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BELLSOUTH TELECOMMUNICATIONS, INC.
DIRECT TESTIMONY OF D. DAONNE CALDWELL
BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 960833-TP
AUGUST 12, 1996

Q. PLEASE STATE YOUR NAME, ADDRESS AND OCCUPATION.

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

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

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

My initial employment was with South Central Bell in 1976 in the Tupelo, Mississippi, Engineering Department where I was responsible for Outside Plant Planning. In 1983, I transferred to BellSouth Services, Inc. in Birmingham, Alabama, and was responsible for the Centralized Results

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1 System Database. I moved to the Pricing and Economics Department in 1984
2 where I developed methodology for service cost studies until 1986 when I
3 accepted a rotational assignment with Bell Communications Research, Inc.
4 While at Bellcore, I was responsible for development and instruction of the
5 Service Cost Studies Curriculum including courses such as "Concepts of
6 Service Cost Studies", "Network Service Costs", "Nonrecurring Costs", and
7 "Cost Studies for New Technologies". In 1990, I returned to BellSouth and
8 was appointed to a position in the cost organization, which is now a part of the
9 Finance Department, with the responsibility of managing the development of
10 cost studies for transport facilities, both loop and interoffice.

11

12 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

13

14 A. The purpose of my testimony is to describe the cost methodology used in the
15 Long Run Incremental Cost (LRIC) and Total Service Long Run Incremental
16 Cost (TSLRIC) studies for the unbundled elements that BellSouth will provide
17 to the Alternative Local Exchange Companies (ALECs) in Florida.
18 Specifically, I will address the cost studies for the following network elements:

19

- 20 • Unbundled Loops
- 21 • Unbundled Ports and Associated Local Usage
- 22 • Unbundled Loop Channelization Systems and Central Office Channel
23 Interfaces (located in the BellSouth central office buildings)
- 24 • Special Access Voice Grade Service Interoffice Channel Voice -
- 25 • Unbundled Exchange Access

- 1 • Operator Services
- 2 • Directory Assistance
- 3 • Common Channel Signaling
- 4 • Database Services

5

6 The cost studies include all the volume sensitive and volume insensitive long
7 run incremental costs associated with the provision of these unbundled
8 elements.

9

10 Q. DOES YOUR TESTIMONY ADDRESS THE DIRECT TESTIMONY OF
11 AT&T WITNESSES IN THIS PROCEEDING?

12

13 A. No. My testimony does not address the testimony which AT&T has filed
14 subsequent to the filing of its petition. Responses to AT&T's testimony will
15 be included in the Company's rebuttal testimony in this docket.

16

17 Q. DOES YOUR TESTIMONY ADDRESS THE RECENTLY ISSUED
18 FEDERAL COMMUNICATIONS COMMISSION (FCC) RULES?

19

20 A. No. The FCC's rules were not received in time to be incorporated in this
21 testimony. Comments related to the impact of the FCC's rules will be included
22 in subsequent testimony in this docket.

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24 Q. PLEASE LIST THE UNBUNDLED ELEMENTS FOR WHICH
25 BELLSOUTH PROVIDED COST STUDIES IN DOCKET NO. 950984-TP?

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A. On May 28, 1996, in Docket No. 950984-TP, BellSouth filed cost studies for the following unbundled elements:

- 2-wire analog voice grade unbundled loops
- 4-wire analog voice grade unbundled loops
- 2-wire ISDN digital grade unbundled loops
- 4-wire DS1 digital grade unbundled loops
- Unbundled 2-wire analog line ports
- Unbundled 2-wire ISDN digital line ports
- Unbundled 2-wire analog DID trunk ports
- Unbundled 4-wire DS1 digital DID trunk ports
- Unbundled 4-wire ISDN DS1 digital trunk ports
- Local measured usage associated with the unbundled 2-wire analog line port
- Local measured usage associated with the unbundled 2-wire ISDN digital line port
- Local measured usage associated with the unbundled 4-wire ISDN DS1 digital trunk port
- Unbundled loop channelization systems and central office channel interfaces

Revised cost studies for these elements are being filed with my testimony in this proceeding.

