot be made with the normal work force during normal business hours, overtime installation charges as stated in Section 13.2.6 may be applicable. All charges for Access Order modifications will apply on a per occurrence basis.
- (B) Any increase in the number of BellSouth SWA and Special Access (a.k.a. BellSouth SPA) service channels, Intra-Office Collocation Cross Connect Service, Physical Access Cross Connect Service, Virtual Access Cross Connect Service, or BellSouth SWA service lines, trunks, or CCS7 Signaling Connections and CCS7 Signaling Terminations will be treated as a new Access Order (for the increased amount only). (C)
(C)
(C)
- (C) If order modifications are necessary to satisfy the transmission performance for a Special Access (a.k.a. BellSouth SPA) Service order by a customer, these changes will be made without order modification charges being incurred by the customer.

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ACCESS SERVICE

5 - Ordering Options for BellSouth SWA and Special Access (a.k.a. BellSouth SPA) Service (Cont'd)

5.3 Access Order Modifications (Cont'd)

(C) (Cont'd)

(1) Service Date Change Charge (Cont'd)

- (d) A new service date may be established that is prior to the original service date if the Telephone Company determines it can accommodate the customer's request without delaying service dates for orders of other customers.
- (e) A Service Date Change Charge will apply, on a per order per occurrence basis, for each service date changed. The Service Date Change-Additional Dispatch Charge will apply for each occurrence of a technician dispatch to the customer's premises when the customer is not ready for service as specified in (1)(c), preceding. The applicable charges are:

<u>Service Date Change Charge</u>	<u>USOC</u>	<u>Charge</u>
Per Order, per Occurrence	OMC	\$31.60
<u>Service Date Change- Additional Dispatch Charge</u>	<u>USOC</u>	<u>Charge</u>
Per Occurrence	OMCAD	\$150.00

- (f) For multiple orders with the same service date for the same customer premises, only one Service Date Change-Additional Dispatch charge will apply. However, a Service Date Change charge will apply for each order.
- (g) Service Installation Guarantees, as set forth in 2.4.9 preceding, are not applicable for Service Date Change Charges.

(2) Partial Cancellation Charge

Any decrease in the number of ordered BellSouth SWA and Special Access (a.k.a. BellSouth SPA) service channels, Intra-Office Collocation Cross Connect Service, Physical Access Cross Connect Service, Virtual Access Cross Connect Service, or BellSouth SWA or CCS7 Signaling Connections services will be treated as a partial cancellation and the charges as set forth in 5.4(B) following will apply.

(C)
(C)
(C)

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ACCESS SERVICE

5 - Ordering Options for BellSouth SWA and Special Access (a.k.a. BellSouth SPA) Service (Cont'd)

5.3 Access Order Modifications (Cont'd)

(C) (Cont'd)

(3) Design Change Charge

Except for BellSouth ADSL service, the customer may request a design change to the service ordered. A design change is any change to an Access Order which requires engineering review. An engineering review is a review by Telephone Company personnel of the service ordered and the requested changes to determine what changes in the design, if any, are necessary to meet the changes requested by the customer. Design changes include such things as the addition or deletion of optional features or functions or a change in the type of BellSouth SWA Transport Termination, type of channel interface, type of Interface Group or technical specification package. Design changes do not include a change of customer premises, end user premises, end office switch, Basic Serving Arrangement, Intra-Office Collocation Cross Connect Service, Physical Access Cross Connect Service, Virtual Access Cross Connect Service, or BellSouth SWA and Special Access (a.k.a. BellSouth SPA) service channel type. Changes of this nature will require the issuance of a new order and the cancellation of the original order with appropriate cancellation charges applied. BellSouth ADSL service Virtual Circuits are non-designed and the customer may not request a design change. (C) (C) (C)

Should a customer requested Design change be received on a pending access order that results in the establishment of a new service date that exceeds the original service date by more than 30 days, the customer shall not be required to cancel and reissue a new order, but shall be billed a design change charge and a service date change charge.

The Telephone Company will review the requested change, notify the customer whether the change is a design change, if it can be accommodated and if a new service date is required. If the customer authorizes the Telephone Company to proceed with the design change, a Design Change Charge will apply. The Design Change Charge will apply on a per order per occurrence basis, for each order requiring a design change. The applicable charge is:

<u>Design Change Charge</u>	<u>USOC</u>	<u>Rate Per Order</u>
ALL STATES	H28	\$39.93

If a change of service date is required, the Service Date Change Charge as set forth in (1) preceding will also apply.

Service Installation Guarantees, as set forth in 2.4.9 preceding, are not applicable for Design Change Charges.

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ACCESS SERVICE

5 - Ordering Options for BellSouth SWA and Special Access (a.k.a. BellSouth SPA) Service (Cont'd)

5.4 Cancellation of an Access Order

(A) A customer may cancel an Access Order for the installation of service at any time prior to notification by the Telephone Company that service is available for the customer's use. The cancellation date is the date the Telephone Company receives written or verbal notice from the customer that the order is to be canceled. The verbal notice must be followed by written confirmation within 10 days. If the customer or a customer's end user is unable to accept Access Service within 30 calendar days after the original service date, the customer has the choice of the following options:

- The Access Order shall be canceled and charges/provisions specified in (B) through (D) following will apply, or
- Billing for the service will commence.

In any event, the cancellation date or the date billing is to commence (depending on which option is selected by the customer) shall be the 31st day beyond the original service date of the Access Order.

(B) When a customer cancels an Access Order for the installation of service, a Cancellation Charge will apply as follows:

- (1) Costs incurred in conjunction with the provision of BellSouth SWA service, Virtual Access Cross Connect Service, Physical Access Cross Connect Service, Intra-Office Collocation Cross Connect Service, or Special Access (a.k.a. BellSouth SPA) Service starts on the Application Date as defined in (4)(b) following. Provisions addressing the application of charges for other BellSouth Expanded Interconnection elements are contained in Section 20 of this Tariff. (C)
(C)

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ACCESS SERVICE

5 - Ordering Options for BellSouth SWA and Special Access (a.k.a. BellSouth SPA) Service (Cont'd)

5.4 Cancellation of an Access Order (Cont'd)

(B) (Cont'd)

(4) (Cont'd)

(b) (Cont'd)

- **Wired and Office Tested Date (WOT):** The date by which all intraoffice wiring is to be completed, all plug-ins optioned, aligned, and frame continuity established, and the interoffice facilities, if applicable, tested. In addition, switching equipment, including translation loading, is to be installed and tested.
- **Plant Test Date (PTD):** The date on which overall testing of the service is to be started.
- **Engineering Information Report Date (EIRD):** The date the engineering group in another ISS area provides information to the primary engineering group.
- **Service Date (DD):** The date on which service is to be made available to the customer. This is sometimes referred to as the Due Date.
- **Designed, Verified, and Assigned Date (DVA):** The date by which field implementation groups must report that all documents and materials have been received.
- **Frame Continuity Date (FCD):** Date on which frame-to-frame testing must be completed. This is sometimes referred to as the Facility Continuity Check Date. (M)
- **Loop Assignment and Make-up Date (LAM):** The date by which Local Loop Assignment and Make-up information must be available. (M)
- **Confirming Design Layout Report Date (CDLRD):** The date the Design Layout Report (DLR) is to be confirmed by the customer. (M)

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ACCESS SERVICE

5 - Ordering Options for BellSouth SWA and Special Access (a.k.a. BellSouth SPA) Service (Cont'd)

5.4 Cancellation of an Access Order (Cont'd)

(B) (Cont'd)

(4) (Cont'd)

(c) The percentage of the total provisioning cost incurred by the Telephone Company at a particular critical date varies by the type of service as shown in (d) following.

(d) When a customer cancels an Access Order, or part of an Access Order, before the service date, the Telephone Company will apply cancellation charges to the order. Cancellation charges are calculated by multiplying all the nonrecurring charges associated with the order, or that part of the order being cancelled, by the percentage shown in (e) following for the critical date last completed on the order.*

(e) Cancellation Charge Percentages

TYPE SERVICE/ CRITICAL DATES	AFTER: BEFORE:	APP SID	SID LAM	LAM EIRD	EIRD DLRD	DLRD RID	RID DVA	DVA WOT	WOT FCD	FCD PTD	PTD DD	DD
SPECIAL ACCESS (a.k.a. BellSouth SPA)												
WATS 100.0 (a.k.a. BellSouth SPA WATS Line)		1.6	4.7	6.6	9.5	13.2	18.7	33.2	44.6	56.6	83.6	
VOICE GRADE 100.0 (a.k.a. BellSouth DSQ VG)		1.6	4.7	6.6	9.5	13.2	18.7	33.2	44.6	56.6	83.6	
TELEGRAPH GRADE 100.0 (a.k.a. BellSouth SPA Telegraph)		1.6	4.8	8.9	13.6	17.0	22.2	34.7	43.9	56.9	84.6	
METALLIC GRADE 100.0 (a.k.a. BellSouth SPA Metallic)		1.6	4.9	6.9	9.8	13.5	18.2	30.3	39.7	53.6	83.3	

* As set forth in 5.4(B)(2), when a customer cancels an order prior to the Design Layout Report Date, no cancellation charges shall apply.

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ACCESS SERVICE

Ordering Options for BellSouth SWA and Special Access (a.k.a. BellSouth SPA)
 Service (Cont'd)

5.4 Cancellation of an Access Order (Cont'd)

(B) (Cont'd)

(4) (Cont'd)

(e) Cancellation Charge Percentages

SPECIAL ACCESS (a.k.a. BellSouth SPA)

PROGRAM AUDIO (a.k.a. BellSouth Program Audio)	1.4	4.1	5.8	8.3	11.5	16.2	28.0	37.1	49.5	80.5	100.0
--	-----	-----	-----	-----	------	------	------	------	------	------	-------

HICAP (a.k.a. BellSouth SPA High Capacity)	12.9	29.2	33.1	35.5	37.5	42.9	55.7	66.2	69.9	86.2	100.0
--	------	------	------	------	------	------	------	------	------	------	-------

DIGITAL DATA ACCESS (a.k.a. BellSouth SPA DSO Digital Data)	1.5	4.6	6.1	9.2	13.5	18.6	28.5	35.4	46.2	78.2	100.0 ⁽⁷⁾
--	-----	-----	-----	-----	------	------	------	------	------	------	----------------------

Intra-Office Collocation Cross Connect Service	12.9	29.2	33.1	35.5	37.5	42.9	55.7	66.2	69.9	86.2	100.0 ⁽⁸⁾
--	------	------	------	------	------	------	------	------	------	------	----------------------

Physical Access Cross Connect Service	12.9	29.2	33.1	35.5	37.5	42.9	55.7	66.2	69.9	86.2	100.0 ⁽⁹⁾
---	------	------	------	------	------	------	------	------	------	------	----------------------

Virtual Access Cross Connect Service	12.9	29.2	33.1	35.5	37.5	42.9	55.7	66.2	69.9	86.2	100.0 ⁽¹⁰⁾
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ACCESS SERVICE

5 - Ordering Options for BellSouth SWA and Special Access (a.k.a. BellSouth SPA) Service (Cont'd)

5.4 Cancellation of an Access Order (Cont'd)

(B) (Cont'd)

(4) (Cont'd)

(e) Cancellation Charge Percentages (Cont'd)

TYPE SERVICE/ CRITICAL DATES	AFTER: BEFORE:	APP SID	SID LAM	LAM EIRD	EIRD DLRD	DLRD RID	RID DVA	DVA WOT	WOT FCD	FCD PTD	PTD DD	DD —
<u>BellSouth SWA</u>												
TRUNKS OR LINES		7.0	18.9	23.7	24.9	26.3	35.6	51.4	58.3	69.4	90.3	100.0
HICAP (a.k.a. BellSouth High Capacity) FACILITIES		12.9	29.2	33.1	35.5	37.5	42.9	55.7	66.2	69.9	86.2	100.0
Virtual Access Cross Connect Service		12.9	29.2	33.1	35.5	37.5	42.9	55.7	66.2	69.9	86.2	100.0

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ACCESS SERVICE

5 - Ordering Options for BellSouth SWA and Special Access (a.k.a. BellSouth SPA) Service (Cont'd)

5.6.1 Minimum Period Charges

- (F) Should billing for a service which is disconnected prior to the expiration of the Minimum Period cover multiple billing cycles, the bill reflecting the disconnect of service will be adjusted to account for that portion of the Minimum Period Charge previously billed to the customer. In no event shall the total recurring charge billed to the customer for such service exceed the applicable Minimum Period Charge.

All applicable nonrecurring charges associated with the provision of service will be billed in addition to the Minimum Period Charge. Such nonrecurring charges include the nonrecurring charge for the installation of service and/or optional features, Service Order Modification Charges, Additional Engineering and Labor Charges, if any, etc.

5.7 Shared Use Facilities

Shared use occurs when BellSouth SWA, Special (a.k.a. BellSouth SPA) and BellSouth Expanded Interconnection services are provided over the same high capacity (a.k.a. BellSouth SPA High Capacity) facility through a common interface. The facility may be ordered either as BellSouth SWA, Special Access (a.k.a. BellSouth SPA) or Virtual Access Cross Connect, Physical Access Cross Connect, or Intra-Office Collocation Cross Connect Service. (C)

Billing will commence for the high capacity (a.k.a. BellSouth SPA High Capacity) facility as soon as the facility is turned over to the customer for use (i.e., on the service date). Such billing will include charges for the Virtual Access Cross Connect Service, Physical Access Cross Connect Service, Intra-Office Collocation Cross Connect Service, Special (a.k.a. BellSouth SPA) Local Channel or BellSouth SWA Local Channel, the Channelization Equipment (i.e., the multiplexer) and the interoffice transport, if any. Nonrecurring installation charges will also apply at this time. (C)

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ACCESS SERVICE
6 - BellSouth SWA Service (Cont'd)

6.1 General (Cont'd)

6.1.7 Ordering Options and Conditions (Cont'd)

For purposes of Section 6, services requested on multiple Access Service Requests (ASRs) placed with the Telephone Company on a given day, for multiple lines to the same end office or multiple trunks on a common trunk group with the same premises interface code, will be treated as one request when the ASRs are related together by the customer.

6.1.8 CCSAC Testing Requirements

When BellSouth SWA FGD or BellSouth SWA TSBSA 3 with the BellSouth SWA CCSAC option is ordered, network compatibility and other operational tests will be performed cooperatively by the Telephone Company and the customer. These tests are as specified in Technical Publication TR-TSV-000905, and the BellSouth Guidelines to Technical Publication TR-TSV-000905.

6.1.9 BellSouth Cross Connect Service

Terms and conditions and rates for the following BellSouth Cross Connect Services are as set forth in Section 13 of this Tariff:

- Intra-Office Collocation Cross Connect Service
- Physical Access Cross Connect Service
- Virtual Access Cross Connect Service

6.2 Provision and Description of Switched Access Service Arrangements

BellSouth SWA service is provided in ten service categories including four different BellSouth SWA FG arrangements, BellSouth SWA 500 service, BellSouth SWA 8XX Toll Free Dialing Ten Digit Screening Service, BellSouth SWA 900 service, two SWA 8XX Basic Serving Arrangements and BellSouth IPTG Terminating service. The provision of each service category, excluding BellSouth IPTG Terminating service, requires the applicable switched transport component and the appropriate local switching functions. There are also various switched transport component and Local Switching optional features available with the feature groups and BSAs. The switched transport, common switching and switched transport termination optional features are available at all Telephone Company end office switches, unless stated otherwise. In addition, WATS Access Lines (a.k.a. BellSouth SWA WATS Lines), as described in 7.2.3.1 following may be provided at the option of the customer, for use with BellSouth SWA FGA, BellSouth SWA FGB, BellSouth SWA FGC, BellSouth SWA FGD, BellSouth SWA LSBSA, and BellSouth SWA TSBSA originating and terminating. WATS Access Line (a.k.a. BellSouth SWA WATS Line) optional features are available in end offices designated as WATS serving offices and are set forth in 6.3.4 following.

There are three specific transmission specifications (i.e., Types A, B and C) that have been identified for the provision of Switched Access Services. The specifications provided are dependent on the Interface Group ordered. The parameters for the transmission specifications are set forth in 6.4.1 following.

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ACCESS SERVICE

6 - BellSouth SWA Service (Cont'd)

6.7 Rate Regulations (Cont'd)

6.7.7 Moves (Cont'd)

(B) Moves To a Different Building (Cont'd)

Moves to a Telephone Company-provided BellSouth Expanded Interconnection service interconnection arrangement, where the customer's and interconnector's existing wire center is the same, will be treated as a service move rather than a discontinuance and start of service. Cross Connect rates, nonrecurring charges, and optional feature and function charges as contained in Section 13 of this Tariff will apply. In addition, service reconfiguration charges are applicable per customer request and per circuit moved as contained in 6.8.8 following. Individual services will not be available simultaneously at both the original premises location and new wire center interconnection space. Additional cooperative end-to-end testing is available and will be conducted by the Telephone Company when requested at rates and charges contained in 13.3.5(B) following. New minimum period requirements may be established for the rearranged services in accordance with the regulations for a service. The customer will remain responsible for satisfying all outstanding minimum period charges for the original service locations. (T)

Moves to a different building (customer premises) in the customer's existing serving wire center serving area will be treated as a service move rather than a discontinuance and start of service. Nonrecurring charges for the new local channel will apply as well as any optional feature and function charges for that local channel. In addition, service reconfiguration charges are applicable per customer request and circuit moved as contained in 6.8.8 following. Service will not be available simultaneously at both the original and new customer locations. Additional cooperative end-to-end testing is available and will be conducted by the Telephone Company at a customer's request at rates and charges contained in Section 13.3.5(B) of this Tariff. New minimum period requirements may be established for the rearranged services in accordance with the regulations for a service. The customer will also remain responsible for satisfying all outstanding minimum period charges for the original service locations. When the move involves a multipoint service, the nonrecurring charge will apply per rate element affected. (T)

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ACCESS SERVICE

7 - Special Access (a.k.a. BellSouth SPA) Service (Cont'd)

7.1 General (Cont'd)

7.1.2 Rate Categories

The following rate categories apply to Special Access (a.k.a. BellSouth SPA) Service:

- Local Channels (described in 7.1.2(A) following)
- Interoffice Channels (described in 7.1.2(B) following)
- Optional Features and Functions (described in 7.1.2(C) following)
- SMARTRing service (a.k.a. BellSouth SPA Dedicated Ring) rate categories (described in 7.1.2(D) following)
- SMARTPath Area Connection (described in 7.1.2(E) following)
- SMARTPath Area Junction (described in 7.1.2(E) following)
- SMARTGate service (a.k.a. BellSouth SPA Managed Shared Ring Network) rate categories (described in 7.1.2(F) following)
- Fast Packet Access Services (as set forth in Section 21 of this Tariff)
- Digital Subscriber Line Access Services (as set forth in Section 28 of this Tariff)
- Optical Transport Access Services (as set forth in Section 29 of this Tariff)

(D)
(D)

(A) Local Channel

In general, the Local Channel rate category provides for the communications path between a customer-designated premises and the serving wire center of that premises. Included as part of the Local Channel is a standard channel interface arrangement which defines the technical characteristics associated with the type of facilities to which the access service is to be connected at the Point of Termination (POT) and the type of signaling capability, if any. The signaling capability itself is provided as an optional feature as set forth in (C) following. One Local Channel charge will apply per customer-designated premises at which the channel is terminated. This charge will also apply where the customer designated premises and the serving Wire Center are collocated in a Telephone Company building. This charge will also apply where both customer-designated premises are in the same building, or where the service is provided without physically traversing the serving wire center. The charge also applies where the designated premises is served from a wire center other than the one from which the customer would normally obtain dial tone, i.e., an alternate serving wire center, as described in 7.2.9(A) following.

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ACCESS SERVICE

7 - Special Access (a.k.a. BellSouth SPA) Service (Cont'd) (N)

7.1 General (Cont'd) (N)

7.1.3 Service Configurations (Cont'd) (N)

(E) BellSouth Cross Connect Service (N)

Terms and conditions and rates for the following BellSouth Cross Connect Services are as set forth in Section 13 of this Tariff: (N)

- Intra-Office Collocation Cross Connect Service (N)
- Physical Access Cross Connect Service (N)
- Virtual Access Cross Connect Service (N)

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ACCESS SERVICE

7 - Special Access (a.k.a. BellSouth SPA) Service (Cont'd)

7.4 Rate Regulations (Cont'd)

7.4.5 Moves (Cont'd)

(A) Moves Within the Same Building

When a service is moved to a new location within the same building, the charge for the move will be an amount equal to one-half of the first service installed nonrecurring charge for the service termination affected. When a group of like services is moved to the same location inside a customer premises at the same time, the appropriate charges will be: one-half the first service installed nonrecurring charge for the first service moved of the group; and one-half the additional service installed nonrecurring charge for additional like services of that group. There will be no change in the minimum period requirements.

(B) Moves To a Different Building

Moves to a different building (customer premises) in a wire center serving area different than the customer's existing serving wire center serving area will be treated as a discontinuance and start of service and all associated nonrecurring charges will apply. Service will not be available simultaneously at both the original and new customer locations. New minimum period requirements may be established for the rearranged services in accordance with the regulations for a service. The customer will also remain responsible for satisfying all outstanding minimum period charges for the original service locations. When the move involves a multipoint service, the nonrecurring charge will apply per rate element affected.

Moves to a Telephone Company-provided BellSouth Expanded Interconnection Service interconnection arrangement, where the customer's and interconnector's existing wire center is the same, will be treated as a service move rather than a discontinuance and start of service. Cross Connect rates, nonrecurring charges, and optional feature and function charges as contained in Section 13 of this Tariff will apply. In addition, service reconfiguration charges are applicable per customer request and per circuit moved as contained in 7.5.17 following. Individual services will not be available simultaneously at both the original premises location and new wire center interconnection space. Additional cooperative end-to-end testing is available and will be conducted by the Telephone Company when requested at rates and charges contained in Section 13.3.5(B) of this Tariff. New minimum period requirements may be established for the rearranged services in accordance with the regulations for a service. The customer will remain responsible for satisfying all outstanding minimum period charges for the original service locations. When the move involves a multipoint service, the nonrecurring charge will apply per rate element affected.

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ACCESS SERVICE

7 - Special Access (a.k.a. BellSouth SPA) Service (Cont'd)

7.4 Rate Regulations (Cont'd)

7.4.9 LightGate Service (a.k.a. BellSouth SPA Point to Point Network) (Cont'd)

Customers may request a C-Bit Parity framing format for a DS3 level circuit. If the request is made at the time the circuit is installed, there is no additional charge. When a request for C-Bit Parity framing format is made for an existing circuit, a nonrecurring charge will be applicable for rearranging the framing format on the circuit. This charge will also be applicable if a customer requests that the C-Bit Parity framing format be removed from a circuit. This charge is specified in 7.5.17 following and is applied on a per circuit basis.

LightGate 3 (a.k.a. BellSouth SPA Point to Point Network 12 DS3 Capacity), LightGate 4 (a.k.a. BellSouth SPA Point to Point Network 24 DS3 Capacity), OC-12 (a.k.a. BellSouth SPA Point to Point Network OC-12 Capacity), OC-48 (a.k.a. BellSouth SPA Point to Point Network OC-48 Capacity), and OC-192 (a.k.a. BellSouth SPA Point to Point Network OC-192 Capacity) service local channel systems require both a 28 DS1, STS-1 or OC-3 channel system channel interface and DS1 channel interfaces to derive DS1 channels. When a collocater desires to derive DS1's from a Virtual Access Cross Connect Service, Physical Access Cross Connect Service, Intra-Office Collocation Cross Connect Service, a LightGate 1 service (a.k.a. BellSouth SPA Point to Point Network) local channel system is not required. However the customer is required to pay the charge for the 28 DS1 channel system channel interface in addition to the DS1 central office interfaces. In addition, OC-192 (a.k.a. BellSouth SPA Point to Point Network OC-192 Capacity) service local channel systems require both an OC-3, OC-12 or OC-48 Channel System and DS3 channel interfaces to derive DS3 channels.

DS1, DS3, STS-1, OC-3, OC-12, or OC-48 channels provided by interoffice channel systems must be combined with corresponding channels in local channel systems or may be a stand-alone link when connected with FlexServ service (a.k.a. BellSouth SPA Customer Reconfiguration), SMARTRing service (a.k.a. BellSouth SPA Dedicated Ring), or voice grade (a.k.a. BellSouth SPA DSO VG) hubbing applications without associated local channels. Customers must designate, at the time service is ordered, the association of any DS3 or DS1 channels in a LightGate service (a.k.a. BellSouth SPA Point to Point Network) interoffice system with corresponding DS3 or DS1 channels in a LightGate service (a.k.a. BellSouth SPA Point to Point Network) local channel system to form required link configurations. DS1, DS3, STS-1, OC-3, OC-12 or OC-48 channel interfaces are required at each terminating central office location.

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ACCESS SERVICE

13 - Additional Engineering, Additional Labor and Miscellaneous Services
(Cont'd)

13.3 Miscellaneous Services (Cont'd)

13.3.22 Intra-Office Collocation Cross Connect Service

(A) General Description

- (1) Intra-Office Collocation Cross Connect Service provides for a collocator to interconnect its network with that of another collocator at the Telephone Company's premises and to connect its collocated equipment to equipment of another collocated carrier within the same Telephone Company premises pursuant to 47 U.S.C. Section 201 of the Communications Act of 1934, as amended.

(B) Limitations

- (1) No representation is made as to the transmission capability of the fiber jumper other than it will consist of a single mode fiber capable of transmitting 1310 nm or 1550 nm wavelengths

(C) Obligations of the Telephone Company

- (1) Intra-Office Collocation Cross Connects will be provisioned between a collocator's virtual or physical collocation arrangement and those of another collocated telecommunications carrier within the same central office.
- (2) Intra-Office Collocation Cross Connect Service shall be provisioned through facilities owned by the two collocators that are interconnecting their networks or equipment and the Telephone Company's distribution frames or panels. The Telephone Company will provide a jumper between two CFAs provided by the two collocators.

(D) Obligations of the Ordering Collocator

- (1) The ordering collocator is responsible for all ordering, bill payment, disconnect orders and maintenance transactions and is the customer of record.
- (2) The ordering collocator must submit to the Telephone Company written certification that more than ten percent of the amount of traffic to be transmitted through the Intra-Office Collocation Cross Connect Service will be interstate.
- (3) The ordering collocator must submit to the Telephone Company a Letter of Authorization (LOA) from the other collocator that includes the appropriate CFA and Access Carrier Terminal Location (ACTL) that the Telephone Company is authorized to use for interconnecting the networks or equipment of the two collocators.

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ACCESS SERVICE

13 - Additional Engineering, Additional Labor and Miscellaneous Services
(Cont'd)

13.3 Miscellaneous Services (Cont'd)

13.3.22 Intra-Office Collocation Cross Connect Service (Cont'd)

(E) Rate Regulations

- (1) Intra-Office Collocation Cross Connect is a flat rate, non-distance sensitive charge and will be applied on a per circuit basis.
- (2) Intra-Office Collocation Cross Connect Service is available per circuit on a 2-wire, DS1, DS3, and 2-fiber basis.
- (3) Nonrecurring charges are applicable for Intra-Office Collocation Cross Connect Service.

(F) Rates and Charges

	<u>USOC</u>	<u>Monthly Rates</u>	<u>Nonrecurring Charges</u>
(1) Intra-Office Collocation Cross Connect			
- 2-Wire, per circuit	QCCW2	\$0.42	\$350.00
- DS1, per circuit	QCCD1	\$8.59	\$390.00
- DS3, per circuit	QCCD3	\$90.90	\$480.00
- 2-Fiber, per circuit	QCCF2	\$35.70	\$495.00

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ACCESS SERVICE

13 - Additional Engineering, Additional Labor and Miscellaneous Services
(Cont'd)

13.3 Miscellaneous Services (Cont'd)

13.3.23 Physical Access Cross Connect Service

(A) General Description

- (1) Physical Access Cross Connects provide a one to one dedicated transmission path between the customer's Special Access (a.k.a. BellSouth SPA) tariff service offerings or transport equipment located in the Telephone Company Central Office and another telecommunications carrier's (collocator's) physical collocation arrangement.
- (2) Standards for performance monitoring of services which interconnect to the collocation arrangement will be driven by the particular service type and service specific requirements. The Telephone Company's obligation for monitoring ends at the demarcation point.
- (3) Physical Access Cross Connects are flat rate, non-distance sensitive charges and will be applied on a per cross connect ordered basis.
- (4) Physical Access Cross Connects will be ordered on the same ASR as the service being cross-connected. All ASRs must be complete and accurate before the Company will initiate the provisioning process.
- (5) Nonrecurring charges are applicable for Physical Access Service Cross Connect Service.
- (6) The collocator may cross connect at the DS0 level with the following Telephone Company access services:
 - Local and Interoffice Channels (described in 7.1.2 of this Tariff)
 - Optional Features and Functions (described in 7.1.2(C) of this Tariff)
- (7) The collocator may cross connect at the DS1 level with the following Telephone Company access services:
 - DS1 local channel or interoffice
 - DS1 Basic Channelization System
 - FlexServ (a.k.a. BellSouth SPA Customer Reconfiguration) Port in a Digital Cross-Connect System
 - DS1 Central Office Channel Interface associated with LightGate (a.k.a. BellSouth SPA Point to Point Network) or SMARTRing services (a.k.a. BellSouth SPA Dedicated Ring)
 - BellSouth SWA Service
 - SMARTPath service (a.k.a. BellSouth SPA DS1 Shared Ring)
 - SMARTGate service (a.k.a. BellSouth SPA Managed Shared Ring Network)

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ACCESS SERVICE

13 - Additional Engineering, Additional Labor and Miscellaneous Services
(Cont'd)

13.3 Miscellaneous Services (Cont'd)

13.3.23 Physical Access Cross Connect Service (Cont'd)

(3) The collocator may cross connect at the DS3 level with the following Telephone Company access services:

- LightGate service (a.k.a. BellSouth SPA Point to Point Network) local channel or interoffice channel via a LightGate service (a.k.a. BellSouth SPA Point to Point Network) DS3 Central Office Channel Interface
- SMARTRing service (a.k.a. BellSouth SPA Dedicated Ring) via a SMARTRing service (a.k.a. BellSouth SPA Dedicated Ring) Central Office Node DS3 Channel Interface
- 28 DS1 Channelization System
- BellSouth SWA service
- SMARTPath DS3 Transport service (a.k.a. BellSouth SPA DS3 Shared Ring)
- SMARTGate service (a.k.a. BellSouth SPA Managed Shared Ring Network) FlexServ Port in a Digital Cross Connect System

(4) The collocator may cross connect at the fiber level with the following Telephone Company access services:

- Optical Transport Access Services (as set forth in Section 29 of this Tariff)
- SMARTRing service (a.k.a. BellSouth SPA Dedicated Ring) rate categories described in 7.1.2(D) of this Tariff
- SMARTGate service (a.k.a. BellSouth SPA Managed Shared Ring Network)
- LightGate service (a.k.a. BellSouth SPA Point to Point Network)

(B) Rates and Charges

(1) Physical Access Cross Connect

	USOC	Monthly Rates	Nonrecurring Charges
2-Wire, per cross connect	PE1P2	\$ 0.1566	\$ 33.82
4-Wire, per cross connect	PE1P4	\$ 0.3132	\$ 67.64
DS1, per cross connect	PE1P1	\$ 2.65	\$155.00
DS3, per cross connect	PE1P3	\$27.83	\$155.00
2-Fiber, per cross connect	PE1F2	\$10.25	\$200.00
4-Fiber, per cross connect	PE1F4	\$20.50	\$400.00

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ACCESS SERVICE

13 - Additional Engineering, Additional Labor and Miscellaneous Services
(Cont'd)

13.3 Miscellaneous Services (Cont'd)

13.3.24 Virtual Access Cross Connect Service

- (A) A monthly recurring charge applies for the Virtual Access Cross Connect element that consists of the cross connect panel, cable racks, bay framework, jumpers and other supporting hardware. (M)(T)
- (B) The Virtual Access Cross Connect element is designated as BellSouth SWA or Special Access (a.k.a. BellSouth SPA), depending on the type of service to which it cross connects. (M)(T)
- (C) The BellSouth SWA Virtual Access Cross Connect element is subject to the jurisdictional report requirements as set forth in Section 2.3.10 of this Tariff. (M)(T)
- (D) Virtual Access Cross Connect Service is flat rate, non-distance sensitive charges and will be applied on a per cross connect ordered basis. (M)(T)
- (E) Standards for performance monitoring of services which interconnect to the collocation arrangement will be driven by the particular service type and service specific requirements. The Telephone Company's obligation for monitoring ends at the demarcation point. (M)
- (F) Virtual Access Cross Connects will be ordered on the same ASR as the service being cross-connected. All ASRs must be complete and accurate before the Company will initiate the provisioning process. (M)(T)
- (G) Nonrecurring charges for the Virtual Access Cross Connect Service are assessed on a "First" and "Additional" basis. (M)(T)
- (H) Rates and Charges (M)

	USOC	Monthly Rates	Nonrecurring Charges	
			First	Additional
(A) Special Access (a.k.a. BellSouth SPA)				
(1) DS1, per cross connect	CNC1X	\$7.50	\$155.00	\$14.00
(2) DS3, per cross connect	CND3X	\$56.25	\$151.90	\$11.83
(B) BellSouth SWA				
(1) DS1, per cross connect	CNDS1	\$7.50	\$155.00	\$14.00
(2) DS3, per cross connect	CNDS3	\$56.25	\$151.90	\$11.83
(C) Fiber				
(1) 2-Fiber, per cross connect	CNC2F	\$ 6.71	\$ 41.94	\$30.50
(2) 4-Fiber, per cross connect	CNC4F	\$ 6.71	\$ 64.53	\$39.80

Material now appearing on this page previously appeared on 5th Revised Page 20-13, 3rd Revised Page 20-14 and 4th Revised Page 20-17.

