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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Petition by Metropolitan Fiber Systems of Florida, Inc. for arbitration with BellSouth Telecommunications, Inc. concerning interconnection rates, terms, and conditions, pursuant to the Federal Telecommunications Act of 1996.) DOCKET NO. 960757-TP

In Re: Petition by AT&T Communications of the Southern States, Inc. for arbitration of certain terms and conditions of a proposed agreement with BellSouth Telecommunications, Inc. concerning interconnection and resale under the Telecommunications Act of 1996.) DOCKET NO. 960833-TP

In Re: Petition by MCI Telecommunications Corporation and MCI Metro Access Transmission Services, Inc. for arbitration of certain terms and conditions of a proposed agreement with BellSouth Telecommunications, Inc. concerning interconnection and resale under the Telecommunications Act of 1996.) DOCKET NO. 960846-TP

THIRD DAY - MORNING SESSION

VOLUME IX

PAGE 1277 through 1497

BUREAU OF REPORTING

RECEIVED 2-9-98

DOCUMENT NUMBER-DATE

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CONFIDENTIAL/REPORTING

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PROCEEDINGS: HEARING
BEFORE: COMMISSIONER J. TERRY DEASON
COMMISSIONER SUSAN F. CLARK
COMMISSIONER E. LEON JACOBS, JR.
COMMISSIONER JOE GARCIA

DATE: Tuesday, January 28, 1998

TIME: Commenced at 9:00 a.m.

PLACE: Betty Easley Conference Center
Room 151
4075 Esplanade Way
Tallahassee, Florida

REPORTED BY: NANCY S. METZKE, RPR, CCR

APPEARANCES:
(As heretofore noted.)

I N D E X

WITNESSES

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EXHIBITS - VOLUME IX

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P R O C E E D I N G S

(Transcript continued in sequence from Volume VIII)

COMMISSIONER DEASON: Call the hearing to order.

Mr. Hatch.

MR. HATCH: AT&T would call Mr. Wayne Ellison.

COMMISSIONER DEASON: Has Mr. Ellison been sworn?

MR. HATCH: No, sir.

CHAIRMAN DEASON: Please stand and raise your
right hand.

(Whereupon, Wayne Ellison was duly sworn by
Commissioner Deason)

Whereupon,

WAYNE ELLISON

was called as a witness on behalf of AT&T and, after being
duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. HATCH:

Q Could you state your name and address for the
record, please?

A My name is Wayne Ellison. My address is 1200
Peachtree Street, Atlanta, Georgia.

Q By who are you employed and in what capacity?

A I'm employed by AT&T. I'm a district manager in

1 the law and government affairs organization.

2 Q Did you prepare and cause to be filed direct
3 testimony in this proceeding and rebuttal testimony in this
4 proceeding?

5 A Yes, I did.

6 Q Did you have any exhibits attached to your direct
7 testimony?

8 A Yes, I did.

9 Q Were those prepared by you or under your
10 supervision?

11 A Yes, they were.

12 Q Did you have any exhibits attached to your
13 rebuttal testimony?

14 A Yes, I did.

15 Q Were they prepared by you or under your
16 supervision?

17 A Yes, they were.

18 MR. HATCH: Mr. Chairman, could I have the direct
19 exhibits marked for identification? That would be WE-1
20 through W -- and WE-2 for the direct, and -- Actually
21 that was rebuttal.

22 COMMISSIONER DEASON: There's just one exhibit in
23 the direct, is there not?

24 MR. HATCH: Yes, sir, I believe so.

25 COMMISSIONER DEASON: Okay. The direct exhibit

1 will be identified as exhibit 46, and the rebuttal exhibit
2 will be exhibit 47.

3 MR. HATCH: Thank you, sir.

4 BY MR. HATCH:

5 Q Do you have any changes or corrections to your
6 testimony or exhibits at this time?

7 A Yes. I have one correction to my rebuttal
8 testimony on page 9, line 20. At the end of the line 20
9 the numeral four dash should be changed to the numeral two
10 dash; and then on line 21, HDSL should be changed to ADSL.

11 Q Do you have any other changes or corrections?

12 A No, I do not.

13 Q If I asked you the questions that are in your
14 direct and rebuttal testimony, would your answers be the
15 same?

16 A Yes, they would.

17 MR. HATCH: Mr. Chairman, I'd request that the
18 direct and rebuttal testimony of Mr. Ellison be inserted in
19 the record as though read.

20 COMMISSIONER DEASON: Without objection the
21 direct and rebuttal testimony will be so inserted.

22

23

24

25

1 DIRECT TESTIMONY OF

1284

2 WAYNE ELLISON

3 ON BEHALF OF

4 AT&T COMMUNICATIONS OF THE SOUTHERN STATES, INC.

5 DOCKET NOS: 960833-TP/960846-TP/971140-TP

6

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

8

9 A. My name is Wayne Ellison. My business address is 1200 Peachtree Street N.E.,
10 Atlanta, Georgia 30309. I am employed by AT&T as a District Manager in the
11 Law and Government Affairs organization.

12

13 **Q. WOULD YOU PLEASE STATE YOUR EXPERIENCE?**

14

15 A. I have 33 years experience in the telecommunications industry including 20 years
16 as a manager for C & P Telephone Company, now a part of Bell Atlantic, and 13
17 years with AT&T. At C & P Telephone Company, I worked for 7 years in the
18 outside plant engineering organization, where I was responsible for loop planning
19 and design, construction engineering, and plant utilization. I also worked 13 years
20 in the C & P Telephone Company costs and economics organization. My primary
21 responsibility within the costs and economics organization was to supervise the
22 analysis of service costs in support of the Company's rate filings. During my time
23 in the costs and economics organization I also administered plant purchases and

1 sales transactions, negotiated borderline billing agreements, and performed special
2 separations analysis.

3

4 For the past thirteen years I have been employed by AT&T. The majority of my
5 time with AT&T has been devoted to the advocacy of AT&T's positions as a
6 regulatory witness and to the analysis of information and issues in support of
7 those positions. In that regard I have been given the specific responsibility for
8 determining acceptable prices for BellSouth's network elements, transport and
9 termination, means of interconnection, and access to poles, ducts, conduits, and
10 rights-of-way under the 1996 Telecommunications Act (the "Act"). To meet this
11 later responsibility, I have participated in AT&T's negotiations with BellSouth
12 and have analyzed the cost data that BellSouth has provided to AT&T or to state
13 regulatory authorities throughout BellSouth's nine state serving area.

14

15 **Q. BASED UPON YOUR PRIOR EXPERIENCE, DESCRIBE YOUR LEVEL**
16 **OF FAMILIARITY WITH BELLSOUTH COSTS.**

17

18 **A. I am very familiar with the basic procedures and methods followed by BellSouth**
19 **to develop service costs. BellSouth's procedures and methods are often in fact**
20 **very much like the procedures and methods I followed at C & P Telephone**
21 **Company to perform the same functions.**

22

1 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION**
2 **REGARDING APPROPRIATE BELL SOUTH PRICES UNDER THE**
3 **TELECOMMUNICATIONS ACT?**

4
5 A. Yes. I provided testimony in the AT&T/BellSouth arbitration proceeding, Docket
6 No. 960833-TP. I have also provided testimony regarding this subject in state
7 regulatory proceedings in Alabama, Georgia, Louisiana, Mississippi, North
8 Carolina, South Carolina, and Tennessee.

9
10 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

11
12 A. The purpose of my testimony is to:

- 13 1. Describe the appropriate cost standard for determining network element
14 and collocation rates that comply with the 1996 Telecommunications Act
15 (the "Act").
- 16
17 2. Present AT&T's price recommendations for collocation and the various
18 unbundled network elements to be addressed in this proceeding. AT&T's
19 recommendations are designed to fully compensate BellSouth for use of
20 the Company's various capabilities, while concurrently promoting the
21 greatest possible development of price and service competition to the
22 maximum number of Florida consumers in the shortest possible time
23 frame.

1 **REQUIREMENTS OF THE TELECOMMUNICATIONS ACT OF 1996**

2

3 **Q. WHAT ARE THE RELEVANT REQUIREMENTS OF THE**
4 **TELECOMMUNICATIONS ACT OF 1996 WITH RESPECT TO THE**
5 **CAPABILITIES BEING PRICED IN THIS PROCEEDING?**

6

7 A. Sections 251(c)(3) and 251(c)(6) of the Act require that BellSouth provide
8 collocation and network elements on rates, terms, and conditions that are just,
9 reasonable, and nondiscriminatory. Section 252(d)(1) specifies that just and
10 reasonable rates for interconnection and network elements shall be based on the
11 cost (determined without reference to a rate-of-return or other rate-based
12 proceeding) of providing the interconnection or network element, shall be
13 nondiscriminatory, and may include a reasonable profit.

14

15 **Q. HOW SHOULD COST-BASED RATES BE DETERMINED?**

16

17 A. Rates should be set to recover Total Element Long Run Incremental Cost
18 (TELRIC), plus a reasonable contribution to forward-looking common costs.

19

20 **Q. WHAT IS TELRIC?**

21

22 A. TELRIC is the additional cost that would be borne by a wholesale-only firm using
23 efficient, forward-looking technology and operating practices to produce the

1 current output of an unbundled network element. This definition refers to the
2 total additional cost of providing the current volume of output of a UNE, which
3 must then be divided by the current volume to yield unit cost for rate purposes.
4

5 **Q. WHY IS IT NECESSARY THAT TELRIC REFLECT ONLY EFFICIENT,**
6 **FORWARD-LOOKING COSTS?**

7
8 A. Prices must be set at efficient, forward-looking costs to allow consumers to
9 receive the benefits of competition. Most importantly, prices at efficient, forward-
10 looking costs provide such benefits by allowing competition to drive BellSouth's
11 retail rates to efficient price levels. Such prices further enhance competition by
12 requiring BellSouth to operate efficiently and compete effectively. Prices at
13 efficient, forward-looking costs also encourage efficient market entry. Finally,
14 prices at efficient, forward-looking costs limit BellSouth's ability to engage in
15 anti-competitive pricing behavior. These outcomes precisely match the pro-
16 consumer goals of the Act.

17
18 **Q. WHY IS IT NECESSARY THAT TELRIC REFLECT ONLY**
19 **INCREMENTAL COST?**

20
21 A. Incremental cost is the additional cost of providing a network element, as an
22 addition to the existing mix of network elements otherwise being provided.
23 Where there are economies of scope among network elements, incremental cost

1 will be less than the cost of providing the network element on a stand alone basis.
2 Basing prices on incremental rather than stand alone cost shares such economies
3 of scope with purchasers of network elements, as would be required in a
4 competitive market.

5

6 **Q. WHAT IS MEANT BY NON-RECURRING CHARGES?**

7

8 A. With regard to this proceeding, a non-recurring charge is a charge levied by
9 BellSouth on new entrants to install, modify, or disconnect network elements and
10 other capabilities provided new entrants. Such charges are normally in addition to
11 recurring charges that new entrants pay on a monthly or usage basis to actually
12 use such capabilities.

13

14 **Q. WHAT CONSIDERATIONS ARE INVOLVED IN ESTIMATING TELRIC**
15 **FOR COSTS PROPOSED TO BE RECOVERED THROUGH NON-**
16 **RECURRING CHARGES?**

17

18 A. All of the TELRIC principles apply in developing prices to recover the costs
19 incurred in providing nonrecurring services. The estimated costs must be the
20 incremental costs of performing the studied activity, using efficient technologies
21 and operating procedures.

22

1 **Q. ARE THERE SPECIAL CONCERNS WHICH SHOULD BE**
2 **CONSIDERED BY THE COMMISSION WHEN DECIDING THE**
3 **APPLICABILITY OR LEVEL OF NON-RECURRING CHARGES**
4 **ASSESSED NEW ENTRANTS?**

5
6 A. Yes. Up-front charges imposed on new entrants can pose a significant barrier to
7 entry. As a result, incumbent local exchange carriers, including BellSouth, have
8 an incentive to load as many costs as possible into non-recurring charges to
9 discourage or delay entry. This Commission must therefore look very closely at
10 every BellSouth proposal for non-recurring charges to assure that such charges are
11 in fact appropriate, and that the charge reflects only the efficient, incremental cost
12 of performing such work.

13

14 **THE AT&T RATE PROPOSAL**

15

16 **Q. DO YOU HAVE A RECOMMENDATION REGARDING SPECIFIC**
17 **RATES THE COMMISSION SHOULD ADOPT IN THIS PROCEEDING?**

18

19 A. Yes. Non-recurring charges for customer migration, identified as Issue 2 in
20 Appendix "A" of the procedural order, should be based on the recommendations
21 of Mr. Lynott. Non-recurring charges for the Network Interface Device (NID),
22 2W/4W loop distribution, and DS1 Transport (for use with Directory Assistance
23 and Dedicated Transport) should also be based on the recommendations of Mr.

1 Lynott. Physical and virtual collocation rates should be based on the
2 recommendations of Mr. Klick and Mr. Bissell. Prices not addressed by these
3 witnesses should be based on the best available evidence of BellSouth's forward-
4 looking economic costs. AT&T will recommend prices for these additional
5 elements following review and analysis of the BellSouth cost studies. Exhibit
6 WE-1 reflects AT&T's specific recommendations.

7

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

9

10 **A. Yes.**

11

12

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BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

REBUTTAL TESTIMONY OF

WAYNE ELLISON

ON BEHALF OF

AT&T COMMUNICATIONS OF THE SOUTHERN STATES, INC.

Docket No. 960833-TP/960846-TP//960757-TP/971140-TP/960916-TP

Filed: December 9, 1997

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REBUTTAL TESTIMONY OF

WAYNE ELLISON

ON BEHALF OF

AT&T COMMUNICATIONS OF THE SOUTHERN STATES, INC.

DOCKET NOs: 960833-TP/960846-TP/960757-TP/971140-TP/960916-TP

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

A. My name is Wayne Ellison. My business address is 1200 Peachtree Street N.E., Atlanta, Georgia 30309. I am employed by AT&T as a District Manager in the Law and Government Affairs organization.

Q. ARE YOU THE SAME WAYNE ELLISON THAT FILED DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my rebuttal testimony is to:

1. Critique BellSouth's cost studies. I will demonstrate that the cost studies submitted by BellSouth in this proceeding contain methodological and data flaws. These flaws often lead to greatly overstated BellSouth costs, rendering BellSouth's studies unfit for use in establishing rates. These flaws include (1) overstated return on investment, depreciation, shared, and common costs, (2) excess spare facility requirements, (3) failure to reflect most efficient provisioning practices, and (4) overstated vendor costs. As a result, most

1 BellSouth cost studies do not reflect BellSouth's forward-looking economic
2 costs.

3 2. Critique BellSouth's proposed rates. I will demonstrate that BellSouth's
4 proposed rates are sometimes based on inappropriate embedded cost
5 methodologies, in other cases based on inflated cost results, and in other cases
6 structured in a discriminatory manner, rendering each such rate proposal
7 unacceptable.

8 3. Present and describe AT&T's complete rate proposal, based on our review of
9 BellSouth's studies and studies sponsored by AT&T/MCI witnesses. The rates
10 proposed by AT&T are designed to fully compensate BellSouth for use of
11 BellSouth's various capabilities, while concurrently promoting the greatest
12 possible development of price and service competition to the maximum number
13 of Florida consumers.

14

15 **Q. HAVE YOU REVIEWED THE BELLSOUTH COST STUDIES SUBMITTED IN**
16 **THIS PROCEEDING?**

17 A. Yes.

18

19 **Q. BASED ON YOUR REVIEW, DID YOU IDENTIFY PROBLEMS COMMON TO**
20 **ALL OF BELLSOUTH'S STUDIES?**

21 A. Yes. All of BellSouth's *recurring* cost studies incorporate incorrect return on investment,
22 depreciation, shared, and common cost factors. All of the company's *non-recurring* cost
23 studies incorporate incorrect shared and common cost factors. For these reasons alone
24 every study provided by BellSouth requires modification. Recommended changes to
25 BellSouth's depreciation and return factors are included in the testimonies of AT&T

1 witnesses Majoros and Cornell, respectively. AT&T witness Lerma provides
2 recommended changes to BellSouth's shared and common factors.

3

4 **Q. DID YOU ALSO IDENTIFY PROBLEMS SPECIFIC TO INDIVIDUAL**
5 **BELLSOUTH STUDIES?**

6 A. Yes. In addition to the common problems noted above, there are additional problems
7 specific to BellSouth's loop studies (ADSL loops, HDSL loops, 2-wire distribution, 4-
8 wire distribution), BellSouth's local switching study (4-wire port and features),
9 BellSouth's NID studies, each BellSouth non-recurring study, BellSouth's physical
10 collocation study, and BellSouth's virtual collocation study.

11

12 **Q. WHAT ADDITIONAL PROBLEMS DID YOU IDENTIFY WITH BELLSOUTH'S**
13 **LOOP SUBMISSIONS?**

14 A. BellSouth's loop cost submissions, including the cost studies for two and four wire loop
15 distribution, ADSL loops, and HDSL loops, have a number of additional problems. First,
16 the study procedure used by BellSouth to determine the costs of each element is simply
17 incapable of producing accurate results. Second, each study is based on a "hypothetical"
18 loop derived from a loop sample that excludes the characteristics of BellSouth's lowest
19 cost loops. Third, each study reflects excessive spare facility costs because BellSouth
20 used incorrect utilization factors. Fourth, each study incorporates overstated unit cost
21 factors and drop wire costs. Each of these shortcomings increase BellSouth's cost
22 estimates.

23

24 **Q. WHY IS THE BELLSOUTH LOOP STUDY PROCEDURE INCAPABLE OF**
25 **PRODUCING ACCURATE RESULTS?**

1 A. BellSouth's loop study procedure is fatally flawed—for all voice grade loop cost
2 calculations—because the design of the loop cost model is defective. BellSouth's loop
3 cost model estimates average loop cost by, (1) applying various estimated unit cost and
4 utilization ratios to, (2) a “hypothetical” loop derived from sampled characteristics of a
5 small number of loops, (3) modified to reflect BellSouth's view of forward-looking
6 design. Opportunity for significant error occurs at each step of the process.

7

8 Q. PLEASE EXPLAIN.

9 The BellSouth loop cost model first relies on a small sample of loops to characterize the
10 “hypothetical” physical characteristics of a typical Florida loop. The various loop
11 characteristics sampled by BellSouth include loop length, cable sheath mix, structure
12 mix, amount of bridged tap, and feeder/distribution interface location. Each of the
13 characteristics sampled by BellSouth have a wide range of values from loop to loop that
14 cannot be accurately captured in the small sample analyzed by BellSouth. Moreover,
15 ASDL and HDSL loop costs are not even calculated from BellSouth's small sample, but
16 from a “sample-of-the-sample”.

17

18 Next, BellSouth attempts to reflect the forward-looking plant characteristics of Florida
19 loops by altering the characteristics of its small sample. However, as explained by Mr.
20 Wells, the process used by BellSouth's analysts reflect neither good engineering practice
21 nor attributes of a forward-looking design.

22

23 Finally, BellSouth computes costs for the “redesigned” sample loops by applying
24 *estimated* unit cost and utilization factors developed outside the sampling process. The
25 BellSouth loop study methodology at this point forces the Company to rely on

1 unsubstantiated "expert" opinions and inappropriate historical data to estimate forward-
2 looking cable material costs, conduit costs, pole line costs, engineering costs, installation
3 costs, and cable utilization. BellSouth and the parties in this proceeding do not have a
4 means of evaluating the reasonableness of these estimates using BellSouth's current
5 methodology.

6
7 In summary, at each step of the BellSouth loop costing process BellSouth introduces
8 insupportable estimates of loop characteristics and costs that produce wholly unreliable
9 results.

10
11 **Q. YOU STATE THAT BELLSOUTH'S LOOP STUDY ALSO RELIES ON A**
12 **SAMPLE EXCLUDING BELLSOUTH'S LOWEST COST LOOPS. PLEASE**
13 **EXPLAIN.**

14 **A.** The loop sample used to by BellSouth to calculate loop costs is drawn from a universe
15 that incorrectly excludes ESSX loops, business trunks, and other business offerings.
16 Excluding these loops inappropriately increases BellSouth's estimate of loop costs
17 because the excluded loops have lower costs than the mix of loops reflected in
18 BellSouth's cost study results.

19
20 **Q. DID BELLSOUTH USE OTHER INCORRECT INPUTS IN ITS LOOP COST**
21 **STUDIES?**

22 **A.** Yes. Mr. Wells describes various other incorrect inputs, including incorrect unit costs,
23 overstated drop wire investments, and incorrect feeder and distribution fill factors.

24
25

1 Q. HOW ARE FEEDER AND DISTRIBUTION FILL FACTORS USED IN
2 BELLSOUTH'S LOOP STUDIES?

3 A. The feeder and distribution cable fill factors are designed to recover BellSouth's
4 investments in spare feeder and distribution plant facilities. BellSouth accounts for such
5 costs in its studies by first calculating the direct investment required to provide the loop,
6 and then dividing the calculated direct investment by a "fill" factor. For distribution
7 cable BellSouth uses a factor of 38.8%. The Company divides each dollar of direct
8 investment by this factor to obtain an investment "including spare" of \$2.57. The
9 resulting investment used to compute costs, therefore, includes a spare equipment
10 requirement equal to 157% of the actual investment required to provide service, which is
11 unreasonable.

12
13 Q. IS USE OF A FILL FACTOR INHERENTLY UNREASONABLE?

14 A. No. Reasonable fill factors are appropriate in order to recover BellSouth's administrative
15 spare and lumpy investment requirements. However, the fill factor BellSouth uses is not
16 derived from a reasonable calculation of these requirements, but from inappropriate
17 historical data reflecting not only spare requirements for current capacity but spare
18 placed by BellSouth to meet future service demands. This type factor is inappropriate.

19
20 Q. WHY IS IT INAPPROPRIATE FOR THE COMPANY TO USE FACTORS
21 REFLECTING EXISTING PLANT FILL IN ITS COST STUDIES?

22 A. BellSouth's fill factors supposedly measure existing total spare, regardless of whether
23 such spare is required to serve existing customers. In some cases it may be reasonable
24 for BellSouth to have excessive spare levels because it may be more efficient to build
25 excess capacity now (for example, to avoid the costs of future retrenching when new

1 demand for that capacity materializes). Whether or not that is true in any given case will
2 depend on whether the cost savings associated with a single installation are greater than
3 the carrying costs for the excess capacity. But, in any event, much of BellSouth's spare
4 capacity would not exist if it were not for anticipated future demand. The costs
5 associated with that spare should therefore be the responsibility of the future demand that
6 it services.

7
8 Said another way, this is not a question about whether such spare exists, but a question of
9 matching spare facility costs with the offerings that cause such costs to be incurred.
10 AT&T's proposal allows BellSouth to collect growth spare costs once--from the new
11 customers that spare plant is placed to serve. BellSouth's methodology allows the
12 Company to collect its costs twice-- from both new and existing customers.

13
14 **Q. HOW DO THE COST STUDY DEFICIENCIES YOU DESCRIBE**
15 **SPECIFICALLY IMPACT BELLSOUTH'S COST ESTIMATES FOR LOOP**
16 **DISTRIBUTION AND ADSL/HDSL LOOPS?**

17 **A.** Each of the deficiencies I have described directly impact BellSouth's cost estimates for
18 ADSL/HDSL loops and loop distribution. BellSouth's estimated costs for each of these
19 elements includes cost components for depreciation, cost of money, shared costs, and
20 common costs. BellSouth's cost estimate for each includes costs of a customer drop.
21 And BellSouth's cost estimate for each includes the Company's estimate of spare facility
22 requirements. Finally, the cost of each element is based on the composition of a
23 "hypothetical" loop that excludes the characteristics of BellSouth's lowest cost loops.

1 Q. HAVE YOU QUANTIFIED THE IMPACT OF EACH INCORRECT INPUT ON
2 BELLSOUTH'S SUB-LOOP AND ADSL/HDSL COST RESULTS?

3 A. Partially. Rebuttal Exhibit WE-1 includes corrected BellSouth cost results incorporating
4 most of the adjustments I have described. However, Rebuttal Exhibit WE-1 does not
5 adjust for the incorrect loop sample used by BellSouth, because the data to make this
6 correction is not available. The specific adjustments included on Rebuttal Exhibit WE-1,
7 for loops as well as all other elements, are identified on Rebuttal Exhibit WE-2.

8

9 Q. SHOULD THE COMMISSION REJECT THE BELLSOUTH LOOP MODEL
10 FOR USE IN DETERMINING NETWORK ELEMENT PRICES?

11 A. Yes. The Commission should reject the BellSouth loop model because it is simply
12 incapable of producing reliable cost results, either on a statewide average basis or at the
13 geographically deaveraged cost level required for network element pricing.

14

15 Q. HOW SHOULD THE COMMISSION ESTABLISH LOOP AND SUB-LOOP
16 RECURRING RATES IN THIS PROCEEDING?

17 A. The Commission should adopt the rate proposals for distribution facilities, ADSL loops,
18 and HDSL loops contained in my Rebuttal Exhibit WE-1, which reflects AT&T's
19 complete price proposal in this proceeding. My recommendations for loops and loop
20 distribution are obtained from Hatfield Model results presented by Mr. Wood and, for ²⁻~~A~~
21 wire-~~HDSL~~^{ADSL} loops, cost ratios presented by BellSouth. The rates I propose have been
22 developed by aggregating Hatfield wire center results by identified rate group. The
23 ADSL/HDSL results are based only on copper loops. I also recommend in Rebuttal
24 Exhibit WE-1 that loop prices be deaveraged to reflect weighted average loop costs for
25 each of six wire center groups. Although wire center deaveraging does not capture all

1 variables associated with loop costs, it does generally capture differences due to the
2 greatest variable, population density. BellSouth should also have the capability to bill
3 deaveraged prices at the wire center group level.

4

5 **Q. HAVE YOU BASED YOUR PRICE RECOMMENDATIONS ON TELRIC**
6 **RESULTS OR TSLRIC RESULTS?**

7 A. I have based my recommendations on forward-looking costs economic costs, which
8 include all directly attributable costs of the element (sometimes based on corrected
9 BellSouth "TELRIC" studies) plus a reasonable allocation of forward-looking common
10 costs. I believe this standard most closely meets the prior direction for network element
11 pricing established by the Commission. BellSouth's so-called TSLRIC studies do not
12 meet the Commission's requirements because they do not fully reflect directly
13 attributable costs. BellSouth's "TSLRIC" studies therefore provide the Commission little
14 direction regarding appropriate rates.

15

16 **Q. WHY SHOULD THE COMMISSION GEOGRAPHICALLY DEAVERAGE LOOP**
17 **AND LOOP DISTRIBUTION PRICES?**

18 A. State average loop prices advantage BellSouth in the competitive marketplace by
19 providing the Company an artificial cost advantage in the more densely populated areas
20 of the state. Averaged rates will thereby prevent the type of widespread competition
21 envisioned by the Commission and the Act, which is antithetical to the Commission's
22 goal of encouraging the type of widespread competition that benefits all consumers.

23

24

25

1 The importance of geographically de-averaged prices for establishing competitive local
2 markets has been specifically recognized by the FCC. In its Ameritech order (FCC 97-
3 298, released August 19, 1997, paragraph 292) the FCC noted:

4
5 Establishing prices based on TELRIC is a necessary, but
6 not sufficient, condition for checklist compliance. In
7 order for us to conclude that sections 271(c)(2)(B)(i) and
8 (ii) are met, rates based on TELRIC principles for
9 interconnection and unbundled network elements must
10 also be geographically deaveraged to account for the
11 different costs of building and maintaining networks in
12 different geographic areas of varying population density.
13 Deaveraged rates more closely reflect the actual costs of
14 providing interconnection and unbundled elements.
15 Deaveraging should, therefore, lead to increased
16 competition and ensure that competitors make efficient
17 entry decisions about whether they will use unbundled
18 network elements or build facilities.

19
20 **Q. HAVE YOU PROVIDED AN ALTERNATIVE RATE PROPOSAL FOR**
21 **STATEWIDE AVERAGED RATES IN THE EVENT THE COMMISSION DOES**
22 **NOT ADOPT GEOGRAPHICALLY DEAVERAGED RATES?**

23 **A.** Yes. Rebuttal Exhibit WE-1 also includes rates suitable for uniform statewide
24 application in the event deaveraged rates are rejected. However, I strongly urge the
25 Commission to implement geographically deaveraged loop rates.

1 LOCAL SWITCHING

2

3 Q. WHAT ADDITIONAL PROBLEMS DID YOU IDENTIFY WITH RESPECT TO
4 BELLSOUTH'S LOCAL SWITCHING SUBMISSION?

5 A. AT&T determined that BellSouth's local switching cost estimate for the 4-wire port and
6 features is inflated by overstated and improperly assigned investments. Investment
7 related problems are addressed in the testimony of AT&T witness Catherine Petzinger.

8

9 Q. ARE THERE OTHER PROBLEMS WITH BELLSOUTH'S LOCAL SWITCH
10 PORT PROPOSAL?

11 A. Yes. Because BellSouth bases its recommendation on flawed cost studies, the Company
12 proposes port charges that are too high and feature charges that are inappropriate. In
13 addition, BellSouth sums its calculated costs for 24 features to derive a price for the 4-
14 wire port, including features, of \$17.36 per month. Extending BellSouth's logic, a port
15 with all features--which BellSouth is required to provide--would cost approximately
16 \$275.00 per month, given that the typical digital switch has approximately 1000 features.
17 Of course, \$275.00 for a port is unreasonable, and BellSouth's proposal is simply
18 unsound. First, even BellSouth acknowledges that the average consumer uses only a
19 very small proportion of the actual features available in a switch. A cost-based rate
20 would therefore reflect customer use of only a small number of features -- not the total
21 cost of all features available -- and even BellSouth's flawed methodology would produce
22 total feature costs less than 45 cents per month.

23

24 This lower estimate of costs is supported by a September 29, 1995 BellSouth filing with
25 the Kentucky Public Service Commission, where BellSouth claimed its average monthly

1 costs for vertical features provided with an additional residential line were \$0.69.
2 BellSouth's estimated vertical feature costs of \$6.20 in this proceeding are therefore
3 unreasonable by any measure, and approximately 800% higher than cost estimates
4 presented by the Company in Kentucky.

5
6 **Q. WHAT ACTION SHOULD THE COMMISSION TAKE WITH RESPECT TO**
7 **PRICES FOR LOCAL SWITCHING?**

8 A. The Commission should adopt the AT&T proposal contained in Rebuttal Exhibit WE-1,
9 which is based on corrected BellSouth cost results and the analysis of witness Catherine
10 Petzinger.

11
12 **Q. DOES AT&T RECOMMEND SEPARATE OR ADDITIONAL CHARGES FOR**
13 **FEATURES, FUNCTIONS, AND OTHER CAPABILITIES OF THE LOCAL**
14 **SWITCH?**

15 A. No. As explained by AT&T witness Catherine Petzinger, separate and additional charges
16 for features and functions are not appropriate. In addition, Ms. Petzinger describes the
17 significant barriers to competition that would occur if BellSouth were allowed to
18 implement even minimal separate feature charges, which would require new entrants to
19 follow a request process each time a new feature were desired. The Commission simply
20 cannot allow BellSouth to erect such barriers to competition by establishing separate
21 charges for each feature, function, or capability, which would remain regardless of the
22 actual level of BellSouth charges. The FCC recognized as much in formulating its
23 network element rules, stating at Paragraph 423 of the FCC's First Report and Order, CC
24 Docket No. 96-98, released August 8, 1996:

25

1 We also disagree with the proposal to define local
2 switching as a point of access plus basic switching
3 functionality, but that would exclude vertical switching
4 features. As a legal matter, this definition is inconsistent
5 with the 1996 Act's definition of "network element,"
6 which includes all the "features, functionality's, and
7 capabilities provided by means of such facility or
8 equipment. In addition, this definition would not fulfill
9 the pro-competitive objectives of the 1996 Act as
10 effectively as the per-line definition we adopt. A
11 competitor that obtains basic and vertical switching
12 features at cost-based rates will have maximum
13 flexibility to distinguish its offerings from those of the
14 incumbent LEC by developing a variety of service
15 packages and pricing plans. Moreover, an up front
16 purchase of all local switching features may speed entry
17 by simplifying practical issues such as the pricing of
18 individual switching features.

19
20 The FCC's position was recently upheld by the decision of the 8th Circuit Court.

21
22 **Q. ARE THERE ADDITIONAL REASONS FOR NOT ADOPTING SEPARATE**
23 **CHARGES FOR 4-WIRE PORT FEATURES AND FUNCTIONS?**

24 **A. Yes. Adopting separate charges for features and functions would also conflict with the**
25 **policy of this Commission. In its arbitration order the Commission determined that local**

1 switching included all features and functions. The Commission thereupon established
2 monthly and usage rates to recover such costs. Specifically, the Commission adopted a
3 monthly rate of \$2.00 and a per minute rate of \$0.0175 for the first minute and \$0.005 for
4 each additional minute for the 2-wire port. The 4-wire port being priced in this
5 proceeding is identical to the 2-wire port already priced; i.e., the 4-wire port is simply a
6 2-wire port bundled with signaling and terminating equipment. It follows then that
7 adding transmission equipment to the 2-wire port should not cause the entire pricing
8 structure for the underlying switch function to change. Instead, the price increment for
9 the bundled offering should reflect only the cost of the added transmission equipment.

10
11 **NON-RECURRING COSTS**

12
13 **Q. WHAT ADDITIONAL PROBLEMS DID AT&T IDENTIFY WITH**
14 **BELLSOUTH'S NONRECURRING COST SUBMISSIONS?**

15 **A.** Additional problems with BellSouth's non-recurring cost studies are addressed by
16 witnesses Lynott and Hyde. These witnesses point out BellSouth's failure to reflect
17 forward-looking economic costs in the Company's non-recurring cost studies. The
18 Commission should reject BellSouth's studies, and require that rates reflect efficient
19 provisioning methods, as described and quantified in the testimony of Mr. Lynott, and
20 reflected in AT&T's rate recommendations contained in Rebuttal Exhibit WE-1. Non-
21 recurring charges, if not properly structured and priced, will present insurmountable
22 barriers to competition. The Commission must not allow BellSouth to foreclose viable
23 competition through excessive non-recurring rates that could otherwise result through
24 efficient recurring rates for network elements.

