

BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

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In the Matter of : DOCKET NO. 990649-TP
:
INVESTIGATION INTO PRICING :
OF UNBUNDLED NETWORK :
ELEMENTS. :

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VOLUME 2

Pages 156 through 318



PROCEEDINGS: HEARING
BEFORE: CHAIRMAN J. TERRY DEASON
COMMISSIONER E. LEON JACOBS, JR.
COMMISSIONER LILA A. JABER
DATE: Monday, July 17, 2000
TIME: Commenced at 9:30 a.m.
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I N D E X

WITNESSES

3	NAME:	PAGE NO.
4	DR. RANDALL S. BILLINGSLEY	
5	Stipulated Prefiled Direct Testimony Inserted	160
6	Stipulated Prefiled Rebuttal Testimony Inserted	199
7		
8	W. KEITH MILNER	
9	Stipulated Prefiled Direct Testimony Inserted	226
10	Stipulated Prefiled Rebuttal Testimony Inserted	254
11	DENNIS B. TRIMBLE	
12	Stipulated Prefiled Direct Testimony Inserted	264
13	Additional Stipulated Prefiled Direct Testimony Inserted	296
14	Stipulated Prefiled Rebuttal Testimony Inserted	307
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

1 INDEX CONTINUED:

2 EXHIBITS

3	NUMBER:	ID.	ADMTD.
4	40 RSB-1 through RSB-17	159	159
5	41 WKM-1	225	225
6	42 DBT-1 through 4	263	263

7

8

9 CERTIFIED OF REPORTER 318

10

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P R O C E E D I N G S

1
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MS. KEATING: Next is BellSouth's Witness Billingsley.

CHAIRMAN DEASON: Witness Billingsley's prefiled testimony without objection shall be inserted into the record.

MS. KEATING: And Witness Billingsley had Exhibits RSB-1 through RSB-17.

CHAIRMAN DEASON: Those exhibits shall be identified as Composite Exhibit 40.

MS. WHITE: Pardon me, Chairman Deason. We have a few minor changes to Mr. Billingsley's testimony. I don't know whether you want me to read those into the record now or not, or just give them in writing.

CHAIRMAN DEASON: Can you provide that in the form of an errata sheet?

MS. WHITE: We can do that.

CHAIRMAN DEASON: And that errata sheet will become part of Composite Exhibit 40.

MS. WHITE: We will be happy to do that.

CHAIRMAN DEASON: And without objection Composite Exhibit 40 shall be admitted.

(Exhibit Number 40 marked for identification and entered into the record.)

1 **BELLSOUTH TELECOMMUNICATIONS, INC.**

2 **BEFORE THE**

3 **FLORIDA PUBLIC SERVICE COMMISSION**

4 **DOCKET NO. 990649-TP**

5 **DIRECT TESTIMONY OF**

6 **DR. RANDALL S. BILLINGSLEY, CFA**

7 **MAY 1, 2000**

8

9 **I. INTRODUCTION**

10

11 **Q. Please state your name, occupation, and business address.**

12 A. My name is Randall S. Billingsley. I am a finance professor at Virginia Polytechnic
13 Institute and State University. I also act as a financial consultant in the areas of cost of
14 capital analysis, financial security analysis, and valuation. More details on my
15 qualifications may be found in Billingsley Exhibit No. RSB-11. My business address is:
16 *Department of Finance, Pamplin College of Business, Virginia Polytechnic Institute and*
17 *State University, Blacksburg, Virginia 24061-0221.*

18

19 This testimony presents my independent professional opinions and is not presented by me
20 as a representative of Virginia Polytechnic Institute and State University.

21

22 **Q. Have you prepared exhibits to accompany this testimony?**

1 A. Yes, my testimony and eleven exhibits were prepared by me or under my direction and
2 supervision.

3

4 **II. PURPOSE OF DIRECT TESTIMONY AND SUMMARY OF CONCLUSIONS**

5 **A. PURPOSE OF TESTIMONY**

6

7 **Q. What is the purpose of your direct testimony in this proceeding?**

8 A. My purpose is to provide the Florida Public Service Commission (Commission) with a
9 determination of the forward-looking costs of capital for BellSouth Telecommunications
10 Corporation (BST). Specifically, I provide evidence concerning the firm's forward-looking
11 cost of equity, cost of debt, and overall cost of capital. In so doing I also evaluate the
12 reasonableness of BST's use of an overall cost of capital of 11.25% in its cost studies. I
13 consequently provide the Commission with evidence useful in preparing and interpreting
14 unbundled network element (UNE) cost studies for BST in the state of Florida.

15

16 **B. SUMMARY OF BST COST OF CAPITAL ANALYSIS**

17

18 **Q. Please describe the approaches that you use to determine BST's capital costs and**
19 **summarize your conclusions.**

20 A. My analysis uses objective market data to determine BST's cost of equity capital from two
21 distinct but complementary approaches. Since BST is a subsidiary of BellSouth
22 Corporation, it does not have equity trading in the market. Thus, there is no direct market
23 evidence on BST's cost of equity capital. It is consequently necessary to infer BST's cost of

1 equity using available market data for firms comparable in risk to that of BST.

2
3 In the first approach I apply the discounted cash flow (DCF) model to a group of firms
4 identified as comparable in risk to BST. An average cost of equity capital is calculated by
5 applying the DCF model to this group of comparable firms in order to provide an objective,
6 market-determined cost of equity capital for BST. In the second approach, I apply the
7 capital asset pricing model (CAPM) to estimate BST's cost of equity capital using the same
8 group of publicly traded firms that are comparable in risk to BST. I also conduct a risk
9 premium analysis that uses data on capital market expectations to corroborate the
10 reasonableness of BST's estimated cost of capital.

11
12 The cost of equity for BST is in the range of 15.35% to 15.37% using the comparable firm
13 group DCF model approach. The CAPM approach indicates that BST's cost of equity
14 capital is in the range of 15.56% to 15.68%. The risk premium approach indicates that the
15 expected return on the overall equity market, as measured by the Standard and Poor's
16 Composite 500 Index (S&P 500), is currently between 15.05% and 15.18%. Billingsley
17 Exhibit No. RSB-1 explains how my analytical approaches are consistent with well-
18 accepted regulatory and economic standards in cost of capital analysis. From these
19 analyses, I conclude that the current cost of equity capital for BST is within the range of
20 15.35% and 15.68%.

21
22 My analysis determines the cost of debt for BST to be 7.80% and the market value-based

1 capital structure to consist of 9.83% debt and 90.17% equity. Combining these capital
2 structure weights and the average cost of the debt with the above cost of equity estimates
3 produces an overall cost of capital for BST in the range of 14.61% to 14.91%.

4
5 **C. REASONABLENESS OF BST'S USE OF AN OVERALL COST OF**
6 **CAPITAL OF 11.25%**

7
8 **Q. Please describe how you evaluate the reasonableness of BST's use of an overall cost of**
9 **capital of 11.25% in its cost studies and summarize your findings.**

10 A. I rely on my estimated equity and debt costs along with a market value-based capital
11 structure to estimate an overall cost of capital for BST in the range of 14.61% to 14.91%.
12 This indicates that the use of an 11.25% rate in its cost studies understates BST's forward-
13 looking overall cost of capital by 336 to 366 basis points. Therefore, BST's use of an
14 11.25% cost of capital in its cost studies is reasonable and quite conservative.

15
16 **D. ORGANIZATION OF DIRECT TESTIMONY**

17
18 **Q. How is the rest of your testimony organized?**

19 A. Section III of my testimony overviews the current status of competition in the
20 telecommunications industry in the United States in general and Florida in particular to
21 provide insight into the context in which capital costs are estimated. Sections IV-VII
22 describe the methods that I use to estimate BST's current capital costs and present my
23 specific findings. Section VIII presents my estimate of BST's overall cost of capital and

1 evaluates the reasonableness of its use of 11.25% as its cost of capital in its cost studies.
2 Finally, section IX shows the impact of ignoring the appropriate adjustments for flotation
3 costs and the quarterly payment of dividends on BST's capital costs. It also shows the
4 impact of incorrectly relying on a book value-based capital structure for BST.

5
6 **III. CURRENT STATUS OF COMPETITION IN THE TELECOMMUNICATIONS**
7 **INDUSTRY**

8 **A. TRENDS IN THE UNITED STATES**
9

10 **Q. What is the current status of competition in the telecommunications industry?**

11 A. Competition in the telecommunications industry has increased dramatically in recent years.
12 The sources of that increased competition include a greater threat of new entrants in the
13 industry, a significant increase in the number and strength of existing competitors, a greater
14 threat of substitute telecommunications products and services, more intense rivalry among
15 existing competitors in the industry, and enhanced regulatory risk at both the state and the
16 federal levels. Thus, both actual and potential competition has increased and the business
17 risk of the industry has consequently increased.

18
19 A recent study by the Federal Communications Commission (FCC) documents the
20 significant and growing trend toward greater competition in the local telephone exchange
21 market by observing at least three trends in reported revenue data (see *Local Competition:*
22 *August 1999*, Industry Analysis Division, Common Carrier Bureau, Federal

1 Communications Commission, August 31, 1999, p. 1):

- 2 • First, the nationwide revenue market share of carriers identifying themselves as
3 primarily CLECs [competitive local exchange carriers] or CAPs [competitive
4 access providers] has continued to increase, to 2.4% of local service revenues in
5 1998.
- 6 • Second, local exchange service revenues of “other” carriers (local resellers, shared
7 tenant service providers, private carriers, payphone providers, toll carriers that
8 reported local revenues, etc.) have grown rapidly, to 1.1% of 1998 nationwide
9 local service revenues.
- 10 • Third, therefore, the fringes of the local market are being nibbled by firms of
11 substantial size (primarily long distance and wireless carriers with billions of
12 dollars of non-local revenues).

13 Standard & Poor’s (*Industry Surveys, Telecommunications: Wireline*, September 30, 1999,
14 pp. 10-11) emphasizes much the same point:

15 Competitive local exchange carriers (CLECs) increased their number of customer
16 switched lines to about 4.5 million in 1998 ... The top 10 CLECs have switches in 132
17 cities in 33 states, nearly all of which have been installed since the act was passed.

18
19 What investors believe about the future level of competition that the incumbent local
20 exchange carriers (ILECs) will face is critical to cost of capital analysis. Investors’
21 expectations of competition and its impact on risk are what are reflected in the capital costs
22 faced by the ILECs in general and BST in particular.

1 environment and thus magnify the business risk of all ILEC operations. This growing risk
2 is increasing the ILECs' cost of raising capital.