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ACCESS SERVICE

20 - BellSouth Expanded Interconnection Service (Cont'd)

20.1 BellSouth Virtual Expanded Interconnection

20.1.14 Rate Regulations (Cont'd)

20.1.14.1 BellSouth Virtual Expanded Interconnection Elements (Cont'd)

(C) Cable Support Structure

The Cable Support Structure monthly recurring charge applies for the use of conduit from the point of interconnection to the cable vault or other central office entrance, and for entrance and riser cable rack space.

(D) Cross-Connects

The Telephone Company's rate regulations associated with establishing and maintaining Cross Connects are as set forth in Section 13 of this Tariff.

(1)
(1)

(E) Floor Space

Floor Space consists of two monthly recurring rate elements that apply as follows:

Per Square Foot - The Per Square Foot element applies for the floor space required to provision the BellSouth Virtual Expanded Interconnection arrangement and includes heat, ventilation, and air conditioning (HVAC), lighting, and AC power.

Per Ampere - The Per Ampere element consists of two separate -48 volts direct current feeds (A&B) with battery back-up and applies per ampere for the equipment maximum power requirement.

(F) Security Escort

A security escort is provided to a collocator whenever the collocator, or approved agent, desires access to the entrance manhole or to inspect the collocator-provided/Telephone Company leased terminal transmission equipment.

Charges for a security escort are assessed in half-hour increments as either Basic, Overtime, or Premium Time charges. A request resulting in the dispatch of a Telephone Company employee at a time not consecutive with the employee's scheduled work period is subject to a minimum charge of three hours.

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ACCESS SERVICE

20 - BellSouth Expanded Interconnection Service (Cont'd)

20.1 BellSouth Virtual Expanded Interconnection

20.1.14 Rate Regulations (Cont'd)

20.1.14.1 BellSouth Virtual Expanded Interconnection Elements (Cont'd)

(G) Training

When collocator-provided/Telephone Company leased equipment (hardware and/or software) is identical to that already in use in the Telephone Company location:

No Training Charges Are Applicable

When collocator-provided/Telephone Company leased equipment (hardware and/or software) is not identical to that already in use in the Telephone Company location:

Charges as set forth in 20.4.1(F) as applicable.

20.1.14.2 Access Service Elements

(A) The access service elements, as set forth in Section 3, Carrier Common Line Access Service; Section 6, BellSouth SWA service; Section 9, BellSouth Directory Assistance; Section 16, Telecommunications Relay Service Transport; Section 18, Operator Service; and Section 19, BellSouth Line Information Data Base service, ordered and/or working in association with Switched Cross-Connect Service will be billed to and paid by the customer of record for the service involved, unless the BellSouth Virtual Expanded Interconnection customer request and/or agrees to be responsible for all charges.

(B) For BellSouth SWA service line or trunk activation charges, see Section 6.8.1(E) of this Tariff.

20.2 Reserved For Future Use

20.3 Reserved For Future Use

(T)
(M)

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ACCESS SERVICE

20 - BellSouth Expanded Interconnection Service (Cont'd)

(M)

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ACCESS SERVICE

20 - BellSouth Expanded Interconnection Service (Cont'd)

20.4 Rates and Charges (Cont'd)

20.4.1 BellSouth Virtual Expanded Interconnection Service (Cont'd)

	<u>USOC</u>	<u>First Half Hour or Fraction Thereof</u>	<u>Each Additional Half Hour or Fraction Thereof</u>
(F) Security Escort			
-Basic Time, normally scheduled work hours	SPTBX	\$41.00	\$25.00
-Overtime, outside of normally scheduled working hours on a scheduled work day	SPTOX	\$48.00	\$30.00
-Premium Time, outside of scheduled work day	SPTPX	\$55.00	\$35.00

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BEFORE THE TENNESSEE REGULATORY AUTHORITY

In Re:

**IMPLEMENTATION OF THE FEDERAL
COMMUNICATIONS COMMISSION'S
TRIENNIAL REVIEW ORDER - 9
MONTH PROCEEDING - SWITCHING**

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)
)
)
)

Docket No. 03-00491

Filed: February 27, 2004

REBUTTAL TESTIMONY OF MARK E. ARGENBRIGHT

ON BEHALF OF

AT&T COMMUNICATIONS OF THE SOUTH CENTRAL STATES, LLC

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Mark E. Argenbright. My business address is 1200 Peachtree St. NE,
3 Suite 8200, Atlanta, GA 30309.

4
5 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

6 A. I am employed by AT&T Corp. and hold the position of District Manager, Law
7 and State Government Affairs, providing support for AT&T's regulatory
8 advocacy in the nine states that make up AT&T's Southern Region.

9
10 **Q. PLEASE SUMMARIZE YOUR TELECOMMUNICATIONS**
11 **BACKGROUND AND EDUCATION.**

12 A. I graduated from the University of Montana in 1980 and have a Bachelor of
13 Science Degree in Business Administration. I have worked in the
14 telecommunications industry for over 17 years with 15 of those years in the area
15 of regulatory affairs. Prior to being employed by AT&T, I was employed by
16 WorldCom, Inc from 1994 to 2002 with multiple responsibilities including
17 development and coordination of various of the company's regulatory and public
18 policy initiatives for the company's domestic operations. This included acting as a
19 witness in support of such initiatives. Prior to that, I was employed by the
20 Anchorage Telephone Utility (now known as Alaska Communications Systems)
21 as a Senior Regulatory Analyst and American Network, Inc. as a Tariff Specialist.

22 **Q. HAVE YOU PREVIOUSLY FILED TESTIMONY IN THIS**
23 **PROCEEDING?**

24
25 A. No.

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

1 A. To respond to the proposal by BellSouth witness Ms. Blake regarding the
2 appropriate crossover point for use in delineating between mass market customers
3 and enterprise customers in Tennessee and to provide an alternative proposal
4 based on the general formula described by CompSouth witness Mr. Gillan.

5 **Q HOW IS YOUR TESTIMONY STRUCTURED?**

6 A. I will first address the BellSouth proposal and how it fails to consider the
7 direction given by the FCC with regard to the calculation of a crossover point. I
8 will then review the formula described by CompSouth's Mr. Gillan in his direct
9 testimony. Consistent with this formula, I will then propose a more suitable
10 crossover point. Finally, I will describe the calculation, which utilizes a model
11 introduced by Sprint in the state of Florida for the purpose of calculating the
12 crossover point, utilizing Tennessee specific inputs.

13
14 **Q. AT PAGE 8, LINES 12 THROUGH 17, BELL SOUTH WITNESS BLAKE**
15 **INDICATES THAT THE APPROPRIATE CROSSOVER POINT WITH**
16 **WHICH TO DELINEATE BETWEEN "MASS MARKET" AND**
17 **"ENTERPRISE" CUSTOMERS IS "THREE OR FEWER DSO LINES."**
18 **DO YOU AGREE?**

19
20 A. No. As explained in the direct testimony of CompSouth's Mr. Gillan, the
21 calculation of a crossover results in establishment of the upper boundary of the
22 mass market "in terms of the number of voice lines a customer may have before
23 the customer should be viewed as an 'enterprise customer.'" Ms. Blake's
24 suggestion that a crossover point of three lines is appropriate fails to consider the

1 FCC's primary direction that a crossover calculation consider the point at which it
2 is more economical for a customer to be served with a DS1 instead of multiple
3 DS0 loops.

4
5 In fact Ms. Blake misquotes the FCC's Order in this regard. Citing to ¶497 of the
6 TRO, Ms. Blake indicates that the FCC's direction is "to define the cross-over
7 point as 'where it makes sense for the multi-line customer to be served via a DS1
8 loop.'" The FCC's actual direction is clear when ¶497 is cited accurately:

9
10 "This cross over point may be the point where it makes economic sense
11 for a multi-line customer to be served via a DS1 loop." [emphasis added]
12

13 Failure to consider the point at which it makes more "economic sense" to serve a
14 customer with a DS1 rather than multiple DS0s does not comply with the
15 direction given by the FCC.

16
17 **Q. IN MR. GILLAN'S DIRECT TESTIMONY, BEGINNING AT PAGE 25,**
18 **LINE 18 THROUGH PAGE 26, LINE 20, HE DESCRIBES A GENERAL**
19 **FORMULA WITH WHICH AN ECONOMIC CROSSOVER POINT**
20 **COULD BE CALCULATED. PLEASE SUMMARIZE THIS FORMULA.**

21
22 **A.** CompSouth's witness Mr. Gillan proposes, and, as a member of CompSouth,
23 AT&T supports, a "straightforward calculation" whereby the cost of a UNE DS1
24 is compared to the cost of multiple UNE analog loops in order to make a
25 determination as to when, in terms of the number of UNE analog loops, it is more
26 economical to serve a customer with a DS1. The cost of a UNE DS1 must also

1 include the customer premise equipment that is required to utilize DS1 service as
2 well as all the costs of non-recurring activities and installation of such equipment.

3
4 CompSouth's Mr. Gillan illustrates the calculation as follows:

5
6
$$\text{Crossover} = \frac{(\text{CPE} + \text{UNE DS-1})}{\text{UNE Loop}}$$

7
8

9 The costs, recurring and non-recurring, associated with acquiring the UNE DS-1
10 and UNE Loop facilities from the incumbent must be included in the calculation.

11
12 The use of such a formula will result in the determination of the number of analog
13 lines at which it is more economical to serve a customer with a DS1, which is the
14 crossover point. AT&T, as a member of CompSouth, supports CompSouth's
15 proposed approach.

16
17 **Q. DOES COMPSOUTH'S WITNESS DISCUSS OTHER FACTORS THAT**
18 **COULD BE APPROPRIATE TO CONSIDER IN THIS ANALYSIS?**

19
20 **A.** Yes. At page 26, lines 14 through 20, CompSouth's Mr. Gillan explains that the
21 above formula could be made more complicated by including other costs that
22 would be incurred with the use of UNE-L. "... (such as collocation and backhaul)
23 that are not incurred to use UNE-P." AT&T agrees with CompSouth's Mr. Gillan
24 that there are additional costs that could be added to the analysis however, as a
25 member of CompSouth, AT&T supports the straightforward approach and
26 formula proposed by CompSouth's Mr. Gillan.

1 **Q. IN TENNESSEE, WHAT IS THE APPROPRIATE CROSSOVER FOR**
2 **MULTI-LINE ANALOG LOOP CUSTOMERS WHERE IT BECOMES**
3 **MORE ECONOMIC TO SERVE A MULTI-LINE CUSTOMER WITH A**
4 **DS1?**

5
6 A. Exhibit MEA-1, attached to my testimony, calculates the average economic
7 crossover a competitive local provider would experience in serving an analog
8 customer in the BellSouth territory within the state of Tennessee based on the
9 number of analog voice lines used by the customer.

10
11 The results of this calculation indicate that, up to 10 DS0s at a customer's
12 location, purchasing individual loops is more cost effective or economic than
13 purchasing a single DS1.

14
15 **Q. WHAT IS THE SOURCE OF THIS CALCULATION?**
16

17 A. Sprint Communications, in Florida, filed a model that calculated an economic
18 crossover specific to the State of Florida.¹ This same model has been populated
19 with some Tennessee specific inputs and now calculates a specific and reasonable
20 economic crossover point for Tennessee, which is consistent with the economic
21 crossover calculation proposed above.

22
23 **Q. WHY DO YOU FIND SPRINT'S MODEL A REASONABLE METHOD**
24 **FOR THE DETERMINATION OF THE ECONOMIC CROSSOVER**
25 **POINT BETWEEN MASS MARKET AND ENTERPRISE CUSTOMERS?**

¹ Direct Testimony of Kent W. Dickerson, Docket No. 030851-TP, filed December 4, 2003.

1 A. Sprint is an established ILEC with significant experience in providing service to
2 both multiple DS0 served customers as well as DS1 served customers. Their
3 experience and related data provide a reasonable proxy for the circumstances that
4 would be faced by a CLEC in Tennessee. Further, their model is consistent with
5 the general calculation described by CompSouth witness Gillan in his direct
6 testimony and summarized above.

7
8 **Q. WHAT ARE THE COST COMPONENTS IN THE ECONOMIC COST**
9 **CROSSOVER MODEL FOR THE PROVISION OF SERVICE OVER A**
10 **DS1 FACILITY?**

11
12 A. This model includes the monthly recurring charges of the unbundled network
13 element DS1 loops, the unbundled network element non-recurring charges for
14 DS1 loops, and the monthly costs of a channel bank installed at the customer's
15 premises used to multiplex multiple voice channels onto a DS1 loop facility.

16
17 **Q. WHAT ARE THE COST COMPONENTS IN THE ECONOMIC COST**
18 **CROSSOVER MODEL FOR THE PROVISION OF SERVICE OVER A**
19 **DS0 FACILITY?**

20
21 A. The model includes the monthly recurring charges of the unbundled network
22 element DS0 loops and the non-recurring charges for unbundled network element
23 DS0 loops. The non-recurring charges reflect the charges for the initial DS0 loop
24 and each additional loop ordered.

1 Q. WHAT ARE THE SOURCES OF UNBUNDLED NETWORK ELEMENT
2 PRICES FOR THE MONTHLY RECURRING SERVICES AND THE
3 NON-RECURRING SERVICES?

4
5 A. All unbundled network element prices are those approved by the Tennessee
6 Regulatory Authority in Docket No. 97-01262.

7
8 Q. WHAT IS THE SOURCE OF THE ACCESS LINE DATA USED TO
9 DETERMINE THE WEIGHTED AVERAGE UNE PRICES?

10
11 A. The access line data are from the FCC's HCPM (Hybrid Cost Proxy Model) that
12 provided lines by wire center as of 2000.

13
14 Q. WHAT ADDITIONAL VARIABLES ARE INCLUDED IN THE
15 CALCULATIONS?

16
17 A. A weighted average cost of capital input is used for amortizing the non-recurring
18 charges. This weighted average cost of capital is 13.07%. This utilizes the cost
19 of capital calculated by the FCC in the recent Verizon-Virginia WorldCom
20 Arbitration Order.²

21
22 Q. HOW ARE THE NON-RECURRING UNBUNDLED NETWORK
23 ELEMENT COSTS TREATED IN THE ECONOMIC CROSSOVER
24 ANALYSIS?

² CC Docket No. 00-218, In the Matter of Petition of WorldCom, Inc. Pursuant to Section 252(e)(5) of the Communications Act for Preemption of the Jurisdiction of the Virginia State Corporation Commission Regarding Interconnection Disputes with Verizon Virginia, Inc., and for Expedited Arbitration, Memorandum Opinion and Order, August 29, 2003.

1 A. The non-recurring unbundled network element charges for establishing DS0 or
2 DS1 services are amortized over a 24 month period using the weighted cost of
3 capital. In this model the assumption is a 24 month average customer life.

4
5 **Q. HOW IS THE MONTHLY COST OF THE CHANNEL BANK AT A DS1**
6 **CUSTOMER PREMISES CALCULATED?**

7
8 A. The monthly cost of the equipment is calculated by dividing the total material cost
9 over the life of the asset, accounting for the cost of capital, nine year depreciation
10 life, income tax, maintenance, and sales tax of 7 percent.

11
12 Material prices reflect the size of the channel bank and cards that would be
13 installed at a customer premises capable of multiplexing one DS1 into DS0s. The
14 material was then amortized. Labor related to the installation of the customer
15 premises channel bank was amortized over 24 months.

16
17 **Q. HOW ARE THESE COST COMPONENTS USED TO CALCULATE AN**
18 **AVERAGE CROSSOVER BETWEEN UNBUNDLED DS0 AND DS1**
19 **LOOPS WITHIN BELL SOUTH'S TERRITORY?**

20
21 A. The Sprint model calculates the UNE provisioning costs of both DS0 and DS1
22 facilities as described above for each central office in the state of Tennessee
23 served by BellSouth. A weighted average cost for each MRC and NRC is
24 computed by multiplying the central office specific result by the percentage of

1 access lines in that central office. The weighted average cost of a DS1 loop is
2 then divided by the weighted average cost of a DS0 loop.

3
4 **Q. WHAT IS THE ECONOMIC CROSSOVER RESULT PRODUCED IN**
5 **THE MODEL?**

6
7 **A.** The model results indicate that, for up to 10 DS0s at a customer's location,
8 purchasing individual loops is more cost effective, or economic, than purchasing a
9 single DS1. Above 10 DS0s, the DS1 becomes the more cost effective means of
10 providing service to the customer.

11
12 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

13
14 **A.** Yes.

TRO Economic Business Case					
DS0 to DS1 Cross Over					
			State =	TN	
			Company =	BellSouth	
A	B	C	D	E	F
		DS1 +		Cross-Over	Cross-Over
Row	Description	Channel Bank	DS0	DS0 Quantity	Rounded DS0 Quantity
10	Weighted Average				
11	MRC	\$104.33	\$15.15		
12	NRC - Ammortized	\$41.59	\$1.01		
13	Total	\$145.92	\$16.16	9.03	10
14					

1 **Inputs**

2

3 **Assumed Term**

4 Months - MRC 1

5 **Channel Bank (CB)**

6 MRC per DS1 \$38.02

7 **Assumed Term**

8 Months - NRC 24

9 **Cost of Capital**

10 13.07%

11 **Add'l NRC DS0 Quantity**

12 Number of DS0s 9

13

14

15 **UNE DS0 Loop MRC Rates**

State	Zone	BS	ILEC	ILEC
Tennessee	1	\$11.74	\$0.00	\$0.00
	2	\$17.59	\$0.00	\$0.00
	3	\$29.37	\$0.00	\$0.00
	4	\$0.00	\$0.00	\$0.00
Weighted Average		\$15.15		

21

22

23

24 **UNE DS1 Loop MRC Rates**

State	Zone	BS	ILEC	ILEC
Tennessee	1	\$51.38	\$0.00	\$0.00
	2	\$76.98	\$0.00	\$0.00
	3	\$128.54	\$0.00	\$0.00
	4	\$0.00	\$0.00	\$0.00
Weighted Average		\$104.33		

30

31

32

33 **UNE DS0 Loop NRC Rates**

State	Description	BS	ILEC	ILEC
Tennessee	NRC-First	\$31.99	\$0.00	\$0.00
	NRC-Additional	\$20.02	\$0.00	\$0.00
	S.O.-First	\$0.00	\$0.00	\$0.00
Weighted Average		\$21.22		

38

39

40

41 **UNE DS1 Loop NRC Rates**

State	Description	BS	ILEC	ILEC
Tennessee	NRC-First	\$313.08	\$0.00	\$0.00
	NRC-Channel Bank*	\$561.13	\$0.00	\$0.00
	S.O.-First	\$0.00	\$0.00	\$0.00
Weighted Average		\$874.21		

46

* CLEC cost to install the channel bank at customer premises.

BEFORE THE TENNESSEE REGULATORY AUTHORITY

NASHVILLE, TENNESSEE

IN RE:

IMPLEMENTATION OF THE FEDERAL	)	
COMMUNICATIONS COMMISSION'S	)	DOCKET NO.
TRIENNIAL REVIEW ORDER – 9 MONTH	)	03-00491
PROCEEDING MASS MARKET SWITCHING)		

REBUTTAL TESTIMONY OF

CHERYL L. BURSH

ON BEHALF OF

AT&T COMMUNICATIONS OF THE SOUTH CENTRAL STATES, LLC

FEBRUARY 27, 2004

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Cheryl L. Bursh. My business address is 1200 Peachtree Street, Suite 8100,
3 Atlanta, Georgia 30309.

4
5 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL**
6 **BACKGROUND.**

7 A. I have a Bachelor of Science Degree from Johnson C. Smith University and a Master of
8 Science Degree from George Washington University. I am employed as a District
9 Manager by AT&T, operating in Tennessee as AT&T of the South Central States, LLC
10 ("AT&T"), where I am responsible for performance measurement and remedy plan
11 advocacy for AT&T's Southern Region. My area of expertise is the development of an
12 effective methodology for measuring BellSouth's performance and includes policy
13 development for effective remedy plans. I have represented AT&T in a number of
14 regulatory proceedings, including performance measurement workshops and hearings
15 conducted in Alabama, Louisiana, Florida, North Carolina, South Carolina, Kentucky,
16 Tennessee and Georgia. In over 22 years with AT&T, I have held a variety of
17 management positions, including strategic planning, sales of large business systems and
18 telecommunications services, system development for operation support systems, product
19 marketing and technical support for computer systems.

20
21

1
2 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

3 A. The purpose of my testimony is to respond to the Direct Testimony filed by BellSouth
4 witness Alphonso J. Varner, and specifically to demonstrate that:

5 * BellSouth's assessment of its loop performance data for Tennessee does not
6 dispute that Competitive Local Exchange Carriers ("CLECs") face operational
7 barriers to market entry absent unbundled local switching (Unbundled Network
8 Element Platform or "UNE-P").
9

10 * BellSouth's Tennessee performance data, as well as Georgia performance data
11 does not settle whether its existing processes can handle anticipated loop
12 migration demand if UNE-P is eliminated.
13
14
15
16

17 **Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

18 A. To bolster its effort to persuade this Commission that its existing hot cut and loop
19 provisioning process will perform well in a different, untested future, BellSouth relies on
20 the performance data presented in Mr. Varner's testimony, coupled with an incorrect
21 standard. For compelling reasons, this information does not support BellSouth's case.
22 Assembled as directed by this Commission's Orders in the 271 approval process, and
23 reflecting an environment where UNE-P is the local service mechanism used by CLECs,
24 such performance data provides limited insight into how BellSouth would perform if
25 UNE-P is no longer available. In that event, CLECs would use an Unbundled Network
26 Element-Loop ("UNE-L") approach, existing today in low volumes with uneven
27 performance by BellSouth. My testimony highlights concerns in the data reporting,
28 which should be gauged by the standard that in a UNE-L environment, loops should be
29 transferred as promptly and efficiently as UNE-P
30

1 I. BELLSOUTH'S CURRENT PERFORMANCE IN EXECUTING HOT CUTS AND
2 PROVIDING LOOPS IS IRRELEVANT IN CONSIDERING WHETHER CLECS
3 FACE BARRIERS TO MARKET ENTRY ABSENT UNBUNDLED LOCAL
4 SWITCHING.

5 Q. ON PAGE 2 OF HIS DIRECT TESTIMONY, MR. VARNER ASSERTS THAT
6 BELLSOUTH'S LOOP PROVISIONING PERFORMANCE IS NOT AN
7 OPERATIONAL BARRIER TO CLECS ENTERING THE MARKET WITHOUT
8 UNBUNDLED CIRCUIT SWITCHING. DO YOU AGREE?
9

10 A. No. The current performance data reflects the fact that hot cuts and loop provisioning are
11 at low levels. If access to unbundled local switching is denied to CLECs, these volumes
12 will increase dramatically. As described in the testimony of AT&T's witness Mark Van
13 De Water, BellSouth's highly manual provisioning process will be inadequate to handle
14 increased hot cut volumes. Because the different volume levels create two very different
15 environments, how BellSouth handles hot cuts and loop provisioning in a low volume
16 environment does not provide proof regarding how it will handle dramatic increases in
17 volume.

18 The Federal Communications Commission ("FCC") recognized this point in the
19 Triennial Review Order ("TRO"). In the face of similar claims by Incumbent Local
20 Exchange Companies ("ILECs") that performance data demonstrated that hot cut
21 performance is satisfactory, the FCC accurately pointed out that this data was irrelevant:
22 "the issue is not how well the process works currently with limited hot cut volumes..."
23 TRO at ¶ 469. BellSouth's continued effort to twist current performance data to support
24 a different future should similarly be given no weight by this Commission.
25

26 Q. ON PAGE 3 OF HIS DIRECT TESTIMONY, MR. VARNER SUGGESTS THAT
27 THE GEORGIA PERFORMANCE RESULTS REPRESENT SUPPLEMENTARY
28 INFORMATION IN CASES WHERE THE VOLUMES IN GEORGIA MAY BE

1 MORE MEANINGFUL THAN THE TENNESSEE VOLUMES. IS GEORGIA
2 PERFORMANCE RELEVANT IN THIS PROCEEDING?

3
4 A. No. The current Georgia data is not relevant in determining whether loop provisioning is
5 an operational barrier to UNE-L market entry. As previously stated, the FCC accurately pointed
6 out that this data is irrelevant. The point is that current performance data, no matter what state it
7 is from, pertains to limited volumes which are not instructive for a different future environment.

8
9 Q. ON PAGE 8 OF HIS DIRECT TESTIMONY, MR. VARNER SUGGESTS THAT
10 BELL SOUTH'S PERFORMANCE DATA DEMONSTRATES THAT IT
11 "PROVIDES TODAY, AS IT PROVIDED AT THE TIME OF ITS 271
12 APPLICATION, NON-DISCRIMINATORY, TIMELY AND EFFICIENT
13 ACCESS TO UNE LOOPS." WHAT RELEVANCE DOES THAT HAVE FOR
14 THIS CASE?

15 A. None. This point was explicitly rejected in the TRO, where the FCC found that "the
16 number of hot cuts performed by BOCs in connection with the 271 process is not
17 comparable to the number that incumbent LECs would need to perform if unbundled
18 switching were not available for all customer locations served with voice-grade loops." ¶
19 469 (fn. omitted). BellSouth (and other RBOCs) relied on UNE-P in order to obtain 271
20 approval. As a result, the RBOCs hot cut performance remains limited. BellSouth's
21 effort to transform the performance data into evidence that BellSouth will perform just as
22 well in a UNE-L environment fails. There is no causal connection between the two
23 different environments.

24
25
26 II. BELLSOUTH USES THE WRONG STANDARD IN ATTEMPTING TO
27 DEMONSTRATE THAT CLECS DO NOT FACE OPERATIONAL BARRIERS
28 TO MARKET ENTRY ABSENT UNBUNDLED LOCAL SWITCHING.

1 Q. WHAT STANDARD SHOULD BE USED IN ANALYZING WHETHER CLECS
2 FACE OPERATIONAL BARRIERS TO MARKET ENTRY ABSENT
3 UNBUNDLED LOCAL SWITCHING?
4

5 A. The FCC suggested a review of performance data could be appropriate as part of the
6 inquiry into the ILEC's "ability to transfer loops in a timely and reliable manner." TRO at
7 ¶ 512. Such an analysis "is necessary to ensure that customer loops can be transferred
8 from the incumbent LEC main distribution frame to a competitive LEC collocation as
9 promptly and efficiently as incumbent LECs can transfer customers using unbundled
10 local circuit switching." *Id.* at n. 1574. This approach, comparing UNE-L to UNE-P
11 performance, is sound, for if the prompt and efficient local service delivery method of
12 UNE-P is no longer available, the ILEC must follow the same standard in performing its
13 replacement. Anything less will cause customer dissatisfaction and confusion. While
14 Mr. Varner's testimony is lengthy, his discussion provides little insight into the issue of
15 whether BellSouth's loop provisioning is as prompt and efficient as UNE-P. Claiming
16 that measurement results show that BellSouth responds to CLEC loop orders accurately
17 and timely and performs maintenance and repair activities in a nondiscriminatory manner
18 falls short of actually comparing loop performance to the FCC-prescribed standard of
19 UNE-P performance.

20 Table 1 below illustrates that BellSouth's loop performance falls woefully short
21 when compared against UNE-P performance. Data for this table is obtained from
22 BellSouth's Monthly State Summary reports. and reflects the performance (from the
23 Monthly State Summary reports) for UNE-P (Loop+Port Combinations/<10circuits/Non-
24 Dispatch), compared to the results for the 2-W Analog Loop W/LNP Non-
25 Design<10/Dispatch-In. The latter was chosen for comparison because this will

generally be one of the most prevalent loop categories ordered in a UNE-L environment. The table reflects the performance for the Order Completion Interval ("OCI"), which measures the time from the issuance of the Firm Order Confirmation ("FOC") until the order is completed. These intervals are added for each Local Service Request ("LSR") and then divided by the total number of LSRs to ascertain the interval average. The numbers in Columns 2 and 3 are expressed in terms of days, with 1.0 meaning one day.