25

1 **Q. SHOULD THE COMMISSION ADOPT BELLSOUTH'S PROPOSAL FOR OSS**
2 **INTERFACE CHARGES?**

3 A. No, absolutely not. The Commission correctly determined in the arbitration proceedings
4 that "each party shall bear its own cost of developing and implementing electronic
5 interface systems, because those systems benefit all carriers". There is no reason to
6 revisit the Commission's decision in the current proceeding. BellSouth should be
7 required to develop its transactional non-recurring costs assuming the existence of
8 efficient electronic interface arrangements, and the Company should be required to
9 provide efficient access as the Commission has directed. To the extent BellSouth desires
10 to tariff "manual" order charges, it should be allowed to do so only for customers who
11 request a manual order process. Customers who are required to place manual orders
12 because they have no other choice (i.e., because electronic capability is not available or
13 fully functional) should not be required to pay "manual" order charges.

14

15 **Q. SHOULD BELLSOUTH'S PROPOSED OSS INTERFACE CHARGES BE**
16 **REJECTED FOR ANY OTHER REASON?**

17 A. Yes. In addition to being inappropriate, BellSouth's claimed costs are undocumented.
18 No proposal for billing to new entrants should be considered simply because BellSouth
19 claims costs of a certain level, or asserts that such costs are necessary and prudent. The
20 burden of proof for any claimed cost should be on BellSouth, and BellSouth has not even
21 attempted in this proceeding to meet that burden.

22

23 The Commission should also reject BellSouth's proposed method of recovering costs.
24 As the Commission has previously determined, investments in electronic gateway
25 systems will benefit all carriers. Yet, BellSouth has taken the position in this proceeding

1 that BellSouth's electronic interface costs (which may or may not be prudent) should be
2 recovered directly and solely from competing carriers in the form of special non-
3 recurring charges. This constitutes another attempt by BellSouth to use its monopoly
4 power to favor itself over potential entrants. In this regard, even if BellSouth accurately
5 identified its prudent costs, the Company would establish one more barrier to entry that
6 will suppress competition by making its competitors pay more of those costs per unit of
7 demand.

8

9 **Q. DID AT&T IDENTIFY ADDITIONAL PROBLEMS WITH BELLSOUTH'S COST**
10 **SUBMISSIONS FOR THE NID?**

11 A. Yes. Mr. Wells describes the additional problems we identified with the BellSouth NID
12 studies. Corrected BellSouth cost results incorporating Mr. Well's suggestions are
13 reflected on Rebuttal Exhibit WE-1.

14

15 **Q. WHAT ADDITIONAL PROBLEMS WERE IDENTIFIED WITH RESPECT TO**
16 **BELLSOUTH'S PHYSICAL AND VIRTUAL COLLOCATION COST**
17 **SUBMISSIONS?**

18 A. Problems with BellSouth's collocation studies are outlined in the testimonies of Mr.
19 Bissell and Mr. Hyde.

20

21 **EMBEDDED COST RECOVERY**

22

23 **Q. SHOULD THE COMMISSION SERIOUSLY CONSIDER BELLSOUTH'S**
24 **REQUEST TO RECOVER EMBEDDED COSTS IN THE COMPANY'S LOOP**
25 **AND LOCAL SWITCHING RATES?**

1 A. No. The recovery of embedded costs in rates charged new entrants would greatly harm
2 competition and the Florida consumer. Competitors would be harmed because they
3 would be placed at a disadvantage to BellSouth in offering cost-based prices.
4 Consumer's would be harmed because they would pay higher than necessary rates to both
5 BellSouth and its competitors. Only BellSouth shareholders and managers would benefit
6 from including embedded costs, because BellSouth would be permitted under its
7 proposal to recover non-existent or inefficient costs. These are not the outcomes
8 contemplated by the Act.

9

10 **Q. THEN YOU DO NOT AGREE WITH MR. VARNER THAT THE ACT**
11 **CONTEMPLATES THAT PRICES RECOVER EMBEDDED COSTS?**

12 A. No. The Act contemplates that network element rates will be established at levels to
13 promote efficient competition that benefits consumers, i.e., at forward-looking economic
14 costs. Contrary to Mr. Varner's claims, the Act actually forbids consideration of
15 BellSouth's embedded costs by requiring that interconnection and network element
16 prices be "based on the cost (determined without reference to a rate-of-return or other
17 rate-based proceeding) of providing the interconnection or network element".
18 Considering BellSouth's "embedded" costs would require a rate-based proceeding.

19

20 **Q. HAS BELLSOUTH PROVIDED ANY DOCUMENTATION OF ITS SO-CALLED**
21 **EMBEDDED COSTS IN THIS PROCEEDING?**

22 A. No. BellSouth has produced volumes of documentation for its TSLRIC/TELRIC cost
23 models, but has not provided documentation for its claimed "embedded" costs.
24 Evidently, even BellSouth does not take its "embedded" cost recommendation seriously.
25 Importantly, this Commission should not take the "embedded" cost recommendation

1 seriously, or allow the proposal to divert this Commission from critically examining
2 BellSouth's forward-looking costs.

3
4 **Q. HAS IT BEEN BELL SOUTH'S POLICY TO ADVOCATE PRICES BASED ON**
5 **EMBEDDED COSTS IN THE PAST?**

6 A. No. BellSouth has, in the past, advocated the use of long-run incremental costs
7 ("LRIC") to define both the price at which BellSouth is fully compensated and the cost
8 that BellSouth believes should be the basis for interconnection prices. BellSouth has also
9 argued vigorously before state regulators for the ability to establish various service
10 prices, particularly prices for competitive services, at or below incremental cost.
11 BellSouth witness Frank Kolb outlined the Company's position regarding incremental
12 cost-based pricing in testimony before the Georgia Public Service Commission in Docket
13 No. 5258-U, stating that "[L]ong run incremental cost is the proper standard in
14 computing a price floor and is a basis for testing for a subsidy". Mr. Kolb went on to
15 state "as long as revenue is above total long run incremental cost (volume and non-
16 volume sensitive components), a service is compensatory and is not subsidized.
17 Consequently, there is a need for only one standard to test prices for subsidy, and that
18 standard is long run incremental cost."

19
20 BellSouth specifically addressed the use of LRIC for interconnection pricing in a March,
21 1995 filing with the European Commission. There, BellSouth Europe summarized the
22 Company's position as follows:

- 23 • Interconnection charges will have a major impact on the potential
24 success of infrastructure liberalization.

- 1 • Interconnection charges should reflect cost causation and, as such,
2 should be based on long run incremental costs (LRIC).
3 • Interconnection charges should motivate incumbent efficiency.
4 • Rather than handicapping incumbents, past monopoly-bred
5 inefficiencies often greatly advantage these incumbents when
6 competition with new entrants requiring interconnection begins.
7 • Incumbents bring enormous structural advantages to competitive
8 situations.
9 • To develop effective competition, interconnection charges must be
10 adjusted to motivate incumbent efficiency and counterbalance the
11 incumbent's considerable structural advantages.
12 • Effective competition is largely dependent upon equal access to
13 infrastructure by competing parties. This is most easily
14 accomplished by organizationally separating the incumbent's
15 infrastructure and service provision units. Where equal access does
16 not exist, interconnection charges should be adjusted to achieve the
17 same competitive effect (e.g., the AT&T ENFIA discount to MCI).

18 (emphasis added)

19

20 **Q. HAS IT ALSO BEEN BELLSOUTH'S POSITION THAT EMBEDDED COSTS**
21 **ARE ACTUALLY INAPPROPRIATE FOR PRICING?**

22 **A. Yes. BellSouth witness Frank Kolb further stated, at page 7 of his testimony in Georgia**
23 **Docket No. 5258-U:**

24 FDC methodology is inappropriate for making business
25 decisions in a competitive market for two major reasons.

1 First, FDC does not reflect the true economic costs
2 associated with the decision to provide a service for the
3 following reasons:

- 4 1. FDC does not reflect the current or prospective value of
5 the capital investment used to provide the service.
- 6 2. FDC is misleading because ongoing costs (maintenance,
7 administration and other operating expenses) are not
8 fixed at their past levels, nor are the methods of
9 production unchanging, as FDC methodology implies.

10
11 Second, the assignment of common and shared costs to a
12 product is completely arbitrary. For example, there is no
13 way to logically assign the cost of corporate
14 headquarters to any particular product or service. If this
15 assignment is arbitrarily made, and the resulting price is
16 forced to exceed what would otherwise be a market
17 price, then sales of the product decline. As a result total
18 revenues decline, and the cost of corporate headquarters
19 must be recovered from all other products and services.
20 It is clear that such a result is unacceptable. In effect,
21 the pricing philosophy which tests the market price
22 against the direct incremental cost of a service will
23 produce contributions consistent with market conditions,
24 arbitrarily assigning costs to products and services will
25 not. Said another way, the incremental cost/pricing

1 concept lets the market determine the extent to which
2 common and shared costs are covered by individual
3 services. Indeed, this strategy will result in the most
4 efficient prices and will provide the maximum
5 contribution to universal service. It is imperative that we
6 recognize that allocation of common costs to all services
7 does not guarantee recovery of those common costs.

8 (emphasis added)

9 **Although Mr. Varner has attempted to disassociate BellSouth from this statement**
10 **in other proceedings by claiming that FDC and embedded costs are not necessarily**
11 **the same, it is apparent from Mr. Kolb's statements (see underlined items) that he**
12 **was talking about embedded FDC.**

13

14 **Q. WHAT IS THE SIGNIFICANCE OF BELLSOUTH'S PRIOR STATEMENTS**
15 **REGARDING EMBEDDED COSTS TO THIS PROCEEDING?**

16 **A. Importantly, BellSouth has acknowledged in these prior statements that neither costs nor**
17 **the methods of production that produce those costs are fixed at past levels. AT&T**
18 **agrees. For example, an article in the June 17, 1997 *Atlanta Journal/Constitution***
19 **describes the significant year over year reductions that are occurring in BellSouth's work**
20 **force, stating that "[j]ust this year, the company work force has been trimmed by about**
21 **5,200 jobs." Thus, whatever BellSouth calculates its prior "actual" expenses to be, that**
22 **expense no longer exists, and "actual" expenses today will not exist in the future.**

23

24 **To therefore allow BellSouth to charge rates to reflect these prior "embedded" amounts**
25 **would simply allow BellSouth to establish an artificially high price floor for competitor**

1 prices, which the Company could use to engage in inefficient and/or anti-competitive
2 pricing. For example, BellSouth could use this cost advantage as an offset to inefficient
3 future operations costs, which would result in higher rates for all consumers. BellSouth
4 could also drive additional costs from its business, in which case BellSouth could flow
5 the extra profits to shareholders or use them to engage in anti-competitive pricing. In
6 either case allowing BellSouth to create artificially high price floors through overcharges
7 to its competitors results in higher rates for all Florida consumers.

8

9 **Q. CONTRARY TO PAST BELLSOUTH POLICY MR. VARNER NOW CITES**
10 **VARIOUS REASONS WHY PRICES SHOULD NOT BE SET EQUAL TO**
11 **ECONOMIC COSTS. CAN YOU COMMENT?**

12 **A. Yes. Mr. Varner, at one point in his direct testimony, attempts to justify BellSouth's**
13 **"new" position by stating that pricing cannot be narrowed to an exact numerical exercise.**
14 **However, Mr. Varner then contradicts his own testimony by recommending that the**
15 **Commission adopt BellSouth's embedded rate proposals, indeed obtained through an**
16 **"exact numerical exercise."**

17

18 Mr. Varner also states that pricing based on economic costs is not appropriate because
19 prices must be "functional" in the marketplace, sighting the existence of tariffs at rates
20 that are "based on costs" but apparently different than the results of BellSouth's cost
21 studies. Mr. Varner fails to explain how rates that are different than BellSouth's cost
22 studies can be based on costs. Mr. Varner also fails to explain why it is necessary to
23 resolve such conflicts by adopting the tariff rate instead of changing the tariff rate to
24 reflect BellSouth's current estimate of costs.

25

1 Q. MR. VARNER ALSO SUGGESTS THAT PRICING AT ECONOMIC COST
2 WOULD DISCOURAGE BELLSOUTH FROM MAKING PRUDENT
3 INVESTMENTS. DO YOU AGREE?

4 A. No. I find it implausible that BellSouth would purposely choose to make imprudent
5 investments in a competitive marketplace, for whatever reason. Mr. Varner attempts to
6 support this implausible conclusion by misrepresenting the outcome of suitable forward-
7 looking cost procedures, stating that BellSouth cannot recover its shared costs using
8 TELRIC-based prices. In fact, shared costs are included in TELRIC cost calculations.

9

10 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

11 A. Yes.

12

13

14

15

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20

21

22

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24

25

1 BY MR. HATCH:

2 Q Do you have a summary of your testimony?

3 A Yes, I do.

4 Q Could you give that, please?

5 A Yes. Good morning, commissioners. I'm Wayne
6 Ellison, and I'm AT&T's pricing witness. My testimony
7 presents the rates AT&T asks you to adopt for unbundled
8 network elements and collocation. I describe in my
9 prefiled testimony the reasons why my rate proposals are
10 correct, based on requirements of the Act and based on
11 correctly performed cost studies. Equally important, my
12 testimony explains why Florida consumers will only enjoy
13 the benefits of local competition, if BellSouth
14 capabilities provided new local entrants are correctly
15 priced.

16 The Telecommunications Act includes various local
17 entry options to expedite the introduction of pervasive
18 local competition, competition that drives down excessive
19 prices, that deters price increases and that leads to
20 innovative features in pricing. The Act further requires
21 BellSouth to provide network elements and other
22 capabilities to facilitate the various entry options and to
23 provide such capabilities at cost-based rates. After all,
24 availability at unreasonable rates is equivalent to no
25 availability at all.

1 BellSouth understands the importance of prices to
2 availability and to a potential impact of competition on
3 BellSouth. That is why prices for capabilities provided
4 new entrants are so contentious. That is why the prices
5 proposed by BellSouth are so high. After all, if you own
6 the monopoly that controlled the prices for what your
7 competitors need to break your monopoly, how would you set
8 those prices? I expect by inflating your cost as BellSouth
9 has done, by including past investments, even if they are
10 not efficient by today's standards, by greatly exaggerating
11 nonrecurring costs, by presenting loop costs only for the
12 company's most expensive loops, by averaging costs that
13 vary widely because averaging protects the company's key
14 markets, by overstating spare equipment requirements, and
15 by exaggerating other costs as described in my testimony
16 and the testimony of other AT&T witnesses.

17 We should expect BellSouth to do its best to
18 protect its monopoly; however, Congress and the courts have
19 given you and not BellSouth the power to identify the real
20 costs and to set efficient prices. In doing so, I urge you
21 to use your power to set prices for BellSouth elements as
22 if BellSouth had efficient competitors who were anxious to
23 sell network elements to customers like AT&T and MCI, in
24 other words, require BellSouth to set prices at efficient
25 costs without the additives only a monopoly would propose.

1 That is how you bring the full benefits of competition to
2 Florida.

3 My testimony presents rates at those efficient
4 levels. Several of the rates I recommend result from
5 applying the cost models you've heard described by other
6 AT&T witnesses. The remainder result from BellSouth
7 studies after making important adjustments to bring
8 BellSouth's inflated cost estimates to efficient economic
9 levels.

10 I urge the Commission to adopt the rates I
11 propose. If Florida consumers are to benefit from you
12 expediting pervasive competition, you must order BellSouth
13 to behave in this new venture as if they were competing not
14 with new entrants but in a new business providing network
15 elements and other capabilities to companies like AT&T. To
16 the extent you can do that, set rates for network elements
17 and other capabilities like those in an efficient
18 competitive market, you will do what Congress intended you
19 to do, expedite pervasive competition; and you will produce
20 the fullest possible benefits of competition to Florida
21 consumers. Thank you.

22 MR. HATCH: Tender the witness for cross.

23 COMMISSIONER DEASON: Staff.

24 MS. CARTER-BROWN: Chairman Deason, yes --

25 COMMISSIONER DEASON: Yes, your exhibit WE-4 will

1 be identified as exhibit 48.

2 MS. CARTER-BROWN: Yes, it will. Chairman
3 Deason, I need to make a slight adjustment to that exhibit.

4 COMMISSIONER DEASON: Okay.

5 MS. CARTER-BROWN: That exhibit includes the
6 January 12th deposition transcript of Mr. Ellison, and it
7 also includes, number 2, deposition and late-filed
8 deposition exhibit numbers 1, 2, 3 and 4; and then there is
9 the parenthetical comment there, includes a CD-ROM
10 containing Hatfield 4.0 and 5.0 that we will not include in
11 this exhibit. The parties have agreed to that, so you can
12 just strike that from the title page of the exhibit.

13 COMMISSIONER DEASON: So that I am clear and the
14 record is clear, what all is being stricken?

15 MS. CARTER-BROWN: The CD-ROM itself, that it
16 contains the Hatfield 4.0 model and the 5.0 model. The
17 remainder of late-filed deposition exhibit 2 includes the
18 hard copy runs that were made from that model that staff
19 requested, and staff has determined that those hard copy
20 runs will be sufficient for their purposes. And it is my
21 understanding that BellSouth and AT&T agree to this.

22 COMMISSIONER DEASON: Very well.

23 MR. HATCH: That's correct.

24 COMMISSIONER DEASON: WE-4 as modified will be
25 identified as exhibit number 48.

1 MS. CARTER-BROWN: Thank you.

2 COMMISSIONER DEASON: Mr. Self.

3 MR. SELF: No questions.

4 COMMISSIONER DEASON: BellSouth. This is just an
5 AT&T witness?

6 MR. HATCH: Yes.

7 COMMISSIONER DEASON: Mr Melson.

8 MR. MELSON: No questions.

9 MR. TWOMEY: Thank you, Commissioner Deason.

10 CROSS EXAMINATION

11 BY MR. TWOMEY:

12 Q Good morning, Mr. Ellison.

13 A Good morning.

14 Q One of the rate recommendations that you have
15 made in your testimony, and I believe you referenced it in
16 your summary, is geographic deaveraging, correct?

17 A That's correct.

18 Q Is it your understanding that geographic
19 deaveraging is one of the issues that the Commission is
20 considering in this docket?

21 A Well, the Commission is considering cost-based
22 rates in this docket, and with respect to the provisioning
23 of loops, then in order to have cost based loop prices, you
24 need to consider and implement deaveraged loop rates.

25 Q Is it your understanding that any of the parties

1 requested that the Commission consider geographic
2 deaveraging as a part of the scope of this docket?

3 A There was a deaveraging question in general. I'm
4 not familiar with the details.

5 Q Are you aware that WorldCom MFS, raised the issue
6 of geographic deaveraging as a potential issue in the
7 docket?

8 A There again, Mr. Twomey, I recognize that there
9 were some -- there was some discussion about deaveraging
10 rates in general including, I would assume including the
11 rates that the Commission established before. I don't know
12 all the details of that discussion, what it was to include
13 and not include --

14 Q So I take it from your statement then that you're
15 unaware that in Order Number PSC 971303PCO-TP the
16 Commission specifically rejected WorldCom's request that
17 geographic deaveraging be considered within the scope of
18 this docket?

19 MR. MELSON: Commissioner, I object to the form
20 of the question. I believe that, I believe the -- that
21 order in the question is not completely and adequately
22 characterized.

23 COMMISSIONER DEASON: How should it be adequately
24 characterized?

25 MR. MELSON: My understanding in that order was

1 that the Commission would not consider deaveraging of rates
2 for loops for which it set permanent prices in the prior
3 proceeding and that the issue did not address deaveraging
4 with respect to any of the rates that had been set as
5 interim prices in the prior proceeding and were being
6 reconsidered here.

7 COMMISSIONER DEASON: Mr. Twomey.

8 MR. TWOMEY: Well, Commissioner Deason, I'm
9 referring -- I'm looking at the order right now, and the
10 request from WorldCom was to include geographically
11 deaveraged loops. I don't see anything in the order that
12 limits the deaveraging issue to permanent rates. It
13 appears to me to -- for example, on page 7 of the order,
14 BellSouth's argument points out that the Commission did not
15 order BellSouth to file cost studies on geographically
16 deaveraged loops.

17 COMMISSIONER DEASON: Seven of what order?

18 MR. TWOMEY: Seven of Order Number PSC
19 971303PCO-TP. It's an order by the pre-hearing officer, I
20 believe, dated October 21st, 1997.

21 COMMISSIONER DEASON: That's not the prehearing
22 order?

23 MR. TWOMEY: I don't believe it's in the
24 prehearing order that was issued immediately before the
25 case.

1 COMMISSIONER DEASON: Okay. I'll need a copy of
2 that. I don't have it.

3 (Mr. Twomey tendered Commissioner Deason
4 document)

5 COMMISSIONER DEASON: Commissioner Clark, this is
6 your order; is that correct? Perhaps you can enlighten me.

7 COMMISSIONER CLARK: Yeah, I didn't --
8 Mr. Melson, I didn't understand your point. It seemed to
9 me that the issue of deaveraging came up. In the final
10 order in this case it said we weren't going to deaverage
11 and, you know, I don't understand your distinction.

12 MR. SELF: Commissioners, if I could help, since
13 what we are talking about was WorldCom's request, the issue
14 that WorldCom presented to Commissioner Clark with respect
15 to geographically deaveraged rates arose out of the MFS
16 order on petition for arbitration, Order 96-1531.

17 COMMISSIONER CLARK: Hang on a minute. Now is
18 that the order that took care of everyone?

19 MR. SELF: No, this is the order that only
20 addressed the arbitration between MFS and BellSouth.

21 And under Roman numeral --

22 COMMISSIONER CLARK: Well, wait a minute. Was it
23 the same proceeding, it's just everybody got separate
24 orders?

25 MR. SELF: No, ma'am it was a totally separate

1 docket, totally separate hearing.

2 COMMISSIONER CLARK: Okay.

3 MR. SELF: I was not personally part of it, but
4 it was separate from the AT&T, MCI.

5 COMMISSIONER CLARK: All right.

6 MR. SELF: And under Roman numeral II of that
7 order, which is titled "The Appropriate Rate for Unbundled
8 Loops," which dealt with -- I'll just read you the first
9 sentence of that section, "Both MFS and BellSouth agree
10 that 2-wire analog voice grade loops, 4-wire analog voice
11 grade loops, 2-wire IDSN, digital grade loops and 4-wire
12 DS-1 digital grade loops should be unbundled."

13 And the issue that we presented to Commissioner
14 Clark came from pages 10 and 11 of that order which was the
15 subsection of Roman numeral II regarding geographic
16 deaveraging. And the specific issue that we presented was
17 based upon the language in the order which denied the MFS
18 pricing proposal for geographic deaveraging with respect to
19 the loops that I just mentioned. We had requested that
20 that -- that those loops, not the ADSL, HDSL or the other
21 items that are at issue in this proceeding, but rather
22 those basic voice grade loops also be included as an issue;
23 and that's what your order went to denying was the rates
24 for which -- the loops for which previously rates had been
25 set and for which the Commission had not ordered BellSouth

1 to file cost studies, which is, of course, what led to this
2 proceeding.

3 COMMISSIONER CLARK: All right. So that it's
4 your view, Mr. Melson, that -- and I take it WorldCom's --
5 that the issue of geographically deaveraged rates only went
6 to 2-wire analog, 4-wire analog, 2-wire digital and 4-wire
7 digital and that it's an open question with respect to the
8 pricing of the HD --

9 MR. MELSON: HDSL and ADSL.

10 COMMISSIONER CLARK: ADSL.

11 MR. MELSON: Yes, ma'am, and the reason for that,
12 you've identified I think it's A through H or I as the
13 elements that are to be priced in this proceeding.
14 WorldCom was suggesting an additional issue to cover
15 geographically deaveraged loops that would have related
16 back to the 2- and 4-wire loops that were set in the
17 permanent proceeding. It was that additional item -- I'm
18 looking at the order on procedure. It was their additional
19 proposed sub item K that you struck. I think we are left
20 with the question of what is the proper way to set the
21 rates for the eight items that are at issue in this
22 proceeding. The fact that you did not order geographic
23 deaveraging for the 2- and 4-wire loops doesn't mean that
24 we -- I believe does not preclude us from putting on the
25 appropriate methodology for pricing the remaining items

1 that are in this proceeding, including the ADSL and HDSL
2 loops.

3 COMMISSIONER CLARK: Well, all right, let me ask
4 you this, at any time did you make it clear that you would
5 be pursuing that, the notion of deaveraged in the pricing
6 of those two items?

7 MR. MELSON: That -- we have filed testimony on
8 that point.

9 COMMISSIONER CLARK: Whose testimony?

10 MR. MELSON: And we did not -- I'm sorry?

11 COMMISSIONER CLARK: Whose testimony?

12 MR. MELSON: Mr. Wood.

13 COMMISSIONER CLARK: Okay.

14 MR. MELSON: We have stated that geographic
15 deaveraging for these loops should be ordered both in our
16 basic position and in our position on issue one, and we
17 simply did not read your order as affecting that. To read
18 the order the way that BellSouth suggests would say
19 essentially that any changes in methodology, pricing
20 methodology from the prior proceeding would not be
21 allowed. If BellSouth wants to stick totally by TSLRIC,
22 not add shared and common costs, not add RRR, those are not
23 specifically identified in the prehearing order; they are
24 simply part of the methodology Bell is presenting now for
25 pricing, like deaveraging is part of our methodology.

1 MR. TWOMEY: Commissioner Deason, I would like an
2 opportunity to respond to that.

3 COMMISSIONER DEASON: Surely.

4 MR. TWOMEY: I think they are taking an overly
5 narrow interpretation of the order. We are not asking that
6 the methodology be locked from one docket to the next. The
7 specific issue that was raised by WorldCom's October 3rd, I
8 believe, filing was whether or not loops would be
9 deaveraged.

10 Now this Commission addressed the issue of
11 deaveraging the loops. Yes, it was the 2-wire and the
12 4-wire, but the general issue of deaveraging was addressed
13 in the arbitrations. WorldCom attempted to insert that
14 issue into this proceeding as well, necessarily affecting
15 the 2-wire, 4-wire loop distribution and the 2-wire ADSL
16 compatible loop and the 2-wire and 4-wire ADSL compatible
17 loop.

18 I read the order that was issued by Commissioner
19 Clark. It is not narrow in the way that MCI on the behalf
20 of Mr. Ellison is now contending. This order very plainly
21 said that geographically deaveraged loops were not a part
22 of this proceeding. How you can have a deaveraged 2-wire
23 and 4-wire loop distribution, which is a subelement of the
24 loop, when you don't have a geographically deaveraged
25 2-wire and 4-wire loop to me makes no sense whatsoever.

1 It's very clear that geographically deaveraged loops were
2 not part of this proceeding, and Mr. Ellison's testimony
3 regarding that is a mystery as Mr. Wood's is as well, and I
4 intended to ask Mr. Wood the same questions.

5 MS. CARTER-BROWN: Commissioner Deason, if I may
6 add staff's perspective on that.

7 COMMISSIONER DEASON: Sure.

8 MS. CARTER-BROWN: Staff's perspective on this
9 question is similar to BellSouth's and to the prehearing
10 officer's perspective when she denied WorldCom's issue. We
11 have looked at the question of geographically deaveraging
12 in the broad sense, and we have not focused on that in our
13 investigation of the record. We have taken the tact that
14 the AT&T and the other parties have presented some
15 testimony to that effect, but we were looking at it as that
16 we would give that testimony the weight we thought it was
17 due. There have been, as I understand it, no motions to
18 strike that testimony. That being said, we have not
19 focused on geographic deaveraging as a specific issue to be
20 resolved in the case, and we aren't intending to do so.

21 COMMISSIONER DEASON: Well, the objection was as
22 to the mischaracterization of the issue within the
23 question. It appears to be ambiguous to me as to exactly
24 where we are at this point, therefore, I'm going to deny
25 the question, allow the question. If the witness can

1 provide any additional information on his interpretation of
2 where we are, it will be welcome in the record.

3 BY MR. TWOMEY:

4 Q Mr. Ellison, for your benefit I'll repeat the
5 question. Were you unaware that this order had been
6 issued?

7 A No, I was aware of the order. It was my --
8 My interpretation in discussing this with my attorney was
9 the same as MCI has presented here today, that it did not
10 deal with the pricing of the elements under consideration
11 in this proceeding. You know, this is a completely
12 different set of issues than we -- than the Commission
13 faced back in the arbitration proceedings. I know there
14 were various parties, including BellSouth, presenting
15 testimony as to potential harms from deaveraged loop
16 prices. They were talking about POTS loop prices, and
17 although I do not agree with the problems that BellSouth
18 presented to you, this is an entirely different case. We
19 are talking about pricing loops here for services that
20 primarily do not exist today. These are not POTS loops,
21 these are loops that will be used to provide new and
22 innovative services in the future.

23 MR. TWOMEY: Commissioner Deason, I think he's
24 going well beyond the scope of my question, which is --

25 COMMISSIONER DEASON: I think he is answering

1 your question just as you asked it. You opened the door,
2 I'm going to allow the answer.

3 MR. TWOMEY: Thank you, Commissioner.

4 A If I can continue I know BellSouth plans to offer
5 ADSL services in the near future. We don't know where they
6 are going to offer that, and BellSouth says they don't know
7 where they are going to offer that, but I think there is a
8 very good chance that BellSouth will roll out these
9 services in their most highly populated areas.

10 If the Commission approves a state averaged rate
11 for potential competitors of BellSouth that does not
12 reflect the cost of providing that service in those larger
13 exchanges and BellSouth comes in and provides that service
14 only in those larger exchanges at the lower cost that
15 BellSouth incurs in those larger exchanges, then we are
16 going to have a real difficult time of trying to offer
17 anything, or we actually will not be able to offer services
18 that can compete with BellSouth. On those new services
19 that are becoming more and more important to customers
20 everyday, for example, we are talking about services that
21 allow Internet users to down load information from the
22 Internet at much faster speeds than they can do today, and
23 there is a big demand for these services.

24 COMMISSIONER CLARK: Does that require a new loop
25 be put out there, or is it conditioning to the loop?

1 WITNESS ELLISON: Actually, the ADSL offering
2 requires equipment on both ends of -- The loop itself
3 that we are talking about would be certain selected loops.
4 For example, ADSL loops are, they are copper loops; but
5 ADSL services are designed to work on specific copper
6 loops. In this particular case we are looking at loops up
7 to 18 thousand feet over copper, and then the ADSL
8 capabilities, the large capability for data down loads is
9 provided through equipment that is placed on each end of
10 that loop.

11 COMMISSIONER CLARK: So it's not a new loop?

12 WITNESS ELLISON: It's not a new loop. It's a
13 sub -- it's a sub group of the loops that are out there
14 today. In other words, you can't just take any loop that
15 is out there today and provide ADSL service over it.

16 COMMISSIONER CLARK: What kind do you -- But
17 you add something to a loop.

18 WITNESS ELLISON: Yes.

19 COMMISSIONER CLARK: What kind of loop do you
20 have to have?

21 WITNESS ELLISON: You have to have a copper loop;
22 that is, it cannot be a loop that contains subscriber line
23 equipment, provided over subscriber line carrier.

24 COMMISSIONER CLARK: Okay.

25 WITNESS ELLISON: And it can only -- without

1 repeatering it, can only be so long, up to 18 thousand feet
2 from the office, approximately three and a half miles from
3 the office. So it is a, it is a -- within the totality of
4 all the loops that BellSouth provides today, you know,
5 certain of those loops will allow the company with
6 equipment on both ends to provide ADSL services; and we are
7 also talking about HDSL which is similar in that both of
8 them require equipment to be placed at the customer
9 location and at the central office location on this loop to
10 get the large capacity for data down loads and data
11 transmission.

12 Q Mr. Ellison --

13 COMMISSIONER JACOB: I've got a question -- I'm
14 sorry -- to follow up on that line of questioning.

15 MR. TWOMEY: I'm sorry.

16 COMMISSIONER JACOB: I think you maintain that
17 the cost study that BellSouth submitted included loops that
18 would not require, am I correct in saying that?

19 WITNESS ELLISON: That would --

20 COMMISSIONER JACOB: I'm sorry, I'm looking at
21 your testimony on page -- I'm sorry, your rebuttal
22 testimony on page 6, and the question was, you state that
23 BellSouth's loop study also relies on sampling, including
24 BellSouth's lowest cost loops, and your response is that to
25 calculate loop cost on a universe that incorrectly includes

1 a variety of certain types of offerings. Is that the same
2 issue that you were just discussing?

3 WITNESS ELLISON: No, that's a related issue but
4 not the same issue.

5 COMMISSIONER JACOB: Okay.

6 WITNESS ELLISON: In the first case what I was
7 talking about is, if you think about an ADSL loop, an ADSL
8 loop is a copper loop that is approximately -- when I say
9 copper, it's provided over copper facilities as opposed to
10 subscriber line equipment, which is the other primary
11 method of providing loops. So first of all, the ADSL loop
12 excludes any loops on subscriber line equipment, and then
13 also without adding repeaters, it's pretty much limited to
14 about 18 thousand feet in length; so customers up to three,
15 three and a half miles from the central office on copper
16 loops have loops that are capable of providing ADSL
17 services if you add some additional equipment to it. That
18 was the question we were talking about. The loops that we
19 are talking about here is a sub group of the total
20 universe.

21 COMMISSIONER JACOB: Okay.

22 WITNESS ELLISON: Now the other issue that you
23 are asking me about was when BellSouth went to develop the
24 cost of those loops, they pulled out -- they pulled out of
25 their sample that they had drawn loops meeting those

1 characteristics. The point I was making is that when
2 BellSouth put the sample together to start with, BellSouth
3 excluded loops for large business customers from their
4 sample. They did this back in arbitration in determining
5 the 2-wire loop prices. They are doing it again today, and
6 the assumption is that they don't have any large customers.
7 For example, they don't have ESSX customers in there, and
8 they don't have customers who use PBX trunks; and my point
9 there is that if you included those types of customers in
10 the average loop cost, it's very likely that those loops
11 are much shorter than the other loops and less costly. So
12 if you are developing an average loop cost, by excluding
13 these larger customers, they get a larger loop cost. And
14 the truth is, if you think about data services in
15 particular, which we are talking about here, those data
16 services tend to be the types of services that large
17 customers want. So what BellSouth has done is given you a
18 cost for a loop that does not reflect the cost of serving
19 larger customers. So the second issue is that of the sub
20 group of loops, the sub group of loops that BellSouth uses
21 to price their service is incomplete in that it excludes a
22 lot of loops that should have been in there at a lower
23 cost.