3
4 **Q. Has the business risk of the telecommunications industry increased in recent years
5 and is it expected to continue increasing in the future, especially due to the passage of
6 and uncertainties in implementing the Telecommunications Act of 1996?**

7 **A.** Yes. The passage of the Telecommunications Act and responses to its passage dramatically
8 indicate that business risk has been increasing and will increase even more in the future.
9 The Act, which was signed into law by President Clinton on February 8, 1996, creates a
10 mechanism that has allowed local, long-distance, and cable companies to get into one
11 another's businesses. Thus, the traditional barriers that separated these industry sectors are
12 now being dropped. While market pressures have been eroding these limits in recent years,
13 the various competitors are now moving forward rapidly. However, open competition
14 brings a significant increase in risk.

15
16 The passage of the Telecommunications Act is apparently viewed as risky by investors,
17 competing telecommunications firms, and by the FCC. Indeed, the FCC has observed:

18 ... [I]ncumbent LECs face potential competition as a result of the Act that they did not
19 face previously. This potential competition could increase the risks facing the
20 incumbent LECs, and thus increase their cost of capital, thus mitigating, to some
21 extent, the factors suggesting that incumbent LECs' cost of capital has decreased
22 since 1990 (Notice of Proposed Rule Making, Third Report and Order, and Notice of
23 Inquiry, FCC 96-488, December 24, 1996, p. 101, paragraph 228).

1 The implication is that investors are requiring higher rates of return to compensate for the
2 higher investment risk resulting from the new competitive environment fostered by the
3 ongoing implementation of the Telecommunications Act.

4
5 **Q. Does the investment community believe that business risk in the telecommunications**
6 **has increased in a way that has significantly increased capital costs?**

7 A. Yes. Consider the following observation by CIBC World Markets Corporation in its
8 “February Telecom Monthly” (Timothy Horan, CFA, Cannon Carr, Steve Kamman, and
9 James Stanzler, electronic release, February 2, 2000): “With all of the massive changes in
10 the industry – technological, regulatory, competitive—the risk premium has risen.” A
11 higher risk premium for telecommunications firms implies higher equity capital costs.
12 Thus, this comment corroborates that the investment community believes that the riskiness
13 of the telecommunications industry and its equity capital costs have risen.

14
15 **Q. How have recent mergers and acquisitions changed the nature of competition in the**
16 **telecommunications industry?**

17 A. Numerous dramatic recent mergers and acquisitions have significantly increased the degree
18 of competition among telecommunications firms and in so doing have increased the risks
19 faced by industry investors. This implies that investors must increase their return
20 requirements in order to be adequately compensated for the increased riskiness of holding
21 telecommunications stocks.

1 Consider the following key mergers and acquisitions, consummated or pending, in the
2 industry over the last few years: MCI WorldCom / Sprint, SBC Communications /
3 Ameritech, US West / Qwest, Global Crossing / Frontier, AT&T / MediaOne, AT&T /
4 Tele-Communications (TCI), Bell Atlantic / GTE, WorldCom / MCI Communications,
5 WorldCom / MFS Communications, Vodaphone Group / AirTouch Communications, SBC
6 Communications / Southern New England Telephone (SNET), SBC Communications /
7 Ameritech, Alltel / 360° Communications, SBC Communications / Pacific Telesis, MCI
8 Communications / Brooks Fiber Properties, WorldCom / UUnet Technologies, AT&T /
9 McCaw Cellular, and AT&T / Teleport Communications. Further, these explicit mergers
10 and acquisitions do not reflect the numerous strategic alliances within the
11 telecommunications industry that have altered the competitive landscape. A recent example
12 of this is BellSouth and SBC's recent announcement (April 5, 2000) to combine their
13 wireless units.

14
15 A particularly important competitive development is AT&T's strategic relationship with
16 Time Warner to offer cable telephony. AT&T Chairman and Chief Executive Officer C.
17 Michael Armstrong describes it as follows ("AT&T and Time Warner Form Strategic
18 Relationship to Offer Cable Telephony," AT&T News Release, February 1, 1999):

19 Together with our merger with Tele-communication, Inc. (TCI) and agreements with
20 five TCI affiliates, the Time Warner joint venture will enable AT&T to reach more
21 than 40 percent of U.S. households over the next four to five years. In addition, we
22 look forward to working with Time Warner in the delivery of next-generation

1 broadband communications services.

2 This joint venture gives AT&T the exclusive right to offer residential and small business
3 telephony services over Time Warner's cable systems for the next twenty years. The **Wall**
4 **Street Journal** reports that "[t]he Time Warner pact is aimed at helping AT&T sidestep the
5 regional phone companies ..." ("AT&T, Time Warner in Cable-TV Accord," Leslie Cauley
6 and Rebecca Blumenstein, February 2, 1999, p. A3). Thus, this strategic alliance is an
7 important example of how the competitive position of ILECs like BST within the
8 telecommunications industry is being eroded, thereby increasing its business risk and
9 attendant capital costs.

10

11 The increasing risk that telecommunications investors are facing results not only from the
12 competitive implications of pending mergers and acquisitions but from the additional
13 uncertainty associated with the often lengthy regulatory approval process. For example, the
14 impending SBC / Ameritech merger that was announced in May of 1998 has not yet at this
15 writing received final approval by regulators. Such regulatory uncertainty enhances
16 investment risk in the industry.

17

18 **Q. Is there any evidence that consumers are using wireless technology to bypass**
19 **traditional ILEC wireline telephone services?**

20 A. Yes. There is growing evidence that wireless is becoming a viable substitute for the
21 traditional telephone services offered by the ILECs. A national survey by The Yankee
22 Group reported in **USA Today** ("Callers Favor Cell Over Home Phones," November 23,

1 1999, by Steve Rosenbush, obtained from the Internet at <http://usatoday.com/life/cyber/tech/review/crg209.htm>) notes the following:

3 A growing number of consumers are disconnecting their home phones and using their
4 wireless phones instead, according to one of the first national survey quantifying the
5 trend. ...

6
7 The survey is another signal that this one-time luxury is moving into the mainstream
8 as prices continue dropping an average 30% a year. In fact, the cost of using a
9 wireless phone is often comparable to a regular local line if you include voice mail
10 and Caller ID, which wireless users often get free.

11
12 The survey from consultants The Yankee Group shows:

- 13 • 2% of all U.S. wireless customers use their wireless as their only phone, up from
14 an unmeasurable handful in 1998.
- 15 • Customers have shifted about 12% of their regular calls to wireless. ...

16
17 Even people who don't give up their land line are using wireless more The number of
18 wireless subscribers in the USA, now estimated at 72 million, will double during the
19 next four years. But traffic on the nation's wireless networks will soar to 554 billion
20 minutes in 2004 from 105 billion minutes in 1998 ...

21
22 The above survey by The Yankee Group indicates that wireless is increasingly competing

1 with traditional wireline telephone services as a cost-effective substitute. This implies that
2 the ILECs face an increasing risk of revenue loss due to the bypass of their local loops
3 through wireless telephony.

4
5 **Q. Does the regulatory process pose investment risks to the ILEC industry?**

6 A. Yes. Regulatory constraints can severely limit the ability of the ILECs to adapt quickly to
7 the increasing competition within the telecommunications industry. Further, the uncertainty
8 about how regulations will actually be applied to the ILECs also imposes risks. For
9 example, the uncertainties concerning how the Telecommunications Act will continue to be
10 implemented have increased the riskiness of investing in the ILEC business. A number of
11 regulatory issues remain unsettled at both the state and federal levels in key areas such as
12 universal service support, separations reform, and access charge structural changes. While
13 regulators must take the time to carefully evaluate and settle these complex regulatory
14 issues, BST must nonetheless adapt to the uncertainties concerning what regulations it will
15 ultimately face. Yet planning to meet such uncertainties requires expenditures that enhance
16 investment risk.

17
18 Consider that the Supreme Court only last year (January 25, 1999) overturned a lower court
19 decision that the Telecommunications Act of 1996 contains unconstitutional provisions
20 restricting the regional Bell operating companies (RBOCs) from entering the long-distance
21 telephone market. While the judicial review of the Act contributed to the regulatory
22 uncertainty faced by the ILECs, the Supreme Court's ultimate decision did not end the

1 uncertainty concerning how the FCC will proceed with its implementation of the Act.
2 Indeed, even though the overall stock market closed higher the day that the Supreme Court
3 decision was announced, the share prices of the RBOCs generally fell in response to the
4 decision. For example, the shares of BellSouth fell almost 12%, Bell Atlantic fell almost
5 8%, SBC fell 4.26%, and Ameritech fell a bit over 1%. Further, state regulators have
6 enacted a variety of differing regulations in light of the uncertainty at the federal level.
7 Thus, significant uncertainty remains concerning how the ILECs will be regulated during
8 this period of vast structural change in the telecommunications industry. This is particularly
9 true in the FCC's decision to block any and all of the ILECs from entering the in-region,
10 long-distance market until just recently. While other firms are supposedly close to entering
11 the long-distance market, only Bell Atlantic has received approval, which was at the end of
12 last year and only in New York to date. Such uncertainty has contributed to the increasing
13 business risk in the industry and has increased BST's capital costs.

14
15 In a filing before the FCC last year Dr. William E. Avera explains that regulatory decisions
16 can lead to unintended consequences for an industry. Specifically, he discusses how past
17 regulatory policies have enhanced the risks posed to the ILECs' during the current
18 transition to competition (see Comments of Dr. William E. Avera, CFA, CC Docket No.
19 98-166, Filed on Behalf of the United States Telephone Association, et. al., January 19,
20 1999):

21 As a result of past regulatory policies, those customers who are less costly to serve
22 due to location or other characteristics subsidize the service provided to higher-cost
23 subscribers. With the introduction of competition, the ILECs face particularly intense

1 rivalry for access to high-volume customers, and because of previous pricing
2 practices, the loss of these principally business users will lead to revenue shortfalls
3 and undermine the adequacy of the rates charged other customers.
4

5 Regulation creates another problem for the ILECs if they have a continuing obligation
6 to serve all customers – even when it means facilitating the entry of competitors for
7 their core business. Thus, ILECs are put into the position of having to invest in access
8 facilities requested by potential competitors with no assurance that they will have an
9 opportunity to recover a return on or a return of the original capital investment (pp. 16
10 – 17).