Table 1: Order Completion Interval ("OCI")

10/03	.34/1.64	5.00
-------	----------	------

As reflected above, the UNE-P performance spans from a fraction of a day to slightly under 2 days, but for UNE-L, the completion interval is five days. While this type of performance was tolerated in an environment where UNE-L was an infrequently used option, without UNE-P, the OCI for 2-W Analog Loop w/LNP should be required to meet the UNE-P interval. In addition, because the OCI does not include the Firm Order Confirmation interval, the actual customer experience would be even worse if UNE-P is no longer available. Clearly, an extensive interval for basic phone service qualifies as an operational barrier to market entry.

III. CONSOLIDATING PERFORMANCE RESULTS FOR "ALL LOOPS" HIDES PERFORMANCE RESULTS RELEVANT TO THE ISSUE OF OPERATIONAL BARRIERS TO MARKET ENTRY ABSENT UNBUNDLED LOCAL SWITCHING.

Q. SETTING ASIDE FOR THE MOMENT THE ISSUES YOU DISCUSS ABOVE – THAT CURRENT PERFORMANCE IS IRRELEVANT AND BELL SOUTH USES

THE WRONG STANDARD – DO YOU HAVE OTHER CONCERNS ABOUT THE PERFORMANCE ASSESSMENTS REPORTED IN MR. VARNER’S TESTIMONY?

A. Yes. Mr. Varner’s performance assessments are reported in such a way that one cannot readily discern pertinent information. Basing the performance assessment on a consolidation of a variety of loops does not allow this Commission to consider the performance of loops which are more relevant if UNE-P is eliminated. Mr. Varner’s performance assessment is offered for “All Loops” which includes some which are relevant and others which are not. I will address why this is a problem.

Q. CAN THIS COMMISSION RELY ON AN “ALL LOOPS” PERFORMANCE ASSESSMENT TO MAKE A DECISION ON BELL SOUTH’S ABILITY TO PERFORM HOT CUTS?

A. No. There are two problems with relying on the “all loops” results relied upon by Mr. Varner. First, the “all loops” results commingles information from dissimilar products and activities. As a result, it does not give a realistic view of BellSouth’s performance in migrating the specific types of loops that will most frequently be migrated for mass market customers. Second, the “all loops” reporting includes data on loops that BellSouth does not appear to migrate at all.

Q. PLEASE EXPLAIN YOUR FIRST CONCERN REGARDING THE COMMINGLING OF DATA RELATING TO DISSIMILAR PRODUCTS AND SERVICES IN THE “ALL LOOPS” REPORTING.

A. First, by way of background, it is important to realize that BellSouth includes the following products in the UNE loop performance data:

- (1) xDSL – this includes ADSL, HDSL, and Unbundled Copper Loop (“UCL”), except UCL-Non-Design (“ND”);
- (2) Unbundled Copper Loop–Non-Design (“UCL-ND”);

- (3) UNE ISDN Loops – this includes Basic Rate Interface (“BRI”), Primary Rate Interface (“PRI”), and UDC;
- (4) UNE 2-W Analog Loops Design with and without Local Number Portability (“LNP”);
- (5) UNE 2-W Analog Loops Non Design with and without LNP; and
- (6) Enhanced Extended Links (“EELs”);

See Varner Direct, pp. 7-8. Thus, the performance assessment for “all loops” consolidates the results for varying loops and for dissimilar activity types such as dispatch and non-dispatch. Review of the more granular performance results reveals that actual performance for the individual loop types commingled in the “all loops” category are different. The aggregated assessment, therefore, may mask the more relevant performance.

Mr. Varner claims that the overall results for FOC and Reject Response Completeness measurements in Tennessee “demonstrate BellSouth’s strong performance in providing CLECs timely, nondiscriminatory access to BellSouth’s pre-ordering and ordering systems”. [AJV Affidavit Exhibit ‘AJV-1, p. 20 of 52]

This is meaningless given that a number of missed submetrics were for ordering of product areas that will be dominant if unbundled local switching is eliminated. That is, some submetrics BellSouth failed are for the services to which CLEC customers will migrate if UNE-P is eliminated. This is troubling, since it shows that sub-par performance in a low volume environment will remain so and become magnified in the high volume environment which would result if CLECs are denied access to unbundled local switching.

1 To illustrate this point, BellSouth's Tennessee performance reports reveal that
2 BellSouth failed to meet the benchmark for the following submetric, pertaining to FOC
3 and Reject Response Completeness(mechanized), which will have volume at the level of
4 UNE-P if UNE-P is eliminated:

- 5 • 2-W Analog Loop w/LNP Design/EDI In: non-compliant for 6 out of 12
6 months , spanning from November 2002 to October 2003 (Exhibit AJV-1,
7 Attachment, p. BST000010); and
- 8 • 2-W Analog Loop w/LNP Design/TAG In: non-compliant for 11 out of 12
9 months , spanning from November 2002 to October 2003 (Exhibit AJV-1,
10 Attachment, p. BST000010).
- 11
- 12
- 13

14 Thus, what Mr. Varner offers as a relevant performance assessment turns out to be of
15 little help in analyzing whether BellSouth is capable of providing CLECs with access to
16 unbundled loops in a manner "as promptly and efficiently as incumbent LECs can
17 transfer customers using unbundled local switching." TRO at n.1574. It is therefore
18 important to analyze the data at more than an "aggregate level" because aggregating
19 results for "all loops" masks areas that are critical in a UNE-L environment.

20
21 **Q. DOES MR. VARNER'S PERFORMANCE ASSESSMENT OF THE REJECT**
22 **INTERVAL METRIC MASK PERTINENT PERFORMANCE?**

23 **A.** Yes. Despite BellSouth's claim, "BellSouth demonstrated strong performance in this
24 category with 2,651 of the 2860 LSRs (93%) returned to the CLEC within the specified
25 benchmarks during the months of December 2002 through October 2003." (See AJV PM
26 Affidavit, Exhibit AJV-1, p. 13.) Aggregating varying results for multiple
27 products/services masks the performance for products/services to which UNE-P would be
28 migrated if UNE-P is eliminated. As an example, the Reject Interval (non-mechanized)

metric, having a benchmark of 95% $\leq$ 24 hours, indicates the percent of CLEC reject notifications received within designated interval . For Reject Interval (non mechanized)-2W-Analog Loop w/LNP Design, BellSouth did not meet the benchmark for 3 out of 11 months (See Exhibit AJV-1 Attachment, page BST000034) .

Q. DOES MR. VARNER'S PERFORMANCE ASSESSMENT OF THE FOC TIMELINESS METRIC MASK PERTINENT PERFORMANCE?

A. Yes. Despite BellSouth's claim of attainment "on average 94% of the time" of FOC Timeliness for "all loops" (See Varner Direct, p. 15), aggregating varying results for multiple products/services masks the performance for products/services to which UNE-P would be migrated if UNE-P is eliminated. The FOC Timeliness metric, having a benchmark of 95% in $\leq$ 3 hours for mechanized LSRs, specifies the percentage of LSRs having a FOC issued within the designated interval. To illustrate once again how Mr. Varner's performance assessments provide little insight into operational impairment if UNE-P is eliminated, the performance results for FOC Timeliness reveal a less desirable performance than he represented.

For FOC Timeliness (mechanized)-2W-Analog Loop w/LNP Design, BellSouth did not meet the benchmark for 8 out of 9 months (See Exhibit AJV-1 Attachment, p. BST000038). It is apparent from these examples that the performance for loops collectively does not necessarily represent the performance for individual loop categories. They are a cautionary note that what BellSouth offers as relevant performance data turns out to be of little help in analyzing whether BellSouth is capable of providing CLECs with access to unbundled loops in a manner "as promptly and efficiently as incumbent LECs can transfer customers using unbundled local switching." TRO at n. 1574.

1 Q. COULD YOU ELABORATE ON YOUR SECOND POINT, THAT MR. VARNER
2 IS RELYING ON DATA FOR LOOPS THAT BELL SOUTH DOES NOT
3 MIGRATE IN HIS "ALL LOOP" PERFORMANCE ASSESSMENTS.

4 A. The loop performance represented in "all loops" includes loops that are not mentioned as
5 being migratable from UNE-P in BellSouth's "UNE-Port/Loop Combination (UNE-P) to
6 UNE-Loop (UNE-L) Bulk Migration CLEC Information Package" ("Information
7 Package") [interconnection.bellsouth.com/guides/unedocs/BulkManpkg.pdf]

8 The Information Package states on page six that "Bulk migration is available for existing non-
9 complex Port/Loop Combination services to Unbundled Loops with Local Number
10 Portability (LNP)," with the further explanation that "Complex UNE-P accounts are
11 prohibited on bulk requests." It further states that "[e]xamples of Complex UNE-P are 2-
12 Wire ISDN/BRI Digital Loop & Port UNE Combination, 4-Wire ISDN/PRI Digital Loop
13 & Port UNE Combination, UNE-P Centrex, Digital Direct Integration Termination
14 Service (DDITS), etc." *Id.* The Information Package does not convey that EELs or ISDN
15 can be migrated under BellSouth's "batch" hot cut process. By intermingling EELs and
16 ISDN into its "all loops" performance assessments, as appears to be the case, BellSouth
17 has complicated the review by injecting irrelevant information.

18
19 Q. DOES THIS CONCLUDE YOUR TESTIMONY?
20

21 A. Yes.

BEFORE THE TENNESSEE REGULATORY AUTHORITY

NASHVILLE, TENNESSEE

IN RE:

IMPLEMENTATION OF THE FEDERAL	)	
COMMUNICATIONS COMMISSION'S	)	DOCKET NO.
TRIENNIAL REVIEW ORDER – 9 MONTH	)	03-00491
PROCEEDING MASS MARKET SWITCHING)		

REBUTTAL TESTIMONY OF JAY M. BRADBURY

ON BEHALF OF

AT&T COMMUNICATIONS OF THE SOUTH CENTRAL STATES, LLC

FEBRUARY 27, 2004

REDACTED PUBLIC VERSION

**Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND POSITION
TITLE.**

A. My name is Jay M. Bradbury. My business address is 1200 Peachtree Street, Suite 8100, Atlanta, Georgia 30309. I am employed by AT&T Corp. ("AT&T") as a District Manager in the Law and Government Affairs Organization.

**Q. ARE YOU THE SAME JAY M. BRADBURY THAT PREVIOUSLY FILED
DIRECT TESTIMONY IN THIS DOCKET ON JANUARY 16, 2004?**

A. Yes, I am.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. My rebuttal testimony responds to portions of the direct testimony of BellSouth's witnesses W. Keith Milner, Pamela A. Tipton, Christopher Pleatsikas, and Debra J. Aron.

I have organized my rebuttal in sections around the following topics:

- Section I. The factual information about AT&T's deployment of local switches and network in Tennessee reveals that AT&T does not meet the Triennial Review Order's ("TRO") qualifications to be considered a "trigger" candidate.
- Section II. AT&T's (and other CLECs') actual local switch and network deployment, serving the mass market, has been misrepresented in the ILEC's direct testimony.

- Section III. Knowledge of where CLECs are actually providing competitive choices to customers through the use of both UNE-P and UNE-L is vital to the Tennessee Regulatory Authority's ("the Authority") tasks in this docket.
- Section IV. The CLEC's ability to benefit by provisioning DSL services to its customers in Tennessee is overstated by BellSouth's assumptions in its BellSouth Analysis of Competitive Entry ("BACE") model.
- Section V. Conclusion.

**I.
THE FACTUAL INFORMATION ABOUT AT&T'S DEPLOYMENT OF LOCAL
SWITCHES AND NETWORK IN TENNESSEE REVEALS THAT AT&T DOES NOT
MEET THE TRO'S QUALIFICATIONS TO BE CONSIDERED A "TRIGGER
CANDIDATE"**

Q. PLEASE PROVIDE THE AUTHORITY WITH A BRIEF DEFINITION AND OVERVIEW OF THE SIGNIFICANT DIFFERENCE BETWEEN MASS MARKET AND ENTERPRISE CUSTOMERS AS THE TERMS RELATE TO YOUR TESTIMONY.

A. The significant difference for the purpose of my testimony is that mass market customers are served using analog DSO loops, while enterprise customers are served using DS1 and higher capacity loops, as noted in the TRO at paragraph 459 and note 1402:

The mass market for local services consists primarily of consumers of analog "plain old telephone service" or "POTS" that purchase only a limited number of POTS lines and can only economically be served via analog DS0 loops.

1 Mass market customers are residential and very small business customers –
 2 customers that do not, unlike larger businesses, require high-bandwidth
 3 connectivity at DS1 capacity and above.
 4

5 A more detailed description of the differences between mass market and enterprise
 6 customers can be found in the rebuttal testimony of CompSouth witness Joseph
 7 Gillan, also being filed today. For the purposes of my testimony, however, it is
 8 sufficient to divide customers served from CLEC switches into mass market or
 9 enterprise by classifying all customers served by analog DSO UNE loops as mass
 10 market customers and all others as enterprise customers.
 11

12 **Q. PLEASE DESCRIBE AT&T'S LOCAL SWITCH AND NETWORK**
 13 **DEPLOYMENT IN TENNESSEE THAT IS CAPABLE OF SERVING THE**
 14 **MASS MARKET.**

15 **A.** In Tennessee, AT&T operates three (3) switches capable of providing service to mass
 16 market customers. The location and identification of the three (3) switches are
 17 shown in the following table.

Switch Name	Switch CLI
CHATTANOOGA	CHTGTNKVDS0
KNOXVILLE	KNVLTNBHDS0
NASHVILLE	NSVLTN48DS0

18 AT&T's three (3) local switches are, of course, dependent upon the deployment of
 19 collocation arrangements as discussed in my direct testimony and the direct testimony
 20 of BellSouth's witness W. Keith Milner. A collocation arrangement to serve an
 21 individual customer in an ILEC wire center may consist of either EELs and
 22 collocations or collocations alone. In Tennessee, AT&T currently has six (6) EELs
 23 serving mass market customers and has collocations capable of serving mass market

1 customers in only **BEGIN CONFIDENTIAL** [REDACTED] **** END**
2 **CONFIDENTIAL** out of 195 BellSouth wire centers.

3
4 **Q. IS THERE A DISTINCTION BETWEEN SWITCHES BEING MASS**
5 **MARKET CAPABLE AND ACTUALLY SERVING THE MASS MARKET**
6 **FOR PURPOSES OF THE TRO SWITCHING TRIGGER ANALYSIS?**

7 A. Yes. To satisfy the TRO "trigger" test, a CLEC must actually be serving mass market
8 customers with its own switch and meet other criteria established in the TRO that will
9 be discussed below. A Northern Telecom DMS500 switch that serves only customers
10 on DS1 or higher loops "could" be used to provide analog POTS service to mass
11 market customers, but unless it "is" doing so, and meets the other necessary criteria,
12 the switch and the CLEC may not be counted as a trigger.

13
14 **Q. WITNESSES FOR BELL SOUTH CONCLUDE THAT TRIGGERS HAVE**
15 **BEEN MET FOR SEVERAL MARKETS IN TENNESSEE. ARE THERE**
16 **CRITERIA IN THE TRO THAT THIS AUTHORITY SHOULD APPLY IN**
17 **THE ANALYSIS OF TRIGGER CANDIDATES?**

18 A. Yes. The direct testimony of CompSouth witness Joseph Gillan discusses six criteria
19 found in the TRO that must be applied in the "self provisioning" trigger test:

20 The self-provisioning trigger criteria can generally be organized into six
21 categories. Before a "trigger candidate" can be found to qualify as satisfying
22 the self-provisioning trigger, the criteria contained in the TRO for each of
23 these categories must be satisfied. The six categories are as follows:

- 24
25 1. The self-provisioning trigger candidate's switches must be "mass
26 market," not "enterprise" switches.
27

2. The self-provisioning trigger candidate must be actively providing voice service to mass market customers in the designated market, including residential customers, and is likely to continue to do so.

3. The self-provisioning trigger candidate should provide services exhibiting a ubiquity comparable to UNE-P within the area chosen for the analysis.

4. The self-provisioning trigger candidate should be relying on ILEC analog loops to connect the customer to its switch or, if a claimed "intermodal" alternative, its service must be comparable to the ILEC service in cost, quality, and maturity.

5. The self-provisioning trigger candidate may not be affiliated with the ILEC or other self-provisioning trigger candidates.

6. The existence of the self-provisioning trigger candidate should be evidence of sustainable and broad-scale mass market competitive alternatives in the designated market.

Only if each of these trigger criteria is met does a candidate qualify as one of the three self-provisioning providers necessary to satisfy the FCC's self-provisioning trigger. (Gillan Direct, pp. 37-38 – bullets in original replaced with numbers 1-6)

I will provide evidence that AT&T's actual deployment of local switches and network does not meet the TRO's requirements for criteria 1, 2 and 6, as more fully described by Mr. Gillan's direct testimony on pages 38 through 55.

Q. PLEASE EXPLAIN HOW AT&T'S LOCAL SWITCHES DO NOT FULFILL THE CRITERION THAT THE SELF-PROVISIONING TRIGGER CANDIDATE'S SWITCHES MUST BE "MASS MARKET," NOT "ENTERPRISE," SWITCHES (CRITERION 1).

A. As shown in the data table below, AT&T's switches are being used predominantly to serve enterprise customers. AT&T does not provide service to any residential customers from these switches, and all service being provided to very small business

is an artifact of a previous business plan which is no longer being pursued to provide service to new customers in Tennessee. Given the economic and operational impairments associated with attempting to serve mass market customers using UNE-L, it is not AT&T's business plan to serve mass market customer from these switches and so these switches will remain enterprise switches into the foreseeable future.

**** Shaded cells contain Confidential Information ****

Switch Name	Switch CLI	Number of voice grade equivalent lines (VGE)	Of VGE lines, number of DSO Lines		Percent Enterprise	
			AT&T Records	ILEC Records	AT&T	ILEC
CHATTANOOGA	CHTGTNKVDS0				88%	82%
KNOXVILLE	KNVLTNBHDS0				86%	86%
NASHVILLE	NSVLTN48DS0				93%	91%
STATE					91%	88%

**** Shaded cells contain Confidential Information ****

AT&T's local switches in Tennessee serve a business customer universe that is at least 82% to 91% enterprise. At the state level AT&T's local switches serve a universe of business customers that are at least 88% enterprise. AT&T's local switches in Tennessee should be excluded as they are enterprise switches and therefore do not meet the TRO trigger test criteria.

Q. PLEASE EXPLAIN HOW AT&T'S LOCAL SWITCHES DO NOT FULFILL THE CRITERION THAT THE SELF-PROVISIONING TRIGGER CANDIDATE MUST BE ACTIVELY PROVIDING VOICE SERVICE TO

1 **MASS MARKET CUSTOMERS IN THE DESIGNATED MARKET,**
2 **INCLUDING RESIDENTIAL CUSTOMERS, AND IS LIKELY TO**
3 **CONTINUE TO DO SO (CRITERION 2).**

4 A. As discussed above, AT&T does not provide residential service using UNE-L.
5 Further, AT&T is not actively providing service to very small businesses using UNE-
6 L and has no plans to do so in the foreseeable future. Thus, AT&T is not serving “the
7 mass market” as defined by the TRO and is not an “active” provider of service even
8 to the very small business segment of the mass market, and so does not meet the self-
9 provisioning trigger criteria.

10 AT&T once had an active business plan to serve very small businesses using DS0
11 UNE-L loops, collocations, and our own local switches (which also served enterprise
12 customers using DS1 and higher loops) in the 1999 -2001 time period. That business
13 plan did not materialize on a national basis, as well as here in Tennessee, because of
14 operational, economic, and other problems that were documented at the FCC in a
15 Declaration filed by Ellycee Brenner. Citations in the TRO to the Brenner
16 Declaration and the problems AT&T encountered may be found in paragraphs 437,
17 466 and 468 and their associated footnotes. The problems identified in the TRO,
18 which included high losses of customers before they were even cut over and
19 ineffective coordinated hot cuts, occurred regularly here in Tennessee, leading to
20 customer dissatisfaction and lower than expected financial returns, because of
21 increased costs and other economic factors.

1 As a result, active provisioning of service to very small business using DSO UNE-L
2 loops ended in late 2001. During 2001, when the business plan was active,
3 approximately 947 new lines were provisioned. In 2002 the number declined to
4 approximately 237 and in 2003 declined further to approximately 150. The
5 embedded base, remaining as an artifact of the old business plan, has declined to
6 approximately **BEGIN CONFIDENTIAL ** [REDACTED] ** END**
7 **CONFIDENTIAL.**

8 The lines being provisioned in 2002 and 2003 are not the result of an active business
9 plan, but rather, reflect maintenance of existing very small business accounts already
10 served via DSO UNE-L, meeting the business needs of enterprise customers served on
11 a DS1 level for "off lines" at the DSO level. These "off lines" are used to support
12 facsimile machines, analog data modems, and the like.

13 In both cases, that is, adding new lines to existing customers and providing "off lines"
14 to enterprise customers, the use of UNE-L rather than UNE-P avoids adding the
15 administrative complexity of splitting the account between those lines provisioned on
16 UNE-L and those lines provisioned on UNE-P. Alternatively, continuing to use
17 UNE-L avoids the necessity to convert the entire account to UNE-P by arranging for
18 and paying for a "reverse hot cut," which carries with it the very real probability of a
19 disruption of service, and the need for the customer to reprogram all switched-based
20 custom features and capabilities in place. BellSouth's own data about AT&T's
21 base of analog DSO loops in Tennessee also demonstrates that AT&T is not an active
22 provider of services to the mass market using UNE-L and its own switches. The data

in the table below, prepared from BellSouth's response to AT&T's Interrogatory 115, shows that in the 18 months from May, 2002 through November, 2003, AT&T's use of analog DS0 loops decreased by 17% in Tennessee, and that the decrease was widespread, not concentrated in a single location or group of locations. They also show that AT&T's ability to employ UNE-L to customers in individual ILEC end offices has been modest at best, and that it has never achieved a scale that would allow it to efficiently deploy, use and maintain the central office specific equipment that is necessary to collect and backhaul mass market users' traffic to AT&T switches. This provides additional evidence that AT&T (and carriers in similar circumstances) would not likely be able to continue to provide UNE-L service even to small business customers.

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	Market	CLLI	May 2002	Nov 2003	Percent Decrease
1	CHATTANOOGA Z1				24%
2					08%
3					16%
4	KNOXVILLE Z1				28%
5					35%
6					-
7	NASHVILLE Z1				06%
8					09%
9					11%
10					20%
11					16%
	TOTALS				17%

**** Shaded cells contain Confidential Information ****

In sum, AT&T's local switches in Tennessee are being used to serve enterprise customers almost exclusively. AT&T does not use UNE-L to provide service to

1 residential customers and uses UNE-L to provide service to a relatively few and
2 declining number of very small business customers that are an artifact of a failed
3 business plan.

4 **Q. PLEASE EXPLAIN HOW AT&T'S LOCAL SWITCHES DO NOT FULFILL**
5 **THE CRITERION THAT THE EXISTENCE OF THE SELF-PROVISIONING**
6 **TRIGGER CANDIDATE SHOULD BE EVIDENCE OF SUSTAINABLE AND**
7 **BROAD-SCALE MASS MARKET COMPETITIVE ALTERNATIVES IN THE**
8 **DESIGNATED MARKET (CRITERION 6).**

9 A. As explained above, AT&T does not serve the mass market using UNE-L and its own
10 local switches, but rather serves enterprise customers. The small embedded base of
11 very small business customers, totaling approximately **BEGIN CONFIDENTIAL ****
12 **[REDACTED] ** END CONFIDENTIAL** lines, exists only as an artifact of a failed
13 business plan. AT&T has never served residential customers using UNE-L. There is
14 no future plan to utilize UNE-L to serve the mass market due to the economic and
15 operational impairments that continue to exist. Nothing about AT&T's presence in
16 Tennessee provides any evidence of sustainable and broad-scale mass market
17 competitive alternatives in any market as defined by BellSouth.

18
19 **II.**
20 **AT&T'S (AND OTHER CLECS') ACTUAL LOCAL SWITCH AND NETWORK**
21 **DEPLOYMENT, SERVING THE MASS MARKET, HAS BEEN MISREPRESENTED**
22 **IN THE ILEC'S DIRECT TESTIMONY.**
23

24 **Q. BELL SOUTH'S WITNESS PAMELA A. TIPTON STATES THAT "CLECS**
25 **HAVE DEPLOYED MORE THAN 60 SWITCHES WHICH PROVIDE**

1 SERVICE IN TENNESSEE, AT LEAST 15 OF WHICH ARE SERVING
2 'MASS MARKET' CUSTOMERS." SHE THEN PROVIDES EXHIBIT PAT-1
3 THAT SHE CLAIMS IS A LIST OF CLEC SWITCHES DEPLOYED IN
4 TENNESSEE. ARE HER STATEMENT AND EXHIBIT RELEVANT TO
5 THE ISSUES IN THIS DOCKET AND ACCURATE RELATIVE TO EITHER
6 AT&T OR CLEC MASS MARKET CAPABLE SWITCHES?

7 A. No, the only switches relevant to this docket are CLEC switches that serve mass
8 market customers. Nowhere in her testimony or its exhibits does Ms. Tipton identify
9 the "mass market" switches about which she writes or the wire centers to which they
10 provide service. Thus, BellSouth does not present the kind of "objective" information
11 that is necessary for the Authority to make a reasonable judgment as to whether the
12 proposed trigger candidates should be counted when applying a trigger test.

13 In addition to the three (3) AT&T local switches discussed above, AT&T also
14 operates three (3) toll switches in Tennessee. Information regarding all six (6) of
15 these switches, including which ones were capable of serving mass market customers,
16 was provided to BellSouth in interrogatory responses and discussed with BellSouth in
17 at least two informal meetings in which I personally participated. Despite having this
18 information, BellSouth and Ms. Tipton cite the source for PAT-1 as the Local
19 Exchange Routing Guide ("LERG"), a group of databases administered by Telcordia
20 for the industry, the purpose of which is to provide routing information, not a count of
21 switches.

1 PAT-1 includes data related to 65 "switches" that Ms. Tipton has apparently extracted
2 from one (or more) of the LERG databases using some unidentified and inexplicable
3 sorting criteria. While this might be the source for the claim of over 60 switches,
4 PAT-1 does not identify which, if any, of these switches are serving mass market
5 customers and thus provides misleading information to the Authority. Despite
6 knowing that AT&T operates a total of six (6) switches in BellSouth's territory [three
7 (3) local switches and three (3) toll switches], Ms. Tipton would have this Authority
8 mistakenly believe from PAT-1 that AT&T/TCG operates 8 switches in Tennessee,
9 including not only toll switches outside its territory within the state, but also AT&T
10 toll switches located outside the state.

11 I lack sufficient knowledge of the other CLECs' switch deployments to determine
12 specifically other examples of inaccurate and irrelevant data, but a scanning of the
13 CLLI codes associated with other carriers indicates to me that several are likely
14 present in PAT-1. It is impossible to determine from PAT-1 either the number of
15 switches CLECs are operating in Tennessee or the number of CLEC switches which
16 are, or are not, serving mass market customers. Ms. Tipton's and BellSouth's failure
17 to provide relevant data in PAT-1, or to state the criteria they are using to gather and
18 validate the data they present as factual, is very disconcerting. Thus, any
19 conclusions reached by Ms. Tipton regarding the number of CLEC switches in
20 Tennessee serving mass market customers are inaccurate and cannot be relied upon
21 by the Authority in determining the outcome of this proceeding.

1 **Q. YOU STATED THAT AT&T OPERATES THREE TOLL SWITCHES IN THE**
2 **STATE. WHY DID YOU INCLUDE THIS DATA AND HOW IS IT**
3 **RELEVANT TO THE MASS MARKET SWITCHING SELF-PROVISIONING**
4 **TEST OF THE TRO?**

5 **A. I have included this data to be complete in my portrayal of AT&T's presence in**
6 Tennessee and to demonstrate that these three (3) switches are, in fact, not capable of
7 providing local service to mass market customers despite the fact that they provide a
8 form of local service to large enterprise customers.

9 BellSouth is aware that these three (3) switches are used to provide a service known
10 as AT&T Digital Link ("ADL") to enterprise customers that have their own on-site
11 customer owned or customer provided switches, often referred to as Private Branch
12 Exchange ("PBX") switches. Despite this knowledge, PAT-1 contains data related to
13 AT&T's toll switches that misleadingly makes it appear that these switches provide
14 local service to mass market customers.

15 The Authority may also remember discussions of ADL in other dockets. The
16 customer's PBX provides all the classical "line side" functions to the customer's
17 telephone sets (dial tone, vertical features, etc.) and is connected to both the ILEC
18 local and IXC long distance networks using "trunks," not "lines". Both the ILEC
19 local switch and the IXC long distance switch treat the PBX switch as if it were
20 another switch on their networks. As a long distance company, AT&T has long
21 provided "special access" trunk connections between large enterprise PBX switches
22 and our toll switches. After the passage of the Act, AT&T began offering these same

1 customers the opportunity to reduce their overall telecommunications expenses by
2 using their existing "special access" trunk connections to originate and terminate
3 local traffic. Using this option, large enterprise customers are able to eliminate the
4 vast majority of their PBX trunks to the ILEC.

5 Because a toll switch with ADL customers must terminate both toll and local traffic
6 to an ADL customer's PBX, it is necessary for the toll switch and its Location
7 Routing Number ("LRN") to appear in local portions of the LERG databases.
8 Unfortunately, due to Telcordia's database design limitations, when this happens, the
9 same (toll) switch appears in the LERG with a different Common Language Location
10 Identification ("CLLI") code than it has in the toll world. Toll switch CLLI codes
11 typically end in three characters, __T¹; however, the same switch, when listed in the
12 local sections of the LERG, will have a CLLI that typically ends in DS_². AT&T
13 pointed this out to BellSouth in at least one informal discussion in which I
14 participated and included the information in AT&T's response to BellSouth's
15 Interrogatory 1. See Exhibit JMB-R1. Despite this knowledge, PAT-1 contains data
16 related to AT&T's toll switches that misleadingly makes it appear that these switches
17 provide local service to mass market customers.

18
19 **Q. CAN THESE THREE TOLL SWITCHES BE MODIFIED TO SERVE MASS**
20 **MARKET LOCAL CUSTOMERS?**

21 A. No. A more detailed explanation of why this is true is included in Exhibit JMB-R1.

22 Briefly, these 3 switches are either 4ESS (which even BellSouth agrees cannot be so

¹ For example, 01T, 03T.

² For example, DS3, DS6.

1 modified), or 5ESS and DMS "edge" switches that AT&T purchased with only a toll
2 trunk switching capability. The "edge" switches do not have a "line," or "customer,"
3 side and cannot provide dial tone or vertical features. They are, like the 4ESS, purely
4 trunk switching machines.

5 AT&T's three (3) toll switches, when used to provide the ADL product, are serving
6 only large enterprise customers connected to the switches via high-capacity "special
7 access" arrangements through long-term contracts. The switches are not, and cannot
8 be, used to provide local service to mass market customers and are therefore not
9 relevant to the TRO's mass market switching trigger tests.