24 COMMISSIONER JACOB: I understand. Thank you.

25 MR. TWOMEY: Thank you, Commissioners.

1 BY MR. TWOMEY:

2 Q Mr. Ellison, you have made a rate recommendation
3 for item 1B, which is the 2-wire, 4-wire loop distribution,
4 correct?

5 A Well, I have made a recommendation. I'll check
6 to see if that's the right --

7 (Witness reviewed documents)

8 Q If it will help you, I will refer you to your
9 rebuttal exhibit, WE-1, page one of eight, lines 19 through
10 40.

11 A Yes, that covers a 2-wire and a 4-wire
12 distribution.

13 Q What is 2-wire distribution?

14 A Well, of course the distribution is the facility
15 that will be provided between a feeder distribution
16 interface. Out in the exchange area away from the central
17 office where feeder and distribution intersect, this is the
18 2-wire facility that would run between that interface and
19 the customer's location. 2-wire simply means that you are
20 talking -- in this particular case what we are looking at
21 are copper facilities, and 2-wire would be a copper
22 facility consisting of one twisted pair; and the 4-wire
23 would be a copper facility consisting of two twisted pairs.

24 Q The 2-wire loop that we are all familiar with
25 that we talked about in the arbitration, the 2-wire

1 distribution is part of that 2-wire loop, correct?

2 A A 2-wire loop would require 2-wire distribution
3 of some type, yes.

4 Q 2-wire distribution is commonly referred to as a
5 subloop, correct?

6 A Subloop elements would -- Distribution is a
7 subloop element. There are --

8 Q Okay.

9 A There are actually various types of distribution,
10 but, yes, two -- Distribution -- If you looked at a loop
11 serving a customer and you broke it down in these various
12 components, one of the components would be distribution.

13 Q Now we have set rates, permanent rates for 2-wire
14 loops in Florida, in the arbitrations, correct?

15 A We have set rates for 2-wire -- 2-wire loops, the
16 cost being based on BellSouth's sample of POTS loops.

17 Q So was that a yes?

18 A A combination loop, yes.

19 Q Okay. Now that 2-wire loop is set at a statewide
20 average rate, correct?

21 A Yes.

22 Q And you are proposing that although the 2-wire
23 loop be at a statewide average rate, a portion of that loop
24 be set on a deaveraged basis; is that your recommendation
25 to the Commission?

1 A No, I think we are talking about an entirely
2 different situation here.

3 Q Well, let me, I'll refer you to lines 20 through
4 25 of your testimony -- excuse me, to exhibit WE-1 to your
5 rebuttal testimony. Do you not have geographically
6 deaveraged proposals for 2-wire distribution on lines 20
7 through 25 of that exhibit?

8 A I do. The question you asked me, Mr. Twomey, was
9 am I proposing that a portion of that 2-wire loop that was
10 previously priced be deaveraged; I'm not. I'm proposing
11 that in addition to the 2-wire that the Commission has
12 approved that the Commission allow new entrants to
13 purchase -- instead of an entire loop to be able to
14 purchase distribution facilities.

15 One of the advantages of providing distribution
16 by itself is that the distribution by itself can be used
17 with new entrants' own facilities, so by offering a subloop
18 distribution element, you encourage new entrants to use
19 their own facilities in combination with the local exchange
20 company's facilities. It could be entirely different usage
21 here and entirely different incentives.

22 Q All right. Do you know what the 2-wire loop
23 price that was established in the arbitrations was?

24 A I may have it. I don't know. I don't know if I
25 have it with me or not.

1 (Witness reviewed documents)

2 Q Would you accept subject to check it was
3 approximately 17 dollars?

4 A Approximately 17 dollars. We can --

5 Q And we have agreed that the 2-wire distribution
6 is a subset of the 2-wire loop, correct?

7 A No, and let me explain that. Not in the way you
8 characterized the question. You can buy distribution. You
9 can buy an entire loop. If you buy a combined loop, that
10 includes the distribution component of it, but this 2-wire
11 distribution that you buy here, you are not buying -- you
12 are not buying the loop at 17 dollars and then going back
13 and buying a piece of it at this rate.

14 Q I understand that. But if the loop is a
15 sandwich, the distribution might be just the bread, right?
16 It's a part of the larger loop, correct?

17 A You buy -- If you buy combined loop, you get
18 distribution as part of it. If you buy the 2-wire
19 distribution, you are not -- If you are talking about the
20 same customer, the same service, you are not going to use a
21 combined loop and 2-wire distribution.

22 Q I understand that.

23 A You use one or the other.

24 Q I understand.

25 A And if you use the 2-wire distribution, then

1 you've got to figure out some way of tying that
2 distribution into some other facility of your own or
3 facility that you lease in order to use that to provide
4 services to the customer.

5 Q If I were going to offer services to customers
6 using only unbundled network elements and I purchased
7 2-wire distribution, I'd also have to buy some other
8 things, correct?

9 A Some other things which are not at issue in this
10 proceeding.

11 Q Right. But to get to a complete loop, I'd have
12 to buy some other parts of the network, correct?

13 A If you are going to use BellSouth's -- Yes, if
14 you were going to use BellSouth facilities, we'd have to
15 come back in here again and start pricing out some other
16 elements of the network for which prices have not been
17 established yet.

18 Q We do have a price for the whole loop, correct?

19 A We have a price for the -- We have a price for
20 a combined loop, yes.

21 Q Okay. Now in wire center group one, on line 20
22 of your testimony, you're recommending that the loop
23 distribution price is \$19.13, correct?

24 A That's correct.

25 Q So in those geographic areas affected by wire

1 center group one, just buying the loop distribution will be
2 more expensive than buying the whole loop, correct?

3 A That's correct. The \$19.13 reflects the cost of
4 providing that subloop element in that area.

5 Q Mr. Ellison, with respect to your ADSL loop
6 proposals -- we went over this in your deposition -- you
7 derived the ADSL loop price that you are recommending from
8 the Hatfield model, correct?

9 A I used the Hatfield model. We discussed that in
10 the deposition. The ADSL price that I used was actually,
11 or I actually developed that using a combination of
12 BellSouth data and Hatfield output data. I can get into
13 more detail in that if you wish.

14 Q No, let me try it this way. You used the
15 Hatfield model for the 2-wire HDSL, correct?

16 A That's correct.

17 Q And then you used the relationships that you
18 observed in the BellSouth model to determine your rate for
19 the 4-wire HDSL, correct?

20 A No. The 4-wire did not enter into this
21 calculation. We are talking about 2-wire, so what I did
22 was the Hatfield model allowed me to develop the cost of an
23 HDSL loop, which is a loop up to nine thousand feet in
24 length for a 2-wire HDSL loop; and then I looked at
25 BellSouth's studies on -- The problem with using

1 BellSouth's numbers directly is the problem I just
2 discussed in that BellSouth's loop sample used to calculate
3 the cost is incomplete. So I could not use BellSouth's
4 actual cost calculation of their cost for HDSL and ADSL,
5 but assuming that BellSouth had the same errors and those
6 errors caused both their ADSL and their HDSL numbers to be
7 incorrect by approximately the same amounts, then I did
8 use -- I assumed that I -- Based on that, I concluded
9 that I could use the ratio of BellSouth's stated cost for
10 HDSL and ADSL even though I couldn't use their actual cost;
11 and I applied that ratio to the Hatfield HDSL cost to get
12 the ADSL cost.

13 Q AT&T didn't file the Hatfield model into the
14 record of this proceeding in the way that it did in the
15 other cases, correct?

16 A That is correct. We did not file all the details
17 of the model, that's correct.

18 Q Now you would agree with me that the Hatfield
19 model estimates costs for unbundled network elements
20 assuming a loop and a switch are offered on a combined
21 basis in the platform, correct?

22 A No, that would be one of the configurations that
23 the Hatfield model would represent the cost for. I
24 don't -- you know, the Hatfield model is not a model that
25 is limited to that particular configuration.

1 Q Are you, do you remember testifying in Louisiana?

2 A Yes.

3 Q Do you remember being cross-examined by
4 Mr. Guarisco with the staff in Louisiana?

5 A Yes, uh-huh.

6 Q I'm going to read you a question and answer.

7 "QUESTION: Is it your understanding that
8 the Hatfield model estimates costs for unbundled network
9 elements assuming the loop and the switch are offered on a
10 combined basis as a platform?"

11 Your answer:

12 "Yes, that is the configuration reflected in
13 pricing loops under the Hatfield model. The Hatfield model
14 does not assume that loop is going to be broken and cross
15 connected to other facilities."

16 Do you remember giving that testimony?

17 A I remember saying that. I also remembering
18 clarifying that in a subsequent question or comment. The
19 point I would make is that whether it's a combined loop and
20 switch port or it is a loop, if you are looking at loops
21 and switch ports separately, you get the same result.

22 MR. TWOMEY: That's all I have.

23 COMMISSIONER DEASON: Staff.

24 MS. CARTER-BROWN: Staff has no questions.

25 COMMISSIONER DEASON: Commissioners.

1 (NO RESPONSE)

2 COMMISSIONER DEASON: Redirect.

3 MR. HATCH: No redirect.

4 COMMISSIONER DEASON: Exhibits.

5 MR. HATCH: Move 46, 47.

6 COMMISSIONER DEASON: Without objection, exhibits
7 46 and 47 are admitted.

8 MS. CARTER-BROWN: Staff moves 48 as modified.

9 COMMISSIONER DEASON: Without objection 48 as
10 modified is admitted.

11 Thank you, Mr. Ellison, you are excused.

12 WITNESS ELLISON: Thank you.

13 MR. HATCH: AT&T would call Lee Selwyn to the
14 stand.

15 Have you been sworn, Mr. Ellison? I mean,
16 Mr. Selwyn, have you been sworn?

17 WITNESS SELWYN: Yes, yesterday morning -- or
18 Monday morning.

19 MR. HATCH: Commissioner Deason, before we
20 proceed with Mr. Selwyn, I was negligent yesterday in
21 dealing with Mr. Lynott. We had been requested to revise
22 the direct and rebuttal testimony of the witnesses with
23 respect to Commissioner Clark's ruling on some of the OSS
24 issues, and I'm going to go ahead and hand those
25 clarifications out because they do affect Mr. Selwyn's

1 testimony. We dealt with Mr. Lynott's yesterday, so I
2 don't think that will be a problem, but consistent with the
3 practice, we'll need it marked for identification.

4 COMMISSIONER DEASON: This will be identified as
5 exhibit number 49.

6 MR. HATCH: Thank you.

7

8

9

* * * *

10 Whereupon,

11

LEE L. SELWYN

12 was called as a witness by AT&T and, after having been
13 previously sworn, testified as follows:

14

DIRECT EXAMINATION

15 BY MR. HATCH:

16

Q Mr. Selwyn, could you state your name and address
17 for the record, please?

18

A My name is Lee L. Selwyn. My business address is
19 One Washington Mall, Boston, Massachusetts, 02108.

20

Q By whom are you employed?

21

A I'm employed by Economics and Technology,
22 Incorporated. I am the president of the firm.

23

Q And on whose behalf are you testifying in this
24 proceeding?

25

A I'm testifying on behalf of AT&T and MCI.

1 Q Did you prepare and cause to be filed in this
2 proceeding direct and rebuttal testimony?

3 A I did.

4 Q Did you also prepare and cause to be filed with
5 your direct testimony two exhibits?

6 A I did, yes.

7 Q One consisting of your, essentially your vita and
8 the other one consisting of a White Paper?

9 A Yes.

10 Q And you had no rebuttal exhibits; is that
11 correct?

12 A That's correct.

13 Q Do you have any changes or corrections to your
14 testimony?

15 A I have two small corrections to the direct
16 testimony. At page 1, on line 14 -- I'm sorry, line 16.
17 The question should be modified striking beginning with the
18 word "any" through the end of the question and replacing it
19 with "the Florida Public Service Commission."

20 And at page 2, line 11, after AT&T add the
21 following, comma, MCI Telecommunications Corporation and
22 MCI Metro Access Transmission Services Inc. Those are the
23 only corrections I'm aware of.

24 MR. HATCH: Mr. Chairman, could we get
25 Mr. Selwyn's direct exhibits marked for identification?

1 COMMISSIONER DEASON: Yes, that will be composite
2 exhibit number 50.

3 Q If I asked you the same questions as are in your
4 direct and rebuttal testimony today, would your answers be
5 the same?

6 A They would.

7 Q Do you have a summary of your testimony?

8 A Yes.

9 Q Could you please give that now?

10 A My testimony addresses several issues relating to
11 the development of nonrecurring charges and also to the
12 pricing of unbundled network elements. In my direct
13 testimony, I present a White Paper discussing the
14 regulatory treatment of operation support system costs; and
15 in the context of this proceeding, this is offered for the
16 purpose of supporting the proposition that nonrecurring
17 costs that are used as a basis for setting nonrecurring
18 charges should be calculated and determined on the basis of
19 efficient operation support systems utilization. And by
20 efficient operation support systems, I am including or
21 considering so-called legacy systems; that is, systems that
22 are presently in existence that are managed efficiently,
23 that utilize accurate and synchronized data bases and that
24 are accessible electronically on an interactive basis by
25 ALECs.

1 In addition, nonrecurring charges should be based
2 solely on the costs incident to the transaction itself;
3 that is, the service ordering transaction itself, and
4 should not include costs that coincidentally happen to be
5 incurred by the telephone company at the time that an order
6 is received. So, for example, costs associated with
7 actually processing the service order are appropriately
8 recovered in nonrecurring charges, but costs that are
9 associated with building out the network, for example, with
10 providing NIDs or arranging for the permanent creation of
11 dedicated inside plant and dedicated outside plant do not
12 qualify as nonrecurring costs and should be recovered in
13 recurring rates.

14 Incumbent local exchange carriers such as
15 BellSouth have a substantial incentive to set nonrecurring
16 charges as well as recurring rates for essential network
17 elements so as to increase their rivals' costs of entry and
18 thereby diminish the opportunities for competition. Use of
19 inefficient operation support systems and inclusion of
20 costs that are not appropriately recovered on a
21 nonrecurring basis have the effect of increasing ALECs'
22 costs and diminishing opportunities for competition in this
23 state. The AT&T and MCI nonrecurring cost model reflects
24 the use of efficient OSS in processing transactions and
25 reflects the economically correct method of distinguishing

1 between nonrecurring and recurring costs.

2 My rebuttal testimony addresses specifically
3 certain economic principles that are advanced by BellSouth
4 witnesses, in particular Mr. Varner. Mr. Varner utilizes
5 several terms which purport to reflect economic theory but,
6 in fact, either have no counterpart in economic theory or
7 are being misused. The first of these is his reference to
8 so-called actual costs. The term "actual cost" has no
9 meaning in economics. It teaches nothing about what costs
10 are appropriately considered for pricing. Mr. Varner would
11 use the term actual cost to refer to costs that have been
12 incurred in the past by BellSouth and which he argues
13 BellSouth is entitled to recover, but actual costs can also
14 mean, and I think more properly should be interpreted as
15 meaning, costs that will be incurred by an efficient
16 incumbent local exchange carrier such as BellSouth in the
17 future. So I would interpret actual costs as referring to
18 the appropriate standard for setting UNEs which would be
19 TSLRIC.

20 Mr. Varner suggests that a price that is set
21 below historic costs would require that BellSouth subsidize
22 its competitor's entry. In fact, the reverse is true. The
23 term "subsidization" in economics would exist only where
24 costs that are properly incurred by an efficient ILEC on a
25 prospective basis are not recovered fully in prices that

1 are charged for those services and functions. If
2 competitors are required to pay rates that make BellSouth
3 whole for inefficiencies and for costs that occur -- it
4 incurred in the past, it is the competitors that will be
5 subsidizing BellSouth and not the other way around. It is
6 the competitors that will be in effect remedying
7 BellSouth's prior inefficiencies and making BellSouth
8 whole, causing competitors to be less efficient and to have
9 fewer competitive entry opportunities.

10 All ratepayers, and for that matter, the
11 community at large, benefit from competition in
12 telecommunications, a point with which Mr. Varner agrees.
13 And on that basis, the costs associated with accommodating
14 competitive entry must be spread across the entire
15 community of users of telecommunication services, whether
16 those users take services from the incumbent or from a new
17 entrant. If BellSouth is permitted to recover all costs
18 incident to accommodating competitive entry solely from new
19 entrants, it will be unduly advantaging itself and its own
20 customers who will benefit when new entrants are successful
21 in constraining BellSouth's own pricing and imposing and
22 disciplining BellSouth to become more efficient; and at the
23 same time it will be making it much more difficult for
24 entry to occur in the first place.

25 In an efficient, forward-looking environment, the

1 provision of services should reflect conditions that would
2 exist in a competitive market. Yesterday Mr. Lynott talked
3 about the issue of flow through and suggested that a 2%
4 rate of fallout was, in fact, if anything, generous when
5 considered in a competitive environment. He explained
6 technical reasons why low levels of fallout and high rates
7 of flow through should be expected, and my testimony
8 corroborates his analysis in terms of what is expected and
9 what occurs in competitive industries. No industry subject
10 to competition could possibly tolerate rates of fallout as
11 high as 20% that are being suggested by BellSouth.

12 Finally, the suggestion that BellSouth's
13 inability to recover historical costs is somehow a breach
14 of a regulatory compact is, I think, misplaced. There is
15 no demonstration in this record, or for that matter there
16 could not be such a demonstration that the costs that
17 BellSouth claims it has an entitlement to recover were ever
18 incurred specifically in fulfillment of some obligation to
19 serve under a regulatory compact or historic franchise.
20 More importantly, the enormous incumbency advantages that
21 inure to BellSouth as it enters a competitive market will
22 be more than sufficient to overcome whatever modest erosion
23 of the value of its individual assets might occur. If the
24 Commission is intent on achieving competition in this
25 state, it cannot allow the so-called actual cost recovery

1 standard as explained by BellSouth to govern rates. It
2 must use -- must set rates on the basis of forward-looking
3 efficient costs both on the recurring and nonrecurring
4 side.

5 That concludes my summary. Thank you very much.

6 MR. HATCH: Mr. Chairman, just in case, I would
7 request that Mr. Selwyn's testimony be inserted in the
8 record as though read, direct and rebuttal. I think I
9 forgot that, but I'm not sure.

10 COMMISSIONER DEASON: Without objection, the
11 direct and rebuttal testimony will be so inserted.

12

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1 Qualifications:

2

3 Q. Please state your name, position and business address.

4

5 A. My name is Lee L. Selwyn; I am president of Economics and Technology, Inc.,
6 One Washington Mall, Boston, Massachusetts 02108. Economics and
7 Technology, Inc. ("ETI") is a research and consulting firm specializing in
8 telecommunications economics, regulation, management and public policy.

9

10 Q. Please summarize your educational background and previous experience in the
11 field of telecommunications regulation and policy.

12

13 A. I have prepared a Statement of Qualifications, which is attached hereto as Exhibit
14 LLS-1.

15

16 Q. Have you previously testified before ~~any regulatory or judicial body?~~ *the Florida Public Service Commission*

17

18 A. Yes. I have testified before this Commission on a number of occasions dating back
19 to the mid-1970s, on the subjects of rate design and service cost analysis on behalf
20 of business telecommunications users as well as the State of Florida Department of
21 General Services. These cases have included Dockets 74805-TP, 760842-TP,
22 810035-TP and 820294-TP involving Southern Bell, Docket 74792-TP involving

1 General Telephone Company of Florida, and Docket 750320-TP involving Central
2 Telephone Company of Florida. My most recent appearance before this
3 Commission was in Docket 950696-TP on the subject of Universal Service, on
4 behalf of Time Warner AxS and Digital Media Partners.

5
6 **Assignment:**

7
8 Q. On whose behalf is this testimony being offered?

9
10 A. This testimony is offered on behalf of AT&T Communications of the Southern
11 States, Inc. ("AT&T"), MCI Telecommunications Corporation, and
12 MCI Metro Access Transmission Services, Inc.

13 Q. What is the purpose of your testimony in this proceeding?

14
15 A. The purpose of my testimony is to provide a discussion of the economic principles
16 underlying the appropriate regulatory treatment of BellSouth's proposal relating to
17 recovery of capital expenditures and operating costs that it claims it will incur in
18 upgrading and using its Operations Support Systems (OSS) to accommodate a
19 modern, multi-provider telecommunications industry environment, and to offer
20 recommendations with respect to rate design principles and policies for the
21 recovery of such outlays. The specific economic principles and policy
22 recommendations that I will be addressing in this testimony have been

1 incorporated into the AT&T/MCI Nonrecurring Cost Model that is being
2 presented by Mr. Jack P. Lynott in this proceeding.

3

4 Q. Have you prepared a report on this subject?

5

6 A. Yes. AT&T requested that I prepare a "white paper" that reviews the historic
7 development of ILEC operations support systems and their current, forward-
8 looking condition that is the appropriate basis for use in Total Element Long Run
9 Incremental Cost (TELRIC) and Total Service Long Run Incremental Cost
10 (TSLRIC) studies that are developed to support both recurring and nonrecurring
11 charges both for bundled ILEC services as well as for unbundled network
12 elements (UNEs). That paper, *Regulatory Treatment of ILEC Operations Support*
13 *Systems Costs*, is attached to this testimony as Exhibit LLS-2 and is made a part
14 hereof. Although the paper is generic in the sense that it is addressed to ILECs
15 generally rather than to BellSouth specifically, the principles and
16 recommendations set forth in the paper are directly relevant and applicable to the
17 Florida-specific issues to be addressed in this case. The next few pages of this
18 testimony provide a brief summary of the analysis and conclusions that are set
19 forth in detail in the paper.

20

21

22

1 RATE DESIGN PRINCIPLES
2 FOR NONRECURRING CHARGES

3

4 **Nonrecurring charges for ILEC bundled services and unbundled network elements**
5 **should be based upon the forward-looking economic cost of fulfilling these**
6 **transactions assuming the most efficient use of the integrated operations support**
7 **systems that are available today.**

8

9 Q. What is the appropriate economic standard that ILECs are required to apply when
10 setting nonrecurring (and, for that matter, recurring) charges for the provision of
11 services and unbundled elements to CLECs?

12

13 A. It is my understanding that ILECs are required by the Florida PSC to set recurring
14 and nonrecurring rates for unbundled network elements (UNEs) on the basis of
15 those elements' Total Service Long Run Incremental Cost (TSLRIC).
16 Nonrecurring charges that are applicable in connection with bundled services
17 provided for resale are to be based upon the prevailing retail NRC, less the
18 wholesale discount that is established in accordance with Section 252(d)(3) of the
19 *Telecommunications Act of 1996* ("Act"). If there is no corresponding retail price
20 for a particular nonrecurring charge transaction (e.g., for the "migration" of an
21 ILEC retail customer to a reseller), the applicable NRC is to be based upon the
22 TSLRIC for such transactions.

1 The FCC, in its *First Interconnection Order*,¹ expressly required the use of Total
2 Element Long Run Incremental Cost (TELRIC) in setting nonrecurring charges
3 for UNEs. Moreover, while the 8th Circuit Court of Appeals has reversed the
4 FCC's preemption of state jurisdiction over the pricing of these elements, it has
5 not challenged the validity of the FCC's adoption of TELRIC as the appropriate
6 pricing standard.² The FCC has recently further clarified its position with regard
7 to NRCs when it ordered that a Bell Operating Company (BOC) must show "that
8 its non-recurring charges reflect forward-looking economic costs" in order to
9 comply with Section 271 requirements for BOC entry into the interLATA long
10 distance market.³ Counsel has advised me that the Florida PSC has determined
11 that there is no substantial difference between the TELRIC and TSLRIC for an
12 element.

13
14 Q. What is the specific definition of "forward-looking economic cost" that is
15 appropriate for use in TELRIC/TSLRIC studies?

16
17 A. In the context of the TELRIC/TSLRIC study methodology, the term "forward-
18 looking economic cost" is to be interpreted as that which would prevail assuming
19 the use of the most advanced technology that is available to the ILECs and that
20 they can deploy today, utilized in the most efficient manner.

21

1 **ILEC investment in integrated operations support systems has been driven by these**
2 **companies' long-standing goals of improving their own efficiency and**
3 **competitiveness, and thus cannot reasonably be ascribed to any legislation or**
4 **regulations requiring ILECs to provide interconnections, unbundled network**
5 **elements, and bundled resale services to CLECs.**

6

7 Q. Please summarize the principal conclusions and recommendations that are set
8 forth in your paper.

9

10 A. Section 251(c) of the federal Act imposes a number of specific duties upon
11 incumbent local exchange carriers (ILECs) with respect to the provision of
12 bundled services and access to unbundled network elements (UNEs) to other
13 telecommunications providers, including resellers and competitive local exchange
14 carriers (CLECs). The transformation by state commissions and the FCC of these
15 statutory requirements into rules and regulations has proven to be a lengthy,
16 complex and highly contentious process, a process that has itself worked to slow
17 the pace of entry and investment by non-ILEC providers into the local
18 telecommunications market. Among other things, ILECs contend that compliance
19 with the requirements of Section 251(c) imposes extensive new costs, costs that
20 the ILECs seek to recover directly and exclusively from their new rivals.

21

22 Specifically, ILECs contend that they must incur costs to acquire and to adapt

1 existing Operations Support Systems (OSS) and for other organizational changes
2 in order to accommodate the Act's requirements for interconnection, unbundling
3 and resale. ILECs argue that these and similar "cost onsets" are "caused" by the
4 new entrants and, they claim, should be recovered from these entities through a
5 variety of pricing devices. The paper examines these arguments, but arrives at
6 fundamentally different conclusions:

7
8 Most, if not all, of the "costs" that ILECs claim are being imposed upon them by
9 the Act and associated federal and state implementation regulations represent
10 efficiency improvement programs that either were already underway prior to the
11 enactment or that should be pursued by ILECs irrespective of the presence of
12 competitors or any specific Section 252(c) obligations. In most cases, these
13 programs actually result in substantial efficiency gains that both reduce *ongoing*
14 ILEC costs and/or that enhance the ILECs' own competitiveness, such that their
15 "costs," when expressed in terms of the net present value of the overall investment
16 program, are actually *negative*.

17
18 Costs incurred by ILECs in order to accommodate their operation in a multi-
19 carrier environment, such as the costs of establishing and operating electronic
20 interfaces with other local exchange carriers, are not compliance-driven costs.
21 Expenditures of this same type are also incurred by those other carriers (e.g., for
22 establishing electronic interfaces with ILECs and with each other) and are thus

1 ordinary and necessary costs of doing business in a multi-carrier marketplace.

2 Each carrier — ILEC, CAP or CLEC — is responsible for its own costs incident
3 to interacting with other local carriers.

- 4
- 5 • To the limited extent that any *positive* compliance costs may be incurred by
6 ILECs alone, these should be recovered across the entire community of ILEC
7 customers, and not be imposed exclusively upon CLECs and resellers. In
8 enacting the 1996 legislation, Congress specifically described the new law as
9 "an Act to promote competition and reduce regulation in order to secure lower
10 prices and higher quality services for American telecommunications consumers
11 and encourage the rapid deployment of new telecommunications technologies."
12 Congress intended and expected that competition would be broadly beneficial to
13 *all* consumers, not just to those who elected to purchase services from the new
14 providers. As such, to the extent that there actually are any net positive costs
15 imposed upon ILECs to establish the machinery necessary to accommodate a
16 multi-provider industry, those costs may not be imposed solely and exclusively
17 upon the new entrants.

- 18
- 19 • Such OSS-related investment costs that are found to be appropriately recoverable
20 by ILECs — if in fact any such costs are present at all — should be included in
21 and recovered through recurring rates spread across all ILEC services and rate
22 elements whose provision these systems support, and not through up-front

1 nonrecurring charges (NRCs) imposed solely in conjunction with a service- or
2 UNE-related transaction.

3

4 **The AT&T/MCI Nonrecurring Cost Model correctly applies TELRIC principles by**
5 **assuming the use by ILECs of efficient, fully integrated operations support systems**
6 **that are accessible to CLECs and that permit them to transact business with ILECs**
7 **via electronic interfaces.**

8

9 Q. Are you familiar with the AT&T/MCI Nonrecurring Cost Model that is being
10 presented in this proceeding by Mr. Lynott?

11

12 A. Yes. I have participated as an advisor to AT&T and MCI in its development, and am
13 familiar with its design and structure and with the various assumptions and economic
14 principles that it embodies.

15

16 Q. Does the AT&T/MCI Nonrecurring Cost Model embody the various economic,
17 regulatory and rate design principles that you have presented in your paper?

18

19 A. Yes, it does. The model applies the TELRIC methodology to the development of
20 nonrecurring costs. It correctly excludes from the components of nonrecurring costs
21 all operations support system investment-related costs that require either no specific
22 recovery (because they represent ongoing productivity/efficiency improvements that

1 will actually result in *lower* ILEC costs overall) or because such costs, if and to the
2 extent they are specifically recoverable, are appropriately included in *recurring* rates
3 spread broadly and in a competitively-neutral manner across all users (customers and
4 competitors) of ILEC services and unbundled elements. Consistent with TELRIC
5 principles, the Nonrecurring Cost Model assumes the adoption of efficient, fully
6 integrated operations support systems that are accessible by CLECs via electronic
7 interfaces for purposes of conducting business with ILECs. Access to and use of
8 these ILEC systems by competitors virtually eliminates the need for most ILEC
9 manual (i.e., labor-intensive) activity and dramatically reduces the potential for error.
10 This direct, on-line entry and processing of CLEC orders and other transactions
11 permits ILECs to achieve a "flow-through" of error-free transactions at levels that are
12 comparable with those that are regularly and routinely expected and achieved in
13 other comparably complex network-based industries, industries that have not been
14 protected by the legacy of monopoly under which the ILECs have operated for more
15 than a century. Finally, while recognizing the possibility that certain OSS costs may
16 in theory be sensitive to the aggregate volume of service-related transactions, the
17 Nonrecurring Cost Model correctly treats such transaction-sensitive costs as *de*
18 *minimis*.

19
20 Accordingly, I believe that the Nonrecurring Cost Model correctly applies the
21 TELRIC methodology and produces cost estimates that are economically sound and
22 that provide a valid basis for the establishment of appropriate nonrecurring charges

1 for ILEC service and element transactions.

2

3 Q. Does this conclude your direct testimony at this time?

4

5 A. Yes, it does.

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ENDNOTES

1. *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, First Report and Order, FCC 96-325 (rel. August 8, 1996), (*First Interconnection Order*), at paras. 672-703.

2. *Iowa Utilities Board, et. al. v. FCC*, No. 96-3321 and consolidated cases (8th Cir., filed July 18, 1997), at 20.

3. *Application of Ameritech Michigan Pursuant to Section 271 of the Communications Act of 1934, as amended, To Provide In-Region, InterLATA Services in Michigan*, CC Docket No. 97-137, *Memorandum Opinion and Order*, FCC 97-298 (rel. August 19, 1997), at para. 296.

1 REBUTTAL TESTIMONY OF

2 LEE L. SELWYN

3 ON BEHALF OF

4 AT&T COMMUNICATIONS OF THE SOUTHERN STATES, INC., AND

5 MCI TELECOMMUNICATIONS CORPORATION, AND

6 MCI METRO ACCESS TRANSMISSION SERVICES, INC.

7 DOCKET NOs.: 960833-TP/960846-TP/971140-TP/960757-TP/960916-TP

8

9 **Introduction:**

10

11 **Q. PLEASE STATE YOUR NAME, POSITION, AND BUSINESS ADDRESS.**12 A. My name is Lee L. Selwyn; I am President of Economics and Technology, Inc.
13 ("ETI"), One Washington Mall, Boston, Massachusetts 02108.

14

15 **Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN THIS**
16 **PROCEEDING?**

17 A. Yes, I submitted pre-filed direct testimony on November 13, 1997.

18

19 **Q. ON WHOSE BEHALF IS THIS REBUTTAL TESTIMONY BEING**
20 **SUBMITTED?**21 A. This testimony is being submitted on behalf of AT&T Communications of the
22 Southern Region, Inc., MCI Telecommunications Corporation, and MCI Metro
23 Access Transmission Services, Inc.

24

25 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY AT THIS TIME?**

1 A. My rebuttal testimony responds to the direct testimony of Mr. Alphonso Varner
2 that supports BellSouth's recurring cost studies for unbundled network elements
3 (UNEs) and its pricing proposals for those elements, and the testimony of Mr. Eno
4 Landry on the processes involved in the fulfillment of service requests initiated by
5 ALECs.

6
7 **ECONOMIC EFFICIENTCY, AS WELL AS POLICIES ADOPTED BY**
8 **THIS COMMISSION AND THE UNITED STATES CONGRESS,**
9 **REQUIRE THAT RECURRINGAND NONRECURRING RATES FOR**
10 **UNBUNDLED NETWORK ELEMENTS BE SET AT THEIR TOTAL**
11 **SERVICE LONG RUN INCREMENTAL COST**

12
13 **Q. DR. SELWYN, PLEASE EXPLAIN THE DISTINCTION BETWEEN**
14 **"HISTORICAL" COSTS AND "ECONOMIC" COSTS IN THE**
15 **CONTEXT OF RATE DEVELOPMENT FOR UNBUNDLED NETWORK**
16 **ELEMENTS (UNES).**

17 A. "Historical" costs refer to the costs that have previously been incurred by a firm
18 such as BellSouth during its operations over a given period of time, and which
19 will be recorded in its books of account. Assuming that its accounting entries are
20 accurate, the firm's historical costs will reflect all costs that were incurred by the
21 firm without specific reference to the products, services, business strategies, or
22 other factors that may have caused the Company to incur such costs, or the extent
23 to which those costs have been inflated by systemic inefficiencies in the
24 Company's operations. "Historic" or "embedded" costs reflect the firm's "revenue
25 requirement" as this concept has been applied in the public utility field, and

1 includes depreciation and return on previously-incurred capital investments in
2 plant and equipment, as well as ongoing expenses that may be incurred by the
3 utility under existing operating practices, systems and technologies.