11 Thus, ILECs like BST currently face significant competitive and regulatory risks that
12 contribute to higher capital costs.
13

14 **Q. Does the regulatory framework favor new entrants into the telecommunications**
15 **industry in general and into the local exchange market in particular to the**
16 **competitive disadvantage of ILECs like BST?**

17 **A.** Yes. The regulatory framework greatly favors new entrants in a way that places ILECs like
18 BST at a severe competitive disadvantage. This is reinforced by the following comments in
19 a recent investment analysis report by Banc of America Securities (“BroadBand Brief - The
20 Incumbent Taint,” Douglas S. Shapiro, February 15, 2000, p. 2):

21 Insurgents have a regulatory leg up. ... For instance, the 14-point checklist that
22 RBOCs [regional Bell operating companies] must meet before getting their ... filings

1 approved is obviously an institutionalized attempt to force them to give a hand to
2 insurgents. Perhaps more insidious is the existence of universal service rules, which
3 force only the incumbent phone providers to subsidize unprofitable customers while
4 insurgents are free to cherry pick the most profitable subscribers.

5 Thus, ILECs like BST have been placed at a competitive disadvantage relative to new
6 industry entrants (“insurgents”) by current regulatory practices, which increase BST’s
7 business risks and capital costs.

8

9 **B. COMPETITION IN THE STATE OF FLORIDA**

10 **1. CURRENT COMPETITION**

11 **Q. What is the current status of competition in the local exchange market within BST’s**
12 **Florida service area?**

13 **A.** While the growth in the actual amount of competition in the current market in Florida is
14 enormous, the amount of potential and expected future competition is even more
15 impressive. BST’s business risk in Florida is strongly influenced by both actual and
16 potential competition. The firm must deploy significant resources and bear great risk to
17 adapt to this ever-growing competition. I will first describe the current degree of actual
18 competition in Florida and then discuss the evidence of growing future competition and its
19 business risk implications.

20

21 BST documents a highly competitive local exchange service market within its Florida
22 service area using data compiled as of June 30, 1999 (see filing in this docket, Direct
23 Testimony of Alphonso J. Varner, Florida Fact Report, Exhibit AJV-4). In describing

1 current facilities-based and resale alternative local exchange company (ALEC) activity by
2 wireline competitors within Florida, it is noted that (p. 2):

3 ... some 127 wireline ALECs are currently providing over 200,000 local exchange
4 service lines to both residential and business customers in Florida through all the
5 methods outlined in the 1996 Telecommunications Act. Over 10,000 ALEC lines are
6 currently in service utilizing BST-provided unbundled network elements to connect
7 the customer's location to the ALEC's wireline switch. BST estimates that, in total,
8 over 75,000 wireline ALEC local lines, including over 10,000 wireline residential
9 lines, are provided exclusively over the ALECs' own facilities. In addition, ALECs
10 are utilizing BST's resale offerings to provide over 126,000 lines to their Florida
11 customers.

12 Indeed, the Report concludes with the important observation that (p. 28):

13 ... BST has lost over a million Florida customers who have selected a competitor as
14 their intraLATA long distance service provider. Wireless services increasingly
15 replace traditional wireline local exchange services. The Florida local exchange
16 service market is, without question, irreversibly open to competition.

17
18 **Q. Would you give some examples of firms that are currently competing with BST in**
19 **providing local exchange service within Florida?**

20 A. Yes. In June of 1999, there were about 40 wireline facilities-based ALECs competing
21 with BST in Florida. These ALECs were providing over 75,000 local exchange service
22 lines in the state using their own networks. About 10,000 of these facilities-based lines

1 provided wireline local exchange service to residential customer. The above-noted
2 Florida Fact Report (Exhibit AJV-4, pp. 15 - 26) describes these facilities-based ALECs
3 in Florida in detail. The companies include MCI WorldCom, AT&T Local Services,
4 Intermedia Communications, Teleport Communications Group (TCG), MediaOne, e.spire
5 Communications, and NextLink Communications.

6 7 **2. EXPECTED FUTURE COMPETITION**

8
9 **Q. Is there evidence of significant expected future competition in BST's local exchange
10 service area in Florida?**

11 **A.** Yes. Expected future competition may be measured by two key indicators. The first is the
12 number of requests for certification for competitive local exchange service authority from
13 the Commission. The second is the announced intentions of firms to construct and operate
14 network facilities for providing facilities-based local exchange services to customers in
15 Florida.

16
17 As of June of 1999, over 300 companies had requested certification for local exchange
18 service authority from the Commission. As noted by BST in other testimony filed in this
19 docket (Florida Fact Report, Exhibit AJV-4, pp. 2-3):

20 Of the more than 300 companies, over 80% of the applicants have been approved by
21 the FPSC and granted authority to provide competitive local exchange services within
22 the state. Additionally, over 50 applications were pending with the FPSC. This does
23 not take into consideration any wireless facilities-based local exchange service

1 providers currently providing local exchange services to Florida business and
2 residential customers utilizing PCS spectrum. These companies fall under the
3 jurisdiction of the FCC and do not require certification by the FPSC.

4 An interconnection agreement between BST and the ALEC must be completed after the
5 ALEC is certified by the Commission. Over 350 ALECs in Florida have signed
6 interconnection agreements with BST. Thus, the number of certifications granted by the
7 Commission and the number of effected interconnection agreements between BST and
8 ALECs suggest significant potential and expected future competition in the provision of
9 local exchange service in BST's Florida market.

10
11 In addition to the ALECs currently competing with BST in Florida, a number of ALECs
12 have announced their intentions to construct and operate network facilities-based local
13 exchange services in the state. Among the most notable are Frontier Local Services, Level
14 3 Communications, and NorthPoint Communications. Such clearly stated plans imply ever-
15 increasing future competition in BST's local exchange market. The dramatic increase in
16 both actual and potential competition has significantly increased BST's business risk in
17 Florida. This is putting upward pressure on BST's capital costs as the firm seeks to
18 adequately compensate investors for such higher risk.

19 20 **IV. DCF MODEL ESTIMATES OF BST'S COST OF EQUITY CAPITAL**

21 **A. FORM OF THE DCF MODEL USED IN THE ANALYSIS**

22

1 **Q. What form of the DCF model do you use to estimate BST's cost of equity capital?**

2 A. I use the constant growth form of the DCF model that assumes an indefinite or infinite
3 holding period. Since most U.S. firms pay dividends quarterly, I use the quarterly form of
4 the DCF model under the realistic assumption that such dividends are changed by firms
5 once a year, on average in the middle of the year. Specifically, the cost of equity K is
6 calculated as:

$$8 \quad K = [(D_0^q (1 + G)) / P_{\text{mkt}}] + G = [D_1^q / P_{\text{mkt}}] + G,$$

9
10 where G is the most recent average five-year earnings per share growth rate projected by
11 analysts, as reported by either Zacks Investment Research Inc. (Zacks) or by the IBES, and
12 P_{mkt} is the average of the three most recent months (December of 1999 to February of 2000)
13 of high and low prices for the equity. D_0^q and D_1^q reflect the most recent annual and the
14 anticipated next year amount of quarterly dividends, respectively. D_1^q is calculated as:

$$16 \quad D_1^q = d_1 (1 + K)^{.75} + d_2 (1 + K)^{.5} + d_3 (1 + K)^{.25} + d_4,$$

17
18 where d_1 and d_2 are the quarterly dividends paid prior to the assumed yearly change in
19 dividends and d_3 and d_4 are the two quarterly dividends paid after the given change in the
20 amount paid by a firm. Thus, dividend D_1^q captures the quarterly payment of dividends that
21 grow at rate G.

22
23 In order to reflect the effect of flotation costs on the cost of equity, I directly reduce the

1 market price P_{mkt} used in my analysis by a conservative 5 percent. Billingsley Exhibit No.
2 RSB-2 elaborates on the nature and applicability of the DCF model in estimating the cost
3 of capital in regulatory proceedings. It also discusses the importance of adjusting for both
4 the payment of quarterly dividends and for flotation costs.

5
6 **B. SPECIFIC APPLICATION OF THE DCF MODEL TO ESTIMATE**
7 **BST'S COST OF EQUITY**

8
9 **Q. Specifically how do you apply the above DCF model to BST, since it does not have**
10 **equity trading in the marketplace?**

11 A. Since BST is part of its parent holding company, BellSouth Corporation, it does not have
12 equity trading in the market. It is consequently necessary to infer BST's cost of equity by
13 applying the DCF model to a group of firms identified as comparable in risk to the
14 company.

15
16 **Q. What method is used to identify firms of comparable risk to BST?**

17 A. I use a cluster analysis model to identify firms that are comparable in risk to BST. The two
18 broad dimensions of the risk that a firm faces are used to compare firms. First, the financial
19 risk of firms is measured and used as a basis of comparison. Second, business or operating
20 risk is compared among firms. These dimensions are, in effect, averaged in a manner that
21 generates a comprehensive risk profile. Thus, firms are not just compared on a
22 characteristic-by-characteristic basis; they are compared in light of those chosen

1 characteristics and the relationship among those characteristics.

2

3 A summary measure expresses the distance between each firm and BST. A group of the 20
4 firms that are closest to BST in terms of this summary distance measure is chosen for
5 analysis. A more detailed discussion of this cluster analysis is contained in Billingsley
6 Exhibit No. RSB-4.

7

8 **Q. How do the individual measures of riskiness relate to the comparability of the group**
9 **of firms in the cluster in terms of overall riskiness?**

10 A. It may be tempting to single out one company in my cluster of comparable firms and
11 incorrectly attempt to compare its various risk measures individually to those of BST.
12 However, none of the individual companies identified in the cluster are precisely like BST
13 in every respect. The firms are alternative investment opportunities that, in the aggregate,
14 have overall risk similar to that of BST.

15

16 In summary, none of the individual firms in my cluster are precisely like BST in terms of
17 each individual measure of risk. The cluster should be viewed as a portfolio of firms that,
18 as a group, are comparable in risk to BST.

19

20 **C. DCF MODEL COST OF EQUITY ESTIMATES FOR BST**

21

22 **Q. What cost of equity capital do you estimate for BST using the DCF model?**

23 A. Billingsley Exhibit No. RSB-3 lists the portfolio of 20 firms that are comparable in risk to

1 BST and reports the average cost of equity for the portfolio using both IBES and Zacks
2 growth rate forecasts. The evidence indicates that the cost of equity for BST is in the range
3 of 15.35% to 15.37%.