10 BellSouth's inclusion of data about these switches in its triggers case, with full
11 knowledge of their characteristics and limitations, skews its analysis, results in
12 misleading conclusions, and renders the overall evaluation of its trigger case
13 unreliable and incompetent for supporting an Authority decision.

14
15 **III.**
16 **KNOWLEDGE OF WHERE CLECS ARE ACTUALLY PROVIDING**
17 **COMPETITIVE CHOICES TO CUSTOMERS THROUGH THE USE OF BOTH**
18 **UNE-P AND UNE-L, IS VITAL TO THE AUTHORITY'S TASKS IN THIS DOCKET.**
19

20 **Q. ON PAGES 9 AND 10 OF HIS TESTIMONY, BELLSOUTH WITNESS W.**
21 **KEITH MILNER PROVIDES AN EXTRACT FROM THE TESTIMONY OF**
22 **AN AT&T WITNESS IN DOCKET NO. 00-00079, DECEMBER 20, 2000. MR.**
23 **MILNER CLAIMS THE EXTRACT IS A DEMONSTRATION OF "CLEC**
24 **NETWORK ARCHITECTURAL CONSIDERATIONS," STATES THAT**

1 CLEC NETWORKS ARE "NOT CONFIGURED LIKE BELL SOUTH'S",
2 "RELYING ON FEWER SWITCHES AND MORE TRANSPORT." IS THE
3 TESTIMONY MR. MILNER HAS SELECTED DESCRIPTIVE OF HOW
4 AT&T (OR ANY OTHER CLEC) MAKES DECISIONS ABOUT WHEN,
5 WHERE, AND HOW TO DEPLOY ITS NETWORK TO SERVE
6 CUSTOMERS?

7 A. No. The issue being discussed in AT&T's Arbitration in December, 2000, was the
8 rate BellSouth should pay AT&T when BellSouth terminated calls to one of AT&T's
9 switches. (See Exhibit JMB-R2 for a more complete extract showing the context in
10 which this testimony was presented.) AT&T's position that the "tandem rate" should
11 apply was ultimately upheld. The purpose of the testimony Mr. Milner has selected
12 was to demonstrate that the potential coverage of AT&T's switches was comparable
13 to that of a BellSouth tandem switch – a requirement for eligibility to receive the
14 tandem rate. It does not address the process or factors used in determining if it is
15 economic to deploy network equipment to actually serve the customers based upon
16 where they are located relative to the ILEC's legacy network. The statement that
17 "AT&T has the ability to connect..." does not provide any information about how
18 AT&T, or any other CLEC, determines whether it is economic to make such
19 connections. Therefore, I believe Mr. Milner misses the mark on a very important
20 issue that must be determined at this hearing.

21 As I indicated in my direct testimony, a crucial issue in this proceeding is not whether
22 a CLEC simply "can" connect its switch with the local loops of the end user, but
23 whether a CLEC can "efficiently use" its own switch to connect to the local loops of

1 end users. In contrast, the issue being discussed in the testimony Mr. Milner has
2 selected was geographic comparability not the actual deployment of network facilities
3 to serve customers.
4

5 **Q. IN MR. MILNER'S DIRECT TESTIMONY HE PRESENTS INFORMATION**
6 **ABOUT THE OPTIONS BELL SOUTH SAYS ARE AVAILABLE TO CLECS**
7 **IN BUILDING NETWORKS TO SERVE MASS MARKET CUSTOMERS**
8 **USED IN THE BELL SOUTH ANALYSIS OF COMPETITIVE ENTRY**
9 **("BACE") MODEL. IN YOUR DIRECT TESTIMONY YOU CONTRAST**
10 **ILEC AND CLEC NETWORKS. DO ANY DIFFERENCES IN HOW THE**
11 **TWO OF YOU DESCRIBE CLEC NETWORKS IMPACT YOUR**
12 **CONCLUSIONS THAT CLECS ARE IMPAIRED BY THE ILEC'S LEGACY**
13 **NETWORK ARCHITECTURE?**

14 **A.** No. We both agree that CLEC networks are not configured like BellSouth's and that
15 CLECs must rely on fewer switches and more transport than BellSouth. Mr. Milner's
16 testimony describing the network architecture assumptions underlying the BACE
17 model is sufficiently generic as to be non-controversial. However, a number of other
18 BellSouth witnesses point to Mr. Milner's testimony and to the extract from AT&T's
19 Arbitration testimony in 2000 to support some particularly outlandish positions.

20 Each of the three "Network Construct" options Mr. Milner describes in his testimony
21 explains how customers served from an ILEC central office (or wire center) are
22 connected to the CLEC's switch using either EELs and collocations or collocations
23 alone. In each option he describes the central office or wire center serving the

customer's loop as the starting point of the analysis. The customer's wire center is essential to the "Network Construct" and the process of determining whether it is economic to serve customers in that wire center. This central role for the wire center is also noted in the testimony of BellSouth's witnesses James Stegeman and Dr. Debra Aron, and throughout Mr. Stegeman's exhibits on BACE. However, despite the testimony of witnesses Milner, Stegeman and Aron, two other BellSouth witnesses make the outlandish claims that the wire center concept has no meaning and that where the customer is located is unnecessary information in determining whether CLECs can use their own switching facilities to economically and efficiently serve mass market customers.

Q. WHICH OTHER BELL SOUTH WITNESSES MAKE THE CLAIM THAT THE WIRE CENTER HAS NO MEANING?

A. Dr. Christopher Jon Pleatsikas and Ms. Pamela A. Tipton.

Q. PLEASE DISCUSS DR. PLEATSIKAS' CLAIM.

A. Citing to the hearing transcript in an AT&T arbitration in Florida (FPSC Docket 0007321-TP, Tr. at page 94), similar to the one in Tennessee cited by Mr. Milner above, Dr. Pleatsikas concludes his testimony as follows:

Therefore, the wire center concept is not relevant to market definition in this context, and **specifically not economically relevant in terms of how CLECs provision services to their end users.** The geographic scope of the service offered is limited in part by the CLEC's ability to economically serve those customers using the CLECs' network design, not by the location or span of BellSouth's wire centers. (Pleatsikas Direct, Page 13, lines 1-6. Emphasis added.)

1 Dr. Pleatsikas' testimony is designed to support the concept of defining the mass
2 market to be Component Economic Areas ("CEA") divided by UNE Zones, but his
3 statements about wire centers not being relevant to determining whether that market
4 definition is valid, or in determining whether it is economic for CLECs to serve
5 customers in a given wire center, are misleading and have the potential of defining a
6 market in such a manner that only certain customers will have competitive choices. If
7 a wire center, included in a market as defined by Dr. Pleatsikas, cannot be
8 economically and efficiently served by any CLEC using its own switching facilities,
9 the mass market customers in that wire center having a competitive choice through
10 CLECs' use of UNE-P will lose that choice, and be able to obtain POTS only from
11 the ILEC.

12 Language in the TRO, at ¶ 501, ¶ 517 and ¶ 520, supports the logical proposition that
13 for impairment to be found non-existent, competition must exist throughout the whole
14 market, not only in portions of the market.

15 In his direct testimony, CompSouth witness Joseph Gillan discusses the concept of
16 "ubiquity" (pages 46-48), and in their rebuttal testimonies, CompSouth witnesses Don
17 J. Wood and Joseph Gillan discuss other aspects, concepts and tools the Authority
18 should use to evaluate whether impairment no longer exists ubiquitously across a
19 defined market area from the wire center level up.
20

1 **Q. DOES COMPETITION FOR MASS MARKET POTS CUSTOMERS**
2 **CURRENTLY EXIST IN EVERY TENNESSEE BELL SOUTH WIRE**
3 **CENTER?**

4 A. Yes. The evidence in this docket clearly demonstrates that one or more CLECs, using
5 UNE-P, provide service to customers in every BellSouth wire center within the
6 “markets” in which they claim impairment does not exist. Therefore, in testing any
7 BellSouth market definition, the Authority must assure itself that UNE-L competition
8 will exist in every wire center. Any lesser result means that the Authority will be
9 making an affirmative decision to deny competitive choice to customers who have it
10 today and ignoring the real economic and operational impairment faced by CLECs.

11
12 **Q. PLEASE DISCUSS MS. TIPTON’S CLAIM THAT THE LOCATION OF**
13 **CUSTOMERS IN A MARKET IS IRRELEVANT.**

14 A. On pages 13-14 of her direct testimony Ms. Tipton, referencing Mr. Milner’s testimony
15 discussed above, reaches the following incorrect conclusion about the need to provide
16 more specific information regarding the location of CLEC customers served by UNE-L:

17 Given that, the actual physical location of the individual end users in each
18 market area is not relevant. If the CLECs have chosen to serve customers in
19 BellSouth’s serving areas, according to the CLECs, their switch can serve any
20 customers in those areas. (Tipton direct, page 13, line 23 – page 14, line 3.)

21 “Are,” “can” and “can economically,” represent three different concepts, only two of
22 which, “are” and “can economically,” have relevance to the task before this Authority
23 as a result of the TRO. The “trigger” tests are concerned with “are” - what
24 competitive choices actually exist and where they exist, as a result of the
25 implementation of both UNE-P and UNE-L. The “potential deployment” test is

1 concerned with "can economically" and, as is noted in the testimony of BellSouth's
2 witnesses Milner, Stegeman and Aron, BellSouth incorporates where by basing its
3 analysis on a wire center focused analysis.

4 Ms. Tipton's claim that customer location is not relevant to her trigger analysis denies
5 the Authority knowledge of the actual data it needs, both to determine whether
6 impairment has ceased to exist in any given market and to protect mass market
7 customers who currently have competitive choices. AT&T served BellSouth with
8 discovery in an attempt to obtain this necessary information. Analysis of the data in
9 BellSouth's response to AT&T's Interrogatory 115 reveals that facilities based mass
10 market competition is present in only 31 (16%) of BellSouth's 195 Tennessee wire
11 centers. In many of the 31 wire centers, fewer than 3 CLECs are actually present.

12 **Q. WHY IS DATA ABOUT WHICH WIRE CENTERS ARE BEING SERVED BY**
13 **CLECS USING UNE-L VITAL TO THE AUTHORITY'S TASK?**

14 A. As I noted above, customers located in 100% of BellSouth's wire centers, in the
15 "markets" in which BellSouth is seeking relief, have competitive choices today
16 through one or more CLECs offering service using UNE-P. That simply is not the
17 case for UNE-L. For example, AT&T offers service using UNE-L in only **BEGIN**
18 **CONFIDENTIAL ** [REDACTED] ** END CONFIDENTIAL** of the 195 BellSouth
19 wire centers in Tennessee. To my knowledge, there is no combination of CLECs that
20 results in 100% coverage of BellSouth's wire centers using UNE-L. BellSouth's
21 answer to AT&T's Interrogatory No. 89 states that there are no collocation
22 arrangements in 136 of its 195 Tennessee wire centers and their response to AT&T's
23 Interrogatory No. 10 reveals that BellSouth has never performed a hot cut in 164 of

1 its Tennessee wire centers. As noted above, there is no facilities based competition in
2 84% of BellSouth's Tennessee wire centers.

3 Based on triggers, a finding that impairment does not exist in a market that contains
4 one or more of these wire centers means that customers who currently have
5 competitive choices for local service, by way of UNE-P, will lose those choices.
6 Such a result is inconsistent with the Act and the TRO, as discussed by CompSouth
7 witness Joseph Gillan, and would be a Type 1 error of the type described in the
8 testimony of MCI witness Dr. Mark T. Bryant, i.e., a finding that CLECs without
9 access to unbundled switching are not impaired when, in fact, they are impaired.

10 **IV.**
11 **THE CLECS ABILITY TO BENEFIT BY PROVISIONING DSL SERVICES TO IT**
12 **CUSTOMERS IN TENNESSEE IS OVERSTATED BY BELL SOUTH'S**
13 **ASSUMPTIONS.**
14

15 **Q. IN YOUR DIRECT TESTIMONY (PAGE 41), YOU CONTRASTED THE**
16 **CLECS' AND ILECS' ABILITIES TO PROVIDE DSL SERVICES TO**
17 **CUSTOMERS. HOW DOES BELL SOUTH ADDRESS THIS IN ITS DIRECT**
18 **TESTIMONY?**

19 **A.** Mr. Milner recognizes that limitations exist, without being specific as to what the
20 limitations are. "By choosing this configuration, the CLEC also gives itself access to
21 more loops composed entirely of copper facilities, thus enlarging its Digital
22 Subscriber Line ("DSL") footprint..." (Milner Direct, page 5, lines 10-12) In
23 contrast, Dr. Aron's assumptions about CLEC DSL penetration in her Exhibit DJA-

05, and thus in the BACE model, do not reflect any consideration of these limitations. For residential customers, Dr. Aron assumes a 5% penetration rate in year one, leaping to 15% in year three. For the small office, home office ("SOHO") customer, she assumes an astounding 10% penetration in year one, leaping to 25% in year three. To place these assumptions in perspective, BellSouth's current penetration rate for its retail FastAccess Service is approximately 6% after being in the market since 1998.

CLECs using UNE-L can only offer DSL service to those customers to whom it can obtain an all copper loop of less than 18,000 feet free of any defects that disqualify it for DSL service. The data provided by BellSouth, in its nine state regional response to AT&T's Interrogatory No. 25 in the Georgia Mass Market Switching Docket No. 17749-U, reveals that only 59% of BellSouth's loops in Tennessee are all copper; however, as I noted in my Direct Testimony, it is likely that BellSouth can provide its retail FastAccess Service to over 86% of its customers. Therefore, at best, CLECs in Tennessee using UNE-L have approximately two-thirds the capability to provide DSL service to customers as BellSouth.

The actual percentage of all copper loops will obviously vary by wire center, but Dr. Aron's assumptions need to be revised to reflect reality before being used in any BACE analysis.

Overstated assumptions about product penetrations will generate overstated revenues and result in false determinations that entry in a given market is economically possible.

V.
CONCLUSION

Q. PLEASE SUMMARIZE YOUR REBUTTAL TESTIMONY.

A. Contrary to BellSouth's assertions, AT&T's use of its local switches and network in Tennessee does not meet the requirements of the TRO for AT&T to be identified as a trigger in any BellSouth defined market. AT&T does not provide any mass market residential service. AT&T's universe of business customers served is 88% enterprise. The small number of very small business customers being served is an artifact of a prior failed business plan that will not be revived and that is not being used to provide service to new very small business customers. AT&T is not actively provisioning UNE-L service to very small business customers.

BellSouth has misrepresented the CLECs' actual deployment of local switches and networks in its direct testimony and failed to provide the Authority with the data to support BellSouth's claims.

BellSouth has compounded its failure to provide the data to support its claims by improperly asserting that the location of customers being served by both UNE-P and UNE-L, but particularly UNE-L, is irrelevant. Knowing where competition exists today using UNE-P, but would not exist in the future if UNE-P were made unavailable, is critical to the Authority's requirement to foster the on-going development and preservation of competition for local service.

1 BellSouth has overstated assumptions about the CLECs' ability to provide DSL
2 services in a manner that may lead to the erroneous determination that entry in a
3 given market is economically possible.

4
5 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

6 **A. Yes, at this time.**

REQUEST: BellSouth First Set of Interrogatories

DATED: October 24, 2003

Interrogatory 1: Identify each switch owned by AT&T that AT&T uses to provide a qualifying service anywhere in Tennessee, irrespective of whether the switch itself is located in the state and regardless of the type of switch (e.g., circuit switch, packet switch, soft switch, host switch, remote switch.)

Response: To the extent that the definitions of "qualifying service" and "non-qualifying service" as defined by BellSouth in BellSouth's First Set of Interrogatories to AT&T are different than the definitions of "qualifying" and "non-qualifying" service as defined in 47 C.F.R. § 51.5, this interrogatory is vague. Specifically, 47 C.F.R. § 51.5 defines a "qualifying service" as "a telecommunications service that competes with a telecommunications service that has been traditionally the exclusive or primary domain of incumbent local exchange carriers ("ILECs"), including, but not limited to, local exchange service, such as plain old telephone service ("POTS"), and access services, such as digital subscriber line services and high capacity circuits." "Non-qualifying services" are defined as services that are "not qualifying service[s]." Id. Subject to the foregoing, and without waiving any objection, AT&T will construe the terms contained in this interrogatory, and all other interrogatories, in accordance with 47 C.F.R. § 51.5 and applicable law and consider all traditional local telecommunications service as a "qualifying" service and all traditional long distance service as "non-qualifying" service.

Subject to the foregoing see Confidential Attachments 1a and 1b. These attachments provide information on two categories of switches used (and owned) by AT&T. The first category consists of "Class 5" switches.

The second category consists of switches used (and owned) by AT&T to provide AT&T Digital Link Service ("ADL") to enterprise using "Class 4" and "Class 5 edge" long-distance switches. ADL is not a stand-alone local product but rather one that allows large enterprise AT&T long distance customers to add local voice traffic to their dedicated facilities that handle voice

and data transmission. This permits customers to maximize efficiency by using the same trunks for local, intraLATA, long distance and international calls. Customers that subscribe to ADL service use a DS1 or higher level facility and must also employ sophisticated customer premises equipment on their premises. The switches are not capable of providing service to mass market customers because they do not have the necessary connectivity (i.e., line-side analog ports), functionality (e.g., vertical features like call waiting and call forwarding), and network interconnection, including connection to Public Safety Answering Points. AT&T does not use unbundled network elements to provide ADL service.

The ADL capable (enterprise) switches identified in Attachment 1b are identified by their toll switch CLLI codes, which end in a "T". In the LERG these same switches appear using a psuedo CLLI code ending in "DS_" because the LERG will not accept the "T" code for a switch identified as having "end office functions" and having a "LRN".

The "Class 5 edge" long distance switches are either Lucent 5ESS or Nortel DMS switches. Both of these switch types are common in ILEC local networks. However, the switches used in the ILEC network to provide local services and the edge long distance switches in AT&T's network perform totally different functions.

Converting the edge switches to provide local services would require extensive hardware modifications, software modifications, and E911 Connectivity, as well as supporting OSS modifications and connectivity. As a practical matter, the modifications required preclude conversion of these switches.

For Example: The 5ESS and DMS would need to be completely rebuilt/retrofitted to support local services. Only the basic 5ESS and DMS platform (equipment racks, containers/cabinets, and some switch modules) could be reused. Modifications would include, but not limited to the following:

- OSS modifications (including loading of databases) and Connectivity to support Fault, Configuration, Account, Performance, and Security (FCAPS) Management, and other Operations, Administration,

Maintenance, and Provisioning (OAM&P) processes (e.g., LIDB and ISCP).

- Software and Switch Memory Upgrades (and additional RTU Licenses) to support the Vertical Features required to provide local service.
- Line Side Peripheral Hardware Upgrades to support local services.
- E911 Connectivity and Support.
- AIN support (software and connectivity) to support IN Triggers.
- Announcement System (Hardware, Software, and Transport Facilities).
- 105 Test Line Responder Units (Hardware & Software)
- Test Buss Control Unit (TBCU) to support MLT type loop testing functions (Hardware)
- Additional Facilities and Interfaces (Hardware) required for DCS and SONET Connectivity to the Network.
- Building of ODD (Office Dependent Data) which is unique to each switch and relates to translations (lines) and parameters (equipment) which consists of information related to switch owner (line, trunk, routing, charging, equal access, BRCS) and/or the office equipment (quantity, configuration, equipage). This makes up the office database.

Provided by: Jay Bradbury

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BEFORE THE
TENNESSEE REGULATORY AUTHORITY

DIRECT TESTIMONY OF
GREGORY R. FOLLENSBEE

ON BEHALF OF
AT&T COMMUNICATIONS OF THE SOUTH CENTRAL STATES, INC.
AND TCG MIDSOUTH, INC.

DOCKET NO. 00-00079

DECEMBER 20, 2000

1 at any technically feasible point, and can select a point that is most efficient
2 to lower costs. AT&T's proposal clearly meets these requirements.

3

4 **ISSUE 7: SHOULD AT&T BE PERMITTED TO CHARGE TANDEM**
5 **RATE ELEMENTS WHEN ITS SWITCH SERVES A GEOGRAPHIC**
6 **AREA COMPARABLE TO THAT SERVED BY BELLSOUTH'S**
7 **TANDEM SWITCH?**

8 **Q. WHAT DO THE FCC REGULATIONS PROVIDE ABOUT CLEC**
9 **SWITCHES AND TANDEM RATES?**

10 A. The FCC recognizes that there is parity between a competitive carrier's end
11 office switch and an ILEC tandem switch. The FCC regulations, 47 C.F.R. §
12 51.711 (a)(3), provide:

13 Where the switch of a carrier other than an incumbent LEC
14 serves a geographic area comparable to the area served by
15 the incumbent LEC's tandem switch, the appropriate rate
16 for the carrier other than an incumbent LEC is the
17 incumbent LEC's tandem interconnection rate.
18

19 **Q. HAS THE FCC PROVIDED ANY ADDITIONAL GUIDANCE**
20 **REGARDING THE ESTABLISHMENT OF TRANSPORT AND**
21 **TERMINATION RATES?**

22 A. Yes, it has. In the Local Competition Order, the FCC stated:

23 We find that the "additional costs" incurred by a LEC when
24 transporting and terminating a call that originated on a
25 competing carrier's network are likely to vary depending
26 on whether tandem switching is involved. We, therefore,
27 conclude that states may establish transport and termination
28 rates in the arbitration process that vary according to
29 whether the traffic is routed through a tandem switch or

1 directly to the end-office switch. In such event, states shall
2 also consider whether new technologies (e.g., fiber ring or
3 wireless networks) perform functions similar to those
4 performed by an incumbent LEC's tandem switch and thus,
5 whether some or all calls terminating on the new entrant's
6 network should be priced the same as the sum of transport
7 and termination via the incumbent LEC's tandem switch.
8 Where the interconnecting carrier's switch serves a
9 geographic area comparable to that served by the
10 incumbent LEC's tandem switch, the appropriate proxy for
11 the interconnecting carrier's additional costs is the LEC
12 tandem interconnection rate.¹⁶
13

14 **Q. DO AT&T'S SWITCHES IN TENNESSEE COVER A GEOGRAPHIC**
15 **AREA COMPARABLE TO THE AREA COVERED BY BELL SOUTH**
16 **SWITCHES?**

17 **A.** Yes. AT&T offers local exchange service in Tennessee via 4ESS switches,
18 which function primarily as long distance switches, and 5ESS switches,
19 which act as adjuncts to the 4ESS switches. AT&T has the ability to connect
20 virtually any qualifying local exchange customer in Tennessee to one of these
21 switches through AT&T's dedicated access services.

22 AT&T requests that the Authority order BellSouth to pay AT&T
23 BellSouth's tandem interconnection rate for the termination of local traffic at
24 any AT&T switch. AT&T is justified in its request because the geographic
25 area covered by each of its switches is comparable to the area covered by
26 BellSouth's tandem switches.

27

¹⁶ FCC Local Competition Order at ¶ 1090 (emphasis added).

STATE OF TENNESSEE

BEFORE THE TENNESSEE REGULATORY AUTHORITY

In re: Implementation of)
requirements arising from Federal)
Communications Commission)
triennial UNE review: 9-month proceeding)
Switching)
)

Docket No. 03-00491

REBUTTAL TESTIMONY OF

JOHN C. KLINK

ON BEHALF OF

AT&T COMMUNICATIONS OF THE SOUTH CENTRAL STATES, LLC

FEBRUARY 27, 2004

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1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME, TITLE AND BUSINESS ADDRESS**

3 A. My name is John C. Klick. I am Senior Managing Director of FTI Consulting,
4 Inc.'s Network Industries Strategies group, with offices at 1201 I Street, N.W.,
5 Washington D.C. 20005.

6 **Q. PLEASE BRIEFLY DESCRIBE YOUR EXPERIENCE AND**
7 **QUALIFICATIONS.**

8 A. Since graduating from Bates College in 1970 with a Bachelor of Sciences degree
9 in Mathematics, I have been continuously involved in the analysis of costing,
10 economic and financial issues for network industries such as railroad and pipeline
11 transportation, electric utility transmission and telecommunications. Much of this
12 analytical work has resulted in testimony before state and federal regulatory
13 agencies, arbitration panels, and the courts.

14 In particular, since passage of the Telecommunications Act of 1996 ("1996 Act"),
15 my staff and I have been involved in the analysis of many of the Cost Proxy
16 Models that have been used by the parties to develop TELRIC-based UNE prices
17 in various state proceedings. I have testified in more than 35 states on both the
18 economic frameworks of these models and the detailed ways in which these
19 models implement their economic assumptions. I have also provided testimony
20 on the modeling of collocation costs in numerous state proceedings, and
21 testimony to the FCC on certain "business case" models that have been submitted
22 in the past by incumbent local exchange carriers ("ILECs") in efforts to
23 demonstrate that competitive local exchange carriers ("CLECs") can profitably

1 enter the market without access to certain unbundled network elements (“UNEs”).

2 Recently, I filed testimony in the FCC’s TELRIC proceeding on a variety of
3 issues relating to the calculation of forward-looking costs.

4 Finally, I have significant experience with the ways regulators have addressed
5 similar issues as they have arisen in the evaluation of prices in other network
6 industries. A detailed summary of my qualifications is set forth in Exhibit No.
7 JCK-1.

8 **Q. WHAT IS THE PURPOSE OF THIS REBUTTAL TESTIMONY?**

9 A. AT&T Communications of South Central States, LLC (“AT&T”) has asked me to
10 respond to the Direct Testimony of James W. Stegeman and Debra J. Aron, which
11 was filed on behalf of BellSouth Telecommunications, Inc. (“BellSouth”) on
12 January 9, 2004. For reasons that I explain below, the Tennessee Regulatory
13 Authority (“Authority”) should conclude that the showing made by BellSouth’s
14 witnesses is not adequate to demonstrate lack of impairment in any market in
15 Tennessee.

16 **Q. HOW IS YOUR TESTIMONY ORGANIZED?**

17 A. In Section II, below, I address the BellSouth Analysis of Competitive Entry
18 (“BACE”) model, which is presented in the testimony of BellSouth witness James
19 W. Stegeman. In that section, I explain why the BACE model – in its current
20 form – cannot reliably be used by the Authority to fairly analyze the “business
21 case” economics of competitive entry by competitors seeking to serve mass
22 market customers in Tennessee. In particular, Mr. Stegeman has failed to provide

1 a version of the model that can be used to evaluate, test and modify the complex
2 calculation, "optimization," and "filtering" portions of the BACE model.

3 In Section III, I will describe several of the inputs to the BACE model run
4 submitted by BellSouth for Tennessee that I believe serve to substantially
5 overstate the potential profitability of CLEC entry using UNE-L, and provide
6 sensitivity runs of the BACE model that quantify the effects of using more
7 reasonable input assumptions. Finally, Section IV of this statement describes a
8 series of anomalous results that have been generated by altering certain inputs to
9 the BACE model submitted by BellSouth for Tennessee. These results call into
10 serious question the reliability of the BACE model, and are significant enough to
11 warrant rejection of BellSouth's conclusions about impairment. As suggested by
12 my discussion in Section II, this latter analysis has been hampered by Mr.
13 Stegeman's failure to provide a fully documented and completely open BACE
14 model for analysis in this proceeding.

15 **II. BELLSOUTH'S BACE MODEL IS NOT OPEN, IS NOT**
16 **ADEQUATELY DOCUMENTED, AND CAN NOT BE RELIED UPON**
17 **BY THE AUTHORITY**

18 **Q. BEFORE ADDRESSING THE DETAILS OF BELLSOUTH'S BACE**
19 **MODEL, CAN YOU DESCRIBE BRIEFLY FOR THE AUTHORITY**
20 **WHY IT IS IMPORTANT THAT THE BUSINESS CASE MODELS**
21 **USED TO ANALYZE IMPAIRMENT BE COMPLETELY OPEN FOR**
22 **REVIEW?**

23 **A.** Yes. As the Authority is aware, this is not a new issue. Very similar issues arose
24 with regard to the UNE cost proxy models that were proposed in the years
25 immediately following passage of the 1996 Act, and similar issues arise whenever
26 there is litigation involving complex economic, financial or cost models. As all of

1 us understand – and as became painfully clear in the UNE proceedings in
2 Tennessee and elsewhere – while it is often possible for all parties to agree on a
3 set of economic principles that are to be applied in analyzing an issue, the results
4 of applying those economic principles in a given situation are a function of the
5 numerous assumptions and calculations that are made in (1) defining what the
6 characteristics of the “given situation” are, (2) the extent to which the agreed-
7 upon economic principles will affect each of these characteristics, (3) how those
8 characteristics and economic effects are likely to change over time, and (4) how
9 best to quantify these interrelationships. In other words, the “devil is in the
10 details.”

11 Without complete access to the details of the models that are constructed to give
12 effect to these complex interactions, there is no effective way for other parties –
13 including the Authority and its Staff – to fully understand the way in which a
14 model actually implements the agreed-upon economic principles or to determine
15 whether the way the model utilizes certain inputs is consistent with the way the
16 inputs were developed. If the Authority and its Staff are unable to fully evaluate
17 these issues, and if they are unable to rely upon the adversarial process – and the
18 critical review by other parties to the proceeding that is the foundation of this
19 process – then there is no possibility of making reasoned judgments or drawing
20 reliable conclusions. The effects that findings of “no impairment” could have on
21 the nascent state of competition for mass market customers in Tennessee is too
22 critical to be based upon poorly supported business case calculations.

23 **Q. HOW IS THE BACE MODEL ORGANIZED?**

1 A. The BACE model is organized around four “processes” that correspond generally
2 to four major components of a business case analysis, *i.e.*, the determination of
3 the prices that the CLEC can be expected to receive for the services it sells (the
4 price process, or “P-Process”), the quantities of each of these services the CLEC
5 can be expected to sell (the quantity process, or “Q-Process”), the revenues
6 produced by the interaction of prices and quantities achievable by the CLEC (the
7 revenue process, or “R-Process”), and the costs that a CLEC can expect to incur
8 to construct and operate the network necessary to provide these services (the
9 operations and network process, or “ON-Process”).¹ BACE uses an undisclosed
10 version of compiled visual basic source code to perform the calculations in these
11 four processes and to produce the results of its business case analyses.

12 Within each of these four processes, the BACE model relies upon input tables to
13 produce results that are shown in the final output table for the process. As I
14 explain below, many of these input tables cannot be accessed (and, therefore,
15 modified) by the user. In addition, numerous intermediate tables that are used in
16 subsequent calculations in BACE cannot be viewed by the user – which makes
17 effective auditing of the model impossible. Furthermore, even with access to the
18 underlying tables, BellSouth has not provided the uncompiled version of the
19 source code for the BACE model, which is required by any external party that
20 seeks to meaningfully review or modify any of the mathematical calculations used

¹ As Dr. Aron has testified in Florida, the BACE model focuses only on “economic” impairment and gives no effect to issues of “operational” impairment. Thus, even if the BACE model – run properly – suggests that no impairment exists, entry by an efficient CLEC could still be impaired by operational impediments.