4
5 In contrast, "economic costs" are defined as the costs that bear upon an economic
6 decision, such as whether or not to produce a given service or element, and are not
7 necessarily equivalent to the embedded accounting costs recorded on a firm's
8 books. (See, e.g., W. Nicholson, *Microeconomic Theory*, 2nd edition, Dryden
9 Press: 1978, at 221-222.) A defining characteristic of economic costs is that
10 (unlike historic cost) they are assumed to be *efficiently incurred*, meaning that the
11 resources devoted to the particular service or element could not be reallocated to
12 some other use without reducing output. (*Id.*, at 520-521.) In other words, the
13 production process must consume the least economic resources (capital and
14 labor), i.e., be *least cost*, in the context of the best available technology and
15 provisioning practices that could be used to produce the service or element from
16 this point in time forward. Because production processes are subject to continual
17 improvement — particularly in the supply of telecommunications services, which
18 has been and continues to be dramatically impacted by advances in digital
19 technology that reduce cost and increase functionality — economic costs must be
20 evaluated from a fundamentally *forward-looking* perspective, rather than
21 measured with reference to the firm's historical costs.

22
23 **Q. WHAT ARE "ACTUAL COSTS" AS MR. VARNER USES THIS TERM?**

24 A. The term "actual costs" has no precise or particular economic meaning, although
25 Mr. Varner attempts to equate "actual" cost with "historic" cost. However, on a

1 forward-looking basis, the costs that a well-managed firm will "actually" incur in
2 efficiently furnishing a given service are best represented by the Total Service
3 Long Run Incremental Cost (TSLRIC) of that service. The "actual" costs that the
4 firm had incurred in the past, under technological and operating conditions that
5 may no longer exist, are reflected in the embedded cost as recorded on the
6 Company's books. The "actual" historic costs to which Mr. Varner refers are not
7 relevant to a determination of forward-looking cost and are not relevant as a basis
8 for pricing.

9
10 **Q. IN COMPETITIVE MARKETS, WHICH OF THESE TWO COST**
11 **LEVELS — FORWARD-LOOKING OR HISTORICAL — WILL PRICES**
12 **TEND TO FOLLOW?**

13 **A.** Prices in competitive markets are driven toward forward-looking economic cost,
14 not to the historical costs that may have been incurred in the past by any given
15 firm. In a competitive industry, forward-looking economic costs are best
16 approximated by TSLRIC.

17
18 In a competitive industry where firms produce multiple products or services,
19 resources (and their associated costs) may in some cases be shared among several
20 products. In many cases, it is still possible to make direct cost attributions to
21 specific products based upon each product's relative use of the shared resource, in
22 which case the "shared cost" is part of the forward-looking economic cost.
23 Certain costs, such as general corporate overhead, may not be subject to such
24 direct attribution or assignment. Research undertaken by Economics and
25 Technology, Inc. has demonstrated that, with respect to ILECs, such "corporate

1 overhead" costs are volume-sensitive and vary directly and proportionately with
 2 both the total output of the firm as well as with the volumes of individual products
 3 and services. Hence, an equi-proportionate share of forward-looking overhead
 4 costs should also be included in the forward-looking economic cost of each ILEC
 5 service or element. That same research also indicates that, with respect to
 6 incumbent LECs, "fixed" costs — i.e., those that do not vary with the volume of
 7 output of the firm — are minimal, indeed, statistically equivalent to zero.

8
 9 Whether or not ILECs have significant levels of shared or common costs,
 10 however, and contrary to Mr. Varner's contention (Varner Direct at 11:3-7), in the
 11 long run competitive market price levels will not permit firms to recover any
 12 historical costs that they may have incurred in excess of the economic cost level.
 13 Assuming that firms are able to freely enter into or exit from the market, prices
 14 cannot be expected to remain above economic cost for very long, because in such
 15 a situation one or more new entrants, who themselves confront the same economic
 16 cost levels as incumbent firms, will enter the market and in so doing drive prices
 17 down to the economic cost level.

18
 19 **Q. TO THE EXTENT THAT THE FORWARD-LOOKING COST IS BELOW**
 20 **THE HISTORICAL COST, HOW DO FIRMS OPERATING UNDER**
 21 **COMPETITIVE MARKET CONDITIONS RECOVER THE**
 22 **DIFFERENTIAL?**

23 **A.** They don't. If I built a factory five years ago that is capable of producing widgets
 24 at a cost of \$5 each, but you could build a factory today, using more modern
 25 equipment and technology, that can churn out the same product for \$3, there is no

1 way in which I will be able to maintain the \$5 price level. I will be forced to
2 reduce my price in order to compete or, in the alternative, to close down my
3 factory altogether and get out of the business. I cannot expect to be able to force
4 customers who are confronted with a choice of suppliers to "make me whole" for
5 my previously-incurred investments when they are able to purchase the same
6 product at a lower cost from another source.

7
8 Businesses that are operating in competitive industries are continually forced by
9 the discipline of the marketplace to update their production processes to reflect the
10 most efficient technology and practices that are currently available. As Mr. Wood
11 has observed in his testimony (Wood Rebuttal Testimony at page 31-34), one
12 consequence of this phenomenon is that competitive firms will often take write-
13 offs of technologically-obsolete, inefficient plant before it has been fully
14 depreciated, and thus charge those costs to shareholders rather than to customers
15 of the firm. Clearly, the successful firms operating in competitive markets do not
16 — indeed, *cannot* — act as if they are somehow "entitled" to recover all incurred
17 costs from their customers.

18
19 **Q. MR. VARNER CONTENDS THAT "IF THE PRICES OF THE SERVICES**
20 **PROVIDED TO COMPETITORS DO NOT COVER [ACTUAL] COST,**
21 **BELLSOUTH WILL BE SUBSIDIZING ITS COMPETITORS."**
22 **(VARNER DIRECT AT 11:11-12.) DO YOU AGREE?**

23 A. No. A "subsidy" exists when the price is set below the *incremental* economic
24 costs that the telephone company will incur on a forward-looking basis. That a
25 price happens to be less than historic cost does not imply the presence of subsidy.

1 Returning to our earlier example about the widget factory, if in order to stay in
2 business I am forced by the marketplace to offer widgets at \$3 even though (on an
3 historic basis) my "actual" cost (as Mr. Varner would define that term) is \$5, I
4 may experience a loss in the accounting sense because I am continuing to utilize
5 obsolete plant, but in no way am I "subsidizing" customers who purchase the
6 product from me at the \$3 price. If BellSouth's competitors are required to pay
7 the Company prices for UNEs and other essential facilities that reflect historic
8 inefficiencies or the failure of the telephone company to adopt efficient systems
9 and production processes, then it is the *competitors* who will be forced to
10 subsidize BellSouth's failure to adopt efficient forward-looking production
11 processes and resources.

12
13 **Q. IS BELLSOUTH PROPOSING TO SET ITS RECURRING PRICES FOR**
14 **UNEs BASED UPON FORWARD-LOOKING ECONOMIC COST?**

15 A. No. While nominally utilizing TSLRIC as a "basis" for proposed UNE rates, Mr.
16 Varner clearly states that BellSouth's position is that its UNE prices should not be
17 set equal to economic cost. (Varner Direct at 12-13.) Instead, BellSouth is
18 proposing to recover its historically incurred costs through its UNE prices.
19 (Varner Direct at 12:24-13:1, and 18:2-21.) Specifically, BellSouth has proposed
20 to recover the majority of the difference between its claimed economic costs (i.e.,
21 TSLRIC plus attributed shared and common costs) and its booked, historical costs
22 by including substantial cost additives described as "Residual Recovery
23 Requirements" (RRRs) in its proposed rates for unbundled loops and ports.
24 (Varner Direct at 19:17-20:20, Zarakas/Caldwell Direct at 43:19-44:10.) These
25 additives, which are expressly designed to recover historical costs, cause

1 BellSouth's proposed rates for the affected elements – namely, 4-wire analog
2 voice grade ports, 2-wire ADSL-compatible loops, and 4-wire HDSL-compatible
3 loops – to be substantially higher than their reported economic cost level.
4 (Exhibit No. P-1, Section 6, "Residual Recovery Requirement," at 000691.) In
5 addition, Mr. Wood has described (see, e.g., Wood Rebuttal Testimony at 10-14)
6 several mechanisms by which BellSouth has improperly included historical costs
7 in its TSLRIC estimates for these unbundled elements.

8
9 **Q. DID THIS COMMISSION INCLUDE THE RECOVERY OF**
10 **BELLSOUTH'S HISTORICAL COSTS AS AN EXPLICIT COMPONENT**
11 **OF THE PRICES FOR UNBUNDLED ELEMENTS PREVIOUSLY**
12 **ESTABLISHED IN THIS PROCEEDING?**

13 A. No, it certainly did not. In the decision issued on December 31, 1996, the
14 Commission concluded that the appropriate cost methodology to determine the
15 prices for unbundled elements is an approximation of Total Service Long Run
16 Incremental Cost (TSLRIC). (Order No. PSC-96-1579-FOF-TP, December 31,
17 1996 (hereinafter, "the December 1996 Order"), at page 23.) As observed in that
18 decision, the Commission had previously adopted the TSLRIC costing standard
19 for unbundled elements in Docket No. 950984-TP. (Order No. PSC-96-0811-
20 FOF-TP, issued June 24, 1996.) The Commission consequently set prices for a
21 number of UNEs based directly upon BellSouth's proposed TSLRIC levels, with a
22 further contribution to shared and common costs. (December 1996 Order at page
23 33.) Given that the Commission has already made a determination on appropriate
24 UNE pricing that did not include any "additive" to recover the Company's claimed
25 historical costs, as a threshold matter the Commission should confirm its prior

1 conclusion barring any extraordinary showing that it must be reversed at this time.

2 As I shall now explain, I believe that the Commission's decision to adopt UNE
3 prices based upon TSLRIC plus a portion of shared and common costs is
4 appropriate from an economic standpoint and is the best means to implement the
5 relevant provisions of the *Telecommunications Act of 1996*. (That having been
6 said, I have not reviewed in detail the recurring TSLRIC studies that BellSouth
7 has presented in this proceeding, and therefore do not offer an opinion concerning
8 the studies' specific compliance with the Commission's TSLRIC standard.)

9
10 **Q. FROM AN ECONOMIC PERSPECTIVE, IS BELL SOUTH'S PROPOSAL**
11 **TO SET ITS UNE PRICES TO RECOVER HISTORICAL COSTS**
12 **PERMISSABLE UNDER THE FEDERAL TELECOMMUNICATIONS ACT**
13 **OF 1996?**

14 A. No, it is not. Section §252(d)(1)(A)(i) of the *Telecommunications Act of 1996*
15 ("the Act") prescribes that the pricing of UNEs and interconnection arrangements
16 must be based upon their costs "determined without reference to a rate-of-return
17 or other rate-based proceeding..." The "Residual Recovery Requirements" to
18 which Mr. Varner refers represent the difference between the forward-looking
19 economic cost and the historical costs as these have been determined in a previous
20 "rate-of-return or other rate-based proceeding." Such pricing is clearly
21 impermissible under the Act. By expressly requiring that costs be "determined
22 without reference to a rate-of-return or other rate-based proceeding," Congress
23 clearly intended to require that ILECs price UNEs and interconnection arrange-
24 ments based upon their forward-looking *economic costs*, rather than upon the
25 *historical costs* that are the focus of a traditional rate-of-return or rate-based

1 proceeding.

2

3 **Q. WHY DO YOU REACH THIS CONCLUSION?**

4 A. Among its many consequences, the 1996 federal legislation amended the
5 *Communications Act of 1934* to create a new Part (Sections 251-261) specifically
6 concerned with the "Development of Competitive Markets" in
7 telecommunications. In order to secure the benefits of competition for the nation's
8 telecommunications consumers, this legislation established specific obligations
9 for *incumbent* local exchange carriers (ILECs) in the areas critical to the
10 development of a competitive local exchange marketplace. These key areas
11 include access to unbundled network elements, interconnection to new entrants'
12 networks, resale of services, number portability, dialing parity, and reciprocal
13 compensation. In requiring the cooperation of incumbent LECs with the efforts of
14 new entrants to participate in the local exchange marketplace, Congress clearly
15 contemplated that, at least during a transition period if not over a longer time
16 frame, new entrants would not have a sufficiently extensive base of facilities in
17 place to enable them to compete effectively with the incumbents. Congress did
18 not *require* new entrants to utilize the facilities of incumbents; rather, it adopted
19 explicit measures designed to *facilitate* new entrants' ability to interconnect with
20 and to utilize ILEC network resources as needed to fill in gaps in the new firms'
21 own infrastructures. As Mr. Varner has himself recognized (Varner Direct at
22 5:21-7:21), new providers will choose to construct their own facilities when this
23 can be accomplished at a lower cost than by utilizing the incumbent's network,
24 and will choose to utilize the incumbent's facilities when that represents a lower
25 cost than for new construction. Indeed, that is exactly as it should be. Facilities-

1 based competition should develop only where it is efficient, and should not be
2 expected to develop where the commitment of economic resources needed to
3 overbuild existing ILEC plant cannot be justified. The Act recognizes both
4 conditions, and establishes a paradigm under which a combination of facilities-
5 based and resale competition can develop.

6
7 Moreover, the development and growth of non-facilities-based competition at the
8 retail level (accomplished through the resale of UNEs and bundled services) will
9 work to encourage new entrants to invest in facilities of their own by permitting
10 them to amass a customer and revenue base sufficient to justify the investment.
11 Pricing of UNEs at their forward-looking economic cost sends the correct signals
12 to prospective facilities-based competitors, whereas pricing UNEs *above*
13 economic cost (i.e., at historic cost levels) could work to encourage inefficient
14 construction of competing facilities.

15
16 The only way in which the "make or buy" decision can be efficiently made by the
17 new entrant is where the incumbent's prices are set on a forward-looking,
18 economic cost basis. Consider the following example: Suppose that BellSouth's
19 TSLRIC (including correctly-attributed forward-looking shared and corporate
20 overhead costs and return on investment) for a particular UNE is \$6, and that the
21 associated "Residual Revenue Requirement" for that same UNE is \$5. On this
22 basis, BellSouth's price would be set at \$11. Suppose that the new entrant is able
23 to replicate the same functionality of this UNE at a cost of \$9 by constructing its
24 own facilities. In this case, the economically efficient decision would be to
25 continue to utilize the ILEC's facilities (because \$6 is less than \$9). However,

1 because it is confronted with an \$11 *price* and not the \$6 forward-looking
2 economic *cost*, the new entrant will conclude (correctly from its perspective) that
3 it would be better off acquiring its own facilities (at the \$9 cost) than to pay the
4 \$11 price to BellSouth. That decision is, however, *inefficient* from a societal
5 standpoint, and the new entrant will have been misled into that incorrect decision
6 by the inflated \$11 BellSouth price. Ironically, if the new entrant in fact does
7 decide to pursue the "make" rather than the "buy" course of action, BellSouth will
8 still not be able to recover its so-called "Residual Revenue Requirement" from the
9 new entrant.

10
11 It would make no sense for Congress to have specifically encouraged efficient
12 competition in local telecommunications while at the same time condoning (let
13 alone affirmatively permitting) an ILEC to overprice essential services and
14 facilities.

15
16 **Q. HAVE THE REGULATORY COMMISSIONS THAT HAVE**
17 **CONSIDERED THIS ISSUE REACHED CONCLUSIONS SIMILAR TO**
18 **YOURS — I.E., THAT THE PRICING OF UNEs MUST BE BASED UPON**
19 **ECONOMIC COSTS RATHER THAN ON AN ILEC'S HISTORICAL**
20 **EMBEDDED COSTS?**

21 **A.** Indeed, they have. The FCC was the first regulatory authority to comprehensively
22 address this issue, in its *First Report and Order* in CC Docket 96-98 ("*First*
23 *Interconnection Order*"). (*In the Matter of Implementation of the Local*
24 *Competition Provisions in the Telecommunications Act of 1996 and*
25 *Interconnection Between Local Exchange Carriers and Commercial Mobile*

1 *Radio Service Providers*, CC Docket Nos. 96-98 and 95-185, *First Report and*
2 *Order*, released August 8, 1996, paras. 674-703.) In that decision, the FCC
3 interpreted Section 252(d)(1)(A)(i) of the Act as a requirement to measure and
4 apply the *forward-looking, long-run economic costs* of the given network
5 function, and specifically rejected UNE pricing based upon historical costs. As
6 expressed therein:

7
8 We are not persuaded by incumbent LEC arguments
9 that prices for interconnection and unbundled
10 network elements must or should include any
11 difference between embedded costs they have
12 incurred to provide those elements and their current
13 economic costs. ... The substantial weight of
14 economic commentary in the record suggests that an
15 "embedded cost"-based pricing methodology would
16 be pro-competitor -- in this case the incumbent LEC
17 -- rather than pro-competition. We therefore decline
18 to adopt embedded costs as the appropriate basis for
19 setting prices for interconnection and access to
20 unbundled elements. Rather, we reiterate that the
21 prices for the interconnection and network elements
22 critical to the development of a competitive local
23 exchange should be based on the pro-competition,
24 forward-looking, economic costs of those elements,
25 which may be higher or lower than historical

1 embedded costs. Such pricing policies will best
2 ensure the efficient investment decisions and
3 competitive entry contemplated by the 1996 Act,
4 which should minimize the regulatory burdens and
5 economic impact of our decisions on small entities.
6 (Interconnection Order at para. 705 (footnotes
7 omitted).)

8
9 It is my understanding that the Eighth Circuit Court of Appeals decision of July
10 18, 1997 held that the FCC lacked jurisdictional authority to prescribe those
11 TELRIC costing and pricing rules for application to state-regulated UNEs, and
12 thus abrogated those portions of the *First Interconnection Order* and associated
13 rules in which such preemptive authority had been asserted. Contrary to Mr.
14 Varner's claim, however, the Court did not find that "[m]any of the FCC's Rules
15 conflicted with the Act" (Varner Direct at 9) on substantive grounds; the basis for
16 vacating the specific pricing and costing rules that had been adopted by the FCC
17 was entirely jurisdictional. Indeed, the FCC's interpretation of the Act and the
18 pricing rules it attempted to promulgate are not substantially different from the
19 Florida Commission's own findings and decisions with respect to the use of
20 TSLRIC for pricing UNEs and other essential services furnished to new entrants,
21 which I described earlier in my testimony (pages 9-10). Whether or not the FCC's
22 ruling is ultimately binding upon this Commission, that ruling is sound on its
23 merits and can be used by this Commission both as validation for its own prior
24 rulings as well as providing corroboration for interpretations of the Act that may
25 differ from those being advanced by BellSouth.

1 Moreover, several states have reached similar conclusions. The Public Utility
2 Commission of Ohio adopted pricing guidelines that "set forth that prices for
3 interconnection and unbundled network elements shall be set so that the LEC
4 recovers its LRSIC ["LRSIC" (long-run service incremental cost) is another term
5 for TSLRIC] for providing interconnection and unbundled network elements and
6 a reasonable contribution to the joint and common costs incurred by the LEC."
7 (Public Utility Commission of Ohio, Case No. 95-845-TP-COI, *Entry on*
8 *Rehearing*, November 7, 1996, at 39 ("V. Pricing Standards").)

9
10 The California PUC has not yet issued a decision that establishes the specific
11 basis for the pricing of UNEs in the context of the Act. However, in AT&T's
12 arbitration with GTE-California, the Arbitrator established UNE rates based on
13 TSLRIC plus a markup to reflect forward-looking shared and corporate overhead
14 costs, without any additive to recover historical costs. (California PUC
15 Application 96-08-041, Arbitrator's Report, October 31, 1996, at pages 11-13.)
16 Similarly, in the AT&T/MCI arbitration with GTE-Southwest in Texas, the
17 Arbitrator concluded that "unbundled element prices shall be set at TELRIC plus
18 an appropriate share of joint and common costs (determined by the application of
19 a forward-looking cost factor)." (Texas PUC Docket No. 16300/16355,
20 *Arbitration Award*, December 12, 1996, at page 108.)

21
22 Even before the passage of the Act, the Connecticut Department of Public Utility
23 Control (DPUC) had determined that UNEs should be priced at TSLRIC plus a
24 reasonable contribution to common costs, and it has affirmed that this treatment is
25 consistent with the Act. (See Connecticut DPUC, Docket No. 96-09-22,

1 *Decision*, April 23, 1997, at section III.C, which also cites Docket No. 94-10-04,
2 *Decision*, August 7, 1996, at page 55.) The DPUC's recent April 1997 order also
3 explicitly rejected the recovery of historical costs through the contribution portion
4 of UNE prices, and adopted the principle of using a forward-looking analysis of
5 common costs to set the contribution level applied to UNEs. (*Id.* at section V.B,
6 "Proposed Rates")

7
8 **Q. MR. VARNER CONTENDS (VARNER DIRECT AT 8) THAT THE ACT'S**
9 **ALLOWANCE FOR A "REASONABLE PROFIT" IN UNE PRICING**
10 **UNDER SECTION 252(D)(1)(B) SUPPORTS BELLSOUTH'S**
11 **INTERPRETATION OF THE ACT AS PERMITTING RECOVERY OF**
12 **HISTORICAL COSTS IN UNE PRICES. DO YOU AGREE?**

13 A. No, I do not. Section 252(d)(1)(B) of the Act *permits* the price for
14 interconnection and unbundled elements to include a "reasonable profit." Mr.
15 Varner's basic argument is that no profit is recovered when prices are based upon
16 TSLRIC and thus TSLRIC-based prices are inconsistent with the Act's intentions.
17 The statutory language "reasonable profit" must be read in the context of public
18 utility regulation. "Reasonable profit" constitutes the "reasonable rate of return"
19 or "cost of money" that reflects conditions that would prevail in competitive
20 markets. For this purpose, "cost of money" is included in the TSLRIC itself,
21 along with depreciation and ongoing expenses. If Mr. Varner intends to suggest
22 that Congress has authorized some type of "profit" in excess of the reasonable rate
23 of return on investment, he offers no authority for such a conclusion. Indeed, any
24 profit in excess of the "reasonable return on investment" would *by definition*
25 constitute *excess* monopoly profits that are, on their face, *unreasonable*.

1 Moreover, there is nothing inconsistent about the idea of earning a "profit" when
2 prices are compared with forward-looking economic costs even if those same
3 prices are below historic embedded cost. If the historic cost of a service is \$7 but
4 on a forward-looking basis it costs only \$5 (exclusive of return on investment) to
5 produce, and that service is priced at \$5.50, the company will earn a profit of 50
6 cents for each unit it sells from this point in time forward — i.e., its aggregate
7 earnings will be 50 cents greater for each unit it sells than it would be if the unit
8 were not sold. The fact that in the *past* the cost of production of the same service
9 had been \$7 has no effect upon or relevance to its profitability from this point in
10 time forward.

11

12 Some of the other regulatory commissions that I cited earlier in my testimony
13 have also expressly rejected Mr. Varner's line of reasoning. The FCC was not
14 persuaded by ILECs' contentions that UNE prices must recover embedded costs in
15 order to ensure that they could realize a profit. (*Interconnection Order I*, at para.
16 706.) The PUC of Ohio considered this issue and concluded that "[t]he profit
17 level included in the LRSIC shall be the cost of capital which shall constitute
18 'reasonable profit' for purposes of the 1996 Act." (Ohio PUC, Case No. 95-845-
19 TP-COI, *Entry on Rehearing*, November 7, 1996, at 39.)

20

21 **Q. MR. VARNER ALSO CONTENDS (VARNER DIRECT AT 13) THAT**
22 **SETTING PRICES THAT DO NOT COVER "TOTAL COST" (I.E.,**
23 **HISTORICAL COST) WILL CREATE INCENTIVES FOR ILEC**
24 **INEFFICIENCY. DO YOU AGREE WITH THIS REASONING?**

25 **A. Absolutely not, and it is astonishing that Mr. Varner would make such a ludicrous**

1 claim. Surely Mr. Varner is aware of the fundamental shift that has occurred
2 during the past decade away from traditional rate of return regulation of ILECs
3 toward incentive regulation approaches such as price caps plans, which has
4 occurred precisely because of the incentives for inefficiency that economists
5 consider to be inherent to embedded cost-based pricing.

6
7 Recall, for example, the FCC's findings following its review of the incentives
8 created by rate of return regulation and their effects upon ILEC behavior in the
9 *Further Notice of Proposed Rulemaking* (FNPR), FCC 88-172, in its price caps
10 proceeding, CC Docket 87-313 (3 FCC Rcd 3195, 3216-3224). As stated therein:

11
12 ... rate-of-return regulation provides regulated firms
13 with very strong incentives to pad their rates, for
14 essentially two reasons. First, as a profit-
15 maximizer, the firm is led to adopt the most costly,
16 rather than the most efficient, investment strategies
17 because its primary means of increasing dollar
18 earnings under rate-of-return constraints is to
19 enlarge its rate base. This is commonly known as
20 the Averch-Johnson effect or "A-J" effect of rate-of-
21 return. Second, since all operating expenses are
22 included in a firm's revenue requirement under rate
23 of return, management has little incentive to
24 minimize operating costs. This is commonly known
25 as "X-inefficiency." The firm's shareholders profit

1 from the first phenomenon, and the benefits of the
2 second redound to the firm's management. In both
3 cases, however, consumers suffer because these
4 distorted incentives increase the cost of doing
5 business – and thus the rates consumers must pay
6 for service. (3 FCC Rcd 3195, 3219, footnotes
7 omitted)

8

9 The FCC's review noted several studies that found these effects to have significant
10 impacts upon regulated firms' costs, including "one showing unit cost increases on
11 the order of 6 to 12 percent" due to A-J type distortions (3 FCC Rcd 3195, 3220)
12 and a unit cost differential of approximately 11 percent for monopoly electric
13 utilities subject to rate-of-return regulation relative to such utilities in situations
14 where some competitive forces exist (3 FCC Rcd 3195, 3222). Thus, contrary to
15 Mr. Varner's unsupported opinion, setting prices to recover total historical costs
16 actually incents ILECs to make *inefficient* investments, in addition to creating
17 conditions for excess costs through the "X-inefficiency" effect.

18

19 If BellSouth is effectively *guaranteed* full recovery of its embedded investment,
20 the Company has no incentive to assure that its capital spending initiatives are
21 financially sound. Indeed, it is both possible and entirely likely that the apparent
22 "gap" between embedded historic costs and forward-looking incremental costs is
23 at least in part accounted for by inefficient investment decisions. For example, in
24 acquiring new central office switches, the Company may have failed to recognize
25 or give effect to the persistent downward trend in central office switch prices that

1 has characterized the switch market since the break-up of the former Bell System.

2 One reason why embedded plant may become prematurely obsolete is because
3 the Company failed to correctly assess the pace and direction of technological
4 improvements and price decreases that would occur in the future, and in so doing
5 overestimated the economic lives of equipment that it was considering for
6 purchase. If equipment prices are decreasing at the rate of, say, 5% annually but
7 this fact is not captured in the Company's capital budgeting cash flow models, the
8 Company could be led to replace plant prematurely rather than wait a few years
9 until the newer models became available at perhaps significantly lower prices.
10 Similarly, if the Company overestimates the prices of the next generation of a
11 particular class of equipment (e.g., central office switches), it may fail to purchase
12 them at the most cost-effective point in time. When firms in nonregulated
13 industries, who enjoy no assurance of full recovery of their investments, make
14 capital investment and plant replacement decisions, they must consider these
15 factors or suffer the consequences. Full recovery insulates the telephone company
16 from such concerns, and thus encourages inefficiency, not efficiency, in
17 investment decisionmaking.

18
19 **Q. MR. VARNER CLAIMS (VARNER DIRECT AT 13:14-18) THAT A**
20 **FAILURE TO PRICE UNES TO RECOVER TOTAL COSTS WILL ALSO**
21 **DISCOURAGE EFFICIENT INVESTMENTS IN TECHNOLOGIES WITH**
22 **RELATIVELY HIGH SHARED COSTS. DO YOU AGREE?**

23 **A.** No, I do not. Mr. Varner offers no economic support for this contention, which he
24 contradicts elsewhere in his own testimony. Given that Mr. Varner correctly
25 recognizes that economic costs include an appropriate attribution of shared and

1 common overhead costs (Varner Direct at 12:11-12), there is no reason to believe
2 that prices based upon economic costs will create any incentives to select
3 technologies based upon their relative shares of incremental vs. shared costs. If
4 shared costs are correctly attributed to the various products and services that they
5 support, technologies exhibiting relatively large shared cost components (which
6 Mr. Varner suggests provide greater economies of scale) will exhibit lower
7 economic costs when expressed on a per-unit basis.

8

9 **Q. IN WHAT RESPECTS DOES YOUR NOTION OF THE TREATMENT OF**
10 **SHARED AND CORPORATE OVERHEAD COSTS APPEAR TO DIFFER**
11 **FROM THAT BEING ADVOCATED BY MR. VARNER?**

12 A. Mr. Varner appears to want the ability to allocate shared and corporate overhead
13 costs among the various BellSouth services "based on the market, regulatory and
14 competitive conditions that exist." (Varner Direct at 12:13-14.) One potential
15 consequence of such allocations (which he characterizes as "contributions" toward
16 shared and common costs) is that they will disproportionately burden those
17 services and elements for which BellSouth faces no consequential competition.
18 The "market conditions" to which Mr. Varner refers would permit the Company
19 to increase prices for relatively price-inelastic noncompetitive services without
20 significant loss of business, while at the same time potentially undercutting rivals
21 in competitive segments of its market by effectively excluding most or all shared
22 and common costs from the prices it sets for its competitive offerings. A correct
23 attribution of shared costs on the basis of relative use of the shared resource by
24 each of the various services, and an assignment of variable corporate overhead
25 costs in proportion to each service's direct costs, overcomes this possibility.

1 Q. MR. VARNER ALSO CONTENDS (VARNER DIRECT AT 17:21-23)
2 THAT "FOR BELLSOUTH TO STAY IN BUSINESS, REVENUES FROM
3 ALL SERVICES MUST NOT ONLY COVER INCREMENTAL COST,
4 BUT THEY MUST ALSO PROVIDE SUFFICIENT CONTRIBUTION TO
5 COVER ALL OTHER COSTS OF THE FIRM." ARE BELLSOUTH'S
6 PROPOSED PRICES FOR UNES OTHER THAN LOOPS AND PORTS
7 CONSISTENT WITH ASSERTION?

8 A. No, they are not. Mr. Varner repeatedly declares (see also Varner Direct at 11:23-
9 24 and 19:13-15) that BellSouth's pricing must permit the Company to recover all
10 incurred costs, including historical, non-economic costs. Nonetheless, BellSouth
11 proposes that only certain unbundled elements should be priced to recover their
12 full historical costs, namely the loop and port elements that are most important to
13 ALECs and for which there are few or no competitive alternatives. (Varner Direct
14 at 19:17-20:20.)

15
16 For the numerous remaining unbundled elements, including interoffice transport,
17 vertical switching features, etc., BellSouth's proposed rates do not include an
18 explicit "Residual Recovery Requirement" component. Relative to loops and
19 ports, many of these elements have greater potential for earlier and more
20 significant competitive alternatives (e.g., interoffice transport), and/or have
21 greater price elasticity (e.g., vertical features). Apparently, BellSouth is willing to
22 forego recovery of its historical costs for these elements that have not already
23 been captured in TSLRIC plus the shared/common cost attributions. Thus, in
24 these cases, BellSouth is proposing prices that will not "cover actual costs,"
25 contrary to its avowed position that it must recover all of its "actual costs" in order

1 to survive. Clearly, if for these elements BellSouth can forego recovery of total
2 historical costs, there is no reason to accept the Company's premise that pricing
3 the loop and port UNEs below historical cost levels will put the Company at
4 financial risk.

5
6 **BELLSOUTH ENJOYS OVERWHELMING ADVANTAGES IN THE**
7 **NEWLY-COMPETITIVE LOCAL EXCHANGE MARKETPLACE DUE**
8 **TO ITS LONG-TERM INCUMBENCY STATUS AND FORMER**
9 **REGULATORY PROTECTIONS, AND ITS CONTINUED "OBLIGATION**
10 **TO SERVE" IN NO WAY ENTITLES THE COMPANY TO FULL**
11 **RECOVERY OF ITS PAST NETWORK INVESTMENTS.**

12
13 **Q. DO YOU AGREE WITH MR. VARNER'S ASSERTION (VARNER**
14 **DIRECT AT 19:10-13) THAT BELLSOUTH'S PRICING MUST ALLOW**
15 **THE OPPORTUNITY TO RECOVER ALL INVESTMENTS "MADE IN**
16 **GOOD FAITH PURSUANT TO OBLIGATIONS UNDER A**
17 **TRADITIONAL REGULATORY COMPACT"?**

18 **A.** No, I do not. While Mr. Varner has not spelled out the regulatory obligations he
19 has in mind, presumably he is referring to the Florida Commission's "carrier of
20 last resort" (COLR) requirement that BellSouth (like other regulated ILECs)
21 provide service to all customers in its Florida serving territory upon request, and
22 to build and maintain sufficient facilities to accommodate such service requests.
23 While BellSouth is subject to a COLR requirement in Florida (and should
24 continue to be, in my view), Mr. Varner is mistaken in his belief that the
25 Company's "obligation to serve" somehow entitles it to full recovery of all

1 previously-made network investments.

2

3 **Q. PLEASE EXPLAIN WHY BELLSOUTH'S OBLIGATION TO SERVE**
4 **DOES NOT CREATE AN ENTITLEMENT TO FULL INVESTMENT**
5 **RECOVERY.**

6 A. There are several reasons. First, BellSouth has not demonstrated, nor could it
7 demonstrate, that all of its network investments were efficiently incurred for the
8 sole purpose of satisfying its obligation to serve. In reality, an ILEC's network
9 investments are driven by multiple considerations, including not only customer
10 demand, but also the prevailing form of regulation and strategic competitive
11 market objectives being pursued by the ILEC's management. That embedded
12 investment will also reflect *incorrect* and *inefficient* choices made by the
13 Company due to, for example, misassessments of customer demand, the pace at
14 which competition in specific market segments will develop, and/or the
15 technological life of the equipment and facilities that were being considered for
16 purchase, or the Company's failure to deploy modern operations support systems
17 capable of improving overall management and utilization of network resources.
18 While it might be possible to identify and exclude that portion of the embedded
19 asset base that is *not* attributable to any COLR obligation to serve, no such
20 attempt has been made or offered by the Company in the present case.