1 Q. WHAT REVISIONS ARE REFLECTED IN THE REVISED COST
2 STUDIES?

3

4 A. The substantive revisions are as follows:

5

- 6 • Nonrecurring costs for the unbundled 2-wire analog loop are revised
7 based on updated work times.
- 8 • Nonrecurring costs are revised to reflect a change in the disconnect
9 factor and location lives.
- 10 • Software right-to-use (RTU) costs for the unbundled ports are
11 expressed as an equivalent recurring cost as well as a nonrecurring cost.
12 Additionally, volume insensitive RTU costs are identified separately
13 and RTU costs are revised to reflect updated data.
- 14 • Local Usage associated with the various ports is calculated to include
15 the expanded local calling area and the cost results are expressed to
16 match the existing tariff rate structure.
- 17 • The unbundled voice grade loops reflect updates to the Digital Loop
18 Carrier File and the Main Distributing Frame calculations.
- 19 • The 2-wire analog line port is disaggregated into residence, business,
20 and PBX ports.

21

22 Q. PLEASE LIST THE ADDITIONAL UNBUNDLED ELEMENTS FOR
23 WHICH BELLSOUTH IS FILING COST STUDIES WITH YOUR
24 TESTIMONY IN THIS PROCEEDING?

25

1 A. Cost studies for the following unbundled elements requested by AT&T are also
2 being filed in addition to the previously filed studies:

3

- 4 • Special Access Voice Grade Service Interoffice Channel Voice -
- 5 Unbundled Exchange Access
- 6 • Operator Services
- 7 • Directory Assistance
- 8 • Common Channel Signaling
- 9 • Database Services

10

11 Cost studies for Coin Port and Operator Services Call Trace are currently in
12 progress and will be filed when they are completed.

13

14 Q. ARE COST STUDIES BEING PROVIDED FOR ALL THE UNBUNDLED
15 NETWORK ELEMENTS THAT AT&T HAS REQUESTED?

16

17 A. No. Cost studies are being filed only for the unbundled elements that
18 BellSouth plans to offer to the ALECs. Mr. Milner's testimony identifies the
19 elements which are not technically feasible and explains the Company's
20 position.

21

22 Q. WHY WERE COST STUDIES PERFORMED FOR THE UNBUNDLED
23 ELEMENTS?

24

25

1 A. The cost studies for the unbundled elements were developed to support
2 monthly and nonrecurring rates that will be charged for the unbundled
3 elements. The monthly rates are supported by the recurring costs included in
4 the studies. Recurring costs include both capital and non-capital costs. Capital
5 costs consist of depreciation, cost of money, and income tax. Non-capital
6 recurring costs are operating expenses and consist of maintenance, ad valorem
7 taxes and gross receipts taxes.

8
9 Nonrecurring costs include the one time expenses for the labor intensive
10 provisioning effort required to provide a particular service. These
11 nonrecurring costs support nonrecurring rates. Additionally, RTU fees
12 associated with the switch ports are one time expenses and are nonrecurring
13 costs. The RTU fees are expressed as nonrecurring costs and as unit recurring
14 equivalent costs in the cost studies for the unbundled elements. The Pricing
15 Organization decides whether to recover the cost in either the recurring rates or
16 the nonrecurring rates.

17
18 Q. WHAT COST METHODOLOGY IS USED IN THE COST STUDIES FOR
19 UNBUNDLED ELEMENTS?

20
21 A. Incremental costing techniques are used to identify the incremental costs
22 associated with providing these elements. Incremental costs are based on cost
23 causation and include all of the costs directly caused by expanding production,
24 or alternatively, costs that would be saved if the production levels were
25 reduced. The production unit could be an entire service or a unit of a service.

1 Costs may be volume sensitive and/or volume insensitive. Long run
2 incremental cost studies ensure that the time period studied is sufficient to
3 capture all forward looking costs affected by the business decision being
4 studied.

5

6 Q. IS THE COST METHODOLOGY USED FOR THE UNBUNDLED
7 ELEMENTS DIFFERENT FROM THE COST METHODOLOGY USED TO
8 DEVELOP LONG RUN INCREMENTAL COSTS FOR SERVICES
9 BELLSOUTH PROVIDES TO END USER CUSTOMERS?

10

11 A. No. BellSouth uses the same cost methodology to develop long run
12 incremental costs for unbundled elements provided to ALECs and for service
13 provided to end user customers.