1 to develop the price, quantities and costs to derive the results of the BACE
2 Business case model. Without fully open and unencumbered access to review,
3 edit and test the calculations that are used in BACE, we cannot review, validate or
4 even identify any potential errors that may be deeply hidden or buried within this
5 model.

6 The FCC and various state regulatory commissions have stressed the importance
7 of relying on fully open models that enable parties to reasonably understand how
8 the results are derived, and provide access to all underlying data, formulae,
9 computations, software, engineering assumptions, and outputs. By failing to
10 provide the level of access, all parties are effectively deprived of a reasonable
11 ability to review the calculations and underlying modeling assumptions. Thus,
12 BellSouth's failure to provide the uncompiled source code and other input data is
13 a fundamental failing.

14 **Q. CAN YOU DESCRIBE, IN MORE DETAIL, THE LACK OF OPENESS IN**
15 **THE P-PROCESS?**

16 A. Yes. The P-Process uses input from five tables. By applying a series of what Mr.
17 Stegeman describes as "tasks," the P-Process generates prices for the six products
18 it assumes will be offered by a CLEC entering a local market, *i.e.*, (1) long
19 distance services, (2) voice mail, (3) switched access services, (4) DSL, (5) non-
20 DSL business data services, and (6) local services (*i.e.*, local access, local usage,
21 subscriber line charge, directory assistance/operator services, and customer
22 calling features other than voice mail). Prices are determined for each service on
23 both on an "a la carte" basis and as part of a service bundles.

1 As noted above, there are five data input tables used by the P-Process. These are
2 (1) the Baseline Bundle Price table, which “defines the initial bundle prices
3 offered to each customer segment in a defined geographic area;” (2) the Bundle
4 Price Curves table, which “defines the price trend (expressed as a decimal) per
5 year for each product bundle over the ten-year period;” (3) the Baseline Product
6 Price table, which “defines the current prices of individual products by geographic
7 area;” (4) the Product Price Curves table, which “defines the price trend
8 (expressed as a decimal) per year for each product over the ten-year study;” and
9 (5) the CLEC Baseline Price Discount table, which “defines any discounts off of
10 the current prices” that the analyst believes the CLEC will apply to individual
11 products in individual markets.

12 The Baseline Product Price table, for example, cannot be viewed or modified by
13 an external user of BACE. Without knowing what the values are for the starting
14 price points in the model – or how those price points were determined – it is
15 impossible for AT&T or any other party to judge whether BellSouth has used an
16 accurate or meaningful starting point, or to compare those prices with prices that
17 may be proposed by other parties.² Furthermore, the output table for the P-
18 Process, *i.e.*, PMaster, is also unavailable for user review or validation.

² For example, in the Florida proceeding, Dr. Aron stated that she thought (but was not certain) that the data reflected in the Baseline Produce Price table was based on data received from BellSouth for the month of April, 2003, *i.e.*, it is data that is a year old. (Aron Deposition, pages 110-114. If accurate, these data are flawed, because BellSouth reduced retail prices in late 2003. This means that the BACE model inputs do not even reflect current retail prices in Florida, and overstate the profitability of CLEC entry into the Florida market. Without open access to the Baseline Produce Price and Base Bundle Price tables, there is no way for the Authority and its staff, or for other parties, to test the reasonableness of these input data, or to alter these prices and re-run the model.

1 **Q. CAN YOU DESCRIBE THE AREAS OF THE Q-PROCESS THAT ARE**
2 **NOT OPEN FOR REVIEW BY EXTERNAL USERS?**

3 A. Yes. The Q-Process uses data from ten input tables as a starting point. These are
4 (1) the CLEC Profile Products table, which “allows the user to indicate which
5 products are offered by the CLEC and within what study year the product is first
6 offered;” (2) the Baseline Demand table, which “describes the expected initial
7 demand for products and services offered by the CLEC;” (3) the Demand Curves
8 table, which “describes the total anticipated market demand change for each
9 product by customer segment, by customer-spend category, by year;” (4) the
10 Penetration Curves for Products table, which “describes the anticipated CLEC
11 market share of customers for each product by customer type over the ten-year
12 period study horizon;” (5) the Churn table, which “allows the user to describe the
13 annual churn for each customer grouping for each product offered by the CLEC;”
14 (6) the Bundles table, which “describes those products and services that are sold
15 within each bundle;” (7) the CLEC Profile Bundle table, which “ allows the user
16 to indicate which bundles are offered by the CLEC and within what study year the
17 bundle is first offered;” (8) the Penetration Curves for Bundles table, which
18 “allows the user to determine the proportion of CLEC customers whose product
19 sales occur via bundles, by year, by customer segment and customer-spend
20 category, over the ten-year study horizon;” (9) the Market Growth table, which
21 “allow [sic] the user to indicate how the current customer base will grow over
22 time;” and (10) the Exchange Demographics table, which contains “the customer
23 population of each wire center. The wire center population is divided into

1 residence and four business segments. This segmentation supports granular
2 demand, pricing, market share considerations and revenue analysis.”

3 Neither the Exchange Demographics nor the Baseline Demand tables can be
4 viewed or altered by an external user of BACE. Also, as was the case with the P-
5 Process, several intermediate tables in the Q-Process cannot be reviewed by the
6 user, and the QMaster results table is unavailable for review and evaluation. Thus,
7 external viewers are unable to see either how BACE initially segments the
8 markets to meet the “granularity” requirements of the FCC’s Triennial Review
9 Order (“TRO”), or how BACE determines the initial demand each of these
10 customer groups will have for the individual products offered by the CLEC. It is
11 essential that the assumptions reflected in these tables be subjected to scrutiny in
12 order to critically evaluate BellSouth’s analysis.

13 **Q. WHAT ABOUT THE R-PROCESS – IS IT FULLY OPEN TO REVIEW**
14 **AND MODIFICATION?**

15 A. No. The R-Process uses five data input tables. These are (1) the PMaster table,
16 which is the output from the P-Process containing “the CLEC price information
17 for each product by customer type in each served location (wire center) over the
18 ten years of the study;” (2) the QMaster table, which is the output of the Q-
19 Process containing “the CLEC quantity sold information for each product by
20 customer type in each served location (wire center) over the ten years of the
21 study;” (3) the USF-Interstate Access Support table; (4) the USF – High Cost
22 Loop Support table, which provide inputs on the universal service funds available
23 to the CLEC in Tennessee; and (5) the Alternative Units of Measure table

1 “provides inputs to allow the user to define additional cost drivers” for the ON-
2 Process described below. As noted earlier, neither the PMaster nor the QMaster
3 tables are available for external review or validation. In addition, the output from
4 the R-Process, i.e., the RMaster output table, is also unavailable for external
5 review, validation or modification.

6 **Q. FINALLY, IS THE ON-PROCESS FULLY OPEN TO EXTERNAL**
7 **REVIEW OR MODIFICATION?**

8 A. No, it is not. As I noted earlier, the ON-Process is where BACE calculates the
9 cost -- or cash “outflow” -- portion of the business case analysis. BACE uses a
10 number of input tables, unique to the ON-Process, all of which are available for
11 review and input changes. However, the ON-Process also relies on the PMaster,
12 QMaster and RMaster output tables from the prior processes as key inputs in
13 numerous calculations and, as noted above, these output tables are not available
14 for review or modification. For example, the BACE documentations notes that it
15 uses the results from the QMaster table in key steps:

16 Results from the Q-Process that identify demand (where
17 appropriate) for each of the various levels of the product,
18 customer and location hierarchies provide the basis for
19 establishing an appropriately sized CLEC network
20 architecture. *BACE Methodology Manual* at 54.

21 and:

22 For non-capital cost records that have a *Frequency* of
23 Recurring or NonRecurring, BACE uses the demand
24 requirements in each year (from the Q-Process) based on
25 the product, customer and location hierarchies and the
26 *UNEZone* and *RateCenter* entries in the Network and
27 Operations Cost Input tables. *BACE Methodology Manual*
28 at 55.

1 Similarly, the RMaster output table is used in the “optimization” phase of the ON-
2 Process (where BACE determines whether an EEL or collocation is the most
3 economic approach to the CLEC network architecture that the model assumes will
4 be built) and for additional user options. By making the QMaster and RMaster
5 output inaccessible for review and modification by external users, Mr. Stegeman
6 has made it impossible to independently review the workings of the ON-Process.
7 This is because changes to the inputs to the P-Process and Q-Process that are
8 ultimately reflected in the output of the ON-Process necessarily are also affected
9 by the assumptions and methodologies used in the P-Process, Q-Process and R-
10 Process. To evaluate the ON-Process independently, it would be most valuable to
11 be able to modify the inputs to that process – independently of the others – to
12 observe the effects.

13 This independent review of inputs used in the ON-Process is particularly critical
14 given that BellSouth has failed to provide the underlying source code to the
15 BACE model in a format that would permit the code to be modified and re-
16 compiled. Instead, BellSouth has merely provided an Adobe Acrobat file that
17 cannot be printed, with three vertical lines reading “Proprietary and Confidential”
18 across the code, which makes it difficult to read. There are references to variables
19 and calculation routines that are not defined in the material presented, and without
20 access to the source code in a format that would permit it to be modified and re-
21 compiled it is impossible for a programmer to follow the field names that are used
22 in the calculations shown in the Adobe Acrobat file, which makes this file

effectively useless for the purposes of understanding what is being done in key sections of BACE.

Q. CAN YOU SUMMARIZE YOUR CONCERNS REGARDING THE ABILITY OF CLECS AND THE AUTHORITY TO REVIEW BACE?

A. Yes. The Authority's decision must be based upon the details of the ways in which competing calculations of CLEC impairment are performed. This means that the Authority and its Staff (and the other parties who are responsible for analyzing competing models) need to have full access to these details.

The way in which the BACE model has been made available in this proceeding makes this sort of review of BACE impossible. BACE defines demand in terms of individual wire centers; it defines markets in terms of Component Economic Areas ("CEAs") – which do not necessarily coincide with the wire center boundaries; and it builds the network based on one switch per LATA – although LATA boundaries do not necessarily coincide with CEA boundaries. It segments residential and business customer classes into "spend" categories (five for residential, three for business) on a wire center-by-wire center basis (using a mechanism that, statewide, forces an equal number of customers of each class into each spend category) – a process that clearly puts similarly situated customers from different wire centers into different spend categories that are treated differently by BACE, in terms of price trends and penetration. In its various optimization routines, BACE makes choices between alternative entry strategies (EEL versus collocation, for example) and allows the user to eliminate "un-profitable" services or markets – even though the network that is constructed in

1 such a way (based on output from the Q-Process and R-Process that is not
2 available for external review) that all of these services use the same set of
3 facilities.

4 Understanding and subjecting to critical scrutiny the way these myriad approaches
5 and assumptions, and a host of others I have not mentioned here, interact with
6 each other is the essence of the task that the Authority, its Staff and the parties
7 other than BellSouth must perform in this proceeding. By consciously designing
8 the BACE model to keep key portions of its functionality from being reviewed,
9 BellSouth has – at a minimum – made this task extremely difficult, if not
10 impossible (particularly given the fast track procedural schedule set forth by the
11 FCC and the state regulatory commissions). In addition, without the material I
12 have outlined above, the Authority and its Staff are prevented from comparing
13 certain inputs and calculations with those made by other parties, making it
14 impossible to effectively evaluate alternative evidence.

15 The failure to make available the intermediate and output tables created in BACE
16 – and used in subsequent stages of the BACE calculations – is particularly
17 inexcusable given AT&T's understanding (based on information received in
18 Florida) that BACE employs a central database file that contains many of the
19 intermediate and final results tables.³

³ See Public Version of Rebuttal Testimony of Kent W. Dickerson before the Florida Public Service Commission, Docket No. 030851-TP, at page 7-8.

1 In short, by failing to produce a model that can be subjected to critical review by
2 AT&T, the Authority or its Staff, BellSouth has failed to meet its burden of
3 demonstrating that CLECs are not impaired in any market in Tennessee.⁴

4 **Q. DID BELL SOUTH PROVIDE A USEABLE FORM OF THE SOURCE**
5 **CODE TO THE BACE MODEL?**

6 A. No, as discussed above, BellSouth provided a 100-page Exhibit (in pdf format) of
7 the source code that purports to allow the user to review all of the programmatic
8 code and calculations underlying the BACE model. It is impossible to fully
9 understand, audit and test the validity of the thousands of calculations that take
10 place within this complex code without having a version of the code that is
11 compilable and that permits the user to run portions of the code and review the
12 results. Thus, the user (and this Authority) is deprived of complete access to the
13 model and cannot meaningfully validate all calculations.

14
15 **Q. DID BELL SOUTH PROVIDE A COMPLETE VERSION OF THE**
16 **SOURCE CODE FOR THE BACE MODEL?**

17 A. No, as discussed above, BellSouth provided a pdf version of the source code that
18 it asserts constitutes the BACE model. While I believe this document is
19 inadequate to permit a full review, audit and complete testing of the model, it is
20 also incomplete. The source code provided by Mr. Stegeman contains numerous
21 references to subroutines and other programmatic processes, such as class
22 modules, that have not been provided. By failing to provide a subroutine or class

⁴ It is my understanding that Sprint requested an uncompiled version of the BACE source code in electronic format in the Florida proceeding. If the code is produced as Sprint requested, we intend to use it in this proceeding, as permitted.

1 module -- which contains source code that completes other programmatic
2 processes -- the user has no ability to fully observe or to replicate the calculations
3 inherent in the BACE model. The following is a list of functions, subroutines and
4 class modules that are referenced or called by the primary BACE source code, but
5 which have not been provided by BellSouth: (1) ResolveStar, (2) RoundUp, (3)
6 ExecuteSQL, (4) LogIt, (5) CompactDB, (6) CleanUp, (7) IsBetween, (8)
7 clsFACE, (9) clsZones and (10) clsStarFields.

8 Similarly, the BACE model code provided by BellSouth does not provide the
9 complete set of information required for a user to define and understand all of the
10 programmatic steps. In certain instances, BACE includes variables (such as
11 moConnection) and enumerations (such as ssStepStatus) that have not been
12 clearly defined. By failing to provide a completely working version of the source
13 code that was compiled into the BACE model, these cryptic and undefined codes
14 force the user to play a guessing game by testing all permutations and
15 combinations of possible assumptions in an effort to figure out what the model
16 assumes. Thus, the BACE model fails to meet the basic burden of providing a
17 fully open and verifiable model.

18 **Q. DID BELLSOUTH PROVIDE A COMPLETE VERSION OF THE**
19 **PROGRAMATIC CODE USED TO DEVELOP THE INPUTS INTO THE**
20 **BASE MODEL?**

1 A. No, Dr. Aron confirmed in a recent deposition in the Florida Impairment
2 proceeding that she preprocessed BellSouth and other data to develop the key
3 input tables associated with market prices and demand. The supporting
4 workpapers were not provided for these preprocessing routines.

5 21 Q. Now, my understanding, from Mr.
6 22 Stegeman, is that certain preprocessing resulted
7 23 in the tables, baseline product price, baseline
8 24 demand, and exchange demographics. Is that
9 25 accurate?

10 0109
11 1 A. Yes.

12 Dr. Aron Deposition, Docket No. 030851-TP, February 18, 2004, page 108-109.

13 **Q. DOES THE BACE MODEL COMPLY WITH THE FCC'S**
14 **REQUIREMENT FOR AN OPEN AND TRANSPARENT MODEL?**

15 A. No. In the FCC's Universal Service Fund proceeding, the FCC developed a set of
16 criteria for economic cost studies.⁵ Those criteria included the following
17 requirements or principles with which a cost model needed to comply to be
18 accepted for the purposes of developing Universal Service. As the eighth and
19 ninth criteria clearly articulate, all aspects of the model must be verifiable.

20
21 (8) The cost study or model and all underlying data, formulae, computations, and
22 software associated with the model must be available to all interested parties for
23 review and comment. All underlying data should be verifiable, engineering
24 assumptions reasonable, and outputs plausible.

25
26 (9) The cost study or model must include the capability to examine and modify
27 the critical assumptions and engineering principles. These assumptions and
28 principles include, but are not limited to, the cost of capital, depreciation rates, fill

⁵ FCC Public Notice: Criteria for State-Conducted Economic Cost Studies, CC Docket 96-45, DA Number: 97-1501, July 29, 1997.

1 factors, input costs, overhead adjustments, retail costs, structure sharing
2 percentages, fiber-copper cross-over points, and terrain factors.
3

4 In addition, in the Tenth Report and Order, the FCC reaffirmed these
5 requirements by stating the "model and all underlying data, formulae,
6 computations, and software associated with the model must be available to all
7 interested parties for review and comment."⁶

8 The BACE model – as BellSouth has produced in this proceeding – clearly fails to
9 meet the FCC's cost model criteria, because (1) it does not provide access to all
10 input, intermediate and out files; (2) it fails to provide all calculations
11 (missing/unusable and untestable source code); and (3) it prevents the user from
12 modifying all critical assumptions.

13 **Q. HAS BACE BEEN SUBJECTED TO THE SORT OF REVIEW YOU HAVE**
14 **DISCUSSED IN ANY OTHER JURISDICTION?**

15 A. Not to my knowledge. It is my understanding that the model was produced for
16 the first time in early December, 2003 in the Florida proceeding discussed above,
17 and that it was produced initially in the same way that it has been produced here.
18 Thus, the BACE model is in its early stages of development, and has not been
19 made fully available to any party for "peer review." In addition to the substantive
20 problems that I have already alluded to, models at BACE's stage of development
21 often contain significant coding or calculation errors.⁷ Without subjecting the

⁶ Tenth Report and Order, FCC, CC Docket 96-45, paragraph 38.

⁷ To this point, Mr. Stegeman filed Supplemental Direct testimony in the Florida proceeding (Docket No. 030851-TP) in order to place into evidence "the most recent iteration of the BACE (BellSouth Analysis of Competitive Entry) model" and to "[explain] the correction to the BACE model."

1 entire BACE process to critical review, discovery of these sorts of errors is either
2 delayed (often to a subsequent proceeding in another state) or rendered
3 impossible. Furthermore, this asymmetry of information about the BACE model
4 creates an environment in which error correction could tend to go only in the
5 direction of the model proponent.

6 **III. SEVERAL OF THE INPUTS EMPLOYED BY BELL SOUTH SERVE**
7 **TO SIGNIFICANTLY OVERSTATE THE POTENTIAL**
8 **PROFITABILITY OF CLEC ENTRY INTO RELEVANT MARKETS**
9 **IN TENNESSEE.**

10 **Q. DESPITE THE IMPEDIMENTS DESCRIBED ABOVE IN SECTION II,**
11 **HAVE YOU BEEN ABLE TO EVALUATE PORTIONS OF THE BACE**
12 **MODEL?**

13 A. Yes, I have been able to undertake a limited evaluation of certain aspects of the
14 BACE model. Our work in this area continues as of the date this testimony is
15 filed.

16 **Q. WHAT AREAS OF THE BACE CALCULATIONS HAVE YOU BEEN**
17 **ABLE TO ANALYZE?**

18 A. My evaluation of BACE has focused in two areas. In this section of my
19 testimony, I set forth my criticisms of the inputs used in the model – most of
20 which have been provided by Dr. Aron – in four specific areas. In Section IV,
21 below, I discuss a series of counterintuitive results generated by modifying other
22 inputs to the BACE model. The lack of full access to the BACE model code and
23 underlying tables has impeded the completion of these analyses. Our review is
24 ongoing, and completion of these analyses is contingent upon fully accessing the
25 model and code.

1 **Q. CAN YOU BRIEFLY DESCRIBE THE CONCERN YOU HAVE WITH**
2 **VARIOUS MODEL INPUTS?**

3 A. Yes. I have overarching concerns with four sets of inputs, *i.e.*, (1) the way in
4 which BellSouth has defined markets, (2) the ultimate CLEC market share that is
5 assumed by BellSouth in the BACE run submitted in this proceeding, (3) the
6 rapidity with which the BACE model assumes that this ultimate penetration will
7 be achieved, and (4) the trends in retail prices assumed by BellSouth in this
8 proceeding.⁸

9 **A. Market Definition**
10

11 **Q. WHAT ARE YOUR CONCERNS WITH THE WAY IN WHICH**
12 **BELLSOUTH HAS DEFINED THE RELEVANT MARKET FOR ITS**
13 **IMPAIRMENT STUDIES?**

14 A. BellSouth defines the "relevant geographic area," for the purposes of it
15 impairment analyses, as a CEA (Component Economic Area) subdivided by UNE
16 zones. BellSouth witness Pleatsikas argues that UNE zones "take into account the
17 'variations in factors affecting competitors' ability to target and serve specific
18 markets profitably,' because loop rates are determined by UNE zone; with higher
19 UNE loop rates in areas that are more costly to serve." Pleatsikas Direct at 5. Dr.
20 Pleatsikas argues that UNE zones should be further subdivided by CEA, although
21 he offers no rationale for choosing CEAs other than (1) it results in markets that
22 are more granular than relying on UNE zones, alone, and (2) CEAs cover an

⁸ I also believe other input assumptions are flawed but have not had sufficient time and access to the model to fully develop the analysis. Some other areas of flawed inputs likely include flawed price and market share assumptions for individual quintiles identified by BellSouth.

1 entire state. These rationales fall short of the requirements of the TRO and in my
2 opinion lead to market definitions that are unsupported.

3
4 The TRO provides the following guidance to state commissions:

5 State commissions have discretion to determine the contours of
6 each market, but they may not define the market as encompassing
7 the entire state. Rather, state commissions must define each
8 market on a granular level, and in doing so they must take into
9 consideration the locations of customers actually being served (if
10 any) by competitors, the variation in factors affecting competitors'
11 ability to serve each group of customers, and competitors' ability
12 to target and serve specific markets economically and efficiently
13 using currently available technologies. While a more granular
14 analysis is generally preferable, states should not define the market
15 so narrowly that a competitor serving that market alone would not
16 be able to take advantage of available scale and scope economies
17 from serving a wider market. State commission should consider
18 how competitors' ability to use self-provisioned switches or
19 switches provided by a third-party wholesaler to serve various
20 groups of customers varies geographically and should attempt to
21 distinguish among markets where different findings of impairment
22 are likely.

23
24 While use of UNE loop rate zones obviously gives some effect to variations in
25 factors affecting a CLEC's ability to serve a group of customers and its ability to
26 target, use of UNE rate zones gives no effect to the TRO's requirement that the
27 market definition take into account "how competitors' ability to use self-
28 provisioned switches or switches provided by a third-party wholesaler to serve
29 various groups of customers varies geographically." Subdividing UNE rate zones
30 by CEAs does nothing to address this requirement either.

31 BellSouth's impairment model assumes that a CLEC will install a switch in each
32 LATA. As a result, the individual LATA is the geographic market definition that,
33 consistent with BellSouth's impairment assumptions, would most accurately

1 reflect the cost of self-provisioning switches for various groups of customers.
2 Furthermore, because the customers that can contribute to the economies of scope
3 and scale experienced by the CLEC for any given switch in a LATA are a
4 function of the customers in that LATA, use of LATAs as the basic geographic
5 market also ensures that “states [do] not define the market so narrowly that a
6 competitor serving that market alone would not be able to take advantage of
7 available scale and scope economies from serving a wider market.” TRO at ¶
8 495.

9 Thus, the LATA is clearly a relevant geographic market for assessing impairment,
10 and use of CEAs results in a market that is too broad, artificially increasing the
11 likelihood that the TRO’s triggers are met. AT&T has no objection to further
12 subdividing LATAs by UNE zone – to give effect to the other factors cited by Dr.
13 Pleatsikas – although it does not believe that further subdivision is necessary.

14 Market definition also should take into account the way in which services are
15 offered to customers in Tennessee. To the extent different prices or bundles are
16 offered to residential, small business and enterprise business customers,
17 respectively, it would also be reasonable to separately analyze these customer
18 groups within each LATA.

19 **B. CLEC Market Share Assumptions Used in BACE are Unrealistic**
20

1 **Q. WHAT IS YOUR REACTION TO DR. ARON'S ASSUMPTIONS ABOUT**
2 **THE MARKET SHARE THAT AN EFFICIENT CLEC WILL**
3 **ULTIMATELY ACQUIRE USING UNE-L ENTRY?**

4 A. BellSouth assumes that an efficient CLEC will ultimately achieve an overall 15
5 percent market share for all services and products offered across in all markets it
6 assumes would be served in Tennessee, and that it will achieve the majority of
7 this penetration in just a few years. Furthermore, although BellSouth assumes an
8 overall market share of 15 percent for each of the residential, small business, and
9 enterprise markets, it assumes different ultimate market shares for different spend
10 categories within these classes of customers – with, for example, market shares in
11 excess of 15 percent for the three highest monthly revenue-per-line residential
12 spend categories, and market shares well below 15 percent in the two lowest
13 monthly revenue-per-line spend residential spend categories.

14 Compounding this overstatement, BellSouth assumes that an efficient CLEC will
15 acquire its market share most quickly in the early years of entry. For residential
16 customers, for example, BellSouth assumes a penetration factor of 0.5, which in
17 BACE manifests itself as an assumption that the CLEC will attain 50% of the
18 remaining portion of the ultimate market share each year.⁹ Thus, BellSouth
19 assumes that the overall CLEC market share of residential customers will begin at
20 zero, will increase to 7.5% by the end of year one [$7.5\% = 15\% * 50\%$], and that
21 the CLEC will acquire 50% of the untapped market share, or $3.75\% = [(15\% -$
22 $7.5\%) * 50\%]$, by the end of year two (for a total market share of 11.25%). By

⁹ Aron Direct Testimony, page. 24.

1 the end of year 3, using this process, the CLEC is assumed to have acquired a
2 residential market share of 13.13 percent. This customer penetration pattern is
3 displayed in Table JCK-1.

4

Table JCK - 1

BellSouth Residential Customer Market Share Assumption Used in BACE

	Yr 0	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Ultimate Share
Market Share	0%	7.5%	11.25%	13.13%	14.06%	14.53%	15%
Percentage Change		N/A	50%	17%	7%	3%	3%

The assumption that an efficient CLEC would achieve an ultimate market share of 15 percent is overly optimistic when compared to data on the total lines served by non-ILECs in Tennessee. (Dr. Aron Direct Testimony, page 25). First, overall market share for *all* CLECs in Tennessee was approximately 10 percent of switched access lines as of June 30, 2003.¹⁰ However, this says nothing about a reasonable market share assumption for an *individual* CLEC, which is the relevant inquiry.

Additionally, it should be noted that while overall CLEC market share in Tennessee is approximately 10 percent, the segment of the CLEC market share that the impairment and business case analyses is most concerned about is the mass market (or residential and small business segment), and it is clear that CLECs operating in Tennessee have been less successful in acquiring market share in these markets. Only 36 percent of CLEC switched access lines in Tennessee serve residential and small business customers, while these customers

¹⁰ FCC Report Local Telephone Competition, Status as of June 30, 2003. Table 6.

comprise 84 percent of ILEC switched access lines in Tennessee.¹¹ This means that overall CLEC market share of the mass market is on the order of only 4.5 percent as of June 30, 2003. The table below shows the trend from 2001 to 2003. This highlights the unrealistic nature of BellSouth's assumption that an individual CLEC could acquire a market share of 15 percent.

Table JCK – 2

MARKET SHARE OF LINES PROVIDED TO RESIDENTIAL AND SMALL BUSINESS CUSTOMERS IN TENNESSEE

<u>Year</u>	<u>Market Share</u> ¹	<u>% Lines Provided to Res & Sml Bus</u>	<u>% Res and Sml Bus Market Share</u>
2001	8%	15%	² 1.5%
2002	9%	26%	³ 3.0%
2003	10%	36%	⁴ 4.6%

¹ FCC Report Local Telephone Competition, Status as of June 30, 2003. Table 7

² FCC Report Local Telephone Competition, Status as of December 31, 2001. Table 9

³ FCC Report Local Telephone Competition, Status as of June 30, 2002. Table 9

⁴ FCC Report Local Telephone Competition, Status as of June 30, 2003. Table 11

Furthermore, these overall statewide market shares are comprised of much smaller market shares that have been acquired by the numerous *individual* CLECs that operate in Tennessee. As the following table demonstrates, the total number of CLECs operating in Tennessee has increased from one in the first quarter 1996

¹¹ FCC Report Local Telephone Competition, Status as of June 30, 2003, Table 11.

to 10 competitors two years later.¹² As of June 30, 2003, 11 CLECs were operating in Tennessee.¹³ Thus, on average each CLEC operating in Tennessee has acquired less than one percent of the switched access lines in the state. This is further evidence that the 15 percent overall market share that BACE assumes would be acquired by an individual CLEC is untenable.

Table JCK – 3

CLEC Market Share (Switched Access Lines) and Number of CLECs in Tennessee

<u>Year</u>	<u>Market Share</u>		<u>Number of CLECs</u>		<u>Avg % Market Share per CLEC</u>
1996			1	³	
1997	1%	¹	5	³	0.1%
1998	2%	¹	10	³	0.2%
1999	4%	²	10	³	0.4%
2000	6%	²	N/A		N/A
2001	8%	²	9	⁴	0.9%
2002	9%	²	8	⁵	1.1%
2003	10%	²	11	⁶	0.9%

¹ FCC Report Local Telephone Competition, Status as of August, 1999. Table 3-1 and 3-2

Note: 1997 and 1998 data includes UNE and Resale lines.

² FCC Report Local Telephone Competition, Status as of June 30, 2003. Table 7

³ Number of CLECs as of first quarter each year. FCC Report Local Telephone Competition, Status as of August, 1999. Table 4-1.

⁴ FCC Report Local Telephone Competition, Status as of December 31, 2001. Table 10

⁵ FCC Report Local Telephone Competition, Status as of June 30, 2002. Table 10

⁶ FCC Report Local Telephone Competition, Status as of June 30, 2003. Table 12

¹² See FCC Local Competition Report, August 31, 1999, Table 4.2.

¹³ See FCC Report Local Telephone Competition, Status as of June 30, 2003, Table 12.

1 Based on these data on CLEC market shares in Tennessee, an ultimate penetration
2 rate for an efficient CLEC of 4 to 5 percent, over the next 10 years, is a more
3 reasonable assumption.

4 To illustrate the effect that substituting a more reasonable estimate of CLEC
5 market share would have on the BACE results, I have re-run the BACE model
6 submitted by BellSouth with a single change, *i.e.*, substituting a 5 percent ultimate
7 market share for the 15 percent advocated by Dr. Aron. Exhibit JCK-2
8 demonstrates that this change, alone, reduces the overall NPV from \$57.6 million
9 to negative \$3.1 million.