21

22 **Q. ARE THERE ADDITIONAL REASONS WHY YOU HAVE CONCLUDED**
23 **THAT AN OBLIGATION TO SERVE DOES NOT ENGENDER AN**
24 **ENTITLEMENT TO FULL INVESTMENT RECOVERY?**

25 A. Yes, there are. As an initial matter, the limited investments that might plausibly

1 be linked to an ILEC's obligation to serve, such as subscriber access lines in rural,
2 relatively high-cost areas, are those least likely to be threatened by facilities-based
3 competitive entry.

4
5 Furthermore, an ILEC's "obligation to serve" does not exist in a vacuum, and the
6 economic burdens, if any, arising from such an "obligation" must be considered in
7 tandem with the enormous *and unique* economic benefits of incumbency that have
8 been enjoyed by BellSouth and other ILECs for nearly a century. Among other
9 things, those incumbency advantages have included virtual insulation from
10 business risk, the ability to amass a ubiquitous distribution, switching and
11 intraLATA transport infrastructure unmatched and unmatchable by any known
12 competitor, the ability to acquire a near-100% share of the local exchange market
13 without competitive challenge, and unparalleled incumbency advantages vis-a-vis
14 actual and prospective entrants that assure the ILECs' ability to retain substantially
15 all of their core market share — particularly in the residential segment — even as
16 entry becomes possible.

17
18 In addition, the Commission's regulation of BellSouth took a significant step
19 away from the traditional rate-of-return based "regulatory compact" when
20 incentive regulation was applied to the Company. Since 1994, BellSouth's current
21 incentive regulation plan permits the Company to retain earnings that represent
22 above-market returns on equity, including up to 12.5% return on equity with no
23 earnings sharing, and up to 17.5% with sharing in 1997. (See Order No. PSC-96-
24 1579-FOF-TP, issued December 31, 1996, at page 33, and Docket No. 920260-TL
25 et al, Order No. PSC-94-0172-FOF-TL, at page 12.) This type of incentive

1 regulation plan is founded upon a "reward follows risk" policy in which the ILEC
2 is afforded the *opportunity* to earn higher returns to the extent that it accepts the
3 financial and business *risks* involved in operation under the terms of the plan. In
4 addition, in 1995, the Florida Legislature amended Chapter 364, Florida Statutes,
5 eliminating any vestige of rate-based rate-of-return regulation and creating a
6 statutory price cap plan for BellSouth and other large ILECs. Under the price cap
7 plan, BellSouth's rates for basic local exchange service are capped at 1995 levels
8 until January 1, 2001. Notwithstanding the price caps, BellSouth can seek an
9 increase in basic local exchange rates at any time if it can show substantially
10 changed circumstances. Given that BellSouth is subject to an incentive regulation
11 plan and a price cap plan that (absent any exercise of a "constitutional takings"-
12 based return to rate-of-return regulation) eliminate any general entitlement of
13 BellSouth to a prescribed level of return on its investments, it would be illogical
14 and improper to adopt an entitlement to recovery of total historical costs in the
15 context of setting UNE prices.

16
17 **Q. IS THERE ANY MERIT TO THE IMPLICATION (VARNER DIRECT AT**
18 **19:10-13) THAT THE COMMISSION WOULD BE BREAKING ITS**
19 **"REGULATORY COMPACT" WITH BELL SOUTH BY REJECTING**
20 **MAKE-WHOLE RATES FOR UNES?**

21 **A.** No. The potential for competition at the local exchange level should not have
22 come as any great surprise to BellSouth. Competition in the US
23 telecommunications market did not happen overnight or instantly; it has been an
24 evolving focus of US telecommunications policy for nearly three decades. It is
25 entirely reasonable for this Commission to expect that ILECs subject to its

1 jurisdiction will anticipate and adjust for the onset of competition in their
2 construction plans and programs. It is reasonable for ILECs such as BellSouth to
3 expect at least some loss of market share when competition enters the market; if a
4 loss of local exchange market share reduces the overall demand for outside plant
5 and other "fixed" ILEC resources, the Company should have been responsible for
6 forecasting the changing industry climate and for adjusting its plant construction
7 programs for its potential effects. Hence, even where some type of adverse
8 financial impact can be directly associated with a loss of local service market
9 share, had such a loss been correctly anticipated and forecasted by the ILEC, it
10 could have reduced its construction program by planning to reuse plant released
11 from service by departing customers. If the ILEC had been adjusting its
12 construction program to account for such competitive losses, it would today be
13 tracking long run costs rather than short run costs, and would not suffer earnings
14 erosion.

15
16 **THE PROCESSES EMPLOYED BY BELLSOUTH FOR THE**
17 **PROVISIONING OF UNES REFLECT INEFFICIENT AND**
18 **ANTIQUATED MANUAL PROCEDURES AND ARE NOT AN**
19 **APPROPRIATE BASIS FOR SETTING FORWARD-LOOKING**
20 **NONRECURRING CHARGES FOR SUCH WORK.**

21
22 **Q. HAVE YOU REVIEWED THE DIRECT TESTIMONY OF MR. ENO**
23 **LANDRY REGARDING THE PROCESSES EMPLOYED BY**
24 **BELLSOUTH FOR THE PROVISIONING OF UNBUNDLED NETWORK**
25 **ELEMENTS?**

1 A. Yes, I have.

2

3 **Q. ARE THE SPECIFIC TASKS AND WORK FLOWS DESCRIBED BY MR.**
4 **LANDRY CONSISTENT WITH THE DEPLOYMENT OF THE TYPES OF**
5 **EFFICIENT OPERATIONS SUPPORT SYSTEMS THAT YOU**
6 **DESCRIBED IN YOUR DIRECT TESTIMONY?**

7 A. No, they are not. The various processing steps described by Mr. Landry appear to
8 be based upon primarily manual systems and procedures rather than on the use of
9 integrated operations support systems (OSS) and accurate, synchronized data
10 bases. As such, they do not provide a valid basis for developing the *forward-*
11 *looking* cost of the various nonrecurring service order processing and connection
12 functions that would be consistent with the least cost forward-looking technology
13 foundation for TSLRIC studies.

14

15 **Q. UPON WHAT DO YOU BASE THIS CONCLUSION?**

16 A. The various processing steps that Mr. Landry enumerates involve the manual
17 receipt of orders from ALECs, which he asserts require manual review and error
18 detection by BellSouth. (Landry Direct at 2-5.) He asserts that, based upon
19 experience with access service orders received from interexchange carriers, high
20 error rates are expected in ALEC-initiated orders for UNEs. (Landry Direct at
21 3:23-4:2.) He also describes various manual cross-connect operations as well as
22 manual entry of central office routing information on UNE ports provided to
23 ALECs. (Landry Direct at 4:8-5:18.)

24

25 As I discussed in my direct testimony and in the paper attached thereto,

1 "Regulatory Treatment of ILEC Operations Support Systems Costs," the principal
 2 sources of high "fallout" rates can be attributed to the lack of electronic interfaces
 3 to ILEC OSS for ALEC entry of service orders and inquiries, as well as (more
 4 generally) to the failure of ILECs to deploy modern, integrated OSS based upon
 5 accurate and fully synchronized data bases. Mr. Landry's testimony appears to
 6 confirm my expectation that BellSouth has not deployed such systems, or at least
 7 that in developing its UNE nonrecurring charges has not assumed their existence
 8 and use. As such, Mr. Landry has assumed that a large percentage of ALEC
 9 orders will not flow through automatically, either because of ALEC-initiated
 10 errors in the service order request or the requirement for various manual cross-
 11 connect and routing operations that would be fully mechanized in OSS based
 12 upon least-cost currently available technology.

13
 14 **Q. WHY MIGHT BELLSOUTH DELAY ADOPTION AND DEPLOYMENT**
 15 **OF MODERN OPERATIONS SUPPORT SYSTEMS CAPABLE OF**
 16 **PROVIDING MAXIMUM FLOW-THROUGH AND MINIMUM**
 17 **FALLOUT?**

18 A. It is in BellSouth's own self-interest to set NRCs that will be imposed upon its
 19 rivals at the highest levels it can convince regulators to allow. One means for
 20 accomplishing this is to delay for as long as possible the use of systems whose
 21 deployment would significantly reduce BellSouth's nonrecurring costs.

22
 23 **Q. WHY MIGHT THE LACK OF ELECTRONIC ACCESS BY ALECs TO**
 24 **BELLSOUTH'S OSS CONTRIBUTE TO ERRORS IN ALEC-INITIATED**
 25 **MANUAL SERVICE ORDERS?**

1 A. When a retail service order is entered by a BellSouth customer service
2 representative, that individual has full on-line access to the customer's service
3 record as well as to the Company's Street Address Guide. An error in, for
4 example, the designation of the street or address can in most cases be instantly
5 detected by the system and corrected by the service representative while still in
6 contact with the customer. If the ALEC does not have similar electronic access to
7 the customer's service records and other ILEC data bases, it must wait for
8 BellSouth to verify the information on the manual service order and, if that order
9 is returned because one or more errors had been detected, correct them and
10 resubmit the order again. Where a "changeover" order is involved (i.e., the
11 migration of an existing BellSouth customer to the ALEC), the ALEC must also
12 specify the various service features the customer has in place, but must rely on the
13 customer's own recollection, rather than on direct access to the BellSouth
14 customer record, to prepare the service request.

15

16 It is worth reiterating the point that I discussed at length in my direct testimony
17 that a substantial source of fallout in the processing of service orders by ILECs
18 can be attributed to the failure of its own systems and data bases to maintain
19 accurate and consistent records. While Mr. Landry might prefer to "blame"
20 ALECs for all such fallout, he has not specifically shown that no such fallout
21 occurs when the order is initiated within BellSouth itself. Indeed, if fallout rates
22 on ILEC-initiated orders were in fact lower than for ALEC-initiated orders, the
23 source of that differential would be attributable to the lack of an efficient
24 electronic interface or "gateway" rather than to the malfeasance of the ALECs.

25

1 Q. WHAT WEIGHT SHOULD BE AFFORDED THE VARIOUS ORDER
2 PROCESSING DESCRIPTIONS THAT HAVE BEEN OFFERED BY MR.
3 LANDRY IN SUPPORT OF BELLSOUTH'S PROPOSED
4 NONRECURRING CHARGES?

5 A. These descriptions do not reflect least-cost, forward-looking technology and are
6 thus inconsistent with the TSLRIC standard. Accordingly, the Commission
7 should not use these order processing descriptions as a basis for setting UNE
8 nonrecurring charges. Instead, it should utilize and rely upon the forward-looking
9 estimates provided by the AT&T/MCI Non-Recurring Cost Model (NRCM) as
10 the proper basis for setting nonrecurring charges to be applied to ALEC orders.

11

12 Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

13 A. Yes, it does.

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1 COMMISSIONER CLARK: Commissioner Deason, I would
2 like to ask Doctor Selwyn a question quick because it
3 involves the last point he made with respect to the notion
4 of regulatory compact entitling BellSouth to recover those
5 historical costs. And on page 26 of your rebuttal
6 testimony, line 11 and 12, you put in parentheses "Absent
7 any exercise of a constitutional taking based on rate of
8 return regulation." What do you mean by that?

9 WITNESS SELWYN: The public utilities have argued
10 for decades that they are entitled under the fifth
11 amendment to recover their investments in that the failure
12 to permit them -- failure of an agency to permit them to do
13 so would constitute an unconstitutional taking, which is
14 expressly prohibited under the fifth amendment.

15 COMMISSIONER CLARK: Well, Doctor Selwyn, they've
16 argued that and, in fact, won that point in the Supreme
17 Court. The Supreme Court --

18 WITNESS SELWYN: Well, they have won it, and they
19 have lost it. The most recent Supreme Court pronouncement
20 on that subject is in the Duquesne Power and Light case,
21 and the ruling in Duquesne essentially holds that in
22 evaluating the entitlement to such recovery it's necessary
23 not to look just at a single incident but at the overall
24 system of regulation to consider countervailing effects of
25 various regulatory policies. In other words, under the

1 doctrine in Duquesne, if arguably a particular decision
2 causes a utility to not recover investment, that can be
3 offset by other decisions which have opposite effects. So,
4 for example, if decisions --

5 COMMISSIONER CLARK: Well, let me -- You are
6 answering more than I need.

7 WITNESS SELWYN: I'm sorry.

8 COMMISSIONER CLARK: I think we can agree that
9 the courts have indicated reasonable and prudent
10 investment, an overall return of and return on your
11 investment is part of the regulatory compact. I guess I'm
12 just -- you seem to in this parentheses say that -- I guess
13 I interpret it as assuming you don't go too far and don't
14 result in a constitutional taking, what you recommend is
15 appropriate.

16 WITNESS SELWYN: Well, I think that in the
17 context of incentive regulation, the various tests that
18 have been applied for, with respect to constitutional
19 taking in cases such as Hope, Bluefield and Duquesne, all
20 relate to rate of return regulation. Under incentive
21 regulation, the utility is given an opportunity to increase
22 earnings by -- in exchange for which it accepts certain
23 risks; and therefore, the standards that may have existed
24 in the past and which have governed these past rulings, I
25 think have to be considered in the context of an incentive

1 regulation system in which there are already the
2 countervailing forces of risk and reward. And all I'm
3 suggesting here is that under incentive regulation where
4 the company is given opportunities to increase its
5 earnings, where it's given pricing flexibility with respect
6 to many services for which it faces little or no
7 competition and at the same time is being held to
8 provide -- is being required to provide access to network
9 elements that -- at prices that on a forward-looking basis
10 are compensatory, that there is no takings issue and there
11 is no breach of a regulatory compact.

12 COMMISSIONER CLARK: Let me restate it as I
13 understand what you just said and see if I'm correct.
14 You're saying that because they've moved to price cap a
15 strict consideration of what would be a constitutional
16 taking under a rate of return obligation to serve scenario
17 has been modified somewhat because they've been given the
18 opportunity to keep greater profits through the incentive
19 given by the price cap, that they will be rewarded for
20 being more efficient and that mitigates to some extent the
21 argument that to the extent they don't recover those
22 embedded costs, it was part of the deal?

23 WITNESS SELWYN: That's right.

24 COMMISSIONER CLARK: Okay.

25 WITNESS SELWYN: And I think that's consistent

1 with the holding in Duquesne.

2 COMMISSIONER CLARK: Duquesne is relatively
3 recent, isn't it?

4 WITNESS SELWYN: 1989, yes.

5 COMMISSIONER CLARK: Okay. And Bluefield is
6 ancient?

7 WITNESS SELWYN: Is way before I was born. Even
8 way before I was born, and that seemed to be a long time
9 ago.

10 MR. HATCH: I think we need to tender the witness
11 for cross now.

12 COMMISSIONER DEASON: Very well. Mr. Self.

13 MR. SELF: I have no questions.

14 COMMISSIONER DEASON: BellSouth.

15 MR. ROSS: Thank you, Commissioner Deason.

16 CROSS EXAMINATION

17 BY MR. ROSS:

18 Q My name is Bennett Ross on behalf of BellSouth.
19 I want to ask you a little bit about the development of the
20 AT&T and MCI nonrecurring cost model which is mentioned in
21 your testimony. You were involved in that process; is that
22 correct?

23 A I was involved to the extent of providing
24 economic advice and counsel to the developers of the
25 model. I did not personally participate in the actual

1 development of the model.

2 Q When did you first begin participating as an
3 advisor in the development of the nonrecurring cost model?

4 A Close to a year ago.

5 Q Say again.

6 A Close to a year ago, I think sometime in the late
7 winter or early spring of last year.

8 Q Did the model already exist in some form by the
9 time you began participating?

10 A It was under active development at that time, but
11 it had not been completed and had not been released in any
12 form.

13 Q And you were asked by AT&T and MCI to participate
14 in the development of the nonrecurring cost model; is that
15 correct?

16 A I was asked by AT&T and MCI to participate in the
17 development and to address certain specific issues that
18 they were concerned about with respect to the treatment of
19 transactions and also the distinction between the recurring
20 costs and nonrecurring costs as an economic matter.

21 Q And AT&T also asked you to prepare the White
22 Paper that you've submitted as part of your testimony; is
23 that correct?

24 A That's correct.

25 Q And when did AT&T ask that you prepare the White

1 Paper?

2 A Well, work on that project began sometime in late
3 spring or early summer. It started out in the form of some
4 generic testimony, and then we decided to prepare it in the
5 form of a narrative.

6 Q That would have been the spring or summer of
7 1997?

8 A 1997, correct.

9 Q So that was after you had already begun working
10 on the AT&T/MCI nonrecurring cost model; is that correct?

11 A Well, it was concurrent with it basically, yes.
12 I mean I was preparing written commentary in the form of
13 notes.

14 Q And is it safe to say that the White Paper was
15 intended to bolster the AT&T and MCI nonrecurring cost
16 model?

17 A Well, I think it was intended to explain the
18 underlying economic principles that were embodied in RCM.

19 Q Okay. And although I think you indicate in your
20 testimony that the model and the White Paper are
21 consistent, that really shouldn't be surprising, should it,
22 since you were involved in both?

23 A I was asked to advise on the development of the
24 model. My advice was taken. To the extent that
25 adjustments were made in the model to conform to that

1 advice, yes, I would say that the results are consistent.

2 Q Doctor Selwyn, the nonrecurring cost model
3 developed by AT&T and MCI assumes the use of fully
4 integrated operation support systems that are accessible by
5 CLECs via electronic interfaces; is that correct?

6 A That's correct.

7 Q Is it your understanding that all of the
8 operational support systems that an incumbent has are
9 accessible by CLECs?

10 A Well, directly or indirectly. All of the
11 operation support systems that would affect CLEC related
12 interactions would be expected to be accessible, but I say
13 directly or indirectly. There are -- CLECs will access an
14 ILEC's OSS through a gateway which will in effect act as a
15 dispatcher to direct messages and direct interactions and
16 requests to various parts of the ILEC's OSS. It doesn't
17 necessarily mean that there is direct access to each and
18 every component because it may not be relevant for a CLEC
19 to have access to all components and, in fact, one would
20 expect that to be probably both not the case and probably
21 not even particularly appropriate.

22 Q That's why I was having some difficulty. Do you
23 draw any distinction between the operation support systems
24 that you believe should be accessible by a CLEC directly or
25 indirectly based on the type of operational support systems

1 at issue?

2 A No, the distinction I'm drawing is mostly with
3 respect to functionality, not so much to the type of
4 system. Certainly a CLEC, for example, should be able to
5 access service records and maintenance information relevant
6 to services that the CLEC is purchasing from the ILEC, and
7 the precise manner in which that information is provided
8 will depend upon the manner in which the gateway is
9 designed and the way in which the gateway interacts with
10 the overall OSS configuration.

11 Q What about provisioning, operational support
12 systems that are used in provisioning unbundled network
13 elements, are those -- should those be directly accessible
14 by CLECs?

15 A Well, I think they should be indirectly
16 accessible by CLECs through an order entry front end. In
17 an integrated system, many of the provisioning activities
18 occur electronically within the ILEC's OSS, and, for
19 example, the assignment of a channel in an integrated
20 digital loop carrier system is accomplished electronically.
21 Now we wouldn't expect the CLEC to necessarily directly
22 access an individual IDLC, but a CLEC would be provided
23 access to an order entry, a preordering and ordering system
24 which in turn would be able to format and transmit a
25 service request to a provisioning system.

1 Q But, again, my question was limited to
2 accessibility of the downstream provisioning systems by the
3 CLEC. Is it your belief that the CLEC, once the order has
4 been placed, should have access to the downstream
5 operational support system used by BellSouth in
6 provisioning unbundled network elements?

7 A I'll stand on my previous answer. I think I have
8 responded to that question.

9 Q Okay. Have you undertaken any view of
10 BellSouth's operation support systems in either preparing
11 your White Paper or the AT&T/MCI nonrecurring cost model?

12 A Not specifically, other than to read testimony by
13 BellSouth witnesses describing the manner in which these
14 systems are functioned here in Florida.

15 Q Have you undertaken a review of any incumbent
16 operational support systems prior to preparing your White
17 Paper or assisting in the development of the AT&T and MCI
18 nonrecurring cost model?

19 A Once again, I have reviewed descriptive
20 information and testimony by incumbent LECs on this
21 subject, but I have not undertaken an indepth review of the
22 specific operations of any one company.

23 Q Now you advocate this notion of fully integrated
24 operational support systems so that there will be flow
25 through which you believe should be comparable in the flow

1 through in, quote, other comparably complex network based
2 entries, and that is on page 10 of your testimony; is that
3 correct?

4 A Yes.

5 Q Now the other comparably complex network based
6 industries you are referring to, would that include
7 automated check processing companies?

8 A For example, yes.

9 Q Would that also include overnight delivery
10 systems like UPS and Federal Express?

11 A Yes.

12 Q And you believe automated check processing and
13 delivery companies are in a comparably complex industry as
14 telecommunications?

15 A Well, in check processing, if you include the
16 overall funds transfer infrastructure, certainly I would
17 say that the complexity is comparable in many significant
18 respects, and I think that the same could be said of
19 industries such as airlines or transportation generally,
20 delivery systems. They are complex in different ways. I
21 mean they don't have the same necessary -- necessarily the
22 same specific network components, and the networks are
23 designed in different ways; but they are complex in the
24 sense that they involve multiple, you know, thousands,
25 hundreds of thousands, millions of individual points of

1 entry into the network, multiple data bases, keeping track
2 of messages or packages or whatever the item is that the
3 network is transporting, maintaining accurate accounting
4 and billing and that type of record-keeping information,
5 tracking information. I think that everybody thinks that
6 what they do is the most complicated difficult thing in the
7 world, but in reality, other industries are certainly
8 comparable in complexity to an ILEC.

9 Q Now I think, according to your White Paper, even
10 in industries like automated check processing and overnight
11 package delivery companies, most -- the best flow throughs
12 that have been achieved is about 99%; is that correct?

13 A Those are what have been reported. My
14 understanding on the check processing side is that the
15 source of fallout there consists of things like
16 illegibility of the individual instrument, and occasionally
17 when you are dealing with high speed mechanical sorting
18 equipment, a check will just be eaten up by the machine,
19 will be physically dismembered. I'm sure everybody has
20 probably received a couple of those things back from their
21 bank, and that's the kind of fallout that occurs; but
22 basically the systems are certainly designed with the
23 objective of close to a hundred percent flow through.

24 Q Do you believe the interexchange market is a
25 competitive marketplace?

1 A Yes.

2 Q Are you familiar with the ordering and
3 provisioning process that exists today in the access
4 environment?

5 A Oh, the access environment is not a competitive
6 industry. The interexchange market is competitive, but the
7 access services certainly are monopolistic at this point.

8 Q All right. So you don't believe that
9 interexchange carriers have any options when it comes to
10 obtaining access?

11 A Their options are extremely limited. The
12 incumbent LECs still maintain 95 plus percent of the market
13 for access and probably 99 plus percent of the market for
14 switched access.

15 Q Would you agree that there are similarities
16 between the process involved in ordering and provisioning
17 of unbundled network and the process involved in ordering
18 and provisioning access services?

19 A There are similarities; there are differences.

20 Q Are you familiar with the fallout rates that have
21 been experienced in the access environment since
22 divestiture in 1984?

23 A I have read, for example, testimony submitted by
24 BellSouth in this case that alleges that fallout rates are
25 high, but I think that the same issues are involved. And

1 again, we dealing with a monopoly service, not a
2 competitive service.

3 Q Are you aware -- do you have any first-hand
4 knowledge of the fallout rates that have been experienced
5 in the access environment since divestiture?

6 A Anecdotal.

7 Q All right. Are you aware that according to
8 BellSouth's records even 14 years after divestiture,
9 BellSouth is experiencing 10% fallout due to errors
10 submitted by interexchange carriers on their access orders?

11 A I'm aware that BellSouth alleges that. I don't
12 think it's something that BellSouth should be particularly
13 proud of, and one would have to identify the sources of
14 such errors. If the errors arise because of unduly complex
15 ordering procedures that, for example, interexchange
16 carriers are required to undergo in order to acquire access
17 services from BellSouth, for example, lack of electronic
18 interfaces, lack of access to OSS, in placing those orders,
19 then it would not surprise me that fallout rates of that
20 magnitude are present.

21 I don't think that one can necessarily point to a
22 fallout rate of that magnitude and suggest that it is the
23 fault of the IXEs. In fact, it is probably not the fault
24 of the IXEs. The IXEs have no incentive to maintain high
25 fallout rates. On the other hand, the ILECs do have an

1 incentive to maintain high fallout rates.

2 Q Have you undertaken any analysis to determine the
3 source of errors in the access environment?

4 A Not specifically. Again, only through anecdotal
5 discussions and conversations.

6 Q So you're not in a position to state whether or
7 not the errors in the fallout rates that have been
8 experienced are attributable to incumbent systems or to
9 errors by interexchange carriers; isn't that correct?

10 A Well, it is my understanding that if -- to the
11 extent that there are errors that originate by IXEs, those
12 are in part due to the fact that IXEs do not have direct
13 electronic access to ordering systems; and if they did,
14 those errors would be captured at the point of entry rather
15 than downstream.

16 Q And you would attribute no fallout simply to the
17 complexity of the tasks at hand?

18 A I'm not going to answer that I attribute no
19 fallout to the complexity of tasks at hand but, you know,
20 there are -- access services represent a, you know, a
21 fairly finite collection of functionalities; and certainly
22 those complexities could be dealt with and should be dealt
23 with under some mechanized manner that is designed to
24 minimize fallout and to maximize flow through. It would be
25 in everybody's best interest that we would have a win-win

1 result if that occurred. There is no particular benefit
2 certainly to the economy as a whole of maintaining high
3 fallout rates on interactions between different companies,
4 between purchases and providers. But in terms of the
5 similarity of the order entry process and provisioning
6 processes of access services with UNEs that BellSouth
7 itself concedes, it does not surprise me that the same kind
8 of inconsistent databases and other inaccuracies in
9 BellSouth's own network operations permeate back into the
10 access world.

11 Q In your rebuttal you are critical of Mr. Landry
12 and suggest that he should have presented the fallout that
13 occurs when BellSouth initiates an order for itself; is
14 that correct?

15 A Among other things, yes.

16 Q Now BellSouth doesn't initiate orders for
17 unbundled network elements for itself, does it?

18 A But it does initiate orders for services that are
19 constructed of the very same network components that a CLEC
20 or an ALEC would require and would acquire in the form of
21 UNEs.

22 Q Was the answer to my question a yes or a no?

23 A I don't remember your question.

24 Q My question was BellSouth does not initiate
25 orders for unbundled network elements for itself?

1 A Well, I think I have explained my answer. The
2 answer is BellSouth does initiate orders for services that
3 utilize the very same network components that constitute
4 UNEs, so I guess I would have to disagree with your
5 question and say, no, that is not true.

6 Q So you would draw no distinction between the
7 ordering of a one FR service and the ordering of a 2-wire
8 HDSL loop?

9 A Well, there may be differences between a one FR
10 service and an HDSL service, but I do not draw a
11 distinction, for example, between an unbundled HDSL loop
12 and a bundled HDSL service that might be offered by
13 BellSouth.

14 Q Doctor Selwyn, were you involved in developing
15 the recurring rates that AT&T has proposed in this
16 proceeding?

17 A No, I was not.

18 Q And you mentioned in your summary that you
19 believe that costs of dedicated plant which is assumed in
20 the nonrecurring cost model should be recovered in
21 recurring rates?

22 A Yes.

23 Q So I take it you cannot state whether or not the
24 recurring rates that AT&T and MCI is proposing include the
25 costs which the AT&T and MCI nonrecurring cost model

1 assumed should be recovered in recurring rates?

2 A I have asked that question and have been advised
3 that they do; that is, that the recurring rates that have
4 been proposed by AT&T do capture components of the service
5 that are not recovered in NRCs, again, based upon efficient
6 forward-looking network design and service provisioning,
7 and I've used that caveat very specifically.

8 The AT&T recurring and nonrecurring rates are
9 based upon forward-looking costs assuming efficient
10 provisioning of services, and they may well not recover
11 so-called -- what Mr. Varner and Mr. Landry characterize as
12 actual costs which, as I've stated, is a term that is
13 devoid of economic meaning. But it is my understanding,
14 because I have specifically raised this question, that the
15 costs are accounted for either in the nonrecurring side or
16 the recurring side.

17 Q Other than someone telling you, have you
18 undertaken any analysis to verify for yourself that the
19 recurring rates include the cost which the AT&T and MCI
20 nonrecurring cost model assumes are, in fact, recovered in
21 recurring rates?

22 A Well, I have over the past year had occasion to
23 examine the mechanics of, for example, the Hatfield model;
24 and in so doing have been able to satisfy myself that these
25 kinds of costs are accounted for in the Hatfield model. I

1 have not done that specifically here.

2 MR. ROSS: No further questions.

3 COMMISSIONER DEASON: Staff.

4 MS. KEATING: Staff has no questions.

5 COMMISSIONER DEASON: Commissioners.

6 (NO RESPONSE)

7 COMMISSIONER DEASON: Redirect.

8 MR. HATCH: No redirect.

9 COMMISSIONER DEASON: Exhibits.

10 MR. HATCH: AT&T would move 49 and 50.

11 COMMISSIONER DEASON: Without objection exhibits
12 49 and 50 are admitted.

13 Thank you, Doctor Selwyn, you are excused.

14 MR. ROSS: Commissioner Deason, just a
15 housekeeping matter. The exhibit, the White Paper exhibit
16 which I believe has been modified as a result of the ruling
17 on the OSS, is the exhibit that is going to be included in
18 the record going to have those offending provisions
19 stricken?

20 COMMISSIONER DEASON: Mr. Hatch.

21 MR. HATCH: The copy that has been submitted that
22 probably the clerk's office would have for that probably
23 does not have them in terms of redacted and blacked out.
24 I'm just assuming that the handout sheet that describes
25 that would be sufficient. If you want a blacked-out,

1 redacted copy, I would be more than happy to supply one.

2 MR. ROSS: I think that would probably be just
3 easier for the parties so we don't have to refer to two
4 documents in looking to what is actually properly part of
5 the record, if Mr. Hatch can just provide a redacted
6 version of the exhibit and submit that into the record.

7 MR. HATCH: That's no problem.

8 COMMISSIONER DEASON: Is there objection?

9 MR. HATCH: Not at all.

10 COMMISSIONER DEASON: Okay. How do you
11 perceive -- You are going to actually physically redact
12 and then submit that?

13 MR. HATCH: Yes, I'm going to take the White
14 Paper pursuant to the list that has been marked as exhibit
15 49 and make those changes and black them out and resubmit
16 that.

17 COMMISSIONER DEASON: Very well. I believe we
18 have a couple of witnesses whose testimony needs to be
19 inserted into the record.

20 MR. HATCH: Good. Are we there already?

21 COMMISSIONER DEASON: Yes.

22 MR. HATCH: Thankfully. Yes, Bradford Cornell.
23 We've agreed to -- I think all the parties have agreed to
24 stipulate his testimony into the record, so AT&T would
25 request that his direct and rebuttal testimony be inserted

1 into the record as though read.

2 COMMISSIONER DEASON: Without objection the
3 direct and rebuttal of Bradford Cornell will be so
4 inserted.

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I.

INTRODUCTION & QUALIFICATIONS

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Q. PLEASE STATE YOUR FULL NAME AND BUSINESS ADDRESS.

A. My name is Bradford Cornell and my business address is FinEcon, 10877 Wilshire Blvd., Los Angeles, California 90024.

Q. WHAT IS YOUR OCCUPATION?

A. I am a Professor of Finance and Director of the Bank of America Research Center at the Anderson Graduate School of Management at UCLA. In addition, I am President of FinEcon, a firm which provides financial economic consulting services to corporations, law firms and government agencies.

Q. WHAT IS YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND?

A. I graduated from Stanford University with an A.B. degree in 1970. Subsequently, I received my M.S. in Statistics in 1974 and my Ph.D. in Financial Economics in 1975 also from Stanford. Since 1975 I have been a professor of finance and I have been at UCLA since 1979. In that capacity I have authored over sixty professional articles, many of which deal directly or indirectly with the cost of capital. The cost

1 of capital is covered in detail in my book, *Corporate Valuation*, published by
2 Business One Irwin. I have also recently published an article entitled "Estimating
3 the Cost of Equity Capital" which discusses the most current cost of capital theories
4 and research since the publication of *Corporate Valuation*. In addition to my
5 teaching and research, I have served as an expert witness in securities and
6 commercial litigation, including cases that focus on the cost of capital. A more
7 detailed summary of my experience is contained in the resume attached as Exhibit
8 BC-1.

9
10 **II.**

11 **PURPOSE**

12
13 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS CASE?**

14
15 **A.** I have been asked to estimate the forward-looking economic cost of capital that
16 should be used in determining for BellSouth Florida, a subsidiary of BellSouth
17 Corp., the forward-looking cost of providing unbundled network elements to retail
18 providers of local telephone service (including the provision of such network
19 elements by BellSouth to its own retail operation). As stated below the midpoint of
20 my cost of capital range for BellSouth Telecommunications is 9.43%.

III.

SUMMARY OF TESTIMONY/RECOMMENDATIONS

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Q. PLEASE SUMMARIZE THE BASIC APPROACH OF YOUR TESTIMONY.

A. My testimony involves applying the basic formula for the weighted average cost of capital (“WACC”), given as equation (1) below, to estimate the cost of capital.

Q. SUMMARIZE THE WACC FORMULA AND EXPLAIN HOW IT IS APPLIED.

A. The WACC formula is given by

$$\text{WACC} = w_d * k_d + w_e * k_e \quad (1)$$

where,

w_d = the fraction of debt in the capital structure,

k_d = the forward-looking cost of debt,

w_e = the fraction of equity in the capital structure,

k_e = the forward-looking cost of equity.

To apply the formula I estimate the forward-looking cost of both debt and equity using methodologies that are well accepted by both financial economists and regulators. In addition, I estimate the appropriate capital structure mix of debt and equity capital. With these inputs, the WACC can be calculated from equation (1).

1 Q. WHAT IS THE ESTIMATE FOR COST OF CAPITAL YOU
2 CALCULATED FROM EQUATION (1)?

3

4 A. I estimate the cost of capital to be in the range of 8.80 to 10.07 percent. The
5 average of this range is 9.43 percent.