4
5 **V. CAPITAL ASSET PRICING MODEL ANALYSIS OF BST'S COST**
6 **OF EQUITY CAPITAL**

7
8 **Q. What form of the CAPM do you use to estimate BST's cost of equity capital?**

9 A. I use the common form of the model, which calculates the risk-adjusted rate of return K as:

10
11
$$K = R_f + \beta [R_m - R_f],$$

12

13 where R_f is the expected return on a risk-free security like a U.S. Treasury bond, β is the
14 expected beta or systematic risk of the equity security, and R_m is the expected return on a
15 broad index of equity market performance like the S&P 500.

16
17 **Q. How and where do you obtain the beta coefficient data needed to estimate BST's cost**
18 **of equity capital using the CAPM?**

19 A. Since BST is a subsidiary of BellSouth Corporation, it does not have its own equity trading
20 in the market and therefore does not have the beta coefficient required by the CAPM.
21 Thus, as discussed above in my DCF analysis, it is necessary to identify a group of firms
22 comparable in risk to BST that do have traded equity and therefore measurable beta

1 coefficients. Consequently, the beta coefficients for the group of firms used in my DCF
2 analysis that are identified in Billingsley Exhibit No. RSB-3 are relied on to estimate the
3 cost of equity for BST. Specifically, the average beta of 0.73 for the group of firms is used
4 in the CAPM equation presented above.

5
6 The beta coefficients used in my CAPM analysis are the most recent prospective measures
7 supplied by BARRA, a widely recognized provider of financial data and decision support
8 systems for institutional investors. Billingsley Exhibit No. RSB-5 elaborates on the nature
9 and significance of using prospective rather than historical beta estimates.

10
11 **Q. How do you estimate the risk-free rate of return needed in the CAPM equation?**

12 A. In order to be consistent with the expectational emphasis of the CAPM, I use the 6.65%
13 average expected yield implied by the prices of the Treasury bond futures contracts quoted
14 during February of 2000. The prices of these contracts reflect the market's consensus
15 forecast of long-term, low-risk interest rates. Billingsley Exhibit No. RSB-6 describes the
16 futures contracts used in the analysis in more detail and shows the calculations necessary to
17 derive the implied expected future risk-free rate of return.

18
19 **Q. How do you estimate the expected return on a broad index of equity market
20 performance for use in the CAPM?**

21 A. I use expectational data to estimate the return of the S&P 500 as my proxy for overall
22 equity market performance. Billingsley Exhibit No. RSB-7 elaborates on how the DCF
23 model is applied to estimate the expected return on the S&P 500 using both Zacks and

1 IBES growth rate forecasts. The expected return during the most recent month (February of
2 2000) for which data is available is used in the CAPM analysis.

3
4 **Q. What cost of equity capital do you estimate for BST under the CAPM approach?**

5 A. Summarizing the results of the above analysis, I use a risk-free rate of return of 6.65%, an
6 average beta of 0.73 for firms comparable in risk to BST, and IBES and Zacks growth rate
7 estimates that imply an expected return on the S&P 500 of 19.02% and 18.85%,
8 respectively. These objective, market-determined data indicate that BST's cost of equity
9 capital is 15.68% using the IBES growth rate and 15.56% using the Zacks growth rate
10 forecast.

11
12 **VI. MARKET RISK PREMIUM ANALYSIS OF THE COST OF**
13 **EQUITY CAPITAL**

14 **A. NATURE OF THE APPROACH**

15
16 **Q. What is the market risk premium approach?**

17 A. The market risk premium approach quantifies the risk/return trade-off discussed in detail in
18 Billingsley Exhibit No. RSB-1 on the economic standards used in cost of equity analysis.
19 The equity market risk premium is defined as the difference between the return on a broad
20 basket of equity securities (the "market") and the return on a low-risk or "riskless"
21 benchmark security or portfolio. The return on long-term U.S. Treasury bonds and the
22 return on utility bonds are common benchmarks. I use the risk premium approach to

1 confirm the reasonableness of my DCF and CAPM cost of equity estimates for BST.

2
3 **B. SPECIFIC TYPE OF RISK PREMIUM ANALYSIS USED**

4
5 **Q. What specific form of the risk premium approach do you use?**

6 A. I use a prospective approach to estimate the equity risk premium because the DCF model
7 and the CAPM are prospective in nature. I examine the relationship between expected
8 returns on the S&P 500, as estimated by the DCF model using IBES growth rate forecasts,
9 and the current market yields on public utility bonds from October of 1987 to February of
10 2000. Additional detail on the issues and the techniques associated with calculating the
11 expected return on the market is presented in Billingsley Exhibit No. RSB-7.

12
13 Billingsley Exhibit No. RSB-8 shows that the average expected risk premium from 1987 to
14 2000 is 7.34%. The average yield on Aaa-rated public utility bonds, which are used because
15 this is the bond rating on BST's debt, over the most recent three months (December of
16 1999 to February of 2000) is 7.84%. Thus, the average risk premium of 7.34% is added to
17 the recent average public utility bond return of 7.84% to yield an expected cost of equity
18 return on the S&P 500 of 15.18%.

19
20 **C. ADJUSTMENT FOR POTENTIAL INSTABILITY IN THE**
21 **RISK PREMIUM**

22 **1. EVIDENCE ON THE INSTABILITY OF RISK PREMIUMS**
23 **OVER TIME**

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Q. Can any instability in the risk premium be adjusted for so as to increase the confidence in its representativeness?

A. Yes. As elaborated on in Billingsley Exhibit No. RSB-7, studies of the historical behavior of the equity risk premium indicate that it varies considerably over time. Importantly, there is evidence that the equity risk premium is related inversely to the returns on low-risk benchmark debt securities. Thus, when interest rates decline, the equity risk premium widens and when interest rates rise, the equity risk premium narrows.

Research on this phenomenon by Professors R. S. Harris and F.C. Marston, published in **Financial Management** in 1992, finds that the equity risk premium moves an average of -0.651 of contemporaneous changes in the return on a benchmark low-risk security (index). In other words, if interest rates decline by 100 basis points, the equity risk premium will increase by an average of about 65 basis points.

2. SPECIFIC ADJUSTMENT FOR INSTABILITY IN THE EQUITY RISK PREMIUM

Q. What specific adjustment do you make to your risk premium analysis in light of the above evidence on the inverse relationship between the risk premium and the level of interest rates?

1 A. During the period of Harris and Marston's study, the average risk premium was 6.47% and
2 the average yield on long-term Treasury bonds was 9.84%. As noted above, the equity
3 market risk premium is expected to change an average of -.651 of changes in the level of
4 long-term Treasury bond yields. Given that the current yield on 30-year Treasury bonds is
5 6.23% (February of 2000), the appropriate current risk premium is 8.82%. This is
6 calculated by multiplying the 3.61% decline in rates since the time period of Harris and
7 Marston's study by -.651 and adding back the average risk premium of 6.47% to the
8 indicated change of 2.35%. This alternative approach consequently provides an expected
9 return on the S&P 500 of 15.05%, which is the current average level of 30-year Treasury
10 yields of 6.23% added to the adjusted risk premium of 8.82%.

11

12 **Q. What is your conclusion with regard to BST's cost of equity capital?**

13 A. Based on my cost of equity analysis, I believe BST's cost of equity is in the range of
14 15.35% to 15.68%. The above risk premium analysis indicates that the expected return on
15 the overall equity market is in the range of 15.05% to 15.18%. Thus, the risk premium
16 analysis results corroborate the reasonableness of my estimated range for BST's cost of
17 equity.

18

19 **VII. COST OF DEBT**

20

21 **Q. How do you determine BST's current cost of debt capital?**

22 A. The cost of debt capital is estimated using current forward-looking market data.

23

1 **Q. How can BST's forward-looking cost of debt be empirically estimated?**

2 A. BST's forward-looking cost of debt can be estimated by adding the recent average yield to
3 maturity on 30-year U.S. Treasury bonds to the average recent spread (difference) between
4 the yields on such U.S. Treasury bonds and Aaa-rated public utility bonds.

5
6 For the period from December of 1999 to February of 2000, 30-year U.S. Treasury bonds
7 yielded an average of 6.40%. As shown in Billingsley Exhibit RSB-9, the spread between
8 Aaa-rated public utility bonds and 30-year Treasury bonds averaged 1.43% from December
9 of 1999 to February 2000. Adding the average spread of 1.43% to the above recent average
10 Treasury bond yield to maturity of 6.40% produces a yield of 7.83%, which does not reflect
11 the material effect of flotation costs that would increase the cost of debt.

12
13 **Q. What is your estimate of BST's forward-looking cost of debt?**

14 A. Based on my analysis, I believe that a conservative estimate of BST's forward-looking cost
15 of debt is 7.80%.

16
17 **VIII. REASONABLENESS OF BST'S USE OF A 11.25% COST OF CAPITAL**

18
19 **Q. How do you test the reasonableness of BST's overall cost of capital of 11.25% in its
20 cost studies?**

21 A. I assess the reasonableness of BST's use of an 11.25% overall cost of capital by estimating
22 that cost using the results of my above analysis and a market value-based capital structure

1 for BST. The comparison of my estimated overall cost of capital for BST with the 11.25%
2 rate used in the company's cost studies sheds light on the reasonableness and conservative
3 level of that assumed rate. It is important to recognize that the use of market value-based
4 capital structures should be relied on exclusively in evaluating the reasonableness of BST's
5 use of an overall cost of 11.25% in its cost studies.

6
7 **Q. What capital structure, component costs of capital, and overall cost of capital do you**
8 **use in estimating BST's overall cost of capital directly?**

9 A. I use my estimated costs of equity and debt for BST along with the average market value-
10 based capital structure for the group of 20 firms shown to be comparable in risk to BST.
11 The analysis uses a cost of debt of 7.80% and a cost of equity of from 15.35% to 15.68%.
12 As shown in Billingsley Exhibit No. RSB-10, the current average market value-based
13 capital structure for the portfolio of companies comparable in risk to BST is 9.83% debt
14 and 90.17% equity. Thus, the data and estimates in my analysis indicate that BST's overall
15 cost of capital is in the range of 14.61% to 14.91%.

16
17 **Q. What practical and theoretical arguments support reliance on market value-based**
18 **rather than on book value capital structures in cost of capital analysis?**

19 A. Book value capital structures do not recognize the reality of an ILEC like BST obtaining
20 capital in today's financial marketplace. The use of market values is both practically as well
21 and theoretically appropriate and consistent with establishing a prospective cost of capital
22 for use in a proceeding such as this one. Market values should be used exclusively because
23 they are dynamically determined in the marketplace by investors, while book values are the

1 result of historical accounting practices. One-time accounting events that do not change
2 market values can significantly alter book values. Additionally, the point in time at which a
3 company issued stock in the past can influence book values, while prospective market
4 values are not affected. Current market values are determined by investors' most up-to-date
5 expectations for the future. These expectations are based on a variety of factors, many of
6 which are external to an ILEC. Book values look at a firm largely in dated isolation, while
7 market values consider the firm's expected performance in light of its external competitive
8 environment as well.