10 As noted earlier, the effect of the overly optimistic market share assumption
11 employed by BellSouth is exacerbated by the rapidity with which BellSouth
12 assumes that the efficient CLEC will acquire this market share. While Dr. Aron
13 cites historical statistics about the rapidity with which CLECs have acquired their
14 market shares in certain circumstances, those rapid gains were largely attributable
15 to the existence of UNE-P. In an environment in which CLECs would have to
16 build new switches where they have none today, establish collocation in
17 BellSouth wire centers where none exists today (and/or expand the facilities in
18 existing collocation areas to provide for the DLC equipment necessary to permit
19 the CLEC to backhaul local traffic to its switches), arrange for long-haul transport
20 to effectuate the backhaul, and implement the hot cut process that would be
21 required to move a customer from the ILEC to the CLEC, it is unlikely that
22 CLECs would acquire market share as rapidly using UNE-L as they have using

1 UNE-P.¹⁴ Even *with* the availability of UNE-P, the Authority's own report has
2 found that the "development of local telephone competition has been slower than
3 many lawmakers had anticipated."¹⁵ This assumption also has a significant effect
4 on conclusions about impairment. Modifying the BACE model submitted by
5 BellSouth for this proceeding *only* to reflect a straight-line acquisition of market
6 share, instead of the front-loaded penetration rate assumed by BellSouth, reduces
7 overall NPV from \$57.6 million to \$47.6 million.

8 Assumptions about the ultimate market share achievable by an efficient CLEC,
9 and the rapidity with which it would acquire that market share, are critical to the
10 business case analysis. They affect the overall customer demand that a CLEC
11 will serve in each wire center, the revenues for the services and products that each
12 of these customers will obtain from the CLEC, and the speed with which the
13 CLEC will begin to receive those revenues. Because certain components of the
14 network that BACE assumes will be constructed by the CLEC must be in place
15 upfront – before the first customer can be served – the cost of putting those
16 components in place has the same present value, regardless of the pattern of
17 CLEC demand. By overstating the ultimate number of customers the CLEC is
18 likely to serve, and by "front-loading" the penetration rates for the individual
19 products and services these customers might obtain from the CLEC, however,

¹⁴ The TRO explicitly acknowledged the potential delay that would likely be associated with UNE-L based entry into the local exchange market. For example, in opining on the appropriate assumptions for a CLEC cost of capital, the FCC noted that state commissions should "include the capital carrying costs for the period it takes a competitor to set up operations and achieve profitability." TRO. n.1596.

¹⁵ The Status of Telecommunications in Tennessee, 1999-2000, prepared by the Tennessee Regulatory Authority, May 2001, p.10.

1 BACE overstates the present value of the revenues that the CLEC can expect to
2 receive over the 10-year study period. In addition, because the provision of local
3 telecommunications services exhibits significant economies of scope and scale,
4 overstating the number of customers that would be served by a CLEC understates
5 the cost per line that the CLEC would incur to serve its customers.

6 **C. BellSouth's Assumption That Prices Will Remain at Today's Levels is**
7 **Not Realistic**

8 **Q. CAN YOU DESCRIBE THE CONCERN YOU HAVE WITH**
9 **BELLSOUTH'S PRICE TREND ASSUMPTIONS?**

10 A. Yes. I find BellSouth's assumption that retail prices will not decline over the 10-
11 year study period untenable. In several places in the TRO, the FCC expresses its
12 view that "...telecommunications prices are not static, and will change
13 over time in response to increased competition." *See, for example, TRO*
14 *¶ 157.* There are three related reasons why one would expect future declines in
15 prices over time if CLEC competition were to take hold.

16 First, much of BellSouth's network – particularly the network required to serve
17 mass market customers in each individual wire center – already exists. As a
18 result, these costs are sunk and, presumably, have already been recovered to some
19 (perhaps considerable) extent by retail rates that have been in existence for years.
20 In the short term, therefore, the incremental costs BellSouth will incur to provide
21 mass market service – or the incremental costs it will save if it loses a mass
22 market customer – are extremely low. In contrast, the costs that an efficient
23 CLEC will incur to provide service to a significant number of mass market

1 customers in individual wire centers using UNE-L are not sunk.¹⁶ This gives
2 incumbents, such as BellSouth, the ability to lower prices to the level of the
3 incremental costs that they will incur in the short to medium term in order to
4 make CLEC entry into these markets uneconomic. This is particularly likely
5 because the existing capacity on the ILEC networks is generally sufficient to
6 provide service to *all* mass market demand.¹⁷ As the FCC found in the TRO,
7 “[s]unk costs, particularly when combined with scale economies, can
8 pose a formidable barrier to entry. ... Potential new entrants may ...
9 fear that an incumbent LEC that has incurred substantial sunk costs
10 will drop prices to protect its investment in the face of new entry. In
11 addition, sunk costs can give significant first-mover advantages to the
12 incumbent LEC, which has incurred these costs over many years and
13 has already had the opportunity to recoup many of these costs through
14 its rates.” TRO ¶ 7.

15 Second, telecommunications is a declining cost industry, and costs can be
16 expected to continue to decline in the foreseeable future. These downward trends

¹⁶ For example, the cost of an existing customer loop is a sunk cost to the ILEC, but the monthly payment that the CLEC would make to use this loop under UNE-L is a direct cost of serving the customer.

¹⁷ Reply Declaration of John Klick, December 16, 2003, FCC WC Docket No. 03-173, *Review of the Commission’s Rules Regarding the Pricing of Unbundled Network Elements and the Resale of Service by Incumbent Local Exchange Carriers*. This, of course, calls into question the wisdom of forcing *anyone*, including CLECS, to build additional capacity to serve mass market customers in the short run. By using UNE-P, CLECs can enter the market to begin to develop a critical mass of customers without construction of un-needed capacity (which also, by the way, preserves the ILECs’ existing economies of scale). Only if demand eventually exceeds the capacity of existing ILEC facilities to meet that demand does it become economically rational, from society’s point of view, to encourage the construction of additional capacity.

1 in cost are occurring both because the equipment prices of most of the key
2 components of network investment are declining, and because the ILECs
3 themselves continue to aggressively pursue cost cutting. Numerous state
4 commissions, the FCC, the courts and the ILECs themselves have noted these
5 trends, and opined that they are likely to continue. As costs fall in a competitive
6 market, all other things being equal, prices fall as well.¹⁸

7 Third, to the extent CLEC competition does take hold – which is the fundamental
8 presumption underlying the business case analysis reflected in BACE – ILECs
9 and CLECs alike will have strong incentives to respond to competition. This will
10 force them to pass through any cost savings to individual customers – in the form
11 of lower prices (and/or more aggressive customer acquisition promotions) – just
12 to maintain market share.

13 This is not mere conjecture. The brief history of UNE-P competition has
14 demonstrated that CLEC entry into a market has resulted in lower prices and
15 expanded service offerings by ILECs. For example, when the New York Public
16 Service Commission eliminated impediments to AT&T's ability to employ UNE-
17 P in that state in early 2002, AT&T began to offer a promotion that provided
18 unlimited local calling throughout New York at monthly prices that ranged from
19 \$19.95 in the New York city metropolitan area to \$22.95 in upstate New York.¹⁹

¹⁸ Deposition of Dr. Debra J. Aron, February 19, 2004, page 0045, lines 18-20.

¹⁹ AT&T's promotion included 4500 minutes of local calling (with calls beyond 4500 minutes priced at 2 cents per minute), with *unlimited* local calling until April 30, 2003 for those customers who enrolled before April 30, 2002.

1 Although Verizon initially *raised* rates, AT&T assured both its existing customers
2 and new customers that signed on before April 30, 2002 that its monthly rate
3 under this promotion was guaranteed through April 30, 2003. In response, in the
4 spring of 2002, Verizon offered an unlimited local calling plan, with a choice of
5 three features, priced at \$33.95 in the metropolitan New York city area, and at
6 \$39.80 to \$47.50 upstate.²⁰

7 Other examples of competitive responses from ILECs to CLEC market entry
8 include:

- 9 • After AT&T entered the local market in Michigan, SBC reduced rates by
10 approximately 30 percent to meet competition.²¹
- 11 • In Illinois, SBC reduced rates and simplified its billing practices to meet
12 competition from AT&T and other CLECs.²²

²⁰ At the time, AT&T's service could be obtained without features, which was attractive to some customers, or they could add features a la carte or in a 3-feature bundle of call waiting, three-way calling and caller ID at a price of \$12.50 per month. Verizon ultimately offered an unlimited calling plan that could be obtained without features, thereby matching AT&T's offering.

²¹ Grand Rapids Press (editorial), "Dialing for Deals: Michigan consumers will benefit from competition in telephone industry." June 18, 2002 ("Pushed by a growing number of competitors, SBC Ameritech, the state's dominant local phone provider, cut the price of its basic local-call plan by one-third and lifted the limitation on local and toll calls in other plans"); Marsha Stopa, "SBC Ameritech to cut rates, offer unlimited local telephone calls," The Oakland Press, June 12, 2002, http://www.zwire.com/site/news.cfm?newsid=4414734&BRD=982&PAG=461&dept_id=468148&rft=6.

²² See *Ex Parte* letter from Ruth Milkman (WorldCom) to Marlene H. Dortch, dated November 7, 2002, CC Docket Nos. 01-338, 96-98, 98-147, attaching *Chicago Tribune* article, "SBC Ameritech Responds to Local Phone Service Competition With Price Cuts," November 7, 2002 (noting that in reaction to "heated local calling competition from AT&T, MCI and others," SBC announced "that it is cutting rates by putting a cap on the monthly price for unlimited local calling").

1 • In California, MCI and AT&T offered customers unlimited local calling
2 within ZUM 3 (the band 12 to 16 miles from home), and SBC responded
3 with MetroPlanSM, which offered unlimited ZUM 3 calling in seven
4 metropolitan areas.²³

5 • In Indiana, “[c]iting the need to keep pace within an increasingly
6 competitive marketplace, SBC Ameritech today announced new service
7 packages for its Indiana residential service customers . . . [which] offer up
8 to a 20 percent savings and include the first offering of unlimited local toll
9 calling in Indiana in the company’s history.”²⁴

10 • One week after AT&T entered the local market in California, offering a
11 package that included unlimited local and Zone 3 calling, one line, and
12 three features for \$19.95 per month, SBC responded by introducing
13 various promotions, including “Winback Value Solution 2002,” which
14 offered a flat rate line and three features for \$21.95. SBC’s promotion
15 also included a \$2 credit on the Value Plan offer when the customer
16 returned to SBC from another local competitor.²⁵

²³ See SBC’s website: http://www02.sbc.com/Products_Services/Residential/1,,0--1--0,00.html.

²⁴ See SBC News Release, “SBC Ameritech Responds to Increasing Local Competition with Discounted Phone Package and Service Achievements,” dated August 12, 2002. http://www.sbc.com/press_room/.

²⁵ See, e.g., San Francisco Chronicle, Todd Wallace, “Few rivals for Pac Bell; Local competition limited,” September 21, 2002 (“AT&T said it has grabbed tens of thousands of customers since it started offering a \$20 local plan service package last month, that was initially 20 percent less than Pac Bell’s competing package, but Pac Bell has since matched the price”).

1 • “In June 1999, Z-Tel began marketing a feature rich, flat rated local
2 service with a Z-Tel designed, broad calling area bundled with long
3 distance service for just under \$50.00,” and that “in response to Z-Tel’s
4 offers, Verizon deployed ‘Premium Local Package,’ which offers
5 unlimited service within [a] Home Region, unlimited local directory
6 assistance, plus[the] choice of four or more vertical features for about
7 \$50.00.”²⁶

8 Academic studies also confirm that competition from CLECs would be likely to
9 spawn reaction from ILECs in the form of lower prices. For example, a study
10 undertaken in May of last year concluded that “[a]lthough economically feasible
11 UNE-based competition for local telephone service has only been available for
12 less than a year in California,” competitive entry has resulted in “savings to
13 residential telephone subscribers in California for local service alone [of] at least
14 \$189 million on an annual basis,” and that consumers have benefited from
15 “effective expansion of local calling areas . . . and competitive responses from
16 incumbents.”²⁷ Similarly, in the fall of 2003, the American Enterprise Institute

²⁶ Comments of Z-Tel, Declaration of Robert A. Curtis, CC Docket Nos. 01-338, 96-98, 98-147, April 5, 2002, ¶ 15 (footnote omitted).

²⁷ Yale M. Braunstein, “The role of UNE-P In Vertically Integrated Telephone Networks: Ensuring Healthy and Competitive Local, Long-Distance and DSL Markets,” May 2003 at 7.
<http://www.sims.berkeley.edu/~bigyale/UNE/>.

1 found that competition from CLECs would result in annual savings in the billions
2 of dollars, in part from price reductions by the ILECs.²⁸

3 **Q. WHAT IS THE IMPORTANCE OF THIS LITANY OF COMPETITIVE**
4 **PRICING RESPONSES BY ILECS TO THIS PROCEEDING?**

5 A. Dr. Aron describes the business case analysis conducted by BACE as an
6 “investment decision.” Any CLEC considering entry into the local services
7 market in Tennessee, or any other state for that matter, could not responsibly
8 evaluate that decision without assuming that retail prices would decline almost
9 immediately as ILECs sought to meet competition, particularly competition for
10 the ILECs’ most profitable customers. In Florida, Dr. Aron defended her
11 assumption that existing retail prices would continue throughout the 10-year
12 analysis by arguing that the use of current retail prices in BACE is required by the
13 language of the TRO.²⁹ This is neither entirely accurate nor logical. The TRO
14 clearly contemplates – in the context of its discussion of the business case
15 analysis – that prices might decline over time in response to competition, and that
16 it would be appropriate to take these anticipated price declines into account.
17 “State commissions should consider how competitors’ ability to serve the market
18 is facilitated in those areas where rates are ‘above cost,’ and is impeded where
19 rates are ‘below cost,’ while recognizing that rates are likely to change over time

²⁸ Kevin A. Hassett, Zoya Ivanova and Laurence J. Kotlikoff, “Increased Investment, Lower Prices – the Fruits of Past and Future Telecom Competition” (September 2003).
<http://econ.bu.edu/kotlikoff/HIK%209-16-03.pdf>.

²⁹ As noted earlier, the retail prices input into the BACE model may be as much as a year out of date. If retail prices have declined after the BACE input data was gathered, then BACE would not even reflect current retail prices in the markets for which the business case analysis is being conducted.

1 in response to competition.” TRO ¶ 518. Although ¶ 1588 of the TRO suggests
2 that it is easier, analytically, to conduct the business case analysis by assuming
3 that existing retail prices will continue, if this has the effect of significantly
4 overstating CLEC revenues that could reasonably be anticipated as a result of
5 entry, failure to take such competitive responses into account would make a
6 mockery of the business case analysis and result in findings of no economic
7 impairment in markets where even an efficient CLEC could not hope to profitably
8 compete over the long run. In short, ignoring such price declines is simply
9 inconsistent with the analysis of entry barriers that the FCC, and BellSouth itself,
10 argues is properly includable in the context of the business case analysis.

11 **Q. HAVE YOU CONDUCTED ANY SENSITIVITY ANALYSES TO**
12 **DEMONSTRATE WHAT THE EFFECT WOULD BE OF ASSUMING**
13 **THAT PRICES DECLINE OVER TIME?**

14 **A.** Yes. I have conducted two sensitivity studies of this issue. First, I have assumed
15 that prices will decline by a modest 1 percent annually. This had the effect of
16 reducing total NPV from \$57.6 million to \$35.6 million, and causing two of
17 BellSouth’s six markets to shift from “not impaired” to “impaired.” This
18 sensitivity is shown in Exhibit JCK-4. Second, I have assumed that retail prices
19 would drop by 15 percent for year 1, and have held those prices constant from that
20 point forward. This had the effect of reducing total NPV from \$57.6 million to
21 \$1.3 million, and causing all markets to be “impaired.” This sensitivity is shown
22 in Exhibit JCK-5.

23 **Q. ARE THERE OTHER CONCERNS YOU HAVE ABOUT THE INPUTS TO**
24 **THE BACE MODEL, OR THE WAY THOSE INPUTS ARE EMPLOYED**
25 **IN BACE?**

1 A. Yes, I have identified several other areas of the model that appear to have
2 problems, although my lack of access to the code and underlying tables has
3 hindered the completion of these analyses. As a result, our review is ongoing and
4 contingent upon accessing the model and code to complete these types of
5 analyses. Once we are provided the necessary level of access to the model
6 algorithms and data assumptions to complete these analyses, we will supplement
7 this testimony.

8 **Filtering Negative Margin Assumption**

9 BellSouth's BACE model assumes that the CLECs will not serve geographic
10 areas that are not profitable.³⁰ For example, BellSouth removes certain wire
11 centers or geographic areas from the business case analysis results where
12 revenues do not exceed direct costs.

13 First, selectively eliminating customers in this way creates a significant potential
14 for introducing mathematical errors. Once groups of wire centers or geographic
15 areas are excluded from the business case analysis, the model needs to properly
16 recalculate and reallocate to the remaining customers costs that are fixed and

³⁰ For example, The BACE Methodology Manual describes the "FilterNegativeMarginMassMarketInMarkets optimization toggle" as allowing the user to determine if BACE will automatically remove Mass Market customers from Markets in which the Mass Market customers have a negative NPV. If this toggle is set to "Y", BACE examines the aggregate direct costs and revenues for Mass Market customers for the positive contribution-wire centers (if the FilterNegativeMarginCLLIs is set to Y, all wire centers otherwise) within each market to determine if those customers provide a positive contribution to the CLEC, *i.e.*, positive Mass Market NPV within each market, over the 10-year study time frame. If serving Mass Market customers within any Market has a negative NPV, BACE assumes that the CLEC would not offer services to these customers and thus the costs and revenues are removed from the overall analysis. If the FilterNegativeMarginMassMarketInMarkets toggle is set to N, all remaining Mass Market customers remain in the analysis.

1 attributable to the entire study market (for example, many of the costs associated
2 with the single switch placed in the LATA). This reallocation would presumably
3 cause other initially NPV positive markets included in the study to turn negative.

4 Other potential problems exist with respect to input assumptions related to
5 purchasing power and other operating costs that implicitly assume that the level of
6 CLEC entry will be sufficient to permit the CLEC to achieve the cost reducing
7 effects of scale economies to the same extent BellSouth does today. For example,
8 BellSouth's purchasing power inputs assume that the CLEC will receive the same
9 vendor price discounts that are achieved by BellSouth. However, this assumption
10 would be rendered less appropriate (1) if the CLEC captures only 5 percent of the
11 market, instead of the 15 percent assumed by BellSouth, or (2) if smaller
12 equipment quantities are purchased due to the exclusion of significant portions of
13 the market as a result of negative NPV filters that BACE employs.

14 Based on my current understanding of the BACE model, it apparently does not re-
15 optimize the business case results once certain customers, wire centers or
16 geographic areas are excluded from the analysis – particularly in the areas of
17 purchasing power and operating efficiencies. Due to the impediments described
18 above, we have not yet been able to fully evaluate these mathematical
19 calculations.

20 **Allocation of Fixed Costs To Other ILECs within a LATA**

21 At page 46 of his testimony, Mr. Stegeman states that "to accommodate the fact
22 that a CLEC, by installing certain equipment in a LATA, may be able to serve

1 customers via UNEs for carriers other than BellSouth within the same LATA,” he
2 has constructed BACE in a way that allocates “some of the fixed costs within a
3 LATA to both the BellSouth operating area and the other ILECs within the
4 LATA.”

5 The problem with this approach is that by allocating a certain proportion of fixed
6 costs to these customers, Mr. Stegeman implicitly *assumes* that doing so would be
7 NPV positive (or at least break even) for the CLEC, without conducting an
8 analysis that would suggest this is so. To the extent serving these customers
9 would be NPV negative -- which is more likely in markets where triggers do not
10 apply -- the full fixed costs of the network would have to be paid by the BellSouth
11 customers that are the subject of the BACE analysis. In short, this assumption
12 tends to understate CLEC impairment with respect to BellSouth’s customers.

13 **DSL Deployment**

14 BellSouth also assumes in its impairment analysis that the CLEC will be offering
15 DSL services in markets where it establishes collocation. But many of today’s
16 CLEC UNE-P customers do not obtain DSL services from the CLEC that
17 provides local service using UNE-P. Instead, they may receive DSL service from
18 an ILEC, a CLEC that specializes in DSL, or competing high-speed Internet
19 access cable provider. Where one observes in the “real world” that CLECs do not
20 attempt to provide DSL services themselves, but instead contract with a specialist
21 (such as Covad) to provide these services, this is strong market evidence of a
22 separate market, and one in which significant customer penetration is necessary in

1 order to achieve necessary economies of scope and scale. Without understanding
2 more precisely how the customers in each wire center were separated into the five
3 customer segments (one residential and four business), the extent of existing DSL
4 penetration for each of these customer classes in each wire center, the full costs
5 that the BACE model calculates for providing DSL service, and the extent to
6 which DSL service is provided in the “real world” by CLECs, DLECs or the
7 ILEC, the BACE assumptions about DSL penetration in each customer class
8 cannot be effectively evaluated.

9 **Terminal Value**

10 BellSouth’s BACE model erroneously assumes that the CLEC business, including
11 its assets, will be sold at the end of year 10 for a value equal to the net book value
12 of the remaining assets. In my view, the decision to include a terminal value in
13 the business case analysis is conceptually flawed. First, the TRO does not
14 contemplate an efficient CLEC selling its assets. Second, the inclusion of a
15 terminal value assumes that the venture is profitable from that point on, instead of
16 testing to determine if it is profitable. Instead of testing to determine whether
17 revenues will exceed the costs of serving the mass market at that point, BellSouth
18 assumes -- by virtue of including a sale value at the end of the 10 year period --
19 that the venture will be NPV positive.³¹

³¹ The BACE Methodology Manual at page 26 states that the IncludeTerminalValue toggle permits the user to have the model either “include or exclude a terminal value in the derivation of the model’s NPV. If the user sets IncludeTerminalValue = “Y” then BACE will include a multiple of the net book value of the assets in the NPV calculation. The model assumes the CLEC business, including its assets, is sold (as an

1 **IV. OTHER SENSITIVITY STUDIES ESTABLISH THAT THE BACE**
2 **MODEL IS UNSTABLE, AND GENERATES ANAMOLOUS**
3 **RESULTS**

4 **Q. IN ADDITION TO THE SENSITIVITIES ASSOCIATED WITH THE**
5 **INPUT CHANGES THAT YOU ADVOCATE, HAVE YOU CONDUCTED**
6 **OTHER SENSITIVITY STUDIES OF BACE?**

7 A. Yes. Undertaking sensitivity studies is an important initial step in seeking to
8 understand how a model works, or in seeking to ensure that a model one has
9 constructed is working properly. By implementing a series of independent
10 changes to the model inputs, one examines both the direction of changes in the
11 model outputs and the magnitude of those changes to determine whether these
12 conform to the analyst's expectations. Where possible, it is useful to examine
13 these sensitivity results at a granular level, because where results conform to
14 expectations in certain instances, but not in others, this too can be indicative of a
15 potential modeling deficiency. Sometimes, of course, these results indicate that
16 the analyst's expectations were flawed. In other circumstances, these
17 unanticipated results indicate that the model is flawed – often because the model
18 incorporates a simplifying assumption where a more sophisticated assumption is
19 required.

20 As I note above, sensitivity studies are only the first step in evaluating a model –
21 but they are an important first step. If unanticipated results are obtained, it is
22 critical that the causes of these results be fully understood before the model is

ongoing business) at the end of year 10 for a value equal to the net book value of the remaining assets. The net book value is discounted appropriately. If the user sets IncludeTerminalValue = "N" then BACE will not include any terminal value in the NPV. (Note: The multiple used is the value of the TerminalValueMultiplier)."

1 used for decision-making. This, in turn, requires access to the underlying input
2 data and to the source code in a form that permits the code to be changed, re-
3 compiled and re-run. The process of altering the inputs and/or computer code, re-
4 compiling the program and re-running the model is required (1) to help determine
5 where in the model anomalous results are being created, and (2) to ensure that
6 whatever changes are being proposed actually serve to eliminate the problem. As
7 I stated above, BellSouth has not provided either the full range of input data, or
8 the source code in the necessary format.

9 After running the BACE model with BellSouth's initial inputs – to establish that I
10 was able to reproduce Mr. Stegeman's results – I made several different
11 sensitivity runs. The results of these sensitivity runs suggest the need for the
12 Authority to be extremely skeptical about the BACE model results.

13 **Negative NPV For Residential Customers**

14 As a threshold matter, the impairment standard requires an analysis of geographic
15 and product market analyses to determine if an efficient CLEC could profitably
16 serve a particular market. As the following table demonstrates, the Tennessee
17 mass market (*i.e.*, residential plus small business customers) only achieves a
18 positive NPV in BellSouth's BACE run because its model produces a profitable
19 result for the small business customers ("SOHO") segment. In other words,
20 BellSouth's results indicate that CLECs cannot profitably serve residential
21 customers in Tennessee. This seems to imply that it is BellSouth's view that
22 CLECs will subsidize the Tennessee residential customer market with profits

earned by serving the Tennessee business market. In any event, BellSouth's impairment filing seems to suggest that an efficient CLEC could not economically serve the residential customer segment of the mass market.

Table JCK-4
Summary of Net Present Value by Customer and Product Segment
BellSouth Tennessee

Net Present Value						
	Eqn	All Products	Local	Long Distance	Internet	VoiceMail
Business						
SOHO	a	\$16,669,391	\$6,679,627	\$9,091,559	\$538,732	\$359,472
SME/A	b	\$12,451,085	<u>(\$6,429,859)</u>	\$12,303,033	\$5,706,587	\$871,323
SME/B	c	\$12,401,128	\$3,699,273	\$7,933,976	\$455,940	\$311,938
SME/C	d	\$17,028,869	\$7,636,592	\$8,835,969	\$556,307	\$0
Residential	e	<u>(\$998,093)</u>	<u>(\$52,384,000)</u>	<u>\$42,031,354</u>	<u>\$4,832,499</u>	<u>\$4,522,054</u>
Total	f = sum (a:e)	\$57,552,380	<u>(\$40,798,365)</u>	\$80,195,891	\$12,090,066	\$6,064,788
Mass Market NPV	g = a + e	\$15,671,298	<u>(\$45,704,372)</u>	\$51,122,913	\$5,371,230	\$4,881,526
Enterprise NPV	h = f - g	\$41,881,082	\$4,906,007	\$29,072,978	\$6,718,835	\$1,183,262

This result is significant because, from an economic perspective, the characteristics of the small business and residential markets vary significantly. To the extent competition is more intense for business customers, the long-term ability of these customer segments to achieve revenues in excess of costs could be

1 jeopardized. The TRO recognized that the impairment standard needs to focus on
2 customer markets, as well as geographic markets, for just these sorts of reasons:

3 We find a requesting carrier to be impaired when lack of access to an
4 incumbent LEC network element poses a barrier or barriers to entry,
5 including operational and economic barriers, that are likely to make
6 entry into a market uneconomic. That is, we ask whether all potential
7 revenues from entering a market exceed the costs of entry, taking into
8 consideration any countervailing advantages that a new entrant may
9 have. As explained in detail below, this granular analysis is informed
10 by consideration of the relevant barriers to entry, as well as a careful
11 examination of the evidence, especially marketplace evidence showing
12 whether entry has already occurred in particular geographic and
13 customer markets without reliance on the incumbent LECs' networks
14 but instead through self-provisioning or reliance on third-party
15 sources. TRO at 84.
16

17 Because of the dramatically different BACE results for residential and small
18 business customers, any conclusion that CLECs are not impaired without access
19 to UNE-P is called into serious question.

20 Furthermore, BellSouth's BACE results also suggests that the local product
21 market does not generate a positive NPV. Instead, the large positive NPV from
22 the long distance, Internet and voicemail product offerings offsets the negative
23 return in the local product market. The significant additional intermodal
24 competition in particularly the long distance and Internet markets is likely to
25 apply pressure on profitability in these product areas.

26 **Market Share**

27 As noted earlier, I conducted a sensitivity study to demonstrate how the BACE
28 results would change if ultimate market share were reduced from 15 percent to 5

percent (these results are set forth in Exhibit JCK-2). However, the results also indicate an element of instability in BellSouth's BACE model. In BellSouth's direct evidence, the net present value of the mass market is \$15.7 million, and the net present value of the enterprise market is \$41.9 million. All else being equal, one would expect that reducing the ultimate market share from 15 percent to 5 percent for residential, small business and enterprise customers should reduce the net present value of both the mass market and enterprise market. Yet the following table (and Exhibit JCK- 6) show that the Tennessee BACE model produces counter intuitive (or possibly nonsensical) results for the Enterprise market. While the net present value for the Mass Market decreases by approximately 53 percent when the ultimate market share is reduced from 15% to 5%, the net present value for Enterprise market decreases by 125 percent and produces an illogical negative net present value for the entire Enterprise market.

TABLE JCK-5

**COMPARISON OF BELL SOUTH AND AT&T NPV
FOR ULTIMATE MARKET SHARE CHANGED FROM 15 TO 5 PERCENT**

	<u>Mass Market NPV</u>	<u>Enterprise Market</u>	<u>Total NPV</u>
BellSouth Opening	\$15,671,298	\$41,881,082	\$57,552,380
<u>AT&T Rebuttal</u>	<u>\$7,358,347</u>	<u>(\$10,419,842)</u>	<u>(\$3,061,495)</u>
Percent Change	-53.0%	-124.9%	-105.3%

1 Further anomolous results abound. For example, the two most profitable markets-
2 -- Memphis TN-AR-MS-KY (Zone 1) and Nashville TN-KY (Zone 1) ---
3 according to BellSouth's BACE model, accounting for approximately 64% of the
4 total NPV of the entire CEA's, result in more than 7 million in red (though the
5 CLEC can apparently still profitably serve the mass market) as a result of the
6 more tempered market share assumption. In addition, reducing the market share
7 from 15 to 5 percent increased the net present value of the total market for two
8 CEA's. Specifically, as the market share was reduced to 5 percent, the NPVs for
9 Enterprise customers in Zone 2 Chattanooga TN-GA and Zone 2 Knoxville TN
10 increased by 18 percent (\$846,095 / \$712,109-1) and 31 percent and (\$1,410,180 /
11 \$1,074,121-1), respectively. It is unclear why adjusting the total ultimate market
12 share would produce such spurious results.

13 **Bundle Discount Input Assumption**

14 BellSouth's BACE model allows the user to adjust the products in a bundle that
15 are included in the bundle discount calculation. On page 31 of "The BellSouth
16 Analysis of Competitive Entry Model Methodology Manual", BellSouth states:

17 Fifth, bundle adjustment factors are determined for each product in
18 each market. By comparing the sum of *à la carte* prices (for a
19 given customer bundle in a given area) with the actual bundle price
20 for the same area and customer group, a retail price to bundle price
21 adjustment factor can be calculated. The user has an option to

1 exclude certain products in each bundle from this bundle discount
2 calculation through the IncludedInDiscount field.