6

7 Q. HOW IS THE REMAINDER OF YOUR TESTIMONY ORGANIZED?

8

9 A. The remainder of my testimony is divided into six sections. Section IV discusses
10 the fundamental relationship between risk and the cost of capital in light of both
11 financial theory and widely-cited court decisions. Section V addresses the cost of
12 debt that should be employed. Section VI develops several approaches to
13 estimating the cost of equity capital. Section VII addresses the question of
14 determining the appropriate capital structure to use when calculating the WACC
15 and presents my estimates of the WACC. Section VIII discusses why the cost of
16 capital I have calculated for BellSouth, based on the public data available for
17 BellSouth and similar local service providers at the holding company level is likely
18 to overstate the relevant cost of capital for the provision of network elements.
19 Finally, Section IX presents a summary of my conclusions.

20

21

IV.

22

THE RELATIONSHIP BETWEEN RISK AND THE COST OF CAPITAL

1 **Q. WHAT IS THE RELATION BETWEEN THE RISK OF AN INVESTMENT**
2 **AND THE COST OF CAPITAL?**

3
4 A. Financial research has shown conclusively that investors are risk averse.
5 Consequently, the greater the risk of a business the higher the expected return that
6 investors require to invest in the business. From the standpoint of a company, this
7 means that riskier businesses will have higher costs of
8 capital.

9
10 **Q. HAVE THE COURTS RECOGNIZED THIS RELATION BETWEEN RISK**
11 **AND RETURN?**

12
13 A. Yes. The relation between risk and return is a centerpiece in decisions dealing with
14 the fair rate of return for regulated businesses. In *Bluefield Water Works v. Public*
15 *Service Commission*, 262 U.S. 679,692 (1923) the Supreme Court said:

16 "A public utility is entitled to such rates as will permit it to earn a
17 return... equal to that generally being made at the same time and in the
18 same general part of the country on investments in other business
19 undertakings which are attended by corresponding risks and
20 uncertainties..."

21

22 The Court went on to say:

1 “The return should be reasonably sufficient to assure confidence in
2 the financial soundness of the utility and should be adequate, under
3 efficient economical management, to maintain and support its credit
4 and enable it to raise the money necessary for the proper discharge of
5 its public duties.” Id. at 693.

6

7 In *Federal Power Commission v. Hope Natural Gas Company*, 320 U.S. 591,603
8 (1944), the Supreme Court stated:

9 “The return to the equity owner should be commensurate with returns
10 on investments in other enterprises having corresponding risks. That
11 return, moreover, should be sufficient to assure confidence in the
12 financial integrity of the enterprise, so as to maintain its credit and to
13 attract capital.”

14

15 **Q. ARE THE PRINCIPLES YOU HAVE CITED FROM THESE SUPREME**
16 **COURT DECISIONS CONSISTENT WITH THE PROVISIONS OF THE**
17 **TELECOMMUNICATIONS ACT OF 1996 (the 1996 Act)?**

18

19 A. Yes. Section 251(c)(3) of the 1996 Act indicates that incumbent local exchange
20 carriers have the duty to provide to any requesting telecommunications carrier
21 access to unbundled network elements at rates, terms and conditions that are just,
22 reasonable and nondiscriminatory. Section 252(d) further provides that a State
23 commission shall determine just and reasonable rates for network elements based

1 on the cost (determined without reference to a rate-of-return or other rate-based
2 proceeding) of providing the interconnection or network element and may include a
3 reasonable profit. The provision for a reasonable profit as an element of total cost
4 is consistent with the opinions of the Supreme Court in both the Hope and Bluefield
5 cases. A utility's reasonable profit is essentially a true economic return
6 commensurate with the risk its business. In order to achieve this, the pricing of
7 utility services and products must be based on true economic costs.

8
9 **Q. ARE ECONOMIC COSTS FORWARD-LOOKING OR BACKWARD-**
10 **LOOKING?**

11
12 A. Economic costs are forward-looking. To better understand this, one must put
13 oneself in the shoes of a current investor. For example, if an investor today were to
14 consider an investment in BellSouth's common stock, which is fundamentally a
15 claim on the net assets BellSouth uses to conduct its varied businesses, such
16 investor would only be willing to pay the market value of those assets. An asset
17 amounts to a capacity to generate future cash flows. Therefore, an investor today
18 would not care what historical costs were spent to acquire or build BellSouth's
19 assets. The market value of any asset is a function of the time pattern of cash flows
20 expected to be derived from it and the riskiness of the business endeavor. In
21 essence then, the asset's market value represents its economic cost.

22

1 **Q. DOES THE FCC PROVIDE GUIDANCE AS TO HOW TO IMPLEMENT**
2 **THE CONCEPT OF ECONOMIC COSTS?**

3
4 A. Yes. While the Eighth Circuit Court of Appeals has opined that the FCC is not
5 empowered to mandate network element prices under the 1996 Act,¹ the FCC's
6 First Report & Order, Docket No. 96-98 (the FCC Order), provides a thorough
7 discussion and analysis of the meaning of forward-looking economic costs for
8 purposes of implementing the provisions of the 1996 Act which can be considered
9 by State commissions.² The FCC adopts the concept of "total service long-run
10 incremental costs", defines its application to network elements rather than services
11 as "total element long run incremental costs" (TELRIC), and provides for a fair
12 allocation of shared and common costs to network elements. State commissions
13 have generally adopted practices consistent with the FCC's guidance on economic
14 costs.

15
16 The meaning of true economic costs according to TELRIC is as follows: the
17 pricing of network elements must be based on true forward-looking incremental
18 costs (including the cost of capital) which are necessary to provide the elements,
19 not on costs which have been expended in the past and may not represent the costs
20 that the utility will actually incur in the future. (It should be noted that, although
21 the principles cited in the above-mentioned Supreme Court decisions are
22 analogous to TELRIC, in practice state utility regulation has focused on the

1 recovery of embedded costs. The traditional embedded cost methodology is not
2 consistent with TELRIC.)

3

4 The concept of normal profit is embodied in forward-looking costs because the
5 forward-looking cost of capital, i.e. the cost of obtaining debt and equity financing,
6 is one of the forward-looking costs of providing the network elements. Consistent
7 with the correct analysis provided in the FCC Order, this Commission should reject
8 the use of either embedded costs (FCC Order ¶704), which represent historical,
9 “sunk” investments, or internal “hurdle rates” used by local exchange operators to
10 evaluate projects which exceed the market cost of capital (FCC Order ¶689) as
11 being inconsistent with a forward-looking economic costing methodology.

12

13 **Q. WHAT ARE THE FUNDAMENTAL DETERMINANTS OF INVESTMENT**
14 **RISK?**

15

16 A. There are two fundamental sources of risk: operating risk and financial risk.
17 Operating risk arises from the actual operation of the business. It is affected by
18 factors such as competition, technological change, customer acceptance of a
19 company’s products, variation in the costs of producing the company’s products
20 and the like. (As I discuss later in my testimony, however, operating risks which
21 an investor can diversify away are not compensated with a risk premium
22 according to capital market theory. In this segment of my testimony I explain all

1 types of operating risks that a company faces, including both diversifiable and
2 nondiversifiable risk.) Financial risk is determined by the amount of debt in a
3 company's capital structure. Taking on more debt increases fixed financial
4 charges, thereby increasing the risk that the firm will not be able to meet its
5 financial obligations. The total risk investors face is determined by the
6 combination of operating risk and financial risk.

7

8 **Q. ARE OPERATING RISK AND FINANCIAL RISK RELATED?**

9

10 A. Yes. In an effort to control the total risk that investors face, companies manage
11 their capital structures in a manner that leads to a relation between operating risk
12 and financial risk. In particular, companies that face a great deal of operating risk,
13 like high technology firms, limit the debt they issue to prevent total risk from
14 becoming too large. On the other hand, firms that face little operating risk, like
15 regulated utilities, can benefit by using a good deal of low-cost debt without raising
16 total risk to an unacceptable level.

17

18 **Q. HOW DO YOU ACCOUNT FOR BELLSOUTH'S BUSINESS AND**
19 **FINANCIAL RISK IN ESTIMATING COST OF CAPITAL?**

20

21 A. I apply the WACC formula to the closest comparable companies for which public
22 market data is available. The problem is that public data for key variables, such as
23 stock prices, are available only at the holding company level. Therefore, the

1 comparable companies that must be used are diversified firms. These firms operate
2 many businesses, most of which are riskier than the business in question in this
3 case. Further discussion of this risk issue is postponed until the final section of my
4 testimony. At this juncture, I proceed by using data at the holding company level.
5

6 **Q. WHAT COMPARABLES DO YOU USE IN THIS TESTIMONY?**

7
8 A. The comparable companies selected were derived from the list of telephone
9 operating companies in Standard and Poor's Industry Survey. These companies
10 are presented along with some descriptive information in Exhibit BC-2, and include
11 the seven regional Bell Holding companies ("RBHCs"), and the larger independent
12 telephone companies. Among the independents, Century Telephone Enterprise,
13 Inc. and Lincoln Communications were excluded because they have less than
14 500,000 access lines in service and are an order of magnitude smaller than the
15 RBHCs. Telephone and Data Systems was excluded because a majority of its
16 operations are focused on higher-risk endeavors rather than the more traditional
17 telephone and network operations. Frontier Corp. was excluded because 69% of its
18 revenues are derived from unregulated long-distance operations and only 29% from
19 local service.
20

21 V.

22 **THE COST OF DEBT CAPITAL**

1 **Q. HOW DO YOU ESTIMATE THE COST OF DEBT?**

2

3 A. Because debt payments are fixed, the cost of debt can be computed directly and
4 with a high degree of accuracy.⁵ For this reason, I use only BellSouth to compute
5 the cost of debt. It is not necessary to use a large sample of companies because of
6 the small measurement error.

7

8 **Q. WHAT IS THE COST OF DEBT THAT YOU USE?**

9

10 A. The best estimate of the cost of debt is the weighted average cost over all of
11 BellSouth's outstanding issues, including the debt of the holding company and
12 any subsidiaries. Standard & Poor's Bond Guide ("Bond Guide") provides
13 information on the face value and current yields to maturity on individual bonds.
14 (The Bond Guide does not always cover all outstanding issues if there are many.
15 It appears that the smaller and shorter term obligations may be excluded. Because
16 interest rates on longer term obligations are generally higher, excluding the
17 smaller and shorter term obligations would have the effect of overstating the cost
18 of debt slightly.)

19

20 The data from the Bond Guide are presented in Exhibit BC-3. For all of
21 BellSouth's major debt issues the Exhibit shows the bond rating, the face value
22 and the yield to maturity. The yield to maturity is a forward-looking cost of debt

1 that measures the rate that BellSouth would have to pay if the bonds were issued
2 at the measurement date, and reflects investors' expectations regarding the future
3 returns on these publicly-traded bonds. (Theoretically, the yield-to-maturity on
4 debt overstates the forward-looking cost of debt because of default risk. The
5 problem raised by risky debt is that only the promised yield is observable, but it is
6 the expected return that is required to estimate the cost of debt. Although the
7 expected return and the default premium sum to the promised yield, neither the
8 expected return nor the default premium can be observed directly. Because of this
9 default risk, the debt cost of capital is actually the yield-to-maturity minus the
10 expected default loss. The default risk of telephone holding company bonds is
11 considered to be minimal and hence is ignored for purposes of this analysis.)

12

13 The Exhibit shows that the weighted average cost of debt for BellSouth is 7.06
14 percent.

15

16 Consequently, I use **7.06 percent** as the cost of debt in my WACC analysis.

17

18

VI.

19

THE COST OF EQUITY CAPITAL

20

21 **Q. WHAT MAKES THE COST OF EQUITY CAPITAL MORE DIFFICULT**
22 **TO ESTIMATE THAN THE COST OF DEBT?**

1 A. The cost of debt can be computed directly because both the face value of debt and
2 the contractual payments a company agrees to make are fixed. In the case of
3 equity, however, there is no face value and dividends are paid at the discretion of
4 management depending upon business conditions. In addition, the dividend stream
5 does not terminate at a known point. For these reasons, there is no simple way to
6 compute the cost of equity capital and more complex approaches must be
7 employed.

8
9 **Q. WHAT METHODS DO YOU USE TO ESTIMATE THE COST OF EQUITY**
10 **CAPITAL IN THIS CASE?**

11
12 A. I used two basic methods for estimating the cost of capital. The first is the
13 discounted cash flow, or "DCF", method that has been widely adopted by the courts
14 and regulatory agencies in rate of return hearings. Second, I use the capital asset
15 pricing model, or "CAPM". In various forms, the CAPM is the most widely
16 employed theoretical model, other than DCF, for estimating the cost of capital.
17 Methods based on the CAPM are sometimes referred to as "risk premium" methods
18 because the model provides an estimate of the risk premium associated with
19 investing in specific issues of common stock.

20
21 **Q. PLEASE EXPLAIN THE BASIC DCF METHOD.**

22

1 A. The DCF method is based on the realization that the price of a share of stock, P,
 2 equals the present value of all future dividends expected to be received on that
 3 share, discounted at the cost of common equity. Mathematically, the DCF model is
 4 written,

$$5 \quad P = \text{Div}_1 / (1+k) + \text{Div}_2 / (1+k)^2 + \text{Div}_3 / (1+k)^3 + \dots, \quad (2)$$

6 where Div_1 is the expected dividend in year 1, Div_2 is the expected dividend in
 7 year 2, etc.

8
 9 The cost of common equity is arrived at by solving the DCF equation for the cost of
 10 capital, k. There are two obstacles that make it difficult to solve the equation.

11 First, the number of terms in the equation is infinite. Second, dividends must be
 12 forecast for every future year. To surmount these obstacles, simplifying
 13 assumptions must be made about the behavior of future dividends.

14
 15 **Q. WHAT ARE THE SIMPLIFYING ASSUMPTIONS THAT ARE**
 16 **EMPLOYED IN THE CONTEXT OF THE DIVIDEND GROWTH MODEL?**

17
 18 A. One of the simplest assumptions that can be made is that future dividends will grow
 19 *forever*, at a constant rate, g, i.e. the growth rate can be maintained in perpetuity. In
 20 that case the DCF equation simplifies to,

$$21 \quad P = \text{Div}_1 / (1+k) + \text{Div}_1 * (1+g) / (1+k)^2 + \text{Div}_1 * (1+g)^2 / (1+k)^3 + \dots,$$

1 which can be solved for k. The solution is well known to be,

2
$$k = \text{Div}_1 / P + g .$$

3

4 **Q. DID YOU USE THE CONSTANT GROWTH DCF EQUATION GIVEN**
5 **ABOVE IN ESTIMATING THE COST OF CAPITAL FOR YOUR SAMPLE**
6 **OF TELEPHONE COMPANIES?**

7

8 A. No. Once again a problem is raised by the fact that modern telephone companies
9 are composed of a variety of businesses, some of which are expected to grow at
10 rates of 30 percent or more in the short run. Such high growth rates are clearly not
11 sustainable into perpetuity, so that the simple constant growth model cannot be
12 applied unless one modifies the growth rate or adopts some mitigating assumption.
13 Stewart Myers and Lynda Borucki state that “[f]orecasted growth rates are
14 obviously not constant forever. Variable-growth DCF models, which distinguish
15 short- and long-term growth rates, should give more accurate estimates of the cost
16 of equity. Use of such models guards against naïve projection of short-run earnings
17 changes into the indefinite future.”⁴

18

19 **Q. HOW DO YOU APPLY THE DCF MODEL?**

20

21 A. I use a three-stage version. (There are numerous formulations of the DCF model
22 of varying complexity. Damodaran, for example, describes several different DCF

1 models in his book. It should be noted that what he calls the "three-stage model"
2 is different from the model we employ. Damodaran's "H Model" is more
3 comparable to the model that we use.) The first stage lasts five years because that
4 is the longest horizon over which analysts forecasts of growth are available. The
5 second stage is assumed to last 15 years. During this stage the growth rate falls
6 from the high level of the first five years to the growth rate of the U.S. economy
7 by the end of year 20. From the twentieth year onward the growth rate is set equal
8 to the growth rate for the economy because rates greater than that cannot be
9 sustained into perpetuity. A perpetual growth rate that exceeded the growth rate of
10 the economy would illogically imply that eventually the whole economy would be
11 comprised of nothing but telephone companies.

12

13 **Q. WHAT DATA ARE USED TO ESTIMATE DIVIDEND GROWTH DURING**
14 **THE FIRST FIVE YEARS?**

15

16 A. To estimate growth rates during the first five years I use the Value Line dividend
17 forecasts for 1997 and individual company earnings forecast data from Institutional
18 Brokers' Estimate System ("IBES") as of January 17, 1997. To compile the IBES
19 data, over 2000 analysts are surveyed each month regarding their estimates of five-
20 year earnings growth rates for a wide variety of major American companies. These
21 analysts represent over 100 different securities firms. The forecasts are tabulated

1 and widely distributed to subscribers, including most large institutional investors,
2 such as pension funds, banks, and insurance companies.

3
4 By relying on the IBES data, which is for earnings, I am implicitly assuming that
5 dividends and earnings will grow at approximately the same rate over the five-year
6 horizon. There are no growth forecasts beyond a five-year horizon. That is why an
7 assumption must be made about how the growth rate behaves after that. As stated
8 above, I assume that it converges to the long-run aggregate growth rate of the U.S.
9 economy over the succeeding 15 years.

10
11 **Q. WHAT IS A REASONABLE ESTIMATE FOR LONG-RUN GROWTH IN**
12 **THE AGGREGATE ECONOMY?**

13
14 A. The long-term growth forecast was derived by averaging the long-term GNP
15 growth forecasts obtained from the Wharton Econometric Forecasting Associates
16 (“WEFA”) Group and from Ibbotson Associates. The WEFA Group is an
17 econometric forecasting organization, formed in 1987 through a merger of WEFA
18 and Chase Econometrics. Ibbotson Associates is widely-known in the fields of
19 finance and valuation as one of the leading providers of securities returns data and
20 publications. As of January 13, 1997, WEFA predicted an average nominal GNP
21 growth rate of 4.82% from 1997 through 2020. As of December 31, 1996, Ibbotson
22 and Associates forecast long-term inflation to be 4.4% annually and long-term real
23 GNP growth rate to be 3.1%. Compounding these two forecasts, Ibbotson

1 predicted a nominal GNP growth rate of 7.5%. Given the magnitude of the
2 difference, I decided to take the average of the two forecasts, 6.16%, rather than
3 choose a single GNP forecast.

4

5 **Q. DO YOU APPLY THE DCF MODEL JUST TO BELLSOUTH AS YOU DID**
6 **IN ESTIMATING THE COST OF DEBT?**

7

8 A. No. Consistent with financial practice, I use the DCF model to estimate cost of
9 equity for all of the companies selected as likely comparables to BellSouth, in
10 addition to estimating a DCF cost of equity for BellSouth.

11

12 **Q. WHY IS IT A GOOD IDEA TO APPLY THE DCF MODEL TO A NUMBER**
13 **OF COMPANIES, NOT JUST THE COMPANY WHOSE COST OF**
14 **COMMON EQUITY YOU ARE TRYING TO ESTIMATE?**

15

16 A. Estimating future growth for a company always involves some uncertainty
17 because no analyst can be expected to have perfect foresight. In some cases, the
18 growth rate may be overestimated and in other cases it may be underestimated.
19 On average, over a group of similar companies, these estimation errors tend to
20 cancel out so that the average growth rate for the group is estimated more
21 accurately than the growth rate for any individual company. (I refer to estimation
22 error and the desirability of using averages in several discussions in this paper.
23 The following excerpt from *A Guide to Econometrics*, (3rd Edition, The MIT

1 Press, Cambridge, MA, 1992) by Peter Kennedy summarizes in the purpose for
2 using larger samples: "The sampling distribution of most estimators changes as
3 the sample size changes. The sample mean statistic, for example, has a sampling
4 distribution that is centered over the population mean but whose variance
5 becomes smaller as the sample size becomes larger. In many cases it happens that
6 a biased estimator becomes less and less biased as the sample size becomes larger
7 and larger— as the sample size becomes larger its sampling distribution changes,
8 such that the mean of its sampling distribution shifts closer to the true value of the
9 parameter being estimated." (pg. 18))

10
11 Consequently, I apply the DCF method to all the telephone companies in the
12 previously-selected sample.

13
14 **Q. HOW IS THE DCF COST OF EQUITY CAPITAL COMPUTED?**

15
16 A. Given the market price of a company's stock, the current dividend, and the
17 forecast growth rates during each of the three stages, equation (2) can be solved
18 iteratively for k . The iterative solution is the estimate of the cost of equity capital.
19 (I utilize an annual DCF model because telephone operating companies receive
20 payments for the use of their network elements on a monthly basis, and
21 consequently, are able to reinvest their cash flows on an approximate monthly
22 basis. Thus, the effective rate that the telephone companies receive is the allowed

1 rate -- as determined in interconnection proceedings-- compounded monthly,
 2 regardless of the fact that telephone companies only pay dividends quarterly.
 3 Consequently, the use of a DCF cost of equity determined using the annual
 4 formula is conservatively high.)

5
 6 **Q. WHAT IS YOUR DCF ESTIMATE OF THE COST OF EQUITY CAPITAL?**

7
 8 A. Exhibit BC-4 presents the DCF estimates of the cost of equity capital derived from
 9 the three-stage model for the telephone company sample. The estimates range from
 10 a low of 8.97 percent to a high of 12.21 percent. The cost of equity capital for
 11 BellSouth is estimated to be 10.99 percent, based on a value-weighted average of
 12 the equity cost of capital for all Telephone Holding Companies (THC's) (excluding
 13 BellSouth) and the cost of capital for BellSouth itself. The table below shows how
 14 this cost of equity capital was computed:

15

WEIGHTED AVERAGE DCF COST OF EQUITY FOR BELLSOUTH			
	Weight	Rate	Weighted Cost
Average (excluding BellSouth)	.75	11.07	8.30
BellSouth	.25	10.74	2.69
Weighted Cost of Equity			10.99

16

1 Q. WHY DO YOU USE A WEIGHTED AVERAGE TO COMPUTE
2 BELLSOUTH'S DCF COST OF EQUITY?

3

4 A. There is a trade-off between two considerations. First, because the DCF approach,
5 like any approach, estimates the cost of equity capital with error, it is wise to use an
6 average. This is because in the averaging process errors tend to cancel with
7 overestimates offsetting underestimates. However, the DCF method does not have
8 a mechanism to adjust for differences in risk caused by differing capital structures
9 employed by the firms in the sample. Therefore, of all the individual companies in
10 the sample, BellSouth provides the best estimate of BellSouth's own cost of capital.
11 In light of these two considerations, I feel a weighted average which assigns a $\frac{3}{4}$
12 weight to the average excluding BellSouth and a $\frac{1}{4}$ weight to BellSouth is the best
13 estimate. Using this procedure, BellSouth is given a significantly larger weight
14 than any of the other companies in the sample, but a smaller weight than the
15 aggregate of all the comparables.

16

17 Q. WHAT OTHER METHODS DID YOU USE TO ESTIMATE THE COST OF
18 EQUITY?

19

20 A. I also used the capital asset pricing model ("CAPM").

21

22 Q. WHAT ARE CAPITAL ASSET PRICING MODELS?

1 A. Capital asset pricing models are mathematical formulas designed to quantify the
2 trade-off between risk and return. Professor William Sharpe was awarded the
3 Nobel Prize for developing the first capital asset pricing. Here I employ several
4 updated variants of Professor Sharpe's model.

5

6 **Q. HOW DOES THE CAPITAL ASSET PRICING MODEL (CAPM) WORK?**

7

8 A. The CAPM is designed to give the risk premium, that is the premium over the rate
9 on Treasury securities, required to induce investors to hold specific issues of
10 common stock. The standard CAPM is given by equation (3),

11
$$\text{Company risk premium} = \text{Company "beta"} * \text{Market risk premium.}(3)$$

12

13 To apply the CAPM for a given company, it is necessary to estimate both that
14 company's beta and the market risk premium.

15

16 **Q. WHAT IS A COMPANY'S BETA?**

17

18 A. The beta coefficient measures the systematic risk of investing in a company's
19 equity. The CAPM is built upon the insight that investors will be rewarded for
20 bearing only those risks, called systematic risks, that cannot be eliminated by
21 diversification. To understand the difference between systematic and non-
22 systematic risk, consider a hypothetical investment in Apple Computer. The risks

1 associated with this investment can be seen as arising from two sources. First,
2 there are risks that are unique to Apple. Will Apple design competitive products?
3 Will computer users accept Apple's new operating system? Second, there are risks
4 that affect all common stocks. Will the economy enter a recession? Will war break
5 out in the Middle East?

6
7 The risks that are unique to Apple can be eliminated by diversification. An investor
8 who invests only in Apple will suffer significant losses if Apple's new products are
9 a failure, but an investor who holds Apple along with hundreds of other securities
10 will hardly notice the impact on the value of his or her portfolio if Apple's new
11 products fail. Therefore, risks that are unique to Apple are said to be non-
12 systematic.

13
14 On the other hand, market-wide risks cannot be eliminated by diversification. If the
15 economy enters a recession and stock prices fall across the board, investors holding
16 hundreds of securities fare no better than investors who put all their money in
17 Apple computer. Thus, economy-wide risks are systematic.

18
19 The CAPM says that only systematic risks, as measured by beta, are associated
20 with a risk premium. Non-systematic risks are not associated with premiums
21 because they can be eliminated by diversification.

22
23 This concept is particularly important for the determination of cost of capital

1 because the risk that a company will lose customers to competition -- such as a
2 network leasing company or a local exchange company -- is a diversifiable risk
3 which does not increase the risk premium according to capital market theory.⁵
4

5 **Q. HOW DO YOU CALCULATE BETA?**

6
7 A. Beta is typically calculated by a procedure called regression analysis. In regression
8 analysis, the returns on the subject stock (the dependent variable), are regressed
9 against the returns of a market portfolio of stocks (frequently the S&P 500) to
10 estimate statistically the degree that the independent variable movements in the
11 market portfolio have caused the returns of the subject company. Using this
12 statistical tool, therefore, the sensitivity of a stock to movements in the market can
13 be estimated. This sensitivity is what determines beta. In this case, I used Dow
14 Jones Beta Analytics software to obtain betas computed on five years of monthly
15 return data through December 31, 1996 for BellSouth and the comparable
16 companies. Dow Jones Beta Analytics is a common source for betas used by
17 finance professionals. Returns on the S&P 500 were used as the market proxy.
18 Because beta is measured with error, the average beta over all the comparables is a
19 more accurate indicator of the true beta than any individual estimate of beta.

20
21 Betas can also be calculated over other time periods and using different observation
22 intervals. For examples, for newer smaller companies one year of daily data are

1 often used to measure beta. This is because the true underlying beta is likely to be
2 changing for such companies and because five years of data are often not available.
3 The drawback is that the shorter sample period and more frequent observation
4 interval increase measurement error. In this case I concluded that the sample
5 companies were sufficiently large, established and stable that it was more
6 appropriate to use five years of monthly data, which is consistent with the
7 methodology used by many institutional providers of betas, including Merrill
8 Lynch, S&P Compustat and Wilshire Associates.

9
10 While technological and legislative change has impacted the telecommunications
11 industry, it is equally clear from publicly available information that such change
12 has been anticipated and considered over time by industry participants, financial
13 analysts and credit-rating agencies. The THC's trade very efficiently, so risks that
14 are anticipated are impounded in the THC's stock prices rapidly and fairly. (To
15 address the question of whether the 5-year betas are sufficiently forward-looking, I
16 also obtained predicted betas calculated by BARRA, which are discussed later.)

17
18 Before averaging individual betas it is necessary to take account of the fact that the
19 various comparable companies have differing amounts of debt in their capital
20 structures. The amount of a company's debt leverage affects the riskiness of its
21 stock returns and thereby its beta. To take account of this, a two-step procedure is
22 used to estimate the average beta. First, the raw betas (i.e. betas computed using
23 the Dow Jones software without accounting for capital structure differences) are

1 estimated for each of the sample companies. Second, the raw betas are “unlevered”
 2 using standard financial economic formulas and based on the market value
 3 debt/equity ratios of each respective company as of December 31, 1996. The
 4 formula for “unlevering” a raw, or “levered” beta is,

$$5 \quad B_u = B_L / [1 + (1 - T_c) \times D/E] \quad (4)$$

6 where,

7 B_u = the “unlevered” beta,

8 B_L = the “levered” beta,

9 E = the value of the sample company’s equity;

10 T_c = the corporate tax rate (typically an average rate for the sample);

11 D = the value of the sample company’s debt.

12
 13 This puts all the betas on comparable terms so that they can be averaged.

14
 15 Once the average has been estimated, the beta for any individual company is
 16 estimated by “re-levering” using a simple variant of formula (4) which solves for
 17 B_L , the “levered” beta.

18
 19 **Q. WHAT IS YOUR ESTIMATE OF BETA?**

20
 21 A. My raw (levered) estimates of beta are presented in Exhibit BC-5. They vary
 22 from a high of 1.38 to a low of 0.48 on a levered basis. As I discussed above,
 23 however, the betas must be unlevered first to adjust for the different amount of

1 debt leverage employed by the individual companies before calculating an
2 average. Exhibit BC-5 also shows the unlevered betas and their average. The
3 average unlevered beta for the entire sample is 0.66. (Note that the judgmental
4 weighting which I utilized in estimating the average DCF cost of equity is not
5 necessary because betas can be unlevered to adjust for the capital structure
6 leverage of the companies in the sample.) The average unlevered beta is re-
7 levered using the formula discussed above to take BellSouth's 1996 capital
8 structure into account, arriving at a beta of 0.77 for BellSouth.

9
10 **Q. IS THERE OTHER INFORMATION THAT SUPPORTS THE BETA**
11 **ESTIMATE THAT YOU USE IN YOUR ANALYSIS?**

12
13 **A.** Yes. In addition to the betas obtained from Dow Jones Beta Analytics, I obtained
14 predicted betas from BARRA. BARRA (formerly Rosenberg Associates) is an
15 internationally known financial consulting firm providing risk measurement
16 services to investment managers, corporations, consultants, securities dealers and
17 traders, and master custodians. The predicted betas are developed using
18 sophisticated financial modeling techniques which account for factors which impact
19 the future risk of a company. Unlike conventional regression betas, therefore, the
20 BARRA betas do not rely solely on historical stock returns and explicitly consider
21 forward-looking projections. Copeland, Koller and Murrin recommend the use of
22 BARRA predicted betas.⁶ The BARRA predicted betas for the sample telephone

1 holding companies are generally lower than the ones obtained from Dow Jones
2 Beta Analytics. The predicted BARRA beta for BellSouth is 0.72 which is lower
3 than the beta of 0.77 that I have calculated for BellSouth.

4

5 **Q. HOW DOES THE BETA RISK OF THE COMPANIES IN YOUR SAMPLE**
6 **COMPARE WITH THE BETA RISK OF COMMON STOCK**
7 **GENERALLY?**

8

9 A. By definition, the beta of all common stock generally (in other words, the beta of
10 the market) is 1.0. Therefore, it appears that the beta of telephone stocks is less
11 than that of common stocks generally. This is corroborated by betas obtained for
12 THC stocks from Value Line. This means that investments in telephone company
13 stocks are less risky than investments in typical industrial companies.
14 Consequently, the cost of capital for telephone companies should also be less than
15 it is for the average industrial stock.

16

17 **Q. WHAT DOES YOUR BETA ANALYSIS IMPLY THE COST OF EQUITY**
18 **CAPITAL SHOULD BE IN THIS CASE?**

19

20 A. Beta alone is insufficient for estimating the cost of equity capital. To apply the
21 CAPM it is also necessary to estimate the market risk premium.

22

1 **Q. WHAT IS THE MARKET RISK PREMIUM?**

2 A. The risk premium on the market is the amount of added expected return that
3 investors require to hold a broad portfolio of common stocks (a proxy for the
4 market as a whole) instead of risk-free Treasury securities.

5

6 **Q. WHAT TREASURY SECURITIES ARE USED TO MEASURE THE RISK
7 PREMIUM?**

8

9 A. Because there are over 100 issues of Treasury securities, some convention is
10 required. Commonly, the risk premium is measured over both short-term Treasury
11 bills with a maturity of one to three months and long-term Treasury bonds with a
12 maturity of 10 to 30 years. In this study, I use one-month Treasury bills and 20-
13 year Treasury bonds using Ibbotson Associates' and Jeremy Siegel's data going
14 back to 1802.

15

16 **Q. HOW IS THE MARKET RISK PREMIUM ESTIMATED?**

17

18 A. The market risk premium can be estimated two ways. First, the DCF approach can
19 be applied to the market as a whole. Second, the premium can be estimated by
20 examining historical data on the difference between the return on a broad portfolio
21 of common stocks and associated Treasury securities.

22

1 **Q. HOW CAN THE DCF MODEL BE USED TO ESTIMATE THE MARKET**
2 **RISK PREMIUM?**

3

4 A. Two steps are required to estimate the market risk premium using the DCF model.
5 The first step is to compute the DCF expected return (another word for the cost of
6 equity) for the market as a whole. Deducting the risk-free rate from the expected
7 return gives the market risk premium.

8

9 **Q. WHAT IS THE DCF ESTIMATE OF THE EXPECTED RETURN ON THE**
10 **MARKET?**

11

12 A. The starting point for estimating the expected return on the market is the S&P 500
13 index. The sample is then limited to those S&P 500 companies that pay a
14 dividend of at least 3 percent on the grounds that the DCF approach may be less
15 accurate for companies that pay small dividends. (All of the companies in the
16 telephone sample pay dividends greater than three percent except Cincinnati Bell.)
17 The sample includes large companies for which the data is considered to be
18 reliable for purposes of DCF estimates. For the selected companies, the three-
19 stage DCF model is applied in the same fashion as it was applied to the sample of
20 telephone companies. Finally, the individual DCF estimates for the sample
21 companies are averaged. This average, which comes out to be 11.26 percent, is
22 used as an estimate of the expected return on the market as a whole.

1 **Q. GIVEN THE EXPECTED RETURN ON THE MARKET HOW DO YOU**
2 **CALCULATE THE MARKET RISK PREMIUM?**

3
4 A. The market risk premium is computed by subtracting the risk-free rate from the
5 expected return. In the case of the 20-year Treasury bond this is straightforward.
6 The calculations are shown in Exhibit BC-6. The Exhibit shows that as of
7 December 1996, the 20-year bond yield was 6.73 percent. Subtracting 6.73 from
8 11.26 percent gives a market risk premium over long-term Treasury bonds of 4.53
9 percent.