14

15 Q. DO THE LRIC AND TSLRIC STUDIES FOR THE UNBUNDLED
16 ELEMENTS INCLUDE SHARED OR COMMON COSTS?

17

18 A. No. The long run incremental and total service long run incremental cost
19 studies do not include shared or common costs. The LRIC studies for the
20 unbundled elements include only the volume sensitive direct long run
21 incremental costs associated with providing these elements. The TSLRIC
22 studies include volume insensitive long run incremental costs in addition to the
23 LRIC. Other BellSouth witnesses, such as Dr. Emmerson and Mr. Scheye will
24 more fully address the pricing and cost recovery issues.

25

1 Q. WHAT NETWORK COMPONENTS ARE INCLUDED IN EACH OF THE
2 FOUR TYPES OF UNBUNDLED LOOPS (2-WIRE ANALOG VOICE
3 GRADE, 4-WIRE ANALOG VOICE GRADE, 2-WIRE ISDN DIGITAL
4 GRADE, AND 4-WIRE DS1 DIGITAL GRADE)?

5

6 A. The unbundled loop is the facility used to connect an ALEC's customer
7 premises with the BellSouth central office. The voice grade and ISDN
8 unbundled loops begin at a connection on the Main Distributing Frame in the
9 BellSouth central office and the DS1 unbundled loop begins at a connection on
10 a DSX-1 cross connect panel in the BellSouth central office. At the ALEC's
11 customer premises, the loop includes the cabling up to and including the
12 network interface. All outside plant components of the network utilized
13 between the central office and the ALEC's customer premises are included.
14 The network components include copper cables, poles, conduit, fiber optic
15 cables, and multiplexing equipment. Attachment DDC-1 to my testimony
16 depicts the basic architecture for each of the four unbundled loops.

17

18 Q. WHAT TECHNOLOGIES ARE INCLUDED IN THE UNBUNDLED LOOP
19 COST STUDIES?

20

21 A. The technologies differ depending on the type of loop being provisioned. The
22 voice grade and ISDN unbundled loop studies analyze two technologies:
23 copper and digital loop carrier on fiber. Copper and digital loop carrier on
24 fiber represent forward looking technologies and the most efficient method of

25

1 deploying voice grade (2-wire and 4-wire) and 2-wire ISDN unbundled loops
2 now and in the future.

3

4 The unbundled DS1 digital grade loop study analyzes five network designs
5 (architectures) that will be used on a forward looking basis to deploy DS1
6 loops. The five designs can be categorized into two basic technologies:
7 copper and Synchronous Optical Network (SONET) fiber rings.

8

9 Q. WHAT IS THE RECURRING COST STUDY PROCESS FOR
10 UNBUNDLED LOOPS?

11

12 A. The generic steps involved in developing recurring costs for unbundled loops
13 are listed below. Each of the four unbundled loops is studied separately and
14 the unique characteristics of each, such as transmission level and loop length,
15 are taken into consideration. Attachment DDC-2 provides a flowchart
16 depicting the specific steps for developing the recurring costs for the
17 unbundled 2-wire analog voice grade loop.

18

19 Step 1: Determine the network designs (architectures) which will be used to
20 deploy the loop. (Loop sample data is gathered for the voice grade and ISDN
21 loops. Design probabilities are determined for the DS1 loop from network
22 subject matter experts.)

23

24

25

1 Step 2: Determine material prices and/or investments for the items of plant
2 used in each design and/or each loop sample. Material prices are obtained
3 from BellSouth contracts with various vendors.

4
5 Step 3: Apply in-plant factors and telephone plant indices as appropriate to
6 determine base year investments. In-plant factors are applied to material prices
7 in order to convert the material price to an installed investment which includes
8 the cost of material, engineering labor and installation labor. Telephone plant
9 indices estimate the changes in material price and/or installed investment over
10 time.

11
12 Step 4: Adjust the investments for utilization to account for spare capacity.
13 Spare capacity is required for maintenance and growth.

14
15 Step 5: Apply investment inflation factors to the investments to convert the
16 utilized base year investments to investments representative of a three year
17 planning period.

18
19 Step 6: Apply loading factors to the investments to determine investments for
20 miscellaneous common equipment and power, land, buildings, poles and
21 conduit as appropriate.

22
23 Step 7: Weight the investments to determine an average investment for a
24 typical loop and add the results to determine an investment by plant account
25 for the service. The investment for each loop in the loop sample is calculated

1 and then an average loop investment is determined for the voice grade and
2 ISDN unbundled loops. The DS1 study uses the probability of occurrence of
3 the designs for weighting.