9
10 Over time, market values vary from book values as investors change stock prices in
11 response to new company announcements as well as to announcements concerning their
12 competitors for investors' dollars. If an event or announcement significantly enhances or
13 detracts from shareholder value, that change is immediately translated into a market value
14 change by investors, while there is likely to be no immediate change in book value. It is
15 obvious that relying on book values is unrepresentative of the investor's perspective in
16 today's capital markets from which BST must obtain capital. The impact of relying on
17 book values is a downward bias in overall cost of capital estimates.

18
19 **Q. Would you elaborate on how market value-based capital structures reflect investors'**
20 **expectations and how capital structures are commonly measured in accepted financial**
21 **practice and theory?**

22 **A. Yes. Market value-based capital structures reflect the most up-to-date expectations of**

1 investors in the capital markets. In contrast, book value-based capital structures reflect
2 accounting conventions and historical costs. It is important to stress that capital costs
3 inherently involve market-based expectations no matter what type of cost estimation model
4 is used. Therefore, the capital structure that is matched with expected capital costs must
5 also be measured in market value terms that capture investors' expectations. In order to be
6 consistent with well-established financial practice and theory, market-determined capital
7 costs must be matched with market-determined capital structures. Indeed, the use of market
8 value-based capital structures in cost of capital and capital budgeting analysis is the
9 standard approach taken in modern corporate finance textbooks (e.g., see S. A. Ross, R. W.
10 Westerfield, and B. D. Jordan, *Essentials of Corporate Finance*, Irwin: 1996, pp. 316-317
11 or R.A. Brealey and S.C. Myers, *Principles of Corporate Finance*, McGraw-Hill: 1996, 5th
12 ed., pp. 214, 517).

13
14 Many people mistakenly believe that there are three different costs of capital: historical,
15 current, and expected. Actually there is only one relevant measure, which is the *expected*
16 cost of capital that is based on market values. This is consistently updated every day in the
17 financial markets and exists at any given point in time. Thus, market value-based capital
18 structures are more appropriate than accounting-based capital structures in cost of capital
19 analysis

20
21 **Q. Is the use of market value-based capital structures in cost of capital analysis**
22 **consistent with well-accepted legal and regulatory standards?**

23 **A. Yes. In addition to being consistent with well-established financial practice and theory, I**

1 believe that the use of market value-based capital structures is consistent with the
2 universally accepted Supreme Court precedents concerning what characterizes a
3 reasonable rate of return for a regulated public utility (see *Bluefield Water Works &*
4 *Improvement Co. v. Public Service Commission of West Virginia*, 262, U.S. 679, 692-3,
5 (1923) and *Federal Power Commission v. Hope Natural Gas Co.* 320, U.S. 591, (1944)).
6 Market value-based capital structures are also consistent with the FCC's standard of
7 considering the expected cost of capital (see First Report & Order, FCC 96-325, released
8 August 8, 1996, paragraph 700). Because the expected cost of capital is, by definition,
9 based on investors' expectations, all of its components must be based on expectations.
10 The FCC's standard implies that the ILECs' costs of debt, costs of equity, and capital
11 structures must all rely on the expectations reflected in market values. Thus, well-
12 accepted financial practice and theory as well as the FCC's espoused principle indicate
13 that market value-based capital structures are more appropriate than accounting-based
14 capital structures in cost of capital analysis.

15
16 **Q. What conclusions do you draw concerning the reasonableness of BST's use of an**
17 **11.25% overall cost of capital in its cost studies?**

18 **A.** Based on the above tests, the use of an 11.25% overall cost of capital by BST is reasonable
19 and quite conservative. My overall cost of capital estimate for BST is in the range of
20 14.61% and 14.91%, which is between 336 and 366 basis points above the 11.25% rate
21 used in the company's cost studies.

1 **IX. ANALYSIS OF FLORIDA PUBLIC SERVICE COMMISSION POSITIONS ON**
2 **COMPARABLE FIRM SELECTION APPROACH, APPROPRIATE DCF**
3 **MODEL ADJUSTMENTS, AND THE USE OF BOOK VALUE CAPITAL**
4 **STRUCTURE**

5
6 **A. APPROACH TO IDENTIFYING FIRMS COMPARABLE TO BST**

7
8 **Q. Are you aware that the Commission has not accepted the approach that you use to**
9 **identify firms comparable in risk to BST?**

10 **A. Yes. The Commission appears to be more comfortable with cost of capital estimation**
11 **approaches that *assume*, without offering supporting evidence, that only firms in the**
12 **telecommunications industry are comparable in risk to BST. As discussed above, I use a**
13 **cluster analysis model to identify firms that are comparable in risk to BST. My approach**
14 **consequently uses objective statistical measures to *demonstrate*, rather than to merely**
15 **assume, the average comparability of a portfolio of firms to BST.**

16
17 **My approach is consistent with investors' behavior in choosing among stocks of**
18 **comparable risk, within or across industries. For example, consider an investor who owns**
19 **Coca Cola's stock and would like to buy additional stocks of the same riskiness. There is**
20 **no reason for this investor to limit additional purchases to soft drink industry stocks like**
21 **PepsiCo. The investor can use risk measures such as those presented in Billingsley Exhibit**
22 **RSB-4 that are not industry-specific to find investments of comparable risk to Coca Cola.**
23 **Thus, a portfolio of non-beverage industry stocks can be identified that has average risk**

1 comparable to Coca Cola. By implication, there is no reason for the Commission to
2 question the use of comparable companies to BST that are not exclusively
3 telecommunications firms. Indeed, there is more reason to question the use of an arbitrarily
4 chosen group of telecommunications firms as allegedly comparable to BST in the absence
5 of supporting evidence.

6
7 **Q. Would you elaborate on the method that you use to identify firms that are**
8 **comparable in risk to BST?**

9 A. Yes. It is not necessary to limit the sample of companies that are comparable in risk to
10 BST to regulated telecommunications firms because the influence of the regulatory
11 environment is already reflected in the indicated business and financial risk measurements.
12 Investors compare companies on the basis of expected return and risk across industries and
13 regulatory environments in making everyday investment decisions. Thus, the approach I
14 use to identify a group of firms that are comparable in risk to BST relies on the common-
15 sense logic used by investors in comparing firms. I consequently demonstrate the
16 comparable riskiness of a portfolio of firms to BST rather than assume such comparability
17 only on the basis of membership in the same industry. This objective assessment of risk
18 provides an accurate and reliable estimate of BST's cost of equity capital.

19
20 A portfolio of comparable firms is identified using a modified cluster analysis model. This
21 approach uses several risk measures to describe BST. It then finds a group of firms that is
22 as similar as possible to BST in terms of those measures of investment risk. Only those

1 firms that are identified as comparable to BST are used to infer its cost of equity capital.
2 My model measures riskiness using commonly accepted proxies of both business and
3 financial risk. Financial risk is captured by the relative amount of debt, the ability to service
4 debt, and by the bond rating of a firm's debt. Business risk is measured by the variability of
5 a firm's operating cash flows and its operating return on assets. These risk measures are
6 discussed further in Billingsley Exhibit RSB-4.

7
8 **B. IMPACT OF IGNORING APPROPRIATE FLOTATION COST AND**
9 **QUARTERLY PAYMENT OF DIVIDENDS ADJUSTMENTS**

10
11 **Q. Are you aware that the Commission has not previously recognized the need to adjust**
12 **cost of equity estimates for flotation costs or the quarterly payment of dividends?**

13 A. Yes, I am aware of this. I have estimated BST's cost of equity with adjustments for both
14 flotation costs and the quarterly payment of dividends because I believe that these factors
15 affect equity costs. The economic rationales for these adjustments are elaborated in
16 Billingsley Exhibit RSB-2.

17
18 **Q. What are your revised estimates of BST's cost of equity assuming annual dividend**
19 **payments and no flotation costs?**

20 A. An annual DCF model that ignores flotation costs produces a cost of equity for BST of
21 15.25% using IBES growth rate forecasts and 15.23% using Zacks growth forecasts. The
22 revised CAPM approach indicates that BST's cost of equity is in the range of 15.57% to
23 15.69%. Thus, under the assumption of annual compounding and no flotation costs the

1 revised estimate of BST's cost of equity is within the range of 15.23% to 15.69%.

2

3 **Q. Do you believe that it would be reasonable for BST to use an overall cost of capital of**
4 **11.25% in its cost studies if flotation costs and quarterly compounding adjustments**
5 **are omitted from your estimates?**

6 A. Yes. The revised cost of equity capital estimates are in the range of 15.23% to 15.69%.
7 Calculation of BST's overall cost of capital in the same manner as described above but
8 using the revised cost of equity estimates yields a range from 14.50% to 14.91%. Thus,
9 BST's use of an 11.25% cost of capital in its cost studies is quite conservative even in the
10 absence of adjustments for flotation costs and the quarterly payment of dividends.

11

12 **C. IMPACT OF INCORRECT USE OF BOOK VALUE CAPITAL**
13 **STRUCTURE**

14

15 **Q. In Order No. PSC-98-0604-FOF-TP, Docket No. 960833, the Commission finds BST's**
16 **overall cost of capital to be 9.90%, its cost of debt to be 6.70%, its cost of equity to be**
17 **12.00%, and the Commission uses a capital structure for the firm of 60.00% equity**
18 **and 40.00% debt. What is your assessment of the Commission's determinations in the**
19 **Order?**

20 A. I believe that my testimony submitted in that proceeding correctly shows that BST's overall
21 cost of at the time was in excess of 11.25%, its cost of debt was 7.25%, and that its cost of
22 equity was in the range of 14.72% to 15.20%. Thus, I believe that the Commission's

1 findings significantly underestimated BST's capital costs at that time.

2
3 My current testimony shows that up-to-date capital market conditions, greater competition
4 in the telecommunications industry, and enhanced business risk support that BST's current
5 forward-looking overall cost of capital is in the range of 14.61% and 14.91%, its cost of
6 debt is 7.80%, and its cost of equity is in the range of 15.35% to 15.68%. Therefore, the use
7 of the Commission's findings in the above-noted Order in the current proceeding would
8 severely underestimate BST's current forward-looking capital costs.