10

11 In the case of one-month Treasury bills the situation is more complicated. Because
12 the goal of the analysis is to estimate the long-run cost of capital, using a one-
13 month interest rate can be misleading. A more appropriate choice is the average
14 return on one-month Treasury bills that is expected to obtain over the long-term.
15 This can be calculated using the following two-step procedure. First, compute the
16 long-run historical difference between the return on one-month Treasury bills and
17 the return on 20-year Treasury bonds. Second, subtract that historical difference
18 from the current yield on 20-year bonds. The difference gives a forward-looking
19 market estimate of the average expected yield on one-month Treasury bills over the
20 next 20 years. Exhibit BC-7 shows that the average expected one-month Treasury
21 bill rate over the long run is 5.36 percent as of December 31, 1996. Subtracting this
22 rate from the expected return on the market gives a market risk premium over
23 Treasury bills of 5.90 percent as shown in Exhibit BC-6.

1 **Q. WHAT IS YOUR HISTORICAL ESTIMATE OF THE MARKET RISK**
2 **PREMIUM?**

3
4 A. The historical risk premium is defined as the historical difference between the
5 return on the stock market and the risk-free rate. The proper estimate of the market
6 risk premium is a question that is disputed among both academics and practitioners
7 with regard to two primary issues. First, when analyzing historical data, should an
8 arithmetic or geometric average be used to calculate the historical average risk
9 premium? Second, over what period should the average be computed to accurately
10 capture the risk premium expected in the future? Specifically, should the entire
11 sample period back to 1802 be used, should the sample period be limited to post-
12 1926 when more complete data became available, should only post-war data be
13 employed because the role of government in the economy has changed
14 fundamentally since the great depression, or should even more recent data be used?
15 With regard to the type of average, many academic authors favor the arithmetic
16 over the geometric.⁷ Others, however, recommend using the geometric average
17 because arithmetic averages are biased by the measurement period.^{8,9} With regard
18 to the sample period for computing the average risk premium, Ibbotson argues that
19 a long data series is required so that the equity risk premium is not unduly
20 influenced by very good or very poor short-term results. The 1996 Yearbook
21 published by Ibbotson Associates suggests that the post-1926 data compiled therein
22 provides a representative period of returns that can occur under diverse economic

1 circumstances.¹⁰ However, Ibbotson has recently cautioned that the long-run stock
2 market returns calculated by his firm may not prove predictive. He believes that
3 the U.S. is not as risky as it was in 1925, suggesting that lower returns will be
4 experienced in the future. Ibbotson also states that his historical averages overstate
5 the forward-looking cost of equity because of survivorship bias.¹¹ For example,
6 the U.S. stock market survived despite the Great Depression. As of 1925, however,
7 there existed a risk that the stock market would be entirely wiped out—as happened
8 in Germany, Japan, China and Russia. If these countries were included in an
9 average, historical returns would be much lower.¹²

10
11 Siegel presents convincing evidence that the risk premium was abnormally high
12 after the U.S. went off the gold standard in 1944 based on an analysis of data going
13 back to 1802. He notes that the current equity premium appears to be returning to
14 the 2 - 3 percent range that existed before the second world war.¹³ Blanchard also
15 presents evidence that the risk premium has declined to 2 to 3 percent in recent
16 years and argues that either the DCF approach should be employed in place of
17 relying on an average or more recent data should be used.¹⁴

18
19 In light of these questions, Exhibits BC-6 and BC-8 present both DCF estimates of
20 the market risk premium and historical averages computed using both arithmetic
21 and geometric averages calculated over various periods of time.

1 Q. GIVEN THE INFORMATION IN EXHIBITS BC-6 AND BC-8, WHAT IS
2 THE BEST MEASURE OF THE MARKET RISK PREMIUM?

3
4 A. Taking account of all the information in Exhibits BC-6 and BC-8, I conclude that
5 the reasonable estimates of the market risk premium are 7.5 percent over one-
6 month Treasury bills and 5.5 percent over 20-year Treasury bonds. These estimates
7 are conservative (i.e., on the high side) in the sense that they are above the average
8 premiums observed in a majority of the periods, including the full sample, and are
9 greater than those implied by the DCF analysis. Also, Damodaran uses a 5.5% risk
10 premium over 20-year Treasury bonds, while Copeland, Koller & Murrin
11 recommend using a 5 to 6 percent risk premium.¹⁵ Additional information
12 indicating that my choice is conservative is provided by the statement of a
13 correspondent for Forbes magazine, who indicated that “[t]o venture into the
14 volatile stock market instead of cozying up to bonds, investors rightfully expect a
15 superior return from stocks. In fact, they expect to beat the bond return by four full
16 percentage points— something called the risk premium on stocks...”¹⁶ Moreover,
17 in its 1990 Rate Represcription Order, the FCC agreed with the position of the
18 Consumer Coalition that the risk premiums used by the LEC’s experts were
19 unrealistically high, particularly when compared to those used by financial analysts.
20 The FCC cites the Consumer Coalition expert’s testimony that “...the Wall Street
21 analyst reports, relied upon by the RHCs to support their positions on other issues,
22 use much smaller risk premiums, ranging from 2.0% to 5.4%.”¹⁷

1 **Q. GIVEN YOUR ESTIMATES OF BETA AND THE MARKET RISK**
2 **PREMIUM WHAT IS THE APPROPRIATE ESTIMATE OF THE COST**
3 **OF EQUITY CAPITAL?**

4
5 A. To review, the CAPM says that,

6
$$\text{Cost of equity capital} = \text{Risk-free rate} + \text{Beta} * \text{Market risk premium}.$$

7
8 Applying this equation using the long-run, expected, one-month Treasury bill rate
9 as the measure of the risk free rate gives:

10
$$\text{Cost of equity capital} = 5.36\% + 0.77 * 7.5\% = 11.14\%.$$

11
12 Notice that in the preceding equation the expected long run Treasury bill rate over
13 the next 20 years is used, not the current one-month Treasury bill rate.

14
15 Applying the CAPM equation using the 20-year Treasury bond as the measure of
16 the risk free rate gives:

17
$$\text{Cost of equity capital} = 6.73\% + 0.77 * 5.5\% = 10.97\%.$$

18
19 This estimate is close to that obtained using Treasury bills as the measure of the
20 risk-free rate. In light of these results, I use the average of the two, **11.05 percent**,
21 as the CAPM estimate of the cost of equity capital.

1 **Q. HOW DO YOUR CAPM RESULTS COMPARE WITH YOUR DCF**
2 **ESTIMATES OF THE COST OF EQUITY CAPITAL?**

3

4 A. Given the difficulty of estimating the cost of equity capital, a difference of only 6
5 basis points between the two estimates is reassuring.

6

7 **Q. COMBINING THE TWO METHODS, WHAT IS THE COST OF EQUITY**
8 **CAPITAL FOR BELLSOUTH?**

9

10 A. The two estimates of the cost of equity capital produced a range of 10.99 to 11.05
11 percent. I feel the best overall estimate is approximately the average of the three-
12 stage DCF and CAPM cost of equity estimates. The cost of equity capital that I use
13 in the WACC calculations is **11.02** percent.

14

15

VII.

16

CAPITAL STRUCTURE AND THE WACC

17

18 **Q. WHAT IS MEANT BY THE "CAPITAL STRUCTURE" OF A BUSINESS?**

19

20 A. Most American businesses are financed by a combination of equity (common
21 stock) and debt (including bonds and bank loans). The capital structure refers to
22 the fraction of debt and equity used to finance a business. In terms of the WACC

1 formula presented at the outset, the capital structure is determined by the financing
2 weights, w_e and w_d .

3

4 **Q. IS THE CAPITAL STRUCTURE RELATED TO THE RISK OF A**
5 **BUSINESS?**

6

7 A. Yes. As discussed earlier, companies that face greater operating risk tend to take
8 on less debt. For example, most computer software and biotechnology companies
9 typically have virtually no debt in their capital structure.

10

11 **Q. HOW DO YOU ESTIMATE THE CAPITAL STRUCTURE FOR A**
12 **PARTICULAR BUSINESS?**

13

14 A. The goal is to estimate the long-run target financing weights that a rational,
15 informed management team would employ.¹⁸ If there are companies participating
16 in comparable business activities, the accepted solution is to use their observed
17 capital structure as the starting point. In this case, however, the comparables are all
18 riskier than the business activity in question (the network element leasing business)
19 because of the necessity to use data that are only available at the holding company
20 level.

21

22 Alan Shapiro states that:

1 “[i]n multiproduct firms, the requirement that projects be of
2 homogeneous risk is more likely to be met for divisions
3 than for the company as a whole. This suggests that the use
4 of a divisional cost of capital may be valid in some cases in
5 which the use of a companywide cost of capital would be
6 inappropriate. Conglomerate firms that compete in a
7 variety of different product markets ... often estimate
8 separate divisional costs of capital that reflect both the
9 differential risks and the differential debt capacity of each
10 division.

11
12 The estimation of these divisional costs of capital is tricky.
13 All the firm observes is its overall cost of capital, which is a
14 weighted average of its divisional costs of capital.”¹⁹

15
16 For now I proceed using the holding company information because of the data
17 limitation.

18
19 **Q. WHAT ARE THE CAPITAL STRUCTURE WEIGHTS FOR YOUR**
20 **SAMPLE OF COMPANIES?**

21

1 A. The current capital structures for my sample of companies is shown in Exhibit BC-
2 9. Notice that the comparison depends on whether book value or market value
3 weights are used. At this juncture, there remains a debate among academics,
4 practitioners, and forensic experts regarding the choice between book and market
5 weights. In traditional rate of return hearings, capital structure is typically presented
6 in terms of book value weights.

7
8 The average book value debt weight for the sample companies is 56 percent as of
9 December 31, 1996. BellSouth's own debt weight is 44 percent. In terms of
10 market value weights, however, the debt weights are lower. The average for the
11 full sample is 24 percent and BellSouth's debt weight is 20 percent. However,
12 market value debt weights of the holding companies probably understate long-run
13 target debt weights in the capital structure of the network element leasing business
14 as discussed in detail in Section VIII below. Consequently, in this case it is
15 inappropriate to rely solely on current market value capital structure weights of the
16 Telephone Holding Companies when calculating the WACC for the network
17 element leasing business. Therefore, I apply the WACC formula using both book
18 and market weights to establish a range.

19

20 **Q. WHAT CAPITAL STRUCTURES WEIGHTS DO YOU USE IN YOUR**
21 **SAMPLE?**

22

1 A. Given the dispersion in capital structure weights, I use the average weights in my
 2 WACC calculations. Both book and market averages are employed to establish a
 3 range.

4

5 **Q. GIVEN YOUR PRECEDING TESTIMONY, WHAT IS AN APPROPRIATE**
 6 **RANGE FOR THE WEIGHTED AVERAGE COST OF CAPITAL FOR**
 7 **BELLSOUTH?**

8

9 A. The table below computes the WACC from the estimates of the cost of debt, the
 10 cost of equity and the capital structure developed in my preceding testimony.

11 **WACC Based On Average Book Debt Weight**

	<u>Weight</u>	<u>Rate</u>	<u>Weighted cost</u>
Equity	0.44	11.02	4.85
Debt	0.56	7.06	3.95
WACC			8.80

16

17 **WACC Based On Average Market Value Weight**

	<u>Weight</u>	<u>Rate</u>	<u>Weighted cost</u>
Equity	0.76	11.02	8.37
Debt	0.24	7.06	1.70
WACC			10.07

21

1 **Q. WOULD IT AFFECT YOUR ESTIMATE SIGNIFICANTLY IF YOU USED**
2 **BELLSOUTH'S OWN EQUITY MARKET VALUE WEIGHT OF 80%**
3 **RATHER THAN THE AVERAGE EQUITY MARKET VALUE WEIGHT?**

4

5 A. No. If the 80% equity weight was used in the WACC calculation, BellSouth's
6 estimated WACC would be 10.22%.

7

8 **Q. OVERALL WHAT DO YOU CONCLUDE IS A FAIR ESTIMATE OF THE**
9 **COST OF CAPITAL?**

10

11 A. I believe a fair estimate is the midpoint of my range. Averaging 8.80 and 10.07, the
12 midpoint comes to 9.43 percent.

13

14 **Q. IS THIS ESTIMATE OF THE COST OF CAPITAL FORWARD**
15 **LOOKING?**

16

17 A. Yes. The cost of debt is estimated from the yields to maturity of BellSouth's bonds
18 obtained from the Bond Guide, which represent the forward looking returns that
19 investors would expect to earn on these bonds.²⁰ The DCF model used for
20 estimating the cost of equity employs forward-looking growth projections made by
21 analysts and forecasting organizations. The CAPM model as I have employed it
22 here uses some current U.S. Treasury bond rates, which impound forward-looking

1 expectations, as one of its two return components. The CAPM model by necessity
2 uses historical information to estimate a company's riskiness, through the
3 calculation of a beta, and to estimate the market risk premium, which is assumed to
4 generally prevail into the future. Regarding these issues, I have considered forward
5 looking predicted BARRA betas and current research regarding the forward-
6 looking equity risk premium.

8 VIII.

9 POTENTIAL UPWARD BIAS IN THE ESTIMATED COST OF CAPITAL

10
11 **Q. IS THERE ANY REASON TO BELIEVE THAT THE COST OF CAPITAL**
12 **RANGE YOU HAVE CALCULATED IS ON THE HIGH SIDE?**

13
14 **A.** Yes. Modern diversified corporations like BellSouth operate dozens of different
15 businesses, some of which are more risky than others. Consequently, the operating
16 risk of the corporation is a weighted average of the risks of all the constituent
17 businesses.

18
19 **Q. WHAT IS THE BUSINESS FOR WHICH THE COST OF CAPITAL IS**
20 **BEING ESTIMATED IN THIS CASE?**

21
22 **A.** The business for which the cost of capital is being estimated in this case is
23 essentially the business of "leasing" local exchange telephone network elements

1 to retail providers. More specifically, BellSouth will be required to make
2 available to retail providers the same unrestricted access to its network elements
3 that it currently provides to its own retail arm. This leasing of network facilities,
4 some of which may have natural monopoly aspects, should have relatively low
5 risk compared to many of the risky business endeavors being pursued by the
6 telephone holding companies. BellSouth's risky business undertakings include
7 domestic cellular and personal communications service, advertising and
8 publishing. In addition, BellSouth has invested in wireless telephone systems in
9 Argentina, Australia, Chile, Denmark, Germany, India, Israel, New Zealand,
10 Panama, Peru, Uruguay and Venezuela. BellSouth is also an equity investor in
11 wireless data communications networks in the United States, the United
12 Kingdom, the Netherlands, Belgium and Singapore. (The credit-rating agencies
13 have noted the increasing risk-profile of the telephone holding companies in
14 comparison to core telephone operations. For example, Standard & Poor's states
15 in its Global Sector Review (November 1996, p. 288) that "[p]artially offsetting
16 the solid position of its local exchange companies is the higher-risk profile of
17 GTE's diversified activities, including its wireless and international ventures.") I
18 understand that there is currently very little facilities-based competition, and
19 wide-spread facilities-based competition may take years to develop. The FCC
20 believes that unbundled network elements and interconnection services are
21 bottleneck, monopoly services that do not now face significant competition (FCC
22 Order ¶702). Further, increased demand spurred by competition may result in a
23 more extensive use of local telephone companies' networks even as competing

1 facilities are eventually constructed. There is thus little threat that local telephone
2 companies' network facilities will remain idle.

3

4 **Q. HAVE ANY TELEPHONE HOLDING COMPANIES MADE COMMENTS**
5 **TO THE PUBLIC REGARDING BENEFITS TO BE DERIVED FROM THE**
6 **PROVISION OF NETWORK ELEMENTS TO COMPETITIVE LOCAL**
7 **EXCHANGE COMPANIES?**

8

9 A. Yes. At its internet site (see Exhibit BC-10), Bell Atlantic has stated that the
10 business of providing network elements represents a revenue opportunity for the
11 company, in that there would now be many more users of its network without the
12 need to make additional capital expenditures. Bell Atlantic's statements to the
13 public indicate that the network element leasing business is subject to much less
14 risk than its retail local exchange business in the environment created by the
15 Telecommunications Act of 1996.

16

17 **Q. WHAT RISKS ARE ASSOCIATED WITH THE BUSINESS OF "LEASING"**
18 **OF UNBUNDLED NETWORK ELEMENTS?**

19

20 A. There is still the risk of regulation itself. The rate of return a network is allowed
21 to earn depends on the outcome of proceedings such as this and remains
22 somewhat uncertain. That risk can be substantially reduced if this Commission

1 adopts compensatory forward-looking pricing rules that tell investors that
2 telephone holding companies will have the opportunity to recover all efficiently-
3 incurred costs on a forward-looking basis. In addition, there remains some risk
4 that consumers, particularly business users, will bypass the network as other
5 alternatives become available. (However, under capital market theory,
6 competitive risks are not relevant for computing the cost of capital because they
7 can be diversified away.) These risks, however, are substantially less than the
8 risks faced by telephone holding companies' other businesses, some of which are
9 (or may soon be) subject to competition.

10

11 **Q. IS THERE A SIMPLE WAY TO DISTINGUISH THE BUSINESS OF**
12 **LEASING THE NETWORK FROM PROVIDING LOCAL SERVICE?**

13

14 **A. Yes. Think of integrated telephone holding companies, including BellSouth, as**
15 **being composed of separate business units. One business unit owns the network**
16 **and leases network elements to all local service providers, including both**
17 **competitors and the telephone companies' other business units that are involved in**
18 **the provision of local service. Whereas those BellSouth units involved in providing**
19 **local service are in businesses that (if prices are set appropriately in these**
20 **proceedings) will be faced with new competitors, the unit involved in leasing the**
21 **network which all the competitors need to use has virtual monopoly power and**
22 **faces much less risk. The sample of companies used in my analysis for which the**

1 cost of debt and equity are estimated is composed of diversified telephone
2 companies. As stressed earlier, these companies operate a variety of businesses,
3 virtually all of which face a great deal more operating risk than leasing a local
4 exchange network. This has been clearly recognized by financial analysts and the
5 bond rating agencies. The company to which the WACC should be applied,
6 however, is one which is involved exclusively in leasing network facilities. Under
7 these circumstances, using a higher debt weight than the current market value
8 weights for the sample companies is one way to take account of this problem. The
9 higher debt weight may be more representative of the target capital structure for the
10 low-risk network element leasing business.

11

12 **Q. HAVE YOU SEEN ANY INFORMATION TO THE PUBLIC WHICH**
13 **CONFIRMS THE REASONABLENESS OF YOUR COST OF CAPITAL**
14 **RANGE?**

15

16 A. Yes. Salomon Brothers in its January 1996 report "Regional Bell Operating
17 Companies—Opportunities Ring ... While Danger Calls" stated that "[b]ased on
18 our estimates, the RBHCs currently have an average weighted cost of capital of
19 approximately 8.6%. In order to value the RBHCs on a level playing field, we used
20 the same discount rate in each DCF. Specifically, we used a discount rate of 10%,
21 which we believe should be the minimum return an investor would expect in order
22 to entice him to invest in a security, despite the fact this is slightly above the cost of
23 capital." Also, as part of its proposed merger with NYNEX, Bell Atlantic

1 submitted to its shareholders a joint proxy statement/prospectus on September 18,
2 1996 in which Bell Atlantic's investment advisor, Merrill Lynch, performed a DCF
3 analysis of the two companies' relative market values, estimating a discount rate in
4 the range of 8 to 10 percent for the telephone company portion of its portfolio of
5 businesses.

6
7 **Q. SHOULD THE COST OF CAPITAL ESTIMATE ACCOUNT FOR**
8 **QUARTERLY COMPOUNDING?**

9
10 A. No. Telephone operating companies receive payments for the use of their network
11 elements on a monthly basis, and consequently, are able to reinvest their cash flows
12 on an approximate monthly basis. This is a more frequent basis than investors
13 receive their quarterly dividends from the telephone holding companies. Thus, the
14 effective rate that the telephone companies receive is the allowed rate— as
15 determined in this hearing— compounded monthly, regardless of the fact that
16 BellSouth pays dividends to investors quarterly. If the Commission allows a rate
17 which is estimated using a quarterly compounding DCF model, BellSouth will get
18 an effective rate compounded both quarterly (as allowed) and monthly (as actually
19 received). To be precise, therefore, if quarterly compounding is allowed, the cost
20 of equity would also have to be decompounded to account for the fact that
21 BellSouth will be able to reinvest its proceeds on a monthly basis. The net effect
22 would result in a lower allowed rate than the annual DCF cost of equity proposed

1 by me. Consequently, the use of a DCF cost of equity determined using the annual
2 formula is conservatively high.

3

4 **Q. SHOULD THE COST OF CAPITAL ESTIMATE BE INCREASED FOR**
5 **EQUITY FLOTATION COSTS?**

6

7 A. No. BellSouth is a large Fortune 500 company whose stock trades in an efficient
8 market. As part of the process of arriving at the day-to-day prices for BellSouth's
9 stock, the market is anticipating future events which affect the cash flows that
10 BellSouth will earn. This process clearly includes the anticipation of future cash
11 expenditures, including financing costs for both debt and equity which reduce
12 BellSouth's cash flows. Because the price of BellSouth's stock has accounted for
13 flotation costs already, an estimation of the cost of equity using the DCF model
14 accurately reflects the required return of investors. Adding a flotation cost
15 adjustment would in effect double count the cost of financing.

16

17 **Q. IF YOUR THEORETICAL ARGUMENT REGARDING FLOTATION**
18 **COSTS IS CORRECT, WHY HAS THERE BEEN SO MUCH DISCUSSION**
19 **ON THIS ISSUE IN THE TRADITIONAL REGULATORY RATE**
20 **HEARING CONTEXT?**

21

22 A. The regulatory context is really a different issue. In the regulatory world, a main
23 purpose is to identify costs which can be charged back to the ratepayers by the

1 telephone operating company. Equity flotation costs have often been disallowed
2 because it would not be fair to burden current ratepayers with all of those costs if
3 the equity capital would be utilized indefinitely. One way that parties have tried to
4 “amortize” these costs so that they could be recovered by the telephone company is
5 to make the flotation cost adjustment to the allowed return, which would in effect
6 charge it back to ratepayers perpetually in very small increments. This is not the
7 issue for this proceeding. In this case, I am interested in the forward-looking cost
8 of capital which fairly compensates for the riskiness of the business. Because
9 BellSouth’s stock trades efficiently, the market has assessed its prospective cash
10 flows, including financing costs, to arrive at its estimate of the fair price.
11 Consequently, the DCF derived cost of equity estimate is the proper measure for
12 determining forward looking cost of capital.

13
14 **Q. ARE THERE ALSO SPECIFIC PRACTICAL REASONS WHY A**
15 **FLOTATION COST ADJUSTMENT WOULD NOT BE APPROPRIATE**
16 **FOR BELLSOUTH?**

17
18 **A.** Yes, there are two practical reasons. Over the past few years BellSouth has not
19 issued common stock. Given the high level of equity in its market capital structure,
20 there is no reason to expect large equity financings in the foreseeable future.
21 Second, even if it intends to make large equity offerings, BellSouth has made the
22 discretionary decision to pay large dividends to its shareholders. These dividends
23 could alternatively be used to finance BellSouth’s projects. Given this, it does not

1 appear that the CLEC's should be charged a premium if BellSouth decides to raise
2 capital with external instead of internal funds.

3
4 **IX.**

5 **CONCLUDING SUMMARY**

6
7 **Q. COULD YOU SUMMARIZE THE MAIN CONCLUSIONS OF YOUR**
8 **TESTIMONY.**

9
10 **A.** Using publicly-available data and accepted finance procedures I have estimated that
11 the weighted average cost of capital for a diversified telephone holding company is
12 in a range between 8.80 and 10.07 with a best point estimate of 9.43 percent.
13 However, I have also stressed that this is an upward-biased estimate of the cost of
14 capital that should be used in this case. In this case, the company in question is not
15 a diversified holding telephone company, but a company in the more specialized
16 (and less risky) business of providing network elements.

17
18 **Q. DOES THAT CONCLUDE YOUR TESTIMONY?**

19 **A.** Yes.
20
21
22

X.

1

2 Endnotes:

3

4 1. On Petitions for Review of an Order of the Federal Communications Commission,
 5 United States Court of Appeals for the eight circuit (submitted: January 17, 1997;
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7

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1 witness, which he has presented in rebuttal testimonies filed in several other states
2 and which I anticipate will be filed in this proceeding.

3

4 **Q. BELLSOUTH HAS PROPOSED A COST OF CAPITAL OF 11.25% FOR**
5 **THIS PROCEEDING. HAS BELLSOUTH PROVIDE ANY SUPPORT**
6 **FOR ITS COST OF CAPITAL ESTIMATE OF 11.25%?**

7 A. No. BellSouth has not filed any support for its 11.25% cost of capital for the
8 review of Florida Commission.

9

10 **Q. WHAT IS YOUR VIEW OF THE COST OF CAPITAL ESTIMATE**
11 **SUBMITTED IN THIS PROCEEDING ON BEHALF OF BELLSOUTH?**

12 A. I believe that the 11.25 percent cost of capital advocated by BellSouth is far in
13 excess of the forward-looking cost of capital for the provision of network
14 elements or universal service, and is inconsistent with publicly-available cost of
15 capital estimates by parties outside the context of this proceeding. In addition,
16 BellSouth has provided no underlying information or model assumptions in direct
17 testimony which support this cost of capital. This is not consistent with the
18 requirements of the FCC's August 8 Order¹, which states at paragraph 691 that
19 "[a]ny function necessary to produce a network element must have an associated
20 cost. The study must explain with specificity why and how specific functions are
21 necessary to provide network elements and how the associated costs were
22 developed." [emphasis added] In sharp contrast, my direct testimony provided a
23 very thorough explanation of the theories, models, assumptions and data which go
24 into a cost of capital calculation consistent with modern finance theory.

25

1 **Q. IS THE 11.25% RATE FORWARD-LOOKING?**

2 A. No. It was determined by the FCC in 1990. The FCC stated in Paragraph 250.(4)
3 of the its May 8, 1997 Universal Service Order that:

4 ... the cost of debt has decreased since we last set the
5 authorized rate of return. The reduction in the cost of
6 borrowing caused the Common Carrier Bureau to institute a
7 preliminary inquiry as to whether the currently authorized
8 federal rate of return is too high, given the current
9 marketplace cost of equity and debt. We will reevaluate the
10 cost of capital as needed to ensure that it accurately reflects
11 the market situation for carriers.

12

13 30-year Treasury bond rates have fallen from 9.03% as of September 1990 to
14 6.33% as of October 1997. This is a decline of 270 basis points since the 11.25%
15 rate was prescribed. Using this decline as a rough rule of thumb, this would imply
16 a current cost of capital of 8.55% before considering the question of whether the
17 risk has increased.

18

19 **Q. IN OTHER STATES DR. BILLINGSLEY TESTIFIED THAT HE HAD**
20 **PERFORMED "TESTS OF REASONABLENESS" IN SUPPORT OF THE**
21 **11.25% COST OF CAPITAL. DO YOU BELIEVE THAT DR.**
22 **BILLINGSLEY'S TWO "TESTS OF REASONABLENESS" ARE**
23 **PERSUASIVE?**

24 A. No. They are mathematically self-fulfilling: i.e., they assume the desired
25 conclusion. If you take the 11.25% cost of capital assumed by BST as being

1 correct (which there is no reason to do), and you assume Dr. Billingsley's cost of
2 debt estimate is correct, and you assume that historical or previously-allowed
3 capital structures are correct, then you have to get a high implied cost of equity.
4 However, this Commission does not have to assume that 11.25% is the correct
5 cost of capital *a priori*.

6
7 **Q. IN REGARD TO YOUR ANALYSIS, IN OTHER STATES DR.**
8 **BILLINGSLEY HAS TESTIFIED THAT TELEPHONE HOLDING**
9 **COMPANIES ARE NOT ACCURATE PROXIES FOR BST.**
10 **THEREFORE, HE CALCULATES A DCF COST OF EQUITY ON A**
11 **SAMPLE OF COMPANIES DERIVED BY A STATISTICAL CLUSTER**
12 **ANALYSIS. DO YOU AGREE WITH HIS PREMISE AND APPROACH?**

13 **A.** No. First, he has provided no convincing argument or evidence showing that the
14 telephone holding companies are not the closest available set of comparables for
15 the business of unbundled network element leasing. As I have discussed in my
16 direct testimony, the telephone holding companies are riskier than the network
17 element leasing business because of their many riskier business. Therefore, use of
18 telephone holding companies as proxies will yield a conservatively high cost of
19 capital estimate. Although Dr. Billingsley has performed an arcane statistical
20 analysis, his results do not, in my opinion, pass the tests of reason and common
21 sense. If one were to accept the results of his cluster analysis, then one would
22 have to believe that the risk of the network element leasing business was more
23 similar to the risks faced by Coca Cola, McDonalds and Wal-Mart stores, as
24 examples, than to the risks faced by BST's parent company, BellSouth (which
25 owns LEC's and the underlying network elements). It is clear on its face,

1 however, that the risk of the network element leasing business has virtually
2 nothing in common with the risks of a McDonalds or Wal-Mart.

3
4 I am further convinced of the inaccuracy of Dr. Billingsley's results by my
5 experience as a witness in several of Ameritech's state network element
6 arbitrations, in which Ameritech's own cost of capital expert used a set
7 comparable companies which was almost exactly the same as the set of telephone
8 holding companies that I have used. I note also that major brokerage firms and
9 investment banks which issue analyst reports for BellSouth and other telephone
10 holding companies see no need to resort to statistical cluster analysis when
11 choosing proxy companies for valuing these companies. They view other
12 telephone holding companies to be the best proxies for the subject telephone
13 holding company being valued. This is true even though the telephone holding
14 companies do not participate in exactly the same businesses or to the same
15 proportionate degree. Ameritech, for example, is one of the largest providers of
16 home security alarm services in the nation. BellSouth, in contrast, has no
17 involvement in this business whatsoever.

18
19 **Q. DR. BILLINGSLEY CLAIMS THAT HIS STATISTICAL MODEL GIVES**
20 **“OBJECTIVE” RESULTS, IMPLYING THAT YOUR CHOICE OF**
21 **COMPARABLES ARE INHERENTLY SUBJECTIVE. IS THIS**
22 **CORRECT?**

23 **A.** No. Dr. Billingsley has glossed over the fact that the formulation of his model
24 and the data he chooses to analyze are subjective. The factors he has chosen to
25 consider in the model are based on his subjective judgment, and there is no basis

1 to conclude the formulation of his model is necessarily correct or the best one for
2 the purposes it was intended. The results of his model— which fly in the face of
3 common sense— dramatically highlight this issue. Moreover, it is not clear how
4 many different model formulations Dr. Billingsley considered before selecting the
5 model used in his testimony. When all these issues are taken into consideration, I
6 do not believe that Dr. Billingsley has offered a plausible reason for abandoning
7 the basic notion that telephone holding companies are the best available
8 comparables to use as a starting point for estimating the cost of capital for the
9 network element leasing business.

10

11 **Q. FROM YOUR KNOWLEDGE AND EXPERIENCE, DO INVESTORS USE**
12 **CLUSTER ANALYSIS TO DETERMINE COMPARABLE COMPANIES**
13 **FOR COST OF CAPITAL ESTIMATION PURPOSES?**

14 A. No. And as previously stated, the sophisticated investments banks do not either.

15

16 **Q. DR. BILLINGSLEY HAS SUGGESTED THAT THE PERPETUAL**
17 **GROWTH ASSUMPTION IN THE DCF MODEL MOST ACCURATELY**
18 **REFLECT THE EXPECTATIONS OF INVESTORS, AND THAT THE**
19 **THREE-STAGE DCF MODEL REFLECTS SOLELY YOUR**
20 **SUBJECTIVE ASSUMPTIONS. IS THIS TRUE?**

21 A. No. Quite to the contrary. Dr. Billingsley's approach systematically guarantees
22 an inaccurately high cost of equity estimate inconsistent with investor
23 expectations. Prominent economists familiar with current cost of capital research
24 have recognized that the simple perpetual growth DCF model using short-run
25 forecasts is inappropriate to use if a company's short-run growth rate is expected

1 to exceed the long-run growth rate of the economy, or the cost of equity will be
2 overestimated.

3

4 As noted in my direct testimony, Stewart Myers and Lynda Borucki state that:

5 “[f]orecasted growth rates are obviously not constant
6 forever. Variable-growth DCF models, which
7 distinguish short- and long-term growth rates, should
8 give more accurate estimates of the cost of equity. Use
9 of such models guards against naïve projection of short-
10 run earnings changes into the indefinite future.”²

11

12 In addition, Ibbotson Associates state that:

13 “[t]he reason it is difficult to estimate the perpetual
14 growth rate of dividends, earnings, or cash flows is
15 that these quantities do not in fact grow at stable rates
16 forever. Typically it is easier to forecast a company-
17 specific or project-specific growth rate over the short
18 run than over the long run. To produce a better
19 estimate of the equity cost of capital, one can use a
20 two stage DCF model. ... For the resulting cost of
21 capital estimate to be useful, the growth rate over the
22 latter period should be sustainable indefinitely. An
23 example of an indefinitely sustainable growth rate is
24 the expected long-run growth rate of the economy.”³

25

1 Sharpe⁴, Alexander and Bailey state that:

2 "Over the last 30 years, dividend discount models
3 (DDMs) have achieved broad acceptance among
4 professional common stock investors...

5
6 Valuing common stock with a DDM technically
7 requires an estimate of future dividends over an
8 infinite time horizon. Given that accurately
9 forecasting dividends three years from today, let alone
10 20 years in the future, is a difficult proposition, how
11 do investment firms actually go about implementing
12 DDMs?

13
14 One approach is to use constant or two-stage dividend
15 growth, models, as described in the text. However,
16 although such models are relatively easy to apply,
17 institutional investors typically view the assumed
18 dividend growth assumptions as overly simplistic.
19 Instead, these investors generally prefer three-stage
20 models, believing that they provide the best
21 combination of realism and ease of application.

22
23 ...[M]ost three-stage DDMs make standard
24 assumptions that all companies in the maturity stage

1 have the same growth rates, payout ratios and return
2 on equity.”⁵

3

4 Damodaran states that:

5 “While the Gordon growth model is a simple and
6 powerful approach to valuing equity, its use is limited
7 to firms that are growing at a *stable growth rate*...