3 The sixth task is to determine the implied or imputed discount off
4 of the á la carte product prices for each product (this is controlled
5 by the user as noted in the prior paragraph) within the bundles.
6 This is accomplished by multiplying bundle adjustment factors for
7 each bundle by the á la carte prices for each bundle component.
8 As noted, the user has the option of excluding product components
9 from this implied discounting process. Alternatively, the user could
10 assume only toll products should receive the discount by adjusting
11 the IncludeInDiscount field for only toll products within the bundle
12 definition.

13 This calculation of implied or imputed prices for products within a
14 bundle does not affect the NPV (vis-à-vis a calculation with bundle
15 prices only). However, this assumption allows for greater ease in
16 modeling (in the P, Q, and R processes) and reviewing model
17 results at various levels along the product, customer and location
18 hierarchies.

19 Adjusting the BACE model run submitted by BellSouth only by changing the
20 “IncludedInDiscount” field, however, produces anomalous results. Exhibit JCK-7
21 shows a net present value of zero for all mass markets if the
22 “IncludedInDiscount” field is set to “Yes” for all “Subscription” Product

1 Elements, which is not the same result reflected in the BACE model run filed by
2 BellSouth. This is inconsistent with the above-quoted language from the BACE
3 Methodology Manual, which states that “[t]his calculation of implied or imputed
4 prices for products within a bundle does not affect the NPV (vis-à-vis a
5 calculation with bundle prices only).” That the result is quite different from the
6 way it is described in the model demonstrates is further evidence that the model is
7 not working as intended by BellSouth, is unstable, and not yet reliable.

8 Churn

9 Two of the studies I undertook were to decrease the levels of churn in the model
10 by 20 percent – which should presumably *increase* the NPV shown for each wire
11 center and CEA/UNE zone market – and alternatively to increase the level of
12 churn assumed in the model by 25 percent – which should presumably *decrease*
13 the NPV shown for each wire center and CEA/UNE zone market. My sensitivity
14 studies of customer churn are set forth in Exhibit Nos. JCK-8 and JCK-9. The
15 first table of each exhibit shows the effects on NPV calculations for both mass
16 market and total market; the second table of each exhibit shows these effects on a
17 wire center-by-wire center basis.

18 These results indicate a potentially flaw in the BACE model. Because higher
19 levels of customer churn – all other things being equal – should increase the cost
20 of generating the same level of revenues, one would expect higher levels of
21 customer churn to decrease NPV, and lower levels of customer churn to increase
22 NPV. Yet, Exhibit Nos. JCK-8 and JCK-9 contain several examples where this

1 expectation is not met by the BACE model. For example, when churn is
2 decreased by 20 percent, the NPV for 7 wire centers declines. Specifically, wire
3 center BTSPTNMA's NPV decreased \$2,205, from negative \$104,533 to negative
4 \$106,738.

5 It is difficult to understand how these BACE results could be accurate. Because
6 increasing levels of churn increase the costs of serving the same number of
7 customers (and, therefore, of earning the same revenues), NPV should
8 consistently decline. The reasons why this does not happen in BACE are unclear
9 – the reasons first need to be fully understood, and then necessary changes made
10 to the model before it can be relied upon.

11 **Other Taxes**

12 The BACE Model inaccurately calculates taxes when the model produces a
13 negative Net Present Value for the CLEC. As the following excerpt from Mr.
14 Stegeman's deposition in the Florida Proceeding indicates, he was aware of an
15 error inherent in the taxes calculation of the BACE code that he chose not to fix.
16 The following is an excerpt from that deposition.

17
18 A So let me restate it then. What happens is, the firm in total is losing money. So the allocation
19 scheme does -- I don't want to say fall part. It just -- it produces anomalous results because we've
20 exceeded what we had thought people would be looking at for results underneath. If the firm in
21 total is losing money, does it then make sense to look at individual markets underneath of it
22 because the firm is impaired? So it's one of those convoluted things. We could potentially make a
23 correction to the allocation scheme so that the allocation scheme works well when you have a
24 positive post-tax NPV. If you have a negative post-tax NPV, we would probably need to adjust the
25 allocation of the taxes so that there is some, some recognition of the fact that we don't necessarily
26 want to drive what's positive to negative and what's negative to positive because of this flipping.
27

28 Q Just real quick for my clarification. You mentioned a correction. Does that correction need to
29 be in the model?
30

1 A The reason I'm hesitating is when I looked at this, I struggled with the concept of if the firm is
2 losing money in total, what decisions do you then make underneath of that, and that's why I
3 hesitate. Does it make sense to make an adjustment for the fact that the firm in total is negative?
4 A correction could be made. We would just have to put in a, a flag to capture the fact that if the
5 NPV is negative for the firm after tax, use this allocation scheme versus the other one. But again I
6 come back to, is that -- does it make sense to do that? Do the answers -- if you find that the firm
7 in total is negative but a market is positive, I guess it's for a larger discussion. I'm just not sure
8 what that means.

9 Mr Stegemen Deposition, Docket No. 030851-TP, February 16, 2004, page 60-61.

10 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

11 **A. Yes.**

CURRICULUM VITAE
OF
JOHN C. KLICK

EDUCATION

Bates College, Lewiston, Maine, 1970
Bachelor of Science - Mathematics

Department of Agriculture Graduate School, 1972
Graduate Courses in Operations Research

Loyola College, Baltimore, Maryland, 1973-1974
Graduate Courses in Accounting and Finance

EMPLOYMENT HISTORY

Southern Railway System Washington, DC, 1970 - 1974
Management Trainee (Marketing Department)
Assistant Cost Analyst
Cost Analyst

R. L. Hines Associates, Inc. Washington, DC, 1974 - 1976
Transportation Economist

Snively, King & Associates, Inc. Washington, DC, 1976
Consultant

Southern Railway System Washington, DC, 1976 - 1978
Market Analyst, Coal and Construction Materials

United States Railway Association Washington, DC, 1978 - 1980
Manager, Traffic and Operations Analysis
Assistant Director, Traffic and Operations Analysis
Deputy Director, Asset Valuation

Snively, King & Associates, Inc. Washington, DC, 1980 - 1987
Senior Consultant
Vice President

Klick, Kent & Allen, Inc. Alexandria, Virginia, 1987 - 1998
Principal

FTI Consulting, Inc. Washington, DC, 1998 - Present
Senior Managing Director, Financial Consulting Division

TELECOMMUNICATIONS TESTIMONY

Courts

December 4, 2000 United States District Court, Central District of California, Western Division. Case No. 99-11641 RSWL (RCx). Arthur Simon, et al, v. American Telephone & Telegraph Corp.; At Home Corporation; Arahova Communications, Inc.; Cox Communications, Inc.; Comcast Corporation; Cablevision Systems Corp.; Garden State Cablevision LP; Jones Intercable, Inc.; Time Warner, Inc.; Time Warner Entertainment Co., L.P.; TWE □ A/N Partnership; MediaOne Group; Servico L.L.C.; and Telecommunications, Inc. Declaration of John C. Klick and Brian F. Pitkin In Support of Defendants□ Motion In Opposition To Plaintiffs□ Motion for Class Certification.

Federal Communications Commission

May 26, 1999 CC Docket No. 96-98. In the Matter of Implementation of the Local Competition Provisions of the Telecommunications Act of 1996. Affidavit of John C. Klick and Brian F. Pitkin.

May 26, 1999 CC Docket No. 96-98. In the Matter of Implementation of the Local Competition Provisions of the Telecommunications Act of 1996. Affidavit of Michael J. Boyles, John C. Klick and Brian F. Pitkin.

June 10, 1999 CC Docket No. 96-98. In the Matter of Implementation of the Local Competition Provisions of the Telecommunications Act of 1996. Reply Affidavit of Michael R. Baranowski, John C. Klick and Brian F. Pitkin.

December 14, 1999 CS Docket No. 99-251. In the Matter of: Applications for Consent to the Transfer of Control of Licenses MediaOne Group, Inc. to AT&T Corp., Competition ofr Broadband Technology Serving the Residential Customer.

March 13, 2001 File No. EB-00-MD-001. In the Matter of AT&T Corp. v. Business Telecom Inc. Affidavit of John C. Klick

October 10, 2002 WC Docket No. 02-307. In the Matter of Application by BellSouth Corporation, for Authorization To Provide In-Region, InterLATA Services in the States of Florida and Tennessee. Declaration of John C. Klick and Brian F. Pitkin on Behalf of AT&T Corp.

November 1, 2002 WC Docket No. 02-307. In the Matter of Application by BellSouth Corporation, for Authorization To Provide In-Region, InterLATA Services in the States of Florida and Tennessee. Reply Declaration of John C. Klick and Brian F. Pitkin on Behalf of AT&T Corp.

November 16, 2002 WC Docket No. 02-307. In the Matter of Application by BellSouth Corporation, for Authorization To Provide In-Region, InterLATA Services in the States of Florida and Tennessee. Further Declaration of John C. Klick and Brian F. Pitkin on Behalf of AT&T Corp.

January 7, 2003 WCB Docket No. 03-18. In the Matter of Alascom, Inc. Request for Waiver of Commission Rule And Orders Requiring Annual Tariff Revision, Alascom, Inc. Petition for Waiver, Declaration of John Klick and Julie Murphy

March 5, 2003 WCB Docket No.03-18. In the Matter of Alascom, Inc. Request for Waiver of Commission Rule And Orders Requiring Annual Tariff Revision, Alascom, Inc. Petition for Waiver, Reply Declaration of John Klick and Julie A. Murphy.

March 13, 2003	WCB Docket No.03-18. In the Matter of Alascom, Inc. Request for Waiver of Commission Rule And Orders Requiring Annual Tariff Revision, Alascom, Inc. Petition for Waiver, Declaration of John Klick and Julie Murphy, In Support of Alascom's Opposition to General Communication, Inc. FOIA, Control No. 2003-208.
April 4, 2003	WCB Docket No.03-18. In the Matter of Alascom, Inc. Request for Waiver of Commission Rule And Orders Requiring Annual Tariff Revision, Alascom, Inc. Petition for Waiver, Declaration of John Klick and Julie A. Murphy, Supplement to Waiver Request and Supplement to Response to FOIA Request.
December 16, 2003	WC Docket No. 03-173. Review of the Commission's Rules Regarding the Pricing of Unbundled Network Elements and the Resale of Service by Incumbent Local Exchange Carriers.
January 30, 2004	WC Docket No. 03-173. Review of the Commission's Rules Regarding the Pricing of Unbundled Network Elements and the Resale of Service by Incumbent Local Exchange Carriers.

Public Utilities Commission of the State of California

December 4, 1998	Case No. R93-04-003. Rulemaking on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish a Framework for Network Architecture Development of Dominant Carrier Networks. Initial Statement of John C. Klick
August 20, 2001	Application No. 01-02-024. Joint Application of AT&T Communications of California, Inc. (U 5002 C) and WorldCom, Inc. for the Commission to Reexamine the Recurring Costs and Prices of Unbundled Switching in Its First Annual Review of Unbundled Network Element Cost Pursuant to Ordering Paragraph 11 of D.99-11-050. Testimony of John C. Klick in Support of Joint Applicants' Motion for Interim Relief
September 7, 2001	Application No. 01-02-024. Joint Application of AT&T Communications of California, Inc. (U 5002 C) and WorldCom, Inc. for the Commission to Reexamine the Recurring Costs and Prices of Unbundled Switching in Its First Annual Review of Unbundled Network Element Cost Pursuant to Ordering Paragraph 11 of D.99-11-050. Declaration of John C. Klick in Support of Reply Comments of Joint Applicants' Regarding Unbundled Loop Interim Proposal
October 30, 2001	Application No. 01-02-024. Joint Application of AT&T Communications of California, Inc. (U 5002 C) and WorldCom, Inc. for the Commission to Reexamine the Recurring Costs and Prices of Unbundled Switching in Its First Annual Review of Unbundled Network Element Cost Pursuant to Ordering Paragraph 11 of D.99-11-050. Declaration of John C. Klick in Support of Reply Comments of Joint Applicants' Regarding Unbundled Loop Interim Proposal
November 5, 2001	Application No. 01-02-024. Joint Application of AT&T Communications of California, Inc. (U 5002 C) and WorldCom, Inc. for the Commission to Reexamine the Recurring Costs and Prices of Unbundled Switching in Its First Annual Review of Unbundled Network Element Cost Pursuant to Ordering Paragraph 11 of D.99-11-050. Declaration of John C. Klick in Support of Response of Joint Applicants to (1) Motion of Pacific Bell Telephone Company (U 1001 C) to Notify Parties of Discounted Switching UNE Prices; and (2) Pacific Bell Telephone Company's (U 1001 C) Motion to Vacate the Assigned Commissioner's and Administrative Law Judge's Ruling of September 28, 2001 as Moot

November 9, 2001	Application No. 01-02-024. Joint Application of AT&T Communications of California, Inc. (U 5002 C) and WorldCom, Inc. for the Commission to Reexamine the Recurring Costs and Prices of Unbundled Switching in Its First Annual Review of Unbundled Network Element Cost Pursuant to Ordering Paragraph 11 of D.99-11-050. Declaration of John C. Klick in Support of Reply Comments of Joint Applicants Regarding Unbundled Switching Interim Proposal
September 9, 2002	Rulemaking 93-04-003. Rulemaking on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish A Framework for Network Architecture Development of Dominant carrier Networks. Investigation 93-04-002. Investigation on the Commission's Own Motion into Open Access and Network Architecture Development of Dominant Carrier Networks. Declaration of John C. Klick in Support of Proposal of AT&T Communications of California, Inc. (U 5002-C) and WorldCom, Inc. ("Joint Commentors") For Interim Unbundled Network Element Rates.
September 20, 2002	Rulemaking 93-04-003. Rulemaking on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish A Framework for Network Architecture Development of Dominant carrier Networks. Investigation 93-04-002. Investigation on the Commission's Own Motion into Open Access and Network Architecture Development of Dominant Carrier Networks. Declaration of John C. Klick in Support of Proposal of AT&T Communications of California, Inc. (U 5002-C) and WorldCom, Inc. ("Joint Commentors") For Interim Unbundled Network Element Rates.
October 18, 2002	Application No. 01-02-024. Joint Application of AT&T Communications of California, Inc. (U 5002 C) and WorldCom, Inc. for the Commission to Reexamine the Recurring Costs and Prices of Unbundled Switching in Its First Annual Review of Unbundled Network Element Cost Pursuant to Ordering Paragraph 11 of D.99-11-050. Declaration of John C. Klick in Support of Joint Applicants' Opening Comments.

Public Utilities Commission of the State of Colorado

February 21, 1997	Docket No. 96S-331T. In the Matter of the Investigation and Suspension of Tariff Sheets Filed by U S WEST Communications, Inc., With Advice Letter No. 2617, Regarding Tariffs For Interconnection, Local Termination, Unbundling and Resale of Services, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
March 6, 1997	Docket No. 96S-331T. In the Matter of the Investigation and Suspension of Tariff Sheets Filed by U S WEST Communications, Inc., With Advice Letter No. 2617, Regarding Tariffs For Interconnection, Local Termination, Unbundling and Resale of Services, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
March 26, 1997	Docket No. 96S-331T. In the Matter of the Investigation and Suspension of Tariff Sheets Filed by U S WEST Communications, Inc., With Advice Letter No. 2617, Regarding Tariffs For Interconnection, Local Termination, Unbundling and Resale of Services, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
May 6, 1997	Docket No. 97M-063T. In the Matter of the Administration of the Colorado High Cost Fund and the Development of a Cost Model, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
May 23, 1997	Docket No. 97M-063T. In the Matter of the Administration of the Colorado High Cost Fund and the Development of a Cost Model, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

November 17, 1997 Docket No. 97M-063T. In the Matter of the Administration of the Colorado High Cost Fund and the Development of a Cost Model, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

Public Service Commission of the District of Columbia

March 24, 1997 Formal Case No. 962. In the Matter of the Implementation of the District of Columbia Telecommunications Competition Act of 1996 and implementation of 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

May 2, 1997 Formal Case No. 962. In the Matter of the Implementation of the District of Columbia Telecommunications Competition Act of 1996 and implementation of 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

Florida Public Service Commission

November 13, 1997 Docket No. 960833-TP/960846-TP/971140-TP. In the matter of certain terms and conditions of proposed agreement concerning interconnection and resale, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

Idaho Public Utilities Commission

November 22, 1996 Docket No. USW-T-96-15/ATT-T-96-2. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Mountain States, Inc., and U S WEST Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

January 31, 1997 Docket No. USW-T-96-15/ATT-T-96-2. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Mountain States, Inc., and U S WEST Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

State of Iowa Department of Commerce Utilities Board

October 7, 1996 Docket No. ARB-96-3. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Midwest, Inc., and GTE Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

October 21, 1996 Docket No. ARB-96-3. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Midwest, Inc., and GTE Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

April 23, 1997 Docket No. RPU-96-9. Application for rehearing in part for purposes of Clarification and Correction, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

July 30, 1997 Docket No. RPU-96-9. . Application for rehearing in part for purposes of Clarification and Correction, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

Kentucky Public Service Commission

November 4, 1997 Administrative Case No. 360. In the Matter of Inquiry Into Universal Service and Funding Issues, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

Louisiana Public Service Commission

- August 25, 1997 Docket No. U-22022. Review of cost studies submitted per Local Competition Regulations in order to determine the cost of interconnection and UNEs to establish reasonable, non-discriminatory, cost-based tariffed rates. U-22093. Review of tariff filing per Local Competition Regulations, which tariff introduces interconnection and unbundled services and establishes the rates, terms, and conditions for such service offerings, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- January 20, 1998 Docket No. U-20993, Subdocket A (above Dockets Consolidated), Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

State of Maryland Public Service Commission

- December 5, 1997 Case No. 8766. In the Matter of the Collocation Tariff Filed Under Transmittal No. 1003 by Bell Atlantic-Maryland, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

Minnesota Public Utilities Commission

- September 30, 1996 Docket No. P-4Y2; YOT/M-96-936. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Midwest, Inc., and GTE Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- October 18, 1996 Docket No. P-442; 407/M-96-939. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Midwest, Inc., and GTE Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- August 18, 1997 Docket Nos. P-42; 5321, 3167, 466, 421/CI-96-1540; OAH Docket No. 12-2500-10956-2. In the Matter of Generic Investigation of U S WEST Communications, Inc.'s Costs of Providing Interconnection and Unbundled Network Elements, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- October 20, 1997 Docket Nos. P-42; 5321, 3167, 466, 421/CI-96-1540; OAH Docket No. 12-2500-10956-2. In the Matter of Generic Investigation of U S WEST Communications, Inc.'s Costs of Providing Interconnection and Unbundled Network Elements, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- November 14, 1997 Docket No. P-442, 407, 5321, 466/CI-96-1541. In the Matter of the Investigation of GTE-Minnesota's Cost of Providing Interconnection and Unbundled Network Elements, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- December 19, 1997 Docket Nos. P-42; 5321, 3167, 466, 421/CI-96-1540; OAH Docket No. 12-2500-10956-2. In the Matter of Generic Investigation of U S WEST Communications, Inc.'s Costs of Providing Interconnection and Unbundled Network Elements, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- February 3, 1998 Docket Nos. P-999/M-97-909; OAH Docket No. 12-2500-11342-2. In the Matter of the State of Minnesota's Possible Election to Conduct its own Forward-Looking Economic Cost study to Determine the Appropriate Level of Universal Service Support, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- March 2, 1998 Docket Nos. P-42; 5321, 3167, 466, 421/CI-96-1540; OAH Docket No. 12-2500-10956-2. In the Matter of Generic Investigation of U S WEST Communications, Inc.'s Costs of

Providing Interconnection and Unbundled Network Elements, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

March 23, 1998 Docket Nos. P-42; 5321, 3167, 466, 421/CI-96-1540; OAH Docket No. 12-2500-10956-2. In the Matter of Generic Investigation of U S WEST Communications, Inc.'s Costs of Providing Interconnection and Unbundled Network Elements, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

April 6, 1998 Docket Nos. P-42; 5321, 3167, 466, 421/CI-96-1540; OAH Docket No. 12-2500-10956-2. In the Matter of Generic Investigation of U S WEST Communications, Inc.'s Costs of Providing Interconnection and Unbundled Network Elements, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

July 14, 1998 Docket Nos. P-42; 5321, 3167, 466, 421/CI-96-1540; OAH Docket No. 12-2500-10956-2. In the Matter of Generic Investigation of U S WEST Communications, Inc.'s Costs of Providing Interconnection and Unbundled Network Elements, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

May 26, 2000 Docket No. P-421/CI-99-1665 ;OAH Docket No. 12-2500-12631-2. In the Matter of a Commission Initiated Investigation into U S WEST Communications, Inc.'s Costs Related to Provision of Line Sharing Service

June 30, 2000 Docket No. P-421/CI-99-1665 ;OAH Docket No. 12-2500-12631-2. In the Matter of a Commission Initiated Investigation into U S WEST Communications, Inc.'s Costs Related to Provision of Line Sharing Service

Public Service Commission of Missouri

September 25, 1998 Docket TO-98-329. In the Matter of an Investigation into Various Issues Related to the Missouri Universal Service Fund.

Public Service Commission of the State of Montana

November 22, 1996 Docket No. D96.11.200. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Mountain States, Inc., and U S WEST Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

January 22, 1997 Docket No. D96.11.200. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Mountain States, Inc., and U S WEST Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

January 29, 1997 Docket No. D96.11.200. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Mountain States, Inc., and U S WEST Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

Nebraska Public Service Commission

October 18, 1996 Docket No. C-1400. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Midwest, Inc., and GTE Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

New Jersey Board of Public Utilities

September 18, 1996	Docket No. TO 96070519. In the Matter of Petition of AT&T Communications of New Jersey, Inc. for Arbitration with Bell Atlantic - New Jersey, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
December 20, 1996	Docket No. TX 95120631. Notice of Investigation Local Exchange Competition for Telecommunications Services, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
October 20, 1997	Docket No. TX 95120631. Notice of Investigation Local Exchange Competition for Telecommunications Services, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

New Mexico Corporation Commission

November 22, 1996	Docket No. 96-411-TC. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Mountain States, Inc., and U S WEST Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
January 20, 1997	Docket No. 96-411-TC. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Mountain States, Inc., and U S WEST Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
June 13, 1997	Docket No. 97-35-TC. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Mountain States, Inc. and GTE Southwest, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
October 21, 1997	Docket No. 96-310-TC; Docket No. 97-334-TC. In the Matter of the Implementation of the New Rules Related to the Rural High Cost Fund, and Low Income Components of the New Mexico Universal Service Fund, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
November 21, 1997	Docket No. 96-310-TC; Docket No. 97-334-TC. In the Matter of the Implementation of the New Rules Related to the Rural High Cost Fund, and Low Income Components of the New Mexico Universal Service Fund, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
January 14, 1998	Docket No. 96-310-TC; Docket No. 97-334-TC. In the Matter of the Implementation of the New Rules Related to the Rural High Cost Fund, and Low Income Components of the New Mexico Universal Service Fund, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

State of New York Public Service Commission

March 27, 1998	Case No. 95-C-0657. In the matter of Wholesale Provisioning of Local Exchange Service. 94-C-0095. In the matter of the Continuing Provision of Universal Service and Developing a Regulatory Framework for the Transition to Competition in the Local Exchange Market. 91-C-1174. In the matter of Comparably Efficient Interconnection Arrangements for Residential and Business Links, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
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North Carolina Public Staff Utilities Commission

- December 15, 1997 Docket No. P-100, Sub 133d. In the Matter of the Determination of Permanent Pricing for Unbundled Network Elements, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- January 30, 1998 Docket No. P-100, Sub 133b. In the Matter of Establishment of Universal Support Mechanisms, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- February 16, 1998 Docket No. P-100, Sub 133d. In the Matter of the Determination of Permanent Pricing for Unbundled Network Elements, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- March 9, 1998 Docket No.: P-55, Sub 133d. In the Matter of the Determination of Permanent Pricing for Unbundled Network Elements, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

State of North Dakota Public Service Commission

- November 22, 1996 Docket No. PU-453-96-497. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Midwest, Inc., and U S WEST Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- February 14, 1997 Docket No. PU-453-96-497. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Midwest, Inc., and U S WEST Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- November 10, 1997 Docket No. PU-314-97-465. In the Matter of U S WEST Communications, Inc. Universal Service Costs Investigation, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- December 22, 1997 Case No. PU-314-97-12. In the Matter of U S West Communications, Inc. Interconnection/ Wholesale Price Investigation, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

Oregon Public Utility Commission

- October 8, 1996 Docket No. ARB-5. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Pacific Northwest, Inc., and GTE Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- February 24, 1998 UM 731, Phase 111. In the Matter of the Investigation into Universal Service in the State of Oregon, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

Pennsylvania Public Utility Commission

- May 21, 1999 Docket Nos. P-00991648 and P-00991649. Petition of Senators and CLECs for Adoption of Partial Settlement and Joint Petition for Global Resolution of Telecommunications Proceeding.

South Carolina Public Service Commission

- November 10, 1997 Docket No. 97-239-C. In the Matter of Intrastate Universal Service Fund, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

Public Utilities Commission of the State of South Dakota

- November 20, 1996 Docket No. TC-96-184. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Midwest, Inc., and U S WEST Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- January 27, 1997 Docket No. TC-96-184. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Midwest, Inc., and U S WEST Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

Public Utility Commission of Texas

- February 27, 1998 Docket No. 18515. Compliance Proceeding for Implementation of the Texas High Cost Universal Service Plan, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

Public Service Commission of Utah

- April 23, 1997 Docket No. 94-999-01. In the Matter of an Investigation Into Collocation and Expanded Interconnection, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

Washington Utilities and Transportation Commission

- October 28, 1996 Docket No. UT-960307. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Pacific Northwest, Inc., and GTE Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- February 21, 1997 Docket No. UT-960369. In the Matter of the Pricing Proceeding for Interconnection, Unbundled Elements, Transport and Termination, and Resale. Docket No. UT-960370. In the Matter of the Pricing Proceeding for Interconnection, Unbundled Elements, Transport and Termination, and Resale for U S WEST Communications, Inc. Docket No. UT-960371. In the Matter of the Pricing Proceeding for Interconnection, Unbundled Elements, Transport and Termination, and Resale for GTE Northwest Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- March 28, 1997 Docket No. UT-960369. In the Matter of the Pricing Proceeding for Interconnection, Unbundled Elements, Transport and Termination, and Resale. Docket No. UT-960370. In the Matter of the Pricing Proceeding for Interconnection, Unbundled Elements, Transport and Termination, and Resale for U S WEST Communications, Inc. Docket No. UT-960371. In the Matter of the Pricing Proceeding for Interconnection, Unbundled Elements, Transport and Termination, and Resale for GTE Northwest Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- April 25, 1997 Docket No. UT-960369. In the Matter of the Pricing Proceeding for Interconnection, Unbundled Elements, Transport and Termination, and Resale. Docket No. UT-960370. In the Matter of the Pricing Proceeding for Interconnection, Unbundled Elements, Transport and Termination, and Resale for U S WEST, Communications, Inc. Docket No. UT-960371. In the Matter of the Pricing Proceeding for Interconnection, Unbundled Elements, Transport and Termination, and Resale for GTE Northwest Incorporated, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
- June 13, 1997 Docket No. UT-960369. In the Matter of the Pricing Proceeding for Interconnection, Unbundled Elements, Transport and Termination, and Resale. Docket No. UT-960370. In the Matter of the Pricing Proceeding for Interconnection, Unbundled Elements, Transport and Termination, and Resale for U S WEST Communications, Inc. Docket No. UT-960371. In the Matter of the Pricing Proceeding for Interconnection, Unbundled Elements,

Transport and Termination, and Resale for GTE Northwest Incorporated. , Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

June 20, 1997	Docket No. UT-960369. In the Matter of the Pricing Proceeding for Interconnection, Unbundled Elements, Transport and Termination, and Resale. Docket No. UT-960370. In the Matter of the Pricing Proceeding for Interconnection, Unbundled Elements, Transport and Termination, and Resale for U S WEST Communications, Inc. Docket No. UT-960371. In the Matter of the Pricing Proceeding for Interconnection, Unbundled Elements, Transport and Termination, and Resale for GTE Northwest Incorporated. , Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
July 21, 2000	Docket No. UT-003013. In the Matter of the Continued Costing and Pricing of Unbundled Network Elements and Transport and Termination, Part A.
August 4, 2000	Docket No. UT-003013. In the Matter of the Continued Costing and Pricing of Unbundled Network Elements and Transport and Termination, Part A.
October 23, 2000	Docket No. UT-003013. In the Matter of the Continued Costing and Pricing of Unbundled Network Elements and Transport and Termination, Part B.
October 31, 2000	Docket No. UT-003013. In the Matter of the Continued Costing and Pricing of Unbundled Network Elements and Transport and Termination, Part B.
March 26, 2001	Docket No. UT-003013. In the Matter of the Continued Costing and Pricing of Unbundled Network Elements and Transport and Termination, Part B.

Public Service Commission of the State of Wyoming

November 22, 1996	Docket No. 72000-TF-96-95/70000-TF-96-497. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Mountain States, Inc., and US WEST Communications, Inc. , Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
February 6, 1997	Docket No. 72000-TF-96-95/70000-TF-96-497. In the Matter of the Interconnection Contract Negotiations Between AT&T Communications of the Mountain States, Inc., and U S WEST Communications, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
September 19, 1997	Docket No. 70000-TF-96-319/72000-TF-96-95. In the Matter of the Arbitration by the Public Service Commission of an Interconnection Agreement Between U S WEST Communications, Inc., and AT&T Communications of the Mountain States, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
October 13, 1997	Docket No. 70000-TF-96-319/72000-TF-96-95. In the Matter of the Arbitration by the Public Service Commission of an Interconnection Agreement Between U S WEST Communications, Inc., and AT&T Communications of the Mountain States, Inc., Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
November 14, 1997	General Order No. 81. In the Matter of the Investigation by the Commission of the Feasibility of Developing Its Own Costing Model for Use in Determining Federal Universal Service Fund Support Obligations in Wyoming, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.
November 21, 1997	General Order No. 81. In the Matter of the Investigation by the Commission of the Feasibility of Developing Its Own Costing Model for Use in Determining Federal Universal

Service Fund Support Obligations in Wyoming, Pursuant to 47 U.S.C. Section 252 of the Telecommunications Act of 1996.