4

5 Step 8: Convert the investments by plant account to annual costs by applying
6 account specific annual cost factors to the various investments. Add the annual
7 costs for the various accounts and then divide by 12 to determine a total
8 monthly cost for the service.

9

10 Q. WHAT IS INCLUDED IN THE NONRECURRING COSTS FOR EACH
11 TYPE OF UNBUNDLED LOOP?

12

13 A. Nonrecurring costs for the unbundled loops are the one time costs associated
14 with provisioning, installing, and disconnecting the unbundled loops. These
15 costs include four major categories of activity: service order processing,
16 engineering, connect and test, and technician travel time. Examples of the
17 work activities in each of these categories are as follows:

18

- 19 • Service order processing - Prepare and issue service order
- 20 • Engineering - Assign cable and pair; Design circuit; Order plug-in
- 21 • Connect and Test - Install circuit; Test circuit
- 22 • Technician Travel Time - Travel to the ALEC's customer premises

23

24 Q. WHAT IS THE NONRECURRING COST STUDY PROCESS FOR ALL
25 FOUR TYPES OF UNBUNDLED LOOPS?

1

2 A. The generic process for developing the nonrecurring costs for unbundled loops
3 is as follows:

4

5 Step 1: Determine the cost elements to be developed.

6 Step 2: Define the work functions.

7 Step 3: Establish work flows.

8 Step 4: Determine work times for each work function.

9 Step 5: Develop directly assigned labor costs for each work function (labor
10 rate x work time).

11 Step 6: Accumulate work function costs to determine the total nonrecurring
12 costs for each cost element.

13

14 Attachment DDC-3 provides a flowchart depicting the nonrecurring cost
15 development.

16

17 Q. WHY IS THE 2-WIRE UNBUNDLED LOOP COST STUDY RESULT,
18 FILED IN THIS PROCEEDING DIFFERENT FROM THE UNBUNDLED
19 LOOP COST STUDY RESULT FILED ON JANUARY 2, 1996, BY
20 BELLSOUTH UNDER DISCOVERY ASSOCIATED WITH DOCKET NO.
21 950984-TP?

22

23 A. The results are different because the study parameters have changed. The 2-
24 wire unbundled loop cost study provided under discovery in Docket No.
25 950984-TP was based on the 1994 Loop-Is-A-Loop (LIAL) cost study. The

1 1994 LIAL cost study used older inputs, was not class of service specific, and
2 developed a monthly cost based on modeling a typical loop. The cost study
3 filed with this proceeding uses current inputs, such as material prices and
4 annual cost factors. More importantly, the new study is based on the 1995
5 Loop Survey data. The 1995 Loop Survey is a state wide sample of loops that
6 is statistically valid by class of service. The new unbundled 2-wire analog
7 voice grade loop is based on residence and business loops rather than all
8 classes of service. In addition, costs are developed for each sample loop rather
9 than modeling a typical loop.

10
11 Q. WHAT NETWORK COMPONENTS ARE INCLUDED IN EACH OF THE
12 FIVE TYPES OF UNBUNDLED PORTS (2-WIRE ANALOG LINE
13 (RESIDENCE, BUSINESS, AND PBX), 2-WIRE ISDN DIGITAL LINE, 2-
14 WIRE ANALOG DID TRUNK, 4-WIRE DS1 DIGITAL DID TRUNK, AND
15 4-WIRE ISDN DS1 DIGITAL TRUNK)?

16
17 A. The unbundled port is the facility used to connect an ALEC's loop to a
18 BellSouth end office switch. The facility includes the connection on the Main
19 Distributing Frame, the jumper to the switch, and the non-traffic sensitive
20 termination in the switch. BellSouth uses the Switching Cost Information
21 System (SCIS), a Bellcore cost model, to develop the vendor engineered,
22 furnished, and installed (EF&I) investment associated with these items of
23 plant. The SCIS model outputs reflect vendor design criteria, BellSouth
24 engineering rules, and customer usage characteristics. Attachment DDC-4
25 illustrates the basic architecture of the unbundled ports.

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Local measured usage is associated with the 2-wire analog line (residence, business, and PBX), 2-wire ISDN digital line and 4-wire ISDN DS1 digital trunk unbundled ports. This usage includes the traffic sensitive switching cost of the end office for both intraoffice and interoffice calls within the local calling area of that end office. Additionally, local tandem switching and interoffice transport are included. Attachment DDC-5 shows an illustrative example of a local exchange network.