8

9 The second issue relates to what growth rate is
10 reasonable as a *stable growth rate*. Again, the
11 assumption in the model that this growth rate will last
12 forever establishes rigorous constraints on
13 *reasonableness*. A firm cannot in the long term grow
14 at a rate significantly greater than the growth rate in
15 the economy in which it operates. Thus, a firm that
16 grows at 12% forever in an economy growing at 6%
17 will eventually become larger than the economy. In
18 practical terms, the stable growth rate cannot be larger
19 than the nominal (real) growth rate in the economy in
20 which the firm operates, if the valuation is done in
21 nominal (real) terms...

22

23 ...If a firm is likely to maintain a few years of above-
24 stable growth rates, an approximate value for the firm
25 can be obtained by adding a premium to the stable

1 growth rate, to reflect the above-average growth in the
2 initial years. Even in this case, the flexibility that the
3 analyst has is limited. The sensitivity of the model to
4 growth implies that the stable growth rate cannot be
5 more than 1% or 2% above the growth rate in the
6 economy. If the deviation becomes larger, the analyst
7 will be better served by using a two-stage or a three-
8 stage model to capture the supernormal or above-
9 average growth and restricting the use of the Gordon
10 growth model to when the firm becomes truly
11 stable.”⁶

12

13 Copeland, Koller and Murrin echo these observations, stating that “[f]ew
14 companies can be expected to grow faster than the economy for long periods of
15 time.”⁷

16

17 In contrast, the only support that Dr. Billingsley cites for the naïve application of
18 the perpetual growth DCF model using short-run growth forecasts is the fact that
19 this method has often been used in traditional rate regulation hearings, when the
20 telephone business was highly regulated and stable.

21

22 **Q. DO YOU BELIEVE THAT THIS COMMISSION SHOULD**
23 **NECESSARILY USE THE PERPETUAL GROWTH DCF MODEL IF IT**
24 **HAS BEEN USED IN THE PAST?**

1 A. No. As highlighted by the excerpts above from academics and practitioners, one
2 must understand when the perpetual growth DCF model is— and is not—
3 suitable. In the case of a regulated utility in the traditional regulation setting,
4 growth has traditionally been limited and has not exceeded the growth rate of the
5 economy. If the growth rate does not exceed the economy-wide growth rate, and
6 the growth rate is expected to be very stable, the use of the perpetual growth
7 model is reasonable. In this case, however, I use a set of comparables comprised
8 of holding companies which are engaged in numerous businesses that are, in the
9 short-run, expected to grow at rates much greater than the aggregate economy.
10 The wireless business, as an example, has forecasted growth rates exceeding 30%
11 (see exhibit BC-1). It is absolutely clear that this business will not grow at such a
12 high rate indefinitely.

13

14 **Q. DR. BILLINGSLEY'S REBUTTAL TESTIMONY IN KENTUCKY⁸**
15 **IMPLIED THAT DR. DAMODARAN SAYS IN HIS BOOK THAT THE**
16 **BEST USE FOR THE THREE-STAGE DCF MODEL IS FOR COMPANIES**
17 **WITH GROWTH RATES IN EXCESS OF 25 PERCENT. WHAT ARE**
18 **YOUR COMMENTS?**

19 A. It is evident from Dr. Billingsley's statement that he has not read Dr. Damodaran's
20 book very carefully. Dr. Damodaran describes in his book numerous DCF models
21 with varying formulations and characteristics. Dr. Damodaran attempts to
22 distinguish the circumstances under which each type of model might be most
23 appropriate. It is obvious that the three-stage model described by Dr. Damodaran is
24 a complex model which is not the model I employ. Dr. Damodaran's three-stage
25 model requires year-specific payout ratios, growth rates and betas. In contrast, the

1 "H Model" described by Dr. Damodaran appears to be most analogous to the model
2 I have used.

3

4 Dr. Damodaran states that:

5

6 "The H model is a two-stage model for growth, but
7 unlike the classical two-stage model, the growth
8 rate in the initial growth phase is not constant but
9 declines linearly over time to reach the stable-
10 growth rate in steady stage."⁹

11

12 Dr. Damodaran indicates that the best use for this model is for firms that are
13 growing rapidly at the present, but for which the growth is expected to decline
14 gradually over time as their differential advantage over their competitors declines.

15

16 **Q. DOES DR. DAMODARAN SUGGEST ANY GROWTH RATE**
17 **LIMITATIONS FOR THE USE OF THE "H MODEL"?**

18 A. No. It appears from Dr. Damodaran's extensive analysis that the "H Model" is
19 intended for companies which will grow at rates lower than those for which his
20 formulation of a 3-stage model would be appropriate.

21

22 **Q. DOES DR. DAMODARAN ALSO DESCRIBE THE CLASSICAL TWO-**
23 **STAGE MODEL IN HIS BOOK?**

24 A. Yes.

25

1 **Q. WHAT DOES DR. DAMODARAN SAY ABOUT COMPANIES WHICH**
2 **MIGHT BE APPROPRIATE FOR THE CLASSICAL TWO-STAGE DCF**
3 **MODEL?**

4 A. Damodaran suggests that one type of company for which this would be a suitable
5 model is a company:

6 "...in an industry that is enjoying supernormal
7 growth because significant barriers to entry (either
8 legal or as a consequence of infrastructure
9 requirements) can be expected to keep out new
10 entrants for several years.

11
12 The assumption that the growth rate drops
13 precipitously from its level in the initial phase to a
14 stable rate also implies that this model is more
15 appropriate for firms with modest growth rates in
16 the initial phase. It is more reasonable, for instance,
17 to assume that a firm growing at 12% in the high-
18 growth period will see its growth rate drop to 6%
19 after that than it is for a firm growing at 40% in the
20 high-growth period."¹⁰

21

22 **Q. IF YOU ASSUMED THAT THIS WAS THE MOST APPROPRIATE**
23 **MODEL TO USE, WHAT IMPACT WOULD IT HAVE HAD ON YOUR**
24 **DCF COST OF EQUITY ESTIMATE?**

25

1 A. If I had instead utilized this model-- which certainly appears applicable in this
2 case based on Dr. Damodaran's analysis-- it would have resulted in a lower cost
3 of equity than what I actually calculated. This again provides evidence that my
4 cost of capital estimate is conservatively high.

5

6 **Q. DR. BILLINGSLEY HAS CLAIMED THAT IT IS SUBJECTIVE OF YOU**
7 **TO ASSUME THAT THE 5-YEAR I/B/E/S GROWTH RATES FOR YOUR**
8 **GROUP OF COMPARABLE COMPANIES WILL NOT PERSIST**
9 **INDEFINITELY IN THE FUTURE. HE IMPLIES THAT INVESTORS**
10 **WOULD ASSUME PERPETUAL GROWTH AT THESE RATES. HOW**
11 **DO YOU RESPOND TO THIS ASSERTION?**

12 A. I believe that it is quite the opposite. Dr. Billingsley argues that investors take 5-
13 year forecasts, which in the case of the telephone holding companies include
14 subsidiaries with growth rates exceeding 30%, and assume uncritically that such
15 growth rates will last forever. However, there is no reason to believe that
16 investors are so unsophisticated. Investors recognize that five-year forecasts mean
17 that they are intended for five years. They appreciate the fact that even five-year
18 forecasts become less accurate in the later years of the forecast period, and they
19 understand that high growth businesses by necessity will slow down as their
20 markets saturate. The comments by academics and practitioners cited previously
21 support this view. Dr. Billingsley has himself stated in his testimony that U.S.
22 financial markets are "highly efficient" (Billingsley Georgia Rebuttal
23 Testimony¹¹, p. 41), which also supports my belief that investors are sophisticated
24 in evaluating information available in the marketplace.

25

1 **Q. IS DR. BILLINGSLEY'S PERPETUAL GROWTH ASSUMPTION BASED**
2 **ON FIVE-YEAR ANALYST FORECASTS SUBJECTIVE?**

3 A. Absolutely, and as I have shown above, it is in this instance an incorrect
4 assumption which would not be made by investors.

5

6 **Q. DOES DR. BILLINGSLEY'S ARGUMENT THAT SOME COMPANIES,**
7 **SUCH AS MCI, HAVE GROWN AT HIGH RATES FOR LONGER THAN**
8 **FIVE YEARS INVALIDATE YOUR APPROACH AND MAKE THE**
9 **PERPETUAL GROWTH MODEL MORE SUITABLE?**

10 A. Not at all. In the real world, individual companies participating in a particular
11 line of business will have differing growth rates which will occur over different
12 time periods. Clearly, a few companies will do extraordinarily well, and may
13 grow at high rates for many years. In fact, I assume above average growth for
14 most telephone companies over the next twenty years. Other companies will
15 perform very poorly, and may experience low or negative growth (or go out of
16 business entirely). The greatest proportion of industry participants will
17 experience growth somewhere between the highest-growth stars and the weak
18 underperformers. Investors today cannot definitively predict which companies in
19 an industry will be the winners and which will be the losers. On average, no
20 reasonable analyst would expect high-growth in excess of the economy's growth
21 for all of the industrys' companies forever.

22

23 What is interesting about Dr. Billingsley's example is that he points out that
24 MCI's current 5-year growth forecasts are in the 12% range, even though he states
25 that average earnings growth over the past 10 years has been 28% according to

1 Value Line (Billingsley Georgia Rebuttal Testimony¹², p. 50). Dr. Billingsley
2 also does not mention that the same Value Line report indicates that MCI's
3 growth rate over the past 5 years was only 5%. Clearly then, a tapering off of the
4 high growth rate is occurring, consistent with the use of multiple stage DCF
5 models and inconsistent with the perpetual DCF model. The use of a perpetual
6 growth DCF model when MCI was growing at rates exceeding 28% would have
7 dramatically overestimated MCI's true cost of equity at that time. Given that
8 MCI's forecast growth rate of around 12% is significantly in excess of the growth
9 rate of the economy, the same error arises by using a perpetual growth rate DCF
10 model today.

11
12 **Q. DR. BILLINGSLEY'S APPEARS TO ARGUE THAT INVESTORS**
13 **SUBSUME ALL OF THE INFORMATION REGARDING THE**
14 **DIFFERENTIAL GROWTH RATES OF SUBSIDIARY COMPANIES**
15 **INTO THE PERPETUAL GROWTH MODEL. DOES THAT MAKE**
16 **SENSE?**

17 **A.** No. It is clear that it would be an extraordinarily difficult analysis to arrive at a
18 single, perpetual growth rate estimate that accurately reflects the average growth
19 of various businesses, some of which are relatively low-growth, such as the local
20 exchange business, and other businesses which will grow astronomically for some
21 period and then taper off to lower growth rates. Furthermore, there would not be
22 the overwhelming support for multiple-stage DCF models as cited above if Dr.
23 Billingsley's assertion were true.

24
25

1 Q. DR. BILLINGSLEY ALSO ARGUES THAT THE PERPETUAL GROWTH
2 ASSUMPTION IS SOMEHOW INCONSEQUENTIAL BECAUSE LATER
3 CASH FLOWS HAVE LITTLE IMPACT ON PRESENT VALUE. IS THIS
4 CORRECT?

5 A. This is plainly wrong, as evidenced by the enormous difference between Dr.
6 Billingsley's and my cost of equity estimates using the DCF model. Dr.
7 Billingsley's argument overlooks the tremendous impact of compounding over
8 time. By assuming perpetual dividend growth compounding at unrealistically
9 high rates, but at the same time holding the price of the subject company's stock
10 constant in the DCF model, the discount rate— or cost of equity— must get much
11 higher by mathematical necessity in order to equate the enormous assumed
12 dividends over time to the current price. In contrast, a more logical alternative
13 assumption would be that— if the market genuinely believed that high growth
14 would be realized forever— the price of the subject company would rise.

15

16 Q. DR. BILLINGSLEY DISCUSSES THE RISKS OF THE
17 TELECOMMUNICATIONS BUSINESS. IS THE
18 TELECOMMUNICATIONS BUSINESS THE SUBJECT OF THIS
19 PROCEEDING?

20 A. No. The telecommunications business is a very broad category which includes
21 such businesses as BellSouth's wireless communications endeavors. It therefore
22 appears that Dr. Billingsley has incorrectly blurred the risks of various other risky
23 businesses with that of the low-risk network element leasing business in his
24 analysis.

25

1 Q. ARE THE RISKS OF COMPETITION, TECHNOLOGICAL AND
2 REGULATORY CHANGE DISCUSSED BY DR. BILLINGSLEY,
3 SOMETHING THAT THE FINANCIAL MARKETS ACCOUNT FOR IN
4 VALUING THE COMMON STOCKS OF COMPANIES?

5 A. Yes. The financial markets have been continuously absorbing and incorporating
6 information about competition, technological and regulatory change. This is
7 evident from financial analyst reports and the public disclosures of the telephone
8 holding companies themselves over the past several years. As Dr. Billingsley has
9 stated, the U.S. financial markets are highly efficient. If investors are aware of
10 new risks which impact a company's value, they incorporate it into the cost of
11 equity immediately. Consequently, Dr. Billingsley's arguments that BST is
12 facing dramatic new risks resulting from the passage of the 1996 Act for which a
13 greater cost of capital is required rings hollow. One would have to assume—
14 contrary to his own statement—that the investing public is totally naive and
15 would not account for the risks of deregulation prior to the passage of the 1996
16 Act itself.

17
18 Q. ASSUMING THAT MORE COMPETITION ARISES AT THE RETAIL
19 TELEPHONE BUSINESS LEVEL, IS THERE EVIDENCE THAT
20 INCREASED RETAIL COMPETITION WOULD MAKE THE
21 WHOLESALE BUSINESS OF LEASING UNBUNDLED NETWORK
22 ELEMENTS LESS RISKY?

23 A. Yes. Bell Atlantic is a large regional Bell holding company comparable to
24 BellSouth. Bell Atlantic has indicated in a Strategic Overview published on its
25 Internet web site (attached as Appendix 1 to my direct testimony) that the

1 business of leasing network elements, in and of itself, represents an opportunity
2 for the company, since retail competition will increase utilization of its network at
3 the wholesale level without the need to make any additional investment.
4

5 **Q. IS THE PROSPECT OF INCREASED COMPETITION IN THE RETAIL**
6 **PHONE SERVICE RELEVANT FOR PURPOSES OF DETERMINING**
7 **THE COST OF CAPITAL IN THIS PROCEEDING?**

8 A. No. The FCC in its August 8 Order explicitly defined the relevant risk as the risk
9 incurred in the business of leasing unbundled network elements at wholesale
10 [August 8 Order at ¶702]. (That the FCC has indicated that "the risk adjusted cost
11 of capital need not be uniform for all elements," further indicates that the relevant
12 risks are those inherent in the business of leasing elements itself, not the risks
13 entailed with retail phone service. [Id. at ¶702.]
14

15 **Q. DR. BILLINGSLEY BELIEVES THAT YOUR MENTION OF THE RISK**
16 **OF PHYSICAL BYPASS, PARTICULARLY FOR BUSINESS**
17 **CUSTOMERS, IS INCONSISTENT WITH YOUR DISCUSSION OF**
18 **CAPITAL MARKET THEORY, WHICH SHOWS THAT COMPETITIVE**
19 **RISKS CAN BE DIVERSIFIED AWAY AND WOULD NOT BE**
20 **COMPENSATED BY THE MARKET WITH A RISK PREMIUM.**
21 **WOULD YOU PLEASE EXPLAIN THE IMPLICATIONS OF CAPITAL**
22 **MARKET THEORY WITH RESPECT TO YOUR TESTIMONY**
23 **REGARDING RISK?**

24 A. I discuss many potential risks of the network element leasing business in my
25 testimony so that the Commission can get an accurate picture of the risks this

1 business faces, particularly in relation to other businesses engaged in by telephone
2 holding companies. Some of these risks could be viewed as systematic, meaning
3 that they could not be diversified away, and others nonsystematic, such as the risk
4 of competition. According to capital market theory, an investor will not require
5 extra compensation in the form of a higher cost of equity for risks that he or she
6 can diversify away simply by acquiring a portfolio of companies in that business.
7 Dr. Billingsley's inference is that because I describe both types of risks, I am
8 assuming that BST must be compensated for both in its cost of equity. I do not
9 make that statement. Instead, my goal is to elucidate capital market theory
10 regarding diversifiable risks. Ironically, Dr. Billingsley is criticizing me for fully
11 discussing the issues of risk in my testimony (which he has not done), both from
12 the point of view of those who consider competitive risks to be significant and
13 from the viewpoint of capital market theory.

14

15 The question for this Commission to decide is whether it accepts the premise of
16 capital market theory with regard to competitive risks. If it does not, then the risk
17 of physical bypass should be considered. If it is considered, the current reality is
18 that there are only small in-roads in facility bypass and the likelihood of it
19 developing significantly over the near term is low. The August 8 Order describes
20 the current competitive position of the incumbent LEC's network element
21 business as being natural or bottleneck monopolies which do not now face
22 significant competition (August 8 Order at ¶'s 11, 702). BST's own trade
23 association agrees with this view. In a brochure which the United States
24 Telephone Association distributes to public consumers, it states:

1 “Be a smart consumer and arm yourself with
2 information, especially about what long-distance
3 companies don’t want you to know— such as the fact
4 that they don’t own, invest in or repair the local
5 networks they’ll use to carry your local calls. Those
6 networks have been built and are maintained by your
7 local telephone companies.”¹³ [emphasis added]

8
9 On the other hand, if the Commission concludes that capital market theory is
10 correct, then competitive risks simply are not relevant.

11
12 While I see room for debate on this subject, my sense is that capital market theory
13 is correct on this issue. The following hypothetical helps to analyze this question.
14 Assume first that there are only two companies in the network element leasing
15 business, BellSouth and GTE. In addition, assume that GTE becomes a much
16 better competitor, that this is known to the market, and that GTE wins significant
17 business away from BellSouth.¹⁴ Under such circumstances, BellSouth’s market
18 has become more competitive and its market share will drop. In valuing the two
19 companies, investors will forecast future cash flows for each company.
20 BellSouth’s forecasted cash flows will be reduced, while GTE’s will be increased.
21 BellSouth’s stock price will fall and GTE’s will rise. If competitive risk also
22 affects cost of equity, investors will additionally increase BellSouth’s cost of
23 equity, which will cause its stock price to fall further. GTE’s market in turn has
24 become relatively less competitive, so investors will reduce GTE’s cost of capital
25 and the price will go up even further. Looked at in this light, it is questionable

1 that investors would require the second reduction in BellSouth's price by
2 additionally increasing its cost of equity, particularly since the operating risks of
3 the two companies are the same.

4
5 Finally assume that an investor buys both GTE and BellSouth. This investor now
6 owns 100% of the profits from the network element leasing business, and bears no
7 risk of competition whatsoever, even though BellSouth and GTE continue to
8 compete with one another. If competition affects the cost of equity, this creates a
9 puzzle for the investor who has just bought all of the competitors. Before he
10 acquired both companies, he assigned a higher cost of equity to BellSouth. What
11 cost of equity does he use after the acquisition to value his interest in BellSouth?
12 BellSouth's competitive risks have not changed at all, but the investor does not
13 bear any of that risk. His industry-wide profits remain constant regardless of
14 which individual company wins the competitive war. Similarly, the investor
15 receives no added benefit from the fact that GTE is the better competitor, even
16 though he paid an added premium for this company by reducing the cost of
17 equity. The most plausible answer to this puzzle is that competitive risk does not
18 change the cost of equity to begin with, precisely because an investor does not
19 consider unsystematic risks which can be diversified away easily. This is why
20 capital market theory states that when determining the cost of equity, investors are
21 concerned with the fundamental operating risks of a business, not the
22 idiosyncracies affecting the individual competitors.

23

1 Q. DOES THE FACT THAT THE NETWORK ELEMENT BUSINESS
2 LEASING BUSINESS FACES SOME RISKS TURN IT INTO A HIGH-
3 RISK BUSINESS AS DR. BILLINGSLEY SUGGESTS?

4 R. No. All businesses face some risks, including low-risk businesses. As discussed
5 above, both the FCC and Bell Atlantic view it as a low-risk business in their
6 public pronouncements.

7
8 Q. IS DR. BILLINGSLEY INCONSISTENT IN HIS USE OF THE CAPITAL
9 ASSET PRICING MODEL?

10 A. Yes. On the one hand, Dr. Billingsley uses the capital asset pricing model in his
11 analysis. Yet on the other, he attacks its "pristine theory" (Billingsley Georgia
12 Rebuttal Testimony¹⁵, pg. 60) as being impractical because it inconveniently
13 negates his argument that competitive risks are highly significant to BST.¹⁶
14 However, the foundation of the model is that diversifiable risks do not increase
15 the cost of capital. As Ibbotson Associates states:

16
17 "....unsystematic risk is that portion of total risk that
18 can be avoided by diversifying; the CAPM concludes
19 that unsystematic risk is not rewarded with a risk
20 premium. For example, the possibility that a firm will
21 lose market share to a competitor is a source of
22 unsystematic risk for the stock of a particular
23 company."¹⁷ [emphasis added]

24

1 Q. DR. BILLINGSLEY ASSERTS THAT THE FCC CONSIDERS
2 COMPETITIVE RISKS IMPORTANT TO THE COST OF CAPITAL.
3 HAS THE FCC SPECIFICALLY ADDRESSED THE CAPITAL MARKET
4 THEORY QUESTION?

5 A. Not to my knowledge. Looking at Dr. Billingsley's specific citation to the FCC's
6 Third Report and Order (FCC-96-488), which is not directed to the issue of
7 unbundled network elements, the FCC stated that "potential competition could
8 increase the risk facing the incumbent LECs, and thus increase their cost of
9 capital, thus mitigating, to some extent, the factors suggesting that incumbent
10 LECs cost of capital has decreased since 1990. [emphasis added] (Billingsley
11 Georgia Rebuttal Testimony¹⁸, p. 13) It does not appear that the FCC has
12 definitively concluded that these risks will increase the LECs' cost of capital, but
13 that they are leaving them open for consideration.

14
15 Q. DOES THIS FCC STATEMENT ALSO INDICATE THAT, EVEN IF
16 COMPETITIVE RISKS DO INCREASE LEC COST OF CAPITAL, THAT
17 ON NET THE COST OF CAPITAL HAS DECLINED SINCE THE TIME
18 THAT THE FCC DETERMINED THE 11.25% ACCESS CHARGE RATE?

19 A. Yes. While I believe that the FCC is leaving the final decision to state
20 Commissions, it is clearly its position that, if all of the factors are considered
21 including competitive risks, the net cost of capital has declined from the time the
22 11.25% was adopted. One clear indication of this is the significant decline in
23 interest rates since the FCC's Rate Represcription Order adopted in September of
24 1990. In its August 8 Order, the FCC stated that "earlier this year, we instituted a
25 preliminary inquiry as to whether the currently authorized federal 11.25 percent

1 rate of return is too high given the current marketplace cost of equity and debt.”
2 (August 8 Order at ¶702)

3

4 **Q. DR. BILLINGSLEY STATES THAT YOU HAVE INCORRECTLY**
5 **ESTIMATED THE COST OF DEBT BECAUSE YOU USE ONLY**
6 **SHORTER TERM DEBT. IS THIS CORRECT?**

7 A. Not at all. Remember that my starting point is the forward-looking cost of debt
8 for all securities of BellSouth listed in Standard & Poor’s Bond Guide BellSouth,
9 like most holding companies, has outstanding securities with a variety of
10 maturities. Therefore, considering only long-term securities produces a
11 misleading estimate of the cost of debt. Contrary to Dr. Billingsley’s statement,
12 the Bond Guide includes all of BellSouth’s long-term debt, but may in fact
13 exclude some of BellSouth’s shortest term securities. Thus my calculations may
14 slightly overstate the holding company’s cost of debt.

15

16 **Q. IS DR. BILLINGSLEY CORRECT THAT NETWORK ELEMENTS**
17 **WOULD ONLY BE FINANCED WITH LONG-TERM DEBT?**

18 A. No. The network elements have varied expected economic lives, not all of which
19 are necessarily long-term. In addition, the network element leasing business, like
20 any other business, would be financed using a variety of sources and maturities.
21 Dr. Billingsley would be hard-pressed to name any companies which are financed
22 with 100% long-term debt.

23

24

25

1 Q. DR. BILLINGSLEY BELIEVES THAT YOUR DISCUSSION
2 REGARDING THE QUARTERLY DCF MODEL IN YOUR VALUATION
3 BOOK SHOWS THAT YOU ARE BEING INCONSISTENT IN YOUR
4 ARGUMENTS IN THIS CASE WHERE YOU INSTEAD USE THE
5 ANNUAL DCF MODEL. IS THIS TRUE?

6 A. No. Dr. Billingsley misunderstands my reasoning on this point. When calculating
7 the cost of equity applicable to an investor, the investor assumes that he or she will
8 get quarterly dividends. As investors normally receive dividends quarterly, they
9 will reinvest them and get the benefit of quarterly compounding. In other words,
10 investors earn their cost of equity as calculated by the quarterly DCF model by
11 reinvesting their cash flows quarterly. The purpose of this proceeding, however, is
12 to determine the cost of capital which the telephone operating companies should be
13 allowed. In contrast to investors, telephone operating companies are able to
14 reinvest their cash flows on an approximate monthly basis. Consequently, if the
15 Commission allows a rate which is estimated using an annual DCF model, then
16 BST gets an effective rate higher than the allowed rate because of monthly
17 compounding. This effective rate will in fact exceed the rate calculated using a
18 quarterly DCF basis. Thus, it would be entirely inappropriate to calculate the DCF
19 cost of equity on a quarterly compounding basis for purposes of this proceeding,
20 because this would give BST the benefit of both quarterly and monthly
21 compounding. If the Commission were to decide that it preferred the quarterly
22 DCF model, then a decomposing adjustment would have to be made to remove
23 the benefit of monthly compounding.

24

25

1 Q. DR. BILLINGSLEY BELIEVES THAT YOU HAVE MADE
2 INCONSISTENT ARGUMENTS REGARDING DIVERSIFICATION IN
3 RELATION TO TELEPHONE HOLDING COMPANIES. IS THAT THE
4 CASE?

5 A. No. In the case of telephone holding companies, engaging in businesses which
6 are systematically riskier than the network element leasing business will always
7 make the risk of the telephone holding company greater than of the network
8 leasing business. Overall risk can never fall because of the acquisition of
9 systematically riskier businesses. This can be illustrated with a simple example.
10 If you hold a one-asset portfolio comprised of a productive local oil well with
11 enormous proven reserves, you will not make that oil well less risky by
12 undertaking wildcat oil drilling in Iraq. Your overall holdings become more risky
13 by making a fundamentally riskier investment. In the context of the telephone
14 holding companies, the FCC and the major rating agencies have recognized that
15 investments in businesses outside of local exchange have made them riskier.

16

17 Q. DR. BILLINGSLEY'S RISK PREMIUM ANALYSIS DIFFERS FROM
18 YOURS, AND LEADS TO A SIGNIFICANTLY HIGHER COST OF
19 EQUITY ESTIMATE. HOW DO YOU VIEW HIS APPROACH?

20 A. The equity risk premium is a subject of great research and debate in finance, and
21 no definitive consensus been reached. In my analysis, I attempted to consider all
22 of the prevailing research by leading academics which I thoroughly discuss in my
23 direct testimony. It is clear that Dr. Billingsley has not addressed recent research,
24 particularly that of Blanchard, Siegel and Ross et al. which indicates that the
25 forward-looking market premium over U.S. Treasury bonds is in the 2 to 5%

1 range, far lower than what Dr. Billingsley estimates. As I mentioned in my direct
2 testimony, a nonacademic source which also appears to subscribe to this view is a
3 correspondent for Fortune magazine, who indicated that “[t]o venture into the
4 volatile stock market instead of cozying up to bonds, investors rightfully expect a
5 superior return from stocks. In fact, they expect to beat the bond return by four
6 full percentage points— something called the risk premium on stocks...”¹⁹

7 Similarly, *The Economist* stated in its October 25, 1997 issue that “recent studies
8 [regarding risk premium] suggest a current figure of one to four percentage
9 points.”²⁰ In its 1990 Rate Represcription Order, the FCC agreed with the position
10 of the Consumer Coalition that the risk premiums used by the LEC’s experts were
11 unrealistically high, particularly when compared to those used by financial
12 analysts. They cite the Consumer Coalition expert’s testimony that “...the Wall
13 Street analyst reports, relied upon by the RHCs to support their positions on other
14 issues, use much smaller risk premiums, ranging from 2.0% to 5.4%.”²¹

15
16 **Q. HOW DOES DR. BILLINGSLEY ARRIVE AT SUCH A HIGH RISK**
17 **PREMIUM?**

18 A. Dr. Billingsley arrives at a large risk premium by making the same mistake with
19 the market that he made for individual companies. That is, he assumes growth for
20 an infinite period at a rate exceeding the growth rate of the aggregate economy.
21 Had he properly taken account of the fact that growth must eventually slow, as I
22 do in my direct testimony, he would have arrived at a market risk premium more
23 consistent with that which I recommend.

24
25

1 **Q. AFTER CONSIDERING DR. BILLINGSLEY'S ANALYSIS AND**
2 **ARGUMENTS, ARE YOU PERSUADED THAT YOUR COST OF**
3 **CAPITAL ESTIMATE IS TOO LOW?**

4 A. No. None of Dr. Billingsley's arguments are persuasive and— contrary to his
5 assertions— they are fundamentally inconsistent with investor expectations. In
6 particular, Dr. Billingsley did not attempt to address the real-world, investor-
7 oriented evidence described in my direct testimony which provides independent
8 assurance that my estimate is in the correct range. For example, in the Bell
9 Atlantic/NYNEX merger proxy statement dated September 9, 1996, Merrill
10 Lynch as part of its fairness opinion performed a DCF analysis of the companies
11 using an 8 to 10% discount rate for their telephone company operations. It is
12 notable that this was disclosed in a securities filing seeking investor approval of a
13 multi-billion dollar merger which subjected both Merrill Lynch and the officers of
14 both companies to federal and state securities laws with onerous disclosure
15 requirements. I also note in my direct testimony that a Salomon Brothers analyst
16 report dated January 1996 estimated the cost of capital for the regional Bell
17 holding companies to be 8.6%. Consequently, I see no evidence whatsoever that a
18 hypothetical cost of capital posited to be hundreds of basis points higher by Dr.
19 Billingsley is anything close to BST's true cost of capital.

20

21 **Q. DOES THAT CONCLUDE YOUR PRESENT TESTIMONY?**

22 A. Yes, it does.

23

24

25

1 Endnotes:

- ¹ Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC Dkt. No. 96-98, First Report & Order, FCC 96-325 (rel. August 8, 1996)
- ² Stewart C. Myers and Lynda S. Borucki, "Discounted Cash Flow Estimates of the Cost of Equity Capital—A Case Study", *Financial Markets, Institutions & Instruments*, vol. 3, no. 3, New York University Salomon Center, 1994.
- ³ Ibbotson Associates, *Stock, Bonds, Bills and Inflation, 1996 Yearbook*, Chicago, pp. 158-159
- ⁴ As noted by Dr. Billingsley, Dr. Sharpe is a Nobel-prize winning financial economist.
- ⁵ Sharpe, William F., Gordon J. Alexander and Jeffery V. Bailey, *Investments*, Fifth Edition, Prentice Hall, Englewood Cliffs, New Jersey, 1995, pp. 590-591
- ⁶ Damodaran, Aswath, *Damodaran on Valuation Security Analysis for Investment and Corporate Finance*, John Wiley & Sons, New York, 1994, pp. 99-101
- ⁷ Copeland, Tom, Tim Koller, and Jack Murrin, *Valuation Measuring and Managing the Value of Companies*, John Wiley & Sons, New York, 1994, p. 295
- ⁸ Before the Kentucky Public Service Commission, Administrative Case No. 360, Rebuttal Testimony of Dr. Randall S. Billingsley, November 4, 1997, p. 36, at 6-12.
- ⁹ Damodaran, *Id.*, p. 115.
- ¹⁰ Damodaran, *Id.*, pp. 108-109.
- ¹¹ In Re Review of Cost Studies, Methodologies, and Cost-Based Rates for Interconnection and Unbundling of BellSouth Telecommunications Services, Before The Georgia Public Commission, Docket No. 7061-U, Rebuttal Testimony of Dr. Randall S. Billingsley, August 29, 1997, p. 41, at 16.
- ¹² In Re Review of Cost Studies, Methodologies, and Cost-Based Rates for Interconnection and Unbundling of BellSouth Telecommunications Services, Before The Georgia Public Commission, Docket No. 7061-U, Rebuttal Testimony of Dr. Randall S. Billingsley, August 29, 1997, p. 50, at 17-20.
- ¹³ "Call Them On It! 4 Questions the Long-Distance Companies Don't Want You To Ask", United States Telephone Association.
- ¹⁴ The conclusions of this hypothetical would continue to hold if one alternatively assumed that BellSouth and GTE were equally efficient and competitive, and that the market became much more competitive due to the entry of several new competitors.
- ¹⁵ In Re Review of Cost Studies, Methodologies, and Cost-Based Rates for Interconnection and Unbundling of BellSouth Telecommunications Services, Before The Georgia Public Commission, Docket No. 7061-U, Rebuttal Testimony of Dr. Randall S. Billingsley, August 29, 1997, p. 60, at 13.
- ¹⁶ Dr. Billingsley fails to mention that Professor Sharpe won the Nobel prize for his work in developing this "pristine theory".
- ¹⁷ Ibbotson Associates, *Stock, Bonds, Bills and Inflation, 1996 Yearbook*, Chicago, pg. 148.

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- ¹⁸ In Re Review of Cost Studies, Methodologies, and Cost-Based Rates for Interconnection and Unbundling of BellSouth Telecommunications Services, Before The Georgia Public Commission, Docket No. 7061-U, Rebuttal Testimony of Dr. Randall S. Billingsley, August 29, 1997, p. 13, at 15-21.
- ¹⁹ Kuhn, Susan E. "Personal Fortune: Why Bonds May Beat Stocks", *Fortune*, October 28, 1996.
- ²⁰ "Will Investors Run for Cover? When the Rain Comes", *The Economist*, vol. 345, October 25, 1997.
- ²¹ In the Matter of Represcribing the Authorized Rate of Return for Interstate Services of Local Exchange Carriers. FCC 90-315, Adopted September 19, 1990; Released December 7, 1990. ¶'s 136 & 139, p. 7523

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