ENERGY TESTIMONY

Federal Energy Regulatory Commission

May 20, 1991	Docket No. IS90-21-000 et al. Williams Pipe Line Company.
May 3, 1993	Docket No. RM93-11-000. Revisions to Oil Pipeline Regulations Pursuant to the Energy Policy Act of 1992.
November 22, 1993	Docket No. RM93-11-000. Revisions to Oil Pipeline Regulations Pursuant to the Energy Policy Act of 1992.
January 23, 1995	Docket No. IS90-21-000 et al. Williams Pipe Line Company
October, 1999	Affidavit of John C. Klick Concerning Declaratory Order Petition of Colonial Pipeline Company
April 17, 2000	Docket No. OR00-2-000. ExxonMobil Pipeline Company

TRANSPORTATION TESTIMONY

Special Court (Federal) Created Under Sections 303(c) and 306 of the Regional Rail Reorganization Act

January, 1980	Misc. No. 76-1. In the Matter of the Valuation Proceedings.
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United States District Court for the District of New Mexico

September, 1989	Deposition Testimony in Texas Utilities Company and Chaco energy Company v. Santa Fe Industries, Inc., et al., No. Civ-82-1419 C.
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Interstate Commerce Commission

May, 1981	Finance Docket No. 30000. Union Pacific Corporation and Union Pacific Railroad Company -- Control -- Missouri Pacific Corporation and Missouri Pacific Railroad Company.
February 22, 1983	Docket No. 37886S. Potomac Electric Power Co. v. The Baltimore and Ohio Railroad Co. et al.
February 22, 1983	Docket No. 37834S. Ethyl Corporation v. Illinois Central Gulf Railroad, et al.
May, 1983	Docket No. 38182S. Consumers Power Company v. Norfolk & Western Railway Company.
May 31, 1983	Docket No. 38121S. Consumers Power Company v. Norfolk & Western Railway, et al.
January, 1984	Docket No. 36719. Arkansas Power & Light Company, et al. v. Burlington Northern Railroad Company and consolidated proceedings.
November 26, 1984	Docket No. 37857S. Consumers Power Company v. Norfolk and Western Railway Company, et al.

March 8, 1985	Docket No. 36719. Arkansas Power & Light Company, et al v. Burlington Northern Railroad Company and consolidated proceedings.
June, 1985	Docket No. 39668. Arkansas Power & Light et al. v. Burlington Northern Railroad Company.
November, 1985	Docket No. 39082. Arkansas Power & Light Company et al. v. Burlington Northern Railroad Company and Missouri Pacific Railroad Company.
January 9, 1986	Docket No. 36719. Arkansas Power & Light Company, et al. v. Burlington Northern Railroad Company and consolidated proceedings.
February, 1986	Docket No. 39082. Arkansas Power & Light Company, et al. v. Burlington Northern Railroad Company and Missouri Pacific Railroad Company.
June, 1986	Docket No. 36180. San Antonio, Texas, Acting By and Through Its City Public Service Board v. Burlington Northern Railroad Company and Southern Pacific Transportation Company.
November, 1986	Docket No. 37437. Arizona Electric Power Cooperative, Inc. v. The Atchison, Topeka and Santa Fe Railway Company, et al.
March, 1987	Docket No. 37437. Arizona Electric Power Cooperative, Inc. v. The Atchison, Topeka and Santa Fe Railway Company, et al.
May 15, 1987	Docket No. 38301S. Coal Trading Corporation et al. v. The Baltimore and Ohio Railroad Company et al.
August, 1987	Docket No. 37809, 37809 (Sub-No. 1). McCarty Farms, Inc., et al. v. Burlington Northern, Inc. and consolidated proceedings.
October, 1987	Docket No. 37809, 37809 (Sub-No. 1). McCarty Farms, Inc. et al. v. Burlington Northern, Inc. and consolidated proceedings.
December, 1987	Docket No. 38301S (Sub-No. 1). Westmoreland Coal Sales Company v. The Denver & Rio Grande Western Railroad Company, et al.
December, 1987	Docket No. 37038. Bituminous Coal -- Hiawatha, Utah to Moapa, Nevada and consolidated proceedings.
January 14, 1988	Docket No. 38301S. Coal Trading Corporation et al. v. The Baltimore and Ohio Railroad Company et al.
May 12, 1988	Docket No. 37809, 37809 (Sub-No. 1). McCarty Farms, Inc. et al. v. Burlington Northern, Inc. and consolidated proceedings.
June 20, 1988	Docket No. 37038. Bituminous Coal -- Hiawatha, Utah to Moapa, Nevada and consolidated proceedings.
July 5, 1988	Docket No. 37809, 37809 (Sub-No. 1). McCarty Farms, Inc. et al. v. Burlington Northern, Inc. and consolidated proceedings.
April 26, 1989	Docket No. 37809, 37809 (Sub-No. 1). McCarty Farms, Inc. et al. v. Burlington Northern, Inc. and consolidated proceedings.

Exhibit JCK-1

June 21, 1989	Docket No. 37809, 37809 (Sub-No. 1). McCarty Farms, Inc. et al. v. Burlington Northern, Inc. and consolidated proceedings.
June 21, 1990	Docket No. 40224. Iowa Power and Light Company v. Burlington Northern Railroad Company.
July 30, 1990	Docket No. 37038. Bituminous Coal -- Hiawatha, Utah to Moapa, Nevada and consolidated proceedings.
October 10, 1990	Docket No. 37063, 38025S. The Dayton Power and Light Company v. Louisville and Nashville Railroad Company.
December 14, 1990	Docket No. 37063, 38025S. The Dayton Power and Light Company v. Louisville and Nashville Railroad Company.
January 25, 1991	Docket No. 37063, 38025S. The Dayton Power and Light Company v. Louisville and Nashville Railroad Company.
June 17, 1991	Docket No. 37809, 37809 (Sub-No. 1). McCarty Farms, Inc. et al. v. Burlington Northern, Inc. and consolidated proceedings.
July 15, 1991	Docket No. 37038. Bituminous Coal -- Hiawatha, Utah to Moapa, Nevada and consolidated proceedings.
January 14, 1992	Ex Parte No. 347 (Sub No. 2). Rate Guidelines -- Non-Coal Proceedings.
March 30, 1992	Finance Docket No. 22218. Atchison, Topeka & Santa Fe Railway Company -- Operating Rights -- Southern Pacific Transportation Company.
April 24, 1992	Finance Docket No. 31951. Southern California Regional Rail Authority For an Order Requiring Joint Use of Terminal Facilities of The Atchison, Topeka and Santa Fe Railway Company.
June 15, 1992	Docket No. 40581. Georgia Power Company, Southern Company Services, Inc., Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and City of Dalton v. Southern Railway Company and Norfolk Southern Corporation.
July 27, 1992	Docket No. 40581. Georgia Power Company, Southern Company Services, Inc., Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and City of Dalton v. Southern Railway Company and Norfolk Southern Corporation.
November 20, 1992	Docket No. 40581. Georgia Power Company, Southern Company Services, Inc., Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and City of Dalton v. Southern Railway Company and Norfolk Southern Corporation.
May 7, 1993	Finance Docket No. 21215 (Sub No. 5). Seaboard Air Line Railroad Company -- Merger -- Atlantic Coast Line Railroad Company -- Petition to Remove Traffic Protective Conditions.
March 17, 1994	Ex Parte No. 347 (Sub No. 2). Rate Guidelines -- Non-Coal Proceedings.
May 9, 1994	Finance Docket No. 32467. National Railroad Passenger Corporation and Consolidated Rail Corporation -- Application Under Section 402(a) of the Rail Passenger Service Act for an Order Fixing Just Compensation.
June 10, 1994	Finance Docket No. 21215 (Sub-No. 5). Seaboard Air Line Railroad Company -- Merger -- Atlantic Coast Line Railroad Company -- Petition to Remove Traffic Protective Conditions.

June 27, 1994	Docket No. 40131 (Sub-No. 1). Ashley Creek Phosphate Company v. Chevron Pipe Line Company, et al.; I.C.C. Docket No. 40810 Ashley Creek Phosphate Company v. SF Industries, et al.
October 11, 1994	Finance Docket No. 32549. Burlington Northern, Inc. And Burlington Northern Railroad Company -- Control and Merger -- Santa Fe Pacific Corporation and the Atchison, Topeka and Santa Fe Railway Company.
December 13, 1994	Finance Docket No. 32467 National Railroad Passenger Corporation and Consolidated Rail Corporation -- Application Under Section 402(a) of the Rail Passenger Service Act for an Order Fixing Just Compensation.
January 30, 1995	Finance Docket No. 32433 (Sub-No. 1). Chicago and North Western Transportation Company -- Construction and Operation Exemption -- City of Superior, Wisconsin.
March 9, 1995	Finance Docket No. 32467. National Railroad Passenger Corporation and Consolidated Rail Corporation -- Application Under Section 402(a) of the Rail Passenger Service Act for an Order Fixing Just Compensation.
March 29, 1995	Docket No. 37809, 38709 (Sub-No. 1). McCarty Farms, Inc., et al., and consolidated proceedings.
May 30, 1995	Docket No. 41191. West Texas Utilities Company v. Burlington Northern Railroad Company.
June 20, 1995	Docket No. 40131 (Sub-No. 1). Ashley Creek Phosphate Company v. Chevron Pipeline Company, et al.
July 28, 1995	Finance Docket No. 32467. National Railroad Passenger Corporation and Consolidated Rail Corporation -- Application Under Section 402(a) of the Rail Passenger Service Act For an Order Fixing Just Compensation.
October 30, 1995	Docket No. 41185. Arizona Public Service Company and Pacificorp v. The Atchison, Topeka and Santa Fe Railway Company.

Surface Transportation Board

February 20, 1996	Ex Parte No. 347 (Sub-No. 2). Rate Guidelines -- Non-Coal Proceedings.
March 19, 1996	Ex Parte No. 347 (Sub-No. 2). Rate Guidelines -- Non-Coal Proceedings.
April 1, 1996	Docket No. 32630 (Sub 1). Petition of Omaha Power District Under 49 U.S.C. §10901(d).
April 29, 1996	Finance Docket No. 32760. Union Pacific Corporation, Union Pacific Railroad Company and Missouri Pacific Railroad Company -- Control and Merger -- Southern Pacific Rail Corporation, Southern Pacific Transportation Company, St. Louis Southwestern Railway Company, SPCSL Corp., and The Denver & Rio Grande Western Railroad Company.
May 23, 1996	Docket No. 41191. West Texas Utilities Company v. Burlington Northern Railroad Company -- Petition of Burlington Northern Railroad Company to Reopen Proceeding.
October 15, 1996	Docket No. 41242. Central Power & Light Company v. Southern Pacific Transportation Company; Docket No. 41295 Pennsylvania Power & Light Company v. Consolidated Rail Corporation; Docket No. 41626 MidAmerican Energy Company v. Union Pacific Railroad Company and Chicago & North Western Railway Company.

October 25, 1996	Docket No. 41242. Central Power & Light Company v. Southern Pacific Transportation Company; Docket No. 41295 Pennsylvania Power & Light Company v. Consolidated Rail Corporation; Docket No. 41626 MidAmerican Energy Company v. Union Pacific Railroad Company and Chicago & North Western Railway Company.
June 16, 1997	Finance docket No. 33388. CSX Crop. And CSX Transportation, Inc., Norfolk Southern Corporation and Norfolk Southern Railway Company □ Control □ Conrail, Inc. and Consolidated Rail Corporation.
July 11, 1997	Docket No. 41989. Potomac Electric Power Company v. CSX Transportation, Inc. Reply Statement and Evidence of Defendant CSX Transportation, Inc.
November 10, 1997	Docket No. 41685. In the Matter of CF Industries, Inc. v. Koch Pipeline Company, L.P.
July, 1998	Finance Docket No. 33556. Canadian National Railway Company, Grand Trunk Corporation, and Grand Trunk Western Railroad Incorporated □ Control □ Illinois Central Corporation, Chicago, Central & Pacific Railroad Company, and Cedar River Railroad Company. Railroad Control Application.
March 31, 1999	Docket No. 42022. FMC Corporation and FMC Wyoming Corporation v. Union Pacific Railroad Company, Reply Verified Statement.
May 19, 1999	Docket No. 33726. Western Coal Traffic League v. Union Pacific Railroad Company.
August 14, 2000	Docket No. 42051. Wisconsin Power and Light Company v. Union Pacific Railroad Company, Reply Verified Statement.
March 13, 2001	Docket No. 42054. PPL Montana, LLC v. The Burlington Northern Santa Fe Railway Company, Reply Verified Statement of Christopher D. Kent and John C. Klick
May 24, 2002	Docket No. 42069, Duke Energy Corporation v. Norfolk Southern Railway Company, Part II of Opening Evidence and Argument of Norfolk Southern Railway Company
May 24, 2002	Docket No. 42070, Duke Energy Corporation v. CSX Transportation, Inc., Part IV-B and Part IV-E of Opening Evidence and Argument of CSX Transportation, Inc.
June 10, 2002	Docket No. 42072, Carolina Power & Light Company v. Norfolk Southern Railway Company, Part II of Opening Evidence and Argument of Norfolk Southern Railway Company
September 20, 2002	Docket No. 42070, Duke Energy Corporation v. CSX Transportation, Inc., Parts III-G, III-H, and III-I of Reply Evidence and Argument of CSX Transportation, Inc.
September 30, 2002	Docket No. 42069, Duke Energy Corporation v. Norfolk Southern Railway Company, Parts II-A, III-G, III-H, and III-I of Reply Evidence and Argument of Norfolk Southern Railway Company
October 11, 2002	Docket No. 42072, Carolina Power & Light Company v. Norfolk Southern Railway Company, Parts II-A, III-G, III-H, and III-I of Reply Evidence and Argument of Norfolk Southern Railway Company
November 12, 2002	Docket No. 42070, Duke Energy Corporation v. CSX Transportation, Inc., Part II-B of Rebuttal Evidence and Argument of CSX Transportation, Inc.

November 19, 2002	Docket No. 42069, Duke Energy Corporation v. Norfolk Southern Railway Company, Part II of Rebuttal Evidence and Argument of Norfolk Southern Railway Company
November 27, 2002	Docket No. 42072, Carolina Power & Light Company v. Norfolk Southern Railway Company, Part II-A and II-B of Rebuttal Evidence and Argument of Norfolk Southern Railway Company
January 10, 2003	Docket No. 42057, Public Service Company of Colorado D/B/A Xcel Energy v. The Burlington Northern and Santa Fe Railway Company, Part II-A of Opening Evidence and Argument of The Burlington Northern and Santa Fe Railway Company
April 4, 2003	Docket No. 42057, Public Service Company of Colorado D/B/A Xcel Energy v. The Burlington Northern and Santa Fe Railway Company, Part III-A of Reply Evidence and Argument of The Burlington Northern and Santa Fe Railway Company
May 27, 2003	STB Docket No. 42058. Arizona Electric Power Cooperative, Inc. v. The Burlington Northern and Santa Fe Railway Company and Union Pacific Railroad, Reply Evidence of The Burlington Northern and Santa Fe Railway Company
July 7, 2003	STB Docket No. 42054. PPL Montana, LLC v. The Burlington Northern and Santa Fe Railway, Defendant's (BNSF's) Reply Evidence and Argument on Reopening
October 8, 2003	STB Docket No. 42071. Otter Tail Power Company v. The Burlington Northern and Santa Fe Railway Company, Reply Evidence of the Burlington Northern and Santa Fe Railway Company

District Court of Nebraska

September 17, 1992	Civil Action 4:CV91-3095 Burlington Northern Railway Company v. Omaha Public Power District In the District Court for the District of Nebraska
March 29, 1996	Civil Action 4:94cv3182 Burlington Northern Railway Company v. Nebraska Public Power District In the District Court for the District of Nebraska.
April 29, 1996	Civil Action 4:94cv3182 Burlington Northern Railway Company v. Nebraska Public Power District In the District Court for the District of Nebraska.
July 30, 1999	Civil Action 8:97CV00345, Entergy Services, Inc. and Entergy Arkansas, Inc. v. Union Pacific Railroad Company.

102nd Judicial District Court, Bowie County, Texas

1994	Trial Court No. D102CV910720 Burlington Northern Railroad Company v. Southwestern Electric Power Company In the 102 nd Judicial District Court, Bowie County, Texas
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Arbitrations and Mediations

February 16, 1988	Arbitration Proceedings, Phase III. Damages - Escanaba & Lake Superior Railroad Company v. Soo Line Railroad Company.
June 23, 1988	Arbitration Proceedings, Phase III -- Damages - Escanaba & Lake Superior Railroad Company v. Soo Line Railroad Company.
August 15, 1988	Arbitration Proceedings, Phase III -- Damages - Escanaba & Lake Superior Railroad Company v. Soo Line Railroad Company.

January 24, 1992	In the Matter of the Arbitration Between Tuco Inc., Burlington Northern Railroad Company and The Atchison, Topeka and Santa Fe Railroad Company.
February 21, 1992	In the Matter of the Arbitration Between Tuco, Inc. and Burlington Northern Railroad Company and Atchison, Topeka & Santa Fe Railroad Company.
March 24, 1992	In the Matter of the Arbitration Between Tuco, Inc., Burlington Northern Railroad Company and Atchison, Topeka & Santa Fe Railroad Company.
July 20, 1992	In the Matter of the Arbitration Between Wisconsin Power & Light Company and Burlington Northern Railroad Company, et. al.
September 4, 1992	In the Matter of the Arbitration Between Wisconsin Power & Light Company and Burlington Northern Railroad Company, et. al.
October 4, 1993	In the Matter of the Arbitration Between Public Service Company of Oklahoma and Burlington Northern Railroad Company.
February 21, 1994	In the Matter of the Arbitration Between Public Service Company of Oklahoma and Burlington Northern Railroad Company.
May 3, 1999	Elisra Electronics Systems, Ltd. V. Qualcomm, Inc., Before the American Arbitration Association No. 50 T 181 00005 98.
September 23, 1999	Statistical Analysis of Cap Gemini Report for Lee & Allen, Inc., submitted in UGI/Transco Mediation (London, England)
September, 1999 To Present	Party-appointed Arbitrator in MCI Worldcom, Inc. and AT&T Corp., v. Bell Atlantic Corporation, an arbitration conducted under the rules of the CPR Institute for Dispute Resolution.
October, 2000 To Present	Party-appointed Arbitrator in Competitive Local Exchange Carriers v. SBC Communications, Inc., an arbitration conducted under the rules of the CPR Institute for Dispute Resolution.

COMPARISON OF BELL SOUTH CEA NPV TO AT&T CEA NPV
 FOR ULTIMATE MARKET SHARE SET AT 5 PERCENT

UNE Zone	CEA	BellSouth Opening		AT&T Rebuttal		Percent Change	
		Mass Market NPV	Total NPV	Mass Market NPV	Total NPV	Mass Market NPV	Total NPV
Zone1	Chattanooga TN-GA	\$270,212	\$4,316,237	\$2,038,441	\$955,617	654.4%	-77.9%
Zone1	Clarksville-Hopkinsville TN-KY	\$582,168	\$1,410,776	\$384,365	\$50,747	-34.0%	-96.4%
Zone1	Jackson TN	\$256,894	\$821,100	\$171,913	(\$5,183)	-33.1%	-100.6%
Zone1	Knoxville TN	\$1,775,008	\$8,241,181	\$2,352,389	(\$269,048)	32.5%	-103.3%
Zone1	Memphis TN-AR-MS-KY	\$7,867,046	\$18,738,070	\$646,176	(\$4,267,805)	-91.8%	-122.8%
Zone1	Nashville TN-KY	\$6,989,044	\$17,950,171	\$1,765,064	(\$3,008,269)	-74.7%	-116.8%
Zone2	Chattanooga TN-GA	\$0	\$712,109	\$0	\$846,095	N/A	18.8%
Zone2	Clarksville-Hopkinsville TN-KY	N/A	N/A	N/A	N/A	N/A	N/A
Zone2	Huntsville AL-TN	\$0	\$102,339	\$0	\$82,799	N/A	-19.1%
Zone2	Jackson TN	\$0	\$613,326	\$0	\$479,042	N/A	-21.9%
Zone2	Knoxville TN	\$0	\$1,074,121	\$0	\$1,410,180	N/A	31.3%
Zone2	Memphis TN-AR-MS-KY	(\$568,908)	\$650,032	\$0	\$183,124	-100.0%	-71.8%
Zone2	Nashville TN-KY	(\$1,500,166)	\$3,060,761	\$0	\$481,206	-100.0%	-84.3%
Zone3	Atlanta GA-AL-NC	N/A	N/A	N/A	N/A	N/A	N/A
Zone3	Chattanooga TN-GA	N/A	N/A	N/A	N/A	N/A	N/A
Zone3	Clarksville-Hopkinsville TN-KY	N/A	N/A	N/A	N/A	N/A	N/A
Zone3	Huntsville AL-TN	N/A	N/A	N/A	N/A	N/A	N/A
Zone3	Jackson TN	N/A	N/A	N/A	N/A	N/A	N/A
Zone3	Johnson City-Kingsport-Bristol TN-VA	N/A	N/A	N/A	N/A	N/A	N/A
Zone3	Knoxville TN	N/A	N/A	N/A	N/A	N/A	N/A
Zone3	Lexington KY-TN-VA-WV	N/A	N/A	N/A	N/A	N/A	N/A
Zone3	Memphis TN-AR-MS-KY	N/A	N/A	N/A	N/A	N/A	N/A
Zone3	Nashville TN-KY	N/A	N/A	N/A	N/A	N/A	N/A
Zone3	Tupelo MS-AL-TN	\$0	(\$137,844)	N/A	N/A	N/A	N/A
		\$15,671,298	\$57,552,380	\$7,358,347	(\$3,061,495)	-53.0%	-105.3%

**COMPARISON OF BELL SOUTH WIRE CENTER NPV TO AT&T WIRE CENTER NPV
 FOR ULTIMATE MARKET SHARE OF 5 PERCENT**

Wire Center	BellSouth Opening		AT&T Rebuttal		Percent Change	
	Mass Market NPV	Total NPV	Mass Market NPV	Total NPV	Mass Market NPV	Total NPV
ACHLTNMT	N/A	N/A	N/A	N/A	N/A	N/A
ARTNTNMT	N/A	N/A	N/A	N/A	N/A	N/A
ASCYTNMA	(\$98,653)	(\$48,194)	N/A	\$112,394	N/A	-333.2%
ATHNTNMA	N/A	\$257,122	N/A	\$32,044	N/A	-87.5%
BGSNTNMA	N/A	N/A	N/A	N/A	N/A	N/A
BLGPTNMA	N/A	N/A	N/A	N/A	N/A	N/A
BLLSTNMA	N/A	N/A	N/A	N/A	N/A	N/A
BLNCTNMT	N/A	N/A	N/A	N/A	N/A	N/A
BLVRTNMA	N/A	N/A	N/A	N/A	N/A	N/A
BNTNTNMT	N/A	N/A	N/A	N/A	N/A	N/A
BTSPTNMA	N/A	(\$104,533)	N/A	N/A	N/A	N/A
BWVLTNMA	N/A	N/A	N/A	N/A	N/A	N/A
CHRLTNMT	N/A	N/A	N/A	N/A	N/A	N/A
CHTGTNBR	\$194,691	\$1,567,224	\$670,579	\$288,485	244.4%	-81.6%
CHTGTNDT	\$149,285	\$927,141	\$247,005	\$32,576	65.5%	-96.5%
CHTGTNHT	N/A	(\$40,917)	N/A	\$125,640	N/A	-407.1%
CHTGTNMV	(\$83,216)	\$25,429	\$281,470	\$253,370	-438.2%	896.4%
CHTGTNNS	\$231,696	\$1,300,209	\$28,319	(\$289,476)	-87.8%	-122.3%
CHTGTNRB	\$47,357	\$397,472	\$237,977	\$159,809	402.5%	-59.8%
CHTGTNRO	(\$136,256)	\$114,797	\$340,582	\$296,123	-350.0%	158.0%
CHTGTNSE	(\$133,346)	(\$16,035)	\$232,510	\$214,730	-274.4%	-1439.1%
CHTGTNSM	N/A	(\$51,015)	N/A	\$133,199	N/A	-361.1%
CHTNTNMT	N/A	N/A	N/A	N/A	N/A	N/A
CLDGTNMA	N/A	N/A	N/A	N/A	N/A	N/A
CLEVTNMA	N/A	\$579,671	N/A	\$41,500	N/A	-92.8%
CLMATNMA	(\$126,137)	\$428,662	N/A	(\$77,200)	N/A	-118.0%
CLTNTNMA	N/A	\$40,292	N/A	\$91,763	N/A	127.7%
CLVLTNMA	\$582,168	\$1,410,776	\$384,365	\$50,747	-34.0%	-96.4%
CMCYTNMT	N/A	N/A	N/A	N/A	N/A	N/A
CMDNTNMA	N/A	N/A	N/A	N/A	N/A	N/A
CNHMTNMA	N/A	N/A	N/A	N/A	N/A	N/A
CNVLTNMA	N/A	N/A	N/A	N/A	N/A	N/A
CRHLTNCB	N/A	N/A	N/A	N/A	N/A	N/A
CRPLTNMA	N/A	N/A	N/A	N/A	N/A	N/A
CRHTNMA	(\$126,357)	(\$86,611)	N/A	\$141,979	N/A	-263.9%
CRVLTNMA	\$97,695	\$453,769	N/A	\$2,690	N/A	-99.4%
CULKTNMA	N/A	N/A	N/A	N/A	N/A	N/A
CVTNTNMT	(\$95,157)	\$168,627	N/A	\$2,334	N/A	-98.6%
DCTRTNMT	N/A	N/A	N/A	N/A	N/A	N/A
DKSNTNMT	(\$32,402)	\$296,125	N/A	(\$20,588)	N/A	-107.0%
DNRGTNMA	N/A	(\$21,713)	N/A	\$134,786	N/A	-720.8%
DOVRTNMT	N/A	N/A	N/A	N/A	N/A	N/A
DYBGTNMA	(\$136,725)	\$218,198	N/A	\$21,284	N/A	-90.2%
DYERTNMT	N/A	(\$97,575)	N/A	\$44,231	N/A	-145.3%
DYTNTNMA	N/A	\$52,617	N/A	\$135,226	N/A	157.0%
EAVLTNMA	N/A	N/A	N/A	N/A	N/A	N/A
ETWHTNMT	N/A	(\$57,901)	N/A	\$158,864	N/A	-374.4%
FIVLTNMA	N/A	N/A	N/A	N/A	N/A	N/A
FKLNTNCC	\$5,831	\$341,435	N/A	(\$242,031)	N/A	-170.9%
FKLNTNMA	\$263,291	\$798,700	N/A	(\$115,543)	N/A	-114.5%

**COMPARISON OF BELL SOUTH WIRE CENTER NPV TO AT&T WIRE CENTER NPV
 FOR ULTIMATE MARKET SHARE OF 5 PERCENT**

Wire Center	BellSouth Opening		AT&T Rebuttal		Percent Change	
	Mass Market NPV	Total NPV	Mass Market NPV	Total NPV	Mass Market NPV	Total NPV
FLVLTNMA	N/A	N/A	N/A	N/A	N/A	N/A
FRDNTNMA	N/A	N/A	N/A	N/A	N/A	N/A
FRVWTNMT	N/A	N/A	N/A	N/A	N/A	N/A
FYVLTNMA	N/A	\$102,339	N/A	\$82,799	N/A	-19.1%
GALLTNMA	(\$21,922)	\$365,528	N/A	(\$50,109)	N/A	-113.7%
GBSNTNMT	N/A	N/A	N/A	N/A	N/A	N/A
GDJTTNMA	N/A	N/A	N/A	N/A	N/A	N/A
GDVLTNMA	\$204,476	\$573,103	\$37,880	(\$105,957)	-81.5%	-118.5%
GLSNTNMA	N/A	N/A	N/A	N/A	N/A	N/A
GNBRTNMA	(\$99,114)	(\$80,996)	N/A	\$127,913	N/A	-257.9%
GNFDTNMT	N/A	N/A	N/A	N/A	N/A	N/A
GRNBTNMA	N/A	N/A	N/A	N/A	N/A	N/A
GTBGTNMT	(\$41,935)	\$148,036	\$197,649	\$152,349	-571.3%	2.9%
GTWSTNSW	(\$14,522)	\$44,725	\$82,103	\$80,732	-665.4%	80.5%
HDVLTNMA	\$547,304	\$914,585	\$103,555	(\$47,540)	-81.1%	-105.2%
HHNWTNMA	(\$160,751)	(\$115,846)	N/A	\$144,300	N/A	-224.6%
HIMNTNMA	N/A	(\$18,579)	N/A	\$137,647	N/A	-840.9%
HLLSTNMT	N/A	N/A	N/A	N/A	N/A	N/A
HMBLTNMA	N/A	\$5,115	N/A	\$135,062	N/A	2540.6%
HMPSTNMA	N/A	N/A	N/A	N/A	N/A	N/A
HNLDTNMA	N/A	N/A	N/A	N/A	N/A	N/A
HNNGTNMA	N/A	N/A	N/A	N/A	N/A	N/A
HNSNTNMT	N/A	N/A	N/A	N/A	N/A	N/A
HNTGTNMA	N/A	N/A	N/A	N/A	N/A	N/A
HRFRTNMA	N/A	N/A	N/A	N/A	N/A	N/A
HRNBTNMT	N/A	N/A	N/A	N/A	N/A	N/A
HTVLTNMA	N/A	N/A	N/A	N/A	N/A	N/A
JCSNTNMA	N/A	\$614,499	N/A	(\$146,820)	N/A	-123.9%
JCSNTNNS	\$256,894	\$821,100	\$171,913	(\$5,183)	-33.1%	-100.6%
JFCYTNMA	N/A	\$13,189	N/A	\$120,251	N/A	811.7%
JLLCTNMA	N/A	N/A	N/A	N/A	N/A	N/A
JSPRTNMT	N/A	N/A	N/A	N/A	N/A	N/A
KGTNTNMT	N/A	N/A	N/A	N/A	N/A	N/A
KNTNTNMA	N/A	N/A	N/A	N/A	N/A	N/A
KNVLTNBE	\$271,235	\$1,123,755	\$16,179	(\$321,840)	-94.0%	-128.6%
KNVLTNFC	\$86,840	\$523,875	\$396,244	\$230,933	356.3%	-55.9%
KNVLTNMA	\$449,300	\$2,482,254	\$334,097	(\$533,834)	-25.6%	-121.5%
KNVLTNWH	\$631,376	\$1,937,031	\$369,734	(\$174,852)	-41.4%	-109.0%
KNVLTYNH	\$32,852	\$334,007	\$396,252	\$277,225	1106.2%	-17.0%
LBNNTNMA	(\$3,678)	\$537,213	N/A	(\$122,513)	N/A	-122.8%
LFLTNTMA	N/A	\$49,793	N/A	\$111,608	N/A	124.1%
LKCYTNMA	N/A	(\$57,516)	N/A	\$130,140	N/A	-326.3%
LNCYTNMA	N/A	\$73,982	N/A	\$95,340	N/A	28.9%
LODNTNMA	N/A	\$10,467	N/A	\$120,661	N/A	1052.8%
LRBGTNMA	(\$193,376)	\$115,075	N/A	\$29,808	N/A	-74.1%
LWBGTNMA	(\$127,314)	\$70,456	N/A	\$66,757	N/A	-5.3%
LXTNTNMA	N/A	N/A	N/A	N/A	N/A	N/A
LYBGTNMT	N/A	N/A	N/A	N/A	N/A	N/A
LYLSTNMA	N/A	N/A	N/A	N/A	N/A	N/A
LYVLTNMA	N/A	N/A	N/A	N/A	N/A	N/A