9
10 **Q. The Commission uses a 60.00% equity and 40.00% debt capital structure for BST in**
11 **the above-noted Order. Would the use of this capital structure along with your**
12 **current cost of capital estimates still indicate that BST's current overall cost of capital**
13 **exceeds 11.25%?**

14 **A.** Yes. While I disagree with the Commission's chosen capital structure, its use with my cost
15 of capital estimates still indicates that BST's current overall cost of capital exceeds 11.25%.
16 Specifically, using my conclusion that BST's current forward-looking cost of debt is
17 7.80%, its cost of equity is in the range of 15.35% to 15.68%, and the Commission's
18 previously used 60.00% equity and 40.00% debt capital structure for BST, the firm's
19 overall cost of capital is in the range of 12.33% to 12.53%. The mid-point of this estimated
20 range for BST's overall cost of capital is 12.43%. Thus, the use of the Commission's
21 previous capital structure finding along with my current cost of capital estimates for BST
22 continues to indicate that the firm's use of an overall cost of capital of 11.25%
23 underestimates its true cost and is quite conservative.

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Q. Why do you disagree with the Commission's previous finding that BST's capital structure is 60.00% equity and 40.00% debt?

A. The Commission's adopted capital structure of 60.00% equity and 40.00% debt is based on reported book values. As discussed above in my testimony, market value-based capital structures reflect the most up-to-date expectations of investors in the capital markets. In contrast, book value-based capital structures reflect accounting conventions and historical costs. Book value-based capital structures capture the past rather than the future perspective that is required by investors in current capital markets. I consequently believe that the Commission's reliance on a book value-based capital structure for BST is inappropriate and is not forward-looking. Further, the use of market value-based capital structures is consistent with the FCC's standard of considering the expected cost of capital in the deregulated environment developing through the on-going implementation of the Telecommunications Act of 1996 (see First Report & Order, FCC 96-325, released August 8, 1996, paragraph 700).

Q. Does this conclude your direct testimony?

A. Yes, it does.

1 **BELLSOUTH TELECOMMUNICATIONS INC.**
2 **BEFORE THE**
3 **FLORIDA PUBLIC SERVICE COMMISSION**
4 **DOCKET NO. 990649-TP**
5 **REBUTTAL TESTIMONY OF**
6 **DR. RANDALL S. BILLINGSLEY**
7 **JUNE 29, 2000**

8
9 **I. INTRODUCTION**

10
11 **Q. Please state your name, occupation, and business address.**

12 A. My name is Randall S. Billingsley. I am a finance professor at Virginia Polytechnic
13 Institute and State University. I also act as a financial consultant in the areas of cost of
14 capital analysis, financial security analysis, and valuation. My business address is:
15 Department of Finance, Pamplin College of Business, Virginia Polytechnic Institute and
16 State University, Blacksburg, Virginia 24061-0221.

17
18 This rebuttal testimony presents my independent professional opinions and is not
19 presented by me as a representative of Virginia Polytechnic Institute and State
20 University.

21
22 **Q. Have you previously submitted testimony in this proceeding on behalf of BellSouth**
23 **Telecommunications Corporation (BST)?**

24 A. Yes.
25

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

2 A. My purpose is to rebut Mr. John I. Hirshleifer's direct testimony on behalf of AT&T
3 Communications of the Southern States, Inc. (AT&T) and MCI WorldCom, Inc. (MCI
4 WorldCom). He erroneously estimates the cost of equity capital for BST to be only 8.62%
5 to 9.98% (Direct Testimony, p. 31, lines 14 – 15) and BST's overall average cost of capital
6 to be in the range of only 8.12% to 8.96% (Direct Testimony, p. 36, lines 21 – 24).

7

8 My rebuttal explains the errors and inconsistencies in Mr. Hirshleifer's discounted cash flow
9 (DCF) and capital asset pricing model (CAPM) analyses of BST's costs of equity capital, his
10 cost of debt estimation, his recommended capital structure, and his misunderstanding of the
11 nature and significance of the riskiness of investing in the telecommunications industry. His
12 errors in estimating BST's cost of equity using the DCF approach include: 1) use of a highly
13 subjective three-stage model that is not representative of the investor's perspective; 2) use
14 of *growth rate forecasts that do not reflect consensus investment community expectations*;
15 3) inappropriate and unsupported reliance on BellSouth, other regional Bell holding
16 companies (RBHCs), and selected independent telephone companies as comparable in risk
17 to BST; 4) failure to adjust for flotation costs, and 5) failure to use the appropriate form of
18 the DCF model that recognizes the quarterly payment of dividends.

19

20 Mr. Hirshleifer's CAPM errors in calculating BST's cost of equity include: 1) significant
21 underestimation of the equity risk premium in part due to the use of his flawed three-stage
22 model, and 2) arbitrary exclusion of all members of the Standard and Poor's Composite 500
23 Index (S&P 500) from capital cost analysis that do not have a dividend yield of at least
24 1.5%. These errors explain why his CAPM estimate of BST's cost of equity is so seriously
25 underestimated.

1
2 My rebuttal also shows that Mr. Hirshleifer's cost of debt analyses are flawed by his reliance
3 on dated market information from October of 1999. He also incorrectly includes debt in his
4 analysis that was not issued to finance long-term telephone network assets. Moreover, Mr.
5 Hirshleifer places too much reliance on book values in determining his recommended capital
6 structure. Finally, I show that Mr. Hirshleifer's views on the risks that are relevant to
7 assessing capital costs in the telecommunications industry are confused and inconsistent. In
8 the same vein, I show that his argument that the business of leasing network elements is of
9 relatively low risk is erroneous as well as unsupported.

10
11 I also rebut the unsupported cost of capital assumptions made in the rebuttal testimonies of
12 Mr. William J. Barta, filing on behalf of the Florida Cable Telecommunications Association
13 (FCTA) and Ms. Carol Bentley, filing on behalf of Supra Telecommunications and
14 Information Systems, Inc. (Supra).

15 16 **II. REBUTTAL OF MR. HIRSHLEIFER'S DIRECT TESTIMONY ON**

17 **BEHALF OF AT&T AND MCI WORLDCOM**

18 **A. ERRORS IN DCF COST OF EQUITY ANALYSIS**

19 **1. FAILURE TO REFLECT INVESTORS' PERSPECTIVE**

20
21 **Q. Is Mr. Hirshleifer's use of a three-stage DCF model representative of investors'**
22 **valuation perspective and is it a common approach in regulatory proceedings?**

23 **A.** No. Mr. Hirshleifer's three-stage model is complex, subjective, and uses growth rate
24 forecasts that reflect his own opinions rather than those of the investment community. It is
25 common practice in the investment community to use the single-stage version of the DCF

1 model in estimating equity capital costs. Due to these limitations, three-stage approaches are
2 not commonly used in regulatory proceedings. Mr. Hirshleifer's results do not provide
3 insight into BST's current or forward-looking cost of equity capital.

4
5 Mr. Hirshleifer's three-stage approach makes use of firm-specific investment community
6 consensus growth rate forecasts, as measured by Institutional Brokers Estimation Service
7 (IBES), for only the first stage (five years) of his analysis. After this five-year period, he
8 assumes a second stage of 15 years during which the growth rate falls from the initial IBES
9 growth rate to a projected growth rate for the overall U.S. economy by the end of the 20th
10 year. After that time, Mr. Hirshleifer assumes that the growth rate remains at that projected
11 rate for the economy indefinitely (Direct Testimony, p. 14, line 1 - p. 16, line 17).

12
13 Mr. Hirshleifer's analysis misses the mark in the current proceeding. The goal here is to
14 estimate BST's cost of meeting their equity investors' return requirements in market terms.
15 Thus, the analysis should reflect the investment analysis process and expectations of
16 investors. Mr. Hirshleifer's analysis of BST's cost of equity departs from investors'
17 perspective by substituting his expectations for those of investors for two out of the three
18 stages in his analysis.

19
20 **Q. How relevant is Mr. Hirshleifer's criticism of the constant growth DCF model on the**
21 **basis that telecommunications firms' projected growth rates are not sustainable "into**
22 **perpetuity?"**

23 **A.** Mr. Hirshleifer's criticism of the constant growth version of the DCF model is practically
24 irrelevant and misguided in the current context. He observes that:

25 ... modern telephone companies are composed of a variety of businesses, some of

1 which - such as wireless telephony and *high-speed internet access* - are expected to
2 grow at rates of 25 percent or more in the short run. Such high growth rates are
3 clearly not sustainable into perpetuity, so that the simple constant growth model
4 cannot be applied ... (Direct Testimony, p. 10, lines 15 – 21).

5
6 Mr. Hirshleifer's unsupported apparent concern is that "telephone companies are composed
7 of a variety of businesses" that cannot be captured by a single growth rate. However,
8 investors routinely price securities for firms composed of numerous business units by
9 evaluating the net contribution of each unit to the overall growth of the firm.

10
11 Mr. Hirshleifer's rejection of the single-stage, constant growth DCF model because he
12 assumes that telephone company growth rates are "not sustainable into perpetuity" does not
13 adequately relate valuation theory to practice in light of realistic investor concerns. While
14 the constant growth DCF model does theoretically assume a constant growth rate for
15 perpetuity, there is no evidence that investors practically consider perpetuity in their
16 valuation decisions. Simply put, the present value of the cash flows projected from an
17 *investment beyond the foreseeable future* is so small that it has little practical effect on
18 investors' decisions. While it is very difficult to forecast the distant future, it is also not
19 practically relevant to attempt to do so in a present value sense.

20
21 Mr. Hirshleifer breaks the single-stage model into three separate stages of growth stretching
22 out over 20 years but only uses investment community growth forecasts for the first five
23 years. However, the benefit of subjectively projecting growth for 15 years beyond the first
24 5-year stage is relatively unimportant in an overall present value sense and Mr. Hirshleifer's
25 criticism of the constant growth DCF model is misguided. His decision to replace it with a

1 three-stage DCF model only introduces a more subjective, complicated approach that
2 substitutes his growth forecasts for those of the investors who are actually putting money
3 into stocks.

4
5 **Q. What support does Mr. Hirshleifer offer for limiting the long-term growth of**
6 **telecommunications firms to the growth rate of the U.S. economy?**

7 A. He offers only his opinion that “[a] perpetual growth rate that exceeded the growth rate of
8 the economy would illogically imply that eventually the whole economy would be comprised
9 of nothing but telephone companies” (Direct Testimony, p. 14, lines 7 - 10). Mr.
10 Hirshleifer’s observation has no practical significance in assessing the usefulness of the
11 constant growth DCF model in the current proceeding. Investors could easily believe that
12 telecommunications firms’ consensus growth rate projections are sustainable beyond the
13 next five years to the foreseeable future but less than forever.