Q. WHAT IS THE RECURRING COST STUDY PROCESS FOR UNBUNDLED PORTS AND LOCAL MEASURED USAGE?

A. The recurring cost study process is basically the same for any service or network element. Therefore, the process (steps) outlined for the unbundled loops is generally the same as for the unbundled ports. However, the unique characteristics of each element must be considered. For the unbundled ports, SCIS models the switch characteristics and identifies the direct incremental investments associated with providing the unbundled ports. SCIS adjusts the investments for equipment used for administrative purposes. The SCIS output investment is basically processed as outlined in steps 3 and 5 through 8 for the unbundled loops to determine the monthly cost per port.

The Network Cost Analysis Tool (NCAT), a Bellcore cost model, is used to calculate the cost associated with the first and additional minute per local call. The NCAT model is very complex, as is the public switched network.

1 Thousands of data inputs from numerous company sources are used to
2 populate the database files of NCAT. For example, the inputs include end
3 office switching investments, interoffice investments, and local service point-
4 to-point usage data. A demand change or stimulation factor is used to
5 determine incremental messages and minutes for local usage associated with
6 the unbundled port. NCAT calculates the incremental costs associated with the
7 various network components impacted by the incremental (or change in)
8 demand. The processing of an ISDN call consumes switch resources
9 incremental to a Plain Old Telephone Service (POTS) call. Therefore,
10 additional switch costs are identified using SCIS and are added to the NCAT
11 results for the ISDN unbundled ports.

12
13 Q. WHAT IS INCLUDED IN THE NONRECURRING COSTS FOR EACH
14 TYPE OF UNBUNDLED PORT?

15
16 A. The nonrecurring costs for the unbundled port include the costs associated with
17 provisioning, installing, and disconnecting the unbundled ports and RTU costs
18 where applicable. The RTU costs are also expressed as unit recurring
19 equivalent costs. Specifically, the nonrecurring costs for the 2-wire analog
20 line, 2-wire ISDN digital line and the 4-wire ISDN digital trunk port include
21 costs for processing the service order, assigning the line and number,
22 processing the switch translations, and RTU costs. Additionally, the ISDN
23 ports include labor related costs associated with facility design. The costs for
24 the DID trunk ports include costs for processing the service order, processing

25

1 the switch translations, and designing the facilities. DID terminations do not
2 include RTU costs.

3

4 Q. WHAT IS THE NONRECURRING COST STUDY PROCESS FOR THE
5 UNBUNDLED PORTS?

6

7 A. The nonrecurring cost study process for the unbundled ports is the same as the
8 nonrecurring cost study process for the unbundled loops except the unbundled
9 ports may include RTU costs. The RTU cost is calculated by first determining
10 the RTU expense from vendor contracts. The RTU fees are vendor and switch
11 type specific. Therefore, the individual fees are melded based on the percent
12 deployment of network access lines per switch type. Then gross receipts tax is
13 added to the melded number to determine a RTU cost per port installed.

14

15 Q. WHAT NETWORK COMPONENTS ARE INCLUDED IN THE
16 UNBUNDLED LOOP CHANNELIZATION SYSTEM AND THE CENTRAL
17 OFFICE CHANNEL INTERFACE?

18

19 A. The unbundled loop channelization system and central office channel interface
20 is an arrangement offered to the ALEC for the purpose of channelizing
21 multiple digital loop carrier 1.544 mbps channels on a non-concentrated or
22 concentrated basis up to a maximum of 96 channels per system. These
23 channels are available for connection to unbundled voice grade loops. The
24 system includes the DSX-1 cross connect panel terminations for the DS1s and
25 the digital loop carrier system hardwired equipment and common plug-ins.

1 The central office channel interface includes the working voice grade plug-in.
2 Attachment DDC-6 depicts the items of plant included in these elements.

3

4 Q. WHAT IS THE RECURRING COST STUDY PROCESS FOR THE
5 UNBUNDLED LOOP CHANNELIZATION SYSTEM AND CENTRAL
6 OFFICE CHANNEL INTERFACE?

7

8 A. The recurring cost study process for the unbundled loop channelization system
9 and central office channel interface includes the same generic cost study steps
10 as those listed for the unbundled loops. Of course the network design
11 determined in step 1 is for the unbundled loop channelization system and
12 central office channel interface.