14
15 **Q. Would you provide an example that shows how unrealistic Mr. Hirshleifer’s**
16 **constraint on the long-term growth rate is?**

17 A. Yes. Consider that the IBES and Zacks current (May 2000) consensus five-year growth rate
18 forecasts for MCI WorldCom are 28.78% and 29.23%, respectively. Mr. Hirshleifer would
19 presumably argue that these rates are unsustainable beyond five years and that the use of
20 either rate for a longer period of time would imply that MCI WorldCom would eventually
21 dominate the U.S. economy. However, according to *Value Line’s* most recent report on
22 MCI WorldCom (April 7, 2000), the company’s average earnings growth rate over the past
23 ten years has been 35%, which is in excess of the Zacks or IBES consensus growth rate for
24 twice the five-year time period he considers in his argument.

25

1 From a practical perspective, I believe that most investors would relate these projections to
2 the past performance of MCI WorldCom and thereby use them to assess the company's
3 foreseeable future. It does not seem reasonable that such investors would be tempted to
4 conclude that "eventually the whole economy would be comprised of nothing but telephone
5 companies" in general or MCI WorldCom in particular.

6
7 The alleged benefits of Mr. Hirshleifer's three-stage model over a single-stage model are
8 offset by the need to make so many subjective estimates that are not supported by verifiable
9 market data and consensus investor expectations. For example, he offers no evidence to
10 support his use of a second stage that is 15 years long. Why not 10, 25, or 30 years? His
11 three-stage model is unnecessarily subjective, unrepresentative of investors' growth rate
12 expectations, contrary to investors' realistic concerns, and particularly useless in the
13 dynamic telecommunications industry. Mr. Hirshleifer's model is not informative concerning
14 BST's market-based capital costs.

15
16 **Q. In attempting to justify his use of a three-stage rather than a constant growth version**
17 **of the DCF model, Mr. Hirshleifer cites a book by Professor Aswath Damodaran as a**
18 **key reference (see pages 12-13 and footnotes 10 and 12 of his testimony). Is Mr.**
19 **Hirshleifer's decision to use a three-stage version of the model consistent with**
20 **Professor Damodaran's stated conditions under which the model is appropriate?**

21 **A. No. Mr. Hirshleifer's use of the three-stage model is inconsistent with the circumstances**
22 **described by Professor Damodaran for the best use of the model. Damodaran indicates that**
23 **"... this may be the more appropriate model to use for a firm whose earnings are growing at**
24 **very high rates ..."** (Damodaran On Valuation, John Wiley & Sons, 1994, p. 119).
25 **Damodaran considers a growth rate to be "very high" if it exceeds 25%.**

1
2 Attachment JH-4 shows that none of the companies to which Mr. Hirshleifer applies his
3 three-stage DCF model have growth rates over 25%. Thus, his decision to use this form of
4 the model is inconsistent with the conditions for its appropriate use described in the
5 Damodaran reference cited in his testimony.

6
7 **Q. Does this reference cited by Mr. Hirshleifer discuss any limitations in using the three-**
8 **stage version of the DCF model?**

9 A. Yes. In comparing the three-stage model to the other versions of the DCF model,
10 Damodaran observes that:

11 ... it requires a much larger number of inputs: year-specific payout ratios, growth
12 rates, and betas. For firms in which there is substantial noise in the estimation process,
13 the errors in these inputs can overwhelm any benefits that accrue from the additional
14 flexibility in the model (**Damodaran on Valuation**, John Wiley & Sons, 1994, pp.
15 118 -119).

16
17 *Professor Damodaran's concern over the effect of "substantial noise" is particularly relevant*
18 *to Mr. Hirshleifer's analysis. He applies a three-stage DCF model to RBHCs, GTE, and*
19 *selected independent telephone holding companies. The dramatic effects of deregulation,*
20 *increasing competition, the implementation of the Telecommunications Act of 1996, and*
21 *industry consolidation certainly introduce much "noise" into the estimation of such firms'*
22 *equity costs. Thus, Mr. Hirshleifer's DCF model is particularly inappropriate for estimating*
23 *the cost of equity in proceedings such as this one. My methodological approach is more*
24 *reliable because it uses a group of firms that is demonstrably comparable in risk to BST.*
25 *This group of firms, which captures comparable firms across industry lines, is not seriously*

1 affected by such “noise.” Further, my approach does not require the highly subjective inputs
2 that Mr. Hirshleifer’s three-stage model does.

3
4 **Q. Mr. Hirshleifer alleges that his version of the three-stage DCF model is different from**
5 **that presented by Professor Damodaran but does not explain the nature of the**
6 **difference or why it is supposedly significant. Would you explain Mr. Hirshleifer’s**
7 **statement and how it relates to the sections of Professor Damodaran’s book**
8 **concerning the three-stage model?**

9 A. Yes. Mr. Hirshleifer notes in passing that what Professor Damodaran

10 ... calls the “three-stage model” is different from the model I employ and is not
11 comparable. Damodaran’s “H model” is more comparable to the model that I use.
12 (Direct Testimony, footnote 12.)

13 As noted above, Mr. Hirshleifer describes his three-stage model as follows:

14 The first stage lasts five years ... The second stage is assumed to last 15 years. During
15 this stage the growth rate falls from the high level of the first five years to the growth
16 rate of the U.S. economy by the end of year 20. From the twentieth year onward the
17 growth rate is set equal to the growth rate for the economy because rates greater than
18 that cannot be sustained into perpetuity. (Direct Testimony, p. 14, lines 1 – 7.)

19 Professor Damodaran’s description of the three-stage model shows that he and Mr.
20 Hirshleifer use the same basic approach:

21 The three-stage dividend-discount model combines the features of the two-stage
22 model and the H model. It allows for an initial period of high growth, a transitional
23 period in which growth declines, and a final stable-growth phase (**Damodaran on**
24 **Valuation**, John Wiley & Sons, 1994, pp. 117).

25 For further perspective, consider Professor Damodaran’s description of the H model:

1 The model is based on the assumption that the earnings growth rate starts at a high
2 initial rate (g_a) and declines linearly over the extraordinary-growth period (which is
3 assumed to last 2H periods) to a stable growth rate (g_n) (**Damodaran on Valuation**,
4 John Wiley & Sons, 1994, pp. 115).

5
6 It consequently appears that Mr. Hirshleifer does not realize that the three-stage model
7 described by Professor Damodaran closely fits his described model. This further draws into
8 question the overall reliability of his cost of capital analysis of BST.

9
10 **2. INCORRECT RELIANCE ON BELLSOUTH, OTHER RBHCS,**
11 **AND SELECTED INDEPENDENT TELEPHONE COMPANIES AS**
12 **COMPARABLE IN RISK TO BST**

13
14 **Q. What justification does Mr. Hirshleifer give for applying the DCF and the CAPM**
15 **approaches to BellSouth, other RBHCs, and selected independent telephone**
16 **companies as firms comparable in risk to BST?**

17 **A.** *Mr. Hirshleifer offers no justification for the use of the supposedly comparable firms listed in*
18 *Attachment JH-2. He only observes in passing that they are “selected as likely comparables”*
19 *(Direct Testimony, p. 15, lines 23 - 25) and that they “... were derived from the list of*
20 *telephone operating companies in Standard and Poor’s Industry Survey” (Direct Testimony,*
21 *p. 6, lines 19 - 20). Thus, Mr. Hirshleifer *assumes* that BST is comparable in risk to*
22 *BellSouth, other RBHCs, and selected independent telephone companies. He does not*
23 *demonstrate comparability. In fact, nothing suggests that Mr. Hirshleifer has conducted any*
24 *systematic, empirical analysis using objective screening criteria to identify firms comparable*
25 *in risk to BST.*

1
2 In contrast to Mr. Hirshleifer, in both my direct testimony (Billingsley Exhibit No. RSB-3)
3 and in my updated analysis (Billingsley Exhibit No. RSB-13) I identify comparable firms by
4 measuring risk and statistically determining risk comparability. As discussed in my direct
5 testimony (Billingsley Exhibit No. RSB-4), comparable firms are identified using a five-
6 variable model rather than by arbitrarily choosing firms as allegedly comparable to BST only
7 because they are in the same industry like Mr. Hirshleifer. My analysis shows that neither the
8 RBHCs, as a group, nor the independent telephone companies are comparable in risk to
9 BST.

10
11 **3. FAILURE TO ADJUST FOR FLOTATION COSTS**

12
13 **Q. Do you agree with Mr. Hirshleifer's opinion that it is appropriate to ignore the impact**
14 **of flotation costs in estimating the costs of equity capital for BST?**

15 **A.** No. Mr. Hirshleifer attempts to justify ignoring flotation costs "... [b]ecause the price of the
16 companies' stock has accounted for flotation costs already ..." (Direct Testimony, p. 45,
17 lines 14 - 18). While his argument implicitly assumes that flotation costs materially affect
18 equity costs, he presents no evidence that the market has made such an adjustment. Mr.
19 Hirshleifer's failure to adjust for flotation costs biases his cost of equity estimates
20 downward.

21
22 **4. FAILURE TO ADJUST FOR QUARTERLY DIVIDEND**
23 **PAYMENTS**

24
25 **Q. Is Mr. Hirshleifer's use of the annual form of the DCF model consistent with the**

1 **investor's perspective on valuing equity securities?**

- 2 A. No. Mr. Hirshleifer uses the annual form of the DCF model even though all of the members
3 of his sample of supposedly comparable firms pay dividends on a quarterly basis. The annual
4 form of the DCF model does not accurately portray the investor's perspective, and
5 consequently, significantly underestimates BST's cost of equity capital.

6
7 Consider the example of how the returns on an Individual Retirement Account (IRA) differ
8 when compounded quarterly rather than annually. The opportunity to earn a return quarterly
9 rather than annually has a significant effect on the value of an IRA to an investor. The same
10 economic principle is at work when investors value the opportunity to receive dividends on
11 a stock quarterly rather than annually.

12
13 Suppose that you invest \$2,000 in an IRA account today and expect to earn 8% per year. If
14 your money earns the 8% compounded annually, you will have about \$13,697 before taxes
15 in 25 years. Alternatively, if your money earns the 8% compounded quarterly, you will have
16 about \$14,489 before taxes in 25 years. Thus, your IRA will be worth about \$792 more if
17 *your returns are compounded quarterly rather than annually*. This \$792 difference is present
18 because you earn an effective rate of about 8.24% under quarterly compounding rather than
19 just 8% annually. Obviously, investors would prefer to have \$792 more in 25 years and
20 would consequently prefer that their 8% return be compounded quarterly rather than
21 annually.