13

14 Q. WHAT IS INCLUDED IN THE NONRECURRING COSTS FOR THE
15 UNBUNDLED LOOP CHANNELIZATION SYSTEM AND CENTRAL
16 OFFICE CHANNEL INTERFACE?

17

18 A. The nonrecurring costs for the unbundled loop channelization system and
19 central office channel interface include three major categories of cost: (1)
20 service order processing, (2) engineering, and (3) connect and test. The
21 activities associated with these costs are similar to the activities listed for the
22 unbundled loops. These unbundled elements are located in the BellSouth
23 central office buildings. Therefore, technician travel time is not required.

24

25

1 Q. WHAT IS THE NONRECURRING COST STUDY PROCESS FOR THE
2 UNBUNDLED LOOP CHANNELIZATION SYSTEM AND THE CENTRAL
3 OFFICE CHANNEL INTERFACE?

4

5 A. The nonrecurring cost study process for the unbundled loop channelization
6 system and central office channel interface is identical to the nonrecurring cost
7 study process for the unbundled loops.

8

9 Q. WHAT NETWORK COMPONENTS ARE INCLUDED IN THE
10 UNBUNDLED SPECIAL ACCESS VOICE GRADE SERVICE
11 INTEROFFICE CHANNEL VOICE - UNBUNDLED EXCHANGE
12 ACCESS?

13

14 A. The unbundled voice grade interoffice channel is an arrangement offered to
15 ALECs for the purpose of providing a dedicated voice grade transmission path
16 between two or more switching offices and a serving wire center of BellSouth.
17 This is for connecting an unbundled exchange access loop to another central
18 office that is not the central office of the end user. The arrangement includes a
19 facility termination and a per mile element. The facility termination includes
20 transmission equipment at both end offices of the circuit as well as the circuit
21 equipment in the intermediate central offices through which the circuit passes.
22 The per mile element includes aerial, buried, and underground fiber cable as
23 well as the associated pole and conduit support investment.

24

25

1 Q. WHAT IS THE RECURRING COST STUDY PROCESS FOR THE
2 UNBUNDLED SPECIAL ACCESS VOICE GRADE SERVICE
3 INTEROFFICE CHANNEL VOICE - UNBUNDLED EXCHANGE
4 ACCESS?

5

6 A. The recurring cost study process for the unbundled voice grade interoffice
7 channel includes the same generic cost study steps as those listed for the
8 unbundled loops. Of course the network designs determined in step 1 are for
9 the voice grade interoffice channel.

10

11 Q. WHAT IS INCLUDED IN THE NONRECURRING COSTS FOR THE
12 UNBUNDLED SPECIAL ACCESS VOICE GRADE SERVICE
13 INTEROFFICE CHANNEL VOICE - UNBUNDLED EXCHANGE
14 ACCESS?

15

16 A. The nonrecurring costs for the unbundled voice grade interoffice channel
17 include three major categories of cost: (1) service order processing, (2)
18 engineering, and (3) connect and test. The activities associated with these
19 costs are similar to the activities listed for the unbundled loops.

20

21 Q. WHAT IS THE NONRECURRING COST STUDY PROCESS FOR THE
22 UNBUNDLED SPECIAL ACCESS VOICE GRADE SERVICE
23 INTEROFFICE CHANNEL VOICE - UNBUNDLED EXCHANGE
24 ACCESS?

25

1 A. The nonrecurring cost study process for the unbundled voice grade interoffice
2 channel is identical to the nonrecurring cost study process for the unbundled
3 loops.

4
5 Q. HOW WILL BELLSOUTH PROVIDE UNBUNDLED OPERATOR
6 SERVICES AND DIRECTORY ASSISTANCE (DA)?

7
8 A. BellSouth will provide unbundled operator functions using the Company's
9 existing Operator Services. Operator Services includes operator provided and
10 fully automated call handling. Operator provided call handling includes 0+
11 and 0- calls. Fully automated call handling includes automated calling card,
12 automated bill-to-third, and automated collect calls. Additionally, Operator
13 Services includes busy line verification and emergency interrupt.

14
15 BellSouth will provide unbundled DA using the Company's existing Number
16 Services. Number Services includes DA Access Service, DA Database Service
17 and Direct Access to DA Service, DA Call Completion, and Directory
18 Transport. Additionally, Number Services includes Number Intercept.

19
20 Q. HOW WILL BELLSOUTH PROVIDE UNBUNDLED COMMON
21 CHANNEL SIGNALING?

22
23 A. BellSouth will provide unbundled Common Channel Signaling using its
24 Common Channel Signaling/System Signaling 7 (CCS7) Signaling Transport
25 Service. This service provides access to the Common Channel Signaling

1 network and transport of signaling messages used for call set-up and database
2 query/response. The primary components of the network are Signal Transfer
3 Points (STPs) and Signaling Links. The STPs are packet switches which route
4 signaling messages through the network. The Signaling Links connect end and
5 tandem office switches to the STPs, and the STPs to Service Control Points
6 (SCPs). The SCPs are databases used for specific services such as Line
7 Identification Database (LIDB) service.

8
9 CCS7 Signaling Transport Service includes the following cost elements:

- 10 • CCS7 Signaling Connection per 56 kbps Facility, per Month and
11 Nonrecurring
- 12 • CCS7 Signaling Termination per STP Port, per Month
- 13 • CCS7 Signaling Usage, per Call Set-up Message and Per Transactions
14 Capabilities Application Part (TCAP) Message
- 15 • CCS7 Signaling Usage Surrogate, per 56 kbps, per Month

16
17 Q. HOW WILL BELLSOUTH PROVIDE UNBUNDLED DATABASE
18 SERVICES?

19
20 A. BellSouth will provide unbundled database services using the Company's
21 existing Database Services utilizing the CCS7 platform. Unbundled Database
22 Services includes the following:

- 23 • 800/POTS Number Delivery per Call
- 24 • 800/POTS Number Delivery with Optional Complex Features
- 25 • per Call

- 1 • LIDB Common Transport per Query
- 2 • LIDB Validation per Query
- 3 • Originating Point Code Establishment or Change

4

5 Q. WHAT IS THE RECURRING COST STUDY PROCESS FOR OPERATOR
6 SERVICES AND DIRECTORY ASSISTANCE?

7

8 A. The cost study process follows the same generic steps for investment related
9 recurring costs as previously discussed for unbundled loops. In addition to
10 these investment related costs, software expenses have been quantified as well
11 as operator labor costs. These costs are levelized over the period of 1996
12 through 1998. The levelized software expenses are amortized over five years
13 to develop an equivalent annual cost. The labor cost is calculated on a cost per
14 unit basis by using the average work time for a specific call type and
15 multiplying by the appropriate labor rate. These costs are then segregated by
16 volume sensitive and volume insensitive groupings. Unit LRIC are calculated
17 for the volume sensitive costs. Unit TSLRIC are calculated including both the
18 volume sensitive and volume insensitive costs.

19

20 Q. WHAT IS THE RECURRING COST STUDY PROCESS FOR COMMON
21 CHANNEL SIGNALING AND DATABASE SERVICES?

22

23 A. The cost study process follows the same generic steps for investment related
24 recurring costs as previously discussed for unbundled loops. In addition to
25 these investment related costs, non-investment related costs have been

1 quantified such as software expenses and lease payments for maintenance and
2 administrative vendor services. These non-investment related costs are
3 levelized over the period of 1996 to 1998. The levelized software expenses are
4 amortized over five years to develop an equivalent annual cost. These costs
5 are then segregated by volume sensitive and volume insensitive groupings.
6 Unit LRIC are calculated for the volume sensitive costs. Unit TSLRIC are
7 calculated including both the volume sensitive and volume insensitive costs.

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9 Q. WHAT IS THE NONRECURRING COST STUDY PROCESS FOR
10 OPERATOR SERVICES, DIRECTORY ASSISTANCE, COMMON
11 CHANNEL SIGNALING, AND DATABASE SERVICES?

12

13 A. The cost study process follows the generic steps identified in Attachment
14 DDC-3.

15

16 Q. PLEASE SUMMARIZE YOUR TESTIMONY.

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18 A. The long run incremental and total service long run incremental cost studies
19 filed with my testimony in this proceeding determine the long run incremental
20 costs specific to Florida for providing the following elements: unbundled
21 loops, unbundled ports and associated local measured usage, unbundled loop
22 channelization systems and central office channel interfaces, unbundled
23 interoffice voice grade transport, operator services, directory assistance,
24 common channel signaling, and database services. The cost studies include the
25 costs directly incurred in provisioning these elements. BellSouth uses the

1 same cost study methodology for unbundled elements provided to ALECs and
2 for services provided to end user customers.

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4 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

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6 A. Yes.

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