22
23 When Mr. Hirshleifer argues that it is unnecessary in cost of capital analysis to consider that
24 dividends are received by investors quarterly, he essentially argues that investors are
25 indifferent to whether dividends are paid annually or quarterly. Similarly, Mr. Hirshleifer

1 essentially argues that the IRA investor in the above example would not care whether he or
2 she could earn an extra \$792. Yet the common sense of the investor's perspective in both
3 cases convincingly demonstrates that if quarterly compounding is not considered in cost of
4 capital analysis, the implied rate of return is underestimated.

5
6 **Q. Would you provide an everyday analogy that concretely shows how Mr. Hirshleifer's**
7 **failure to adjust his cost of equity estimates in light of the quarterly payment of**
8 **dividends is misguided?**

9 A. Yes. Consider whether Mr. Hirshleifer or his firm would likely prefer to be paid by AT&T
10 and MCI WorldCom for his cost of capital consulting work just once a year or at the
11 completion of each case. While it would be inappropriate for me to speculate on his personal
12 preferences, *it is reasonable to believe that Mr. Hirshleifer or his firm might price the*
13 *services that he provides to AT&T and MCI WorldCom differently if he were paid only at*
14 *the end of each year. This is because being paid only at the end of the year would adversely*
15 *affect his ability to invest or otherwise use his earnings. By analogy, investors derive the*
16 *market prices of stocks in light of their ability to reinvest dividends quarterly rather than just*
17 *annually. Investors' implied return requirements consequently reflect the impact of quarterly*
18 *rather than annual dividend payments in a manner that is analogous to how Mr. Hirshleifer*
19 *might prefer to be paid more frequently than annually for the services that he provides to*
20 *AT&T and MCI WorldCom.*

21
22 **Q. What updated cost of equity capital do you estimate for BST using the DCF model**
23 **presented in your previously filed direct testimony?**

24 A. Billingsley Exhibit No. RSB-13 lists the updated portfolio of 20 firms that are comparable in
25 risk to BST and reports the average cost of equity for the portfolio using both IBES and

1 Zacks growth rate forecasts. Billingsley Exhibit No. RSB-12 discusses the criteria used to
2 identify firms comparable in risk to BST. The evidence indicates that the cost of equity for
3 BST is about 15.50% under both approaches. My analysis consequently shows that Mr.
4 Hirshleifer's comparable estimate of only 8.62% greatly underestimates BST's cost of
5 equity capital (Direct Testimony, p. 16, line 24 – p. 17, line 6).

6
7 **B. ERRORS IN CAPM COST OF EQUITY ANALYSIS**
8

9 **Q. Is Mr. Hirshleifer's estimate of the expected return on the equity market using the**
10 **three-stage DCF model economically meaningful?**

11 A. No. It is not economically meaningful. Mr. Hirshleifer uses his flawed three-stage DCF
12 model to estimate an expected return on the overall equity market, as measured using
13 selected members of the S&P 500 index, of only 9.55% (see Attachment JH-6). As
14 discussed below, I provide evidence that the expected return on the market is between
15 15.02% and 15.41%. Mr. Hirshleifer's use on an artificially low estimate of the expected
16 return on the overall equity market partially explains why his CAPM-based estimate of
17 BST's cost of equity is so low.

18
19 **Q. What updated cost of equity capital do you estimate for BST under the CAPM**
20 **approach?**

21 A. Using May, 2000 data, I estimate an updated risk-free rate of return of 6.67% (see
22 Billingsley Exhibit No. RSB-14), an average beta of 0.78 for firms comparable in risk to
23 BST (see Billingsley Exhibit No. RSB-13), and IBES and Zacks growth rate estimates that
24 imply an expected return on the S&P 500 of 18.96% and 18.89%, respectively. These
25 objective, market-determined data indicate that BST's cost of equity capital is 16.26% using

1 the IBES growth rate and 16.20% using the Zacks growth rate forecast. In contrast, Mr.
2 Hirshleifer incorrectly estimates BST's cost of equity under the CAPM to be only between
3 9.85% and 10.10% (Direct Testimony, p. 30, lines 15 – 22).

4
5 **Q. What effect does Mr. Hirshleifer's exclusion of all members of the S&P 500 not paying**
6 **a dividend yield of at least 1.5% (p. 26, lines 2 - 4 of Mr. Hirshleifer's testimony) have**
7 **on his estimated market return of only 9.55%?**

8 A. Mr. Hirshleifer's arbitrary screening criterion biases downward his estimated expected
9 return on the market and thereby causes all of his CAPM calculations to underestimate
10 equity capital costs. This partially explains why his analysis underestimates BST's overall
11 capital cost as well. Indeed, the arbitrariness of this criterion is also evidenced by Mr.
12 Hirshleifer's change from excluding all members of the S&P 500 not paying a dividend yield
13 of 2% in his direct testimony filed before the Commission in Docket No.980696-TP to his
14 most current practice of excluding all such members not paying a dividend yield of 1.5%.

15
16 *Consider the type of firms that pay a dividend yield of less than 1.5%. Such firms typically*
17 *pay lower dividend yields because they reinvest above-average amounts in their businesses.*
18 *Thus, lower dividend yields are associated with higher growth companies that have higher*
19 *equity capital costs. Mr. Hirshleifer's screening criterion consequently excludes those*
20 *members of the S&P 500 likely to have the highest capital costs and thereby underestimates*
21 *the expected returns composing the market proxy. His CAPM-based equity costs use this*
22 *biased measure of equity market expectations and consequently produce unrealistically low*
23 *capital cost estimates.*

24
25 **Q. What does your updated analysis show concerning the current level of equity costs in**

1 **the overall equity market?**

2 A. Billingsley Exhibit No. RSB-15 shows that the average expected risk premium relative to
3 Aaa-rated public utility bonds from 1987 to May of 2000 is 7.42%. The average yield on
4 Aaa-rated public utility debt over the most recent three months (March to May of 2000) is
5 7.99%. Thus, the average risk premium of 7.42% is added to the recent average Aaa-public
6 utility bond return of 7.99% to yield an expected cost of equity return on the S&P 500 of
7 15.41%.

8
9 In summary, risk premium analysis using the Aaa-rated public utility bond return reference
10 point indicates that the expected return on the broad equity market, as measured by the S&P
11 500, is currently about 15.41%. This shows that Mr. Hirshleifer's estimate of only 9.55% is
12 seriously biased downward.

13
14 **Q. What specific adjustment do you make to update your risk premium analysis in light**
15 **of the evidence cited in your previously filed direct testimony on the inverse**
16 **relationship between the risk premium and the level of interest rates?**

17 A. As noted in my direct testimony, during the period of the Harris and Marston study (R. S.
18 Harris and F.C. Marston, "Estimating Shareholder Risk Premia Using Analysts' Growth
19 Forecasts," *Financial Management*, Vol. 21, No. 2, 1992, pp. 63-70), the average risk
20 premium was 6.47% and the average yield on long-term U.S. Treasury bonds was 9.84%.
21 The study finds evidence that the equity market risk premium is expected to change an
22 average of -.651 of changes in the level of long-term Treasury bond yields. Given that the
23 current average yield on 30-year Treasury bonds is 6.15% (May of 2000), the appropriate
24 current risk premium is 8.87%. This is calculated by multiplying the 3.69% decline in rates
25 since the time period of Harris and Marston's study by -.651 and adding back the average

1 risk premium of 6.47% to the indicated change of 2.40%. This alternative approach
2 consequently provides an expected return on the S&P 500 of 15.02%, which is the current
3 average level of 30-year Treasury yields of 6.15% added to the adjusted risk premium of
4 8.87%.

5
6 The above risk premium analyses indicate that the current expected return on the overall
7 equity market is between 15.02% and 15.41%, which differs significantly from Mr.
8 Hirshleifer's unrealistically low estimate of only 9.55% (Direct Testimony, p. 26, lines 12 –
9 13 and Exhibit JH-6). This corroborates the reasonableness of my above DCF- and CAPM-
10 based cost of equity estimates for BST and further indicates the inappropriateness of Mr.
11 Hirshleifer's cost of capital findings.

12
13 **Q. What is your conclusion with regard to BST's equity capital costs in light of the most**
14 **recent capital market data?**

15 A. Based on my updated cost of equity analyses, I believe that BST's cost of equity is in the
16 range of 15.50% to 16.26%. Mr. Hirshleifer's estimated range of only 8.62% to 9.98% is
17 unrealistically low.

18
19 **C. ERRORS IN COST OF DEBT ESTIMATION**

20
21 **Q. What mistakes does Mr. Hirshleifer make in estimating BST's cost of debt of BST?**

22 A. Mr. Hirshleifer fails to measure the cost of debt relevant to this proceeding. First, he
23 inappropriately relies on the costs of debt issued by a subsidiary of BellSouth Corporation
24 where the proceeds have not been used to finance telephone network assets. Specifically, in
25 Attachment JH-3a Mr. Hirshleifer inappropriately uses the costs of debt issued by BellSouth

1 Capital Funding as proxies for BST's debt costs. Second, Mr. Hirshleifer's cost of debt
2 estimates for BST relies on dated debt market information from October of 1999. Thus, Mr.
3 Hirshleifer's cost of debt analysis is unreliable because it relies on inappropriate debt
4 securities and uses historical debt market data that produces a backward-looking estimated
5 cost of debt for BST of only 7.16%. My updated analysis shows that BST's forward-
6 looking cost of debt is currently 8.00%.

7
8 **Q. How do you arrive at your updated estimate of the forward-looking cost of debt for**
9 **BST of 8.00%?**

10 A. As in my direct testimony, I use the yields on Aaa-rated bonds as the benchmark in my
11 analysis because this is the bond rating on BST's debt. For the period from March to May of
12 2000, 30-year U.S. Treasury bonds yielded an average of 6.02%. As shown in Billingsley
13 Exhibit RSB-16, the spread between Aaa-rated public utility bonds and 30-year Treasury
14 bonds averaged 1.97% over this period. Adding the average spread of 1.97% to the above
15 recent average Treasury bond yield to maturity of 6.02% produces a yield of 7.99%, which
16 does not reflect the material effect of flotation costs.

17
18 Based on my updated analysis, I believe that BST's forward-looking cost of debt is 8.00%
19 and not Mr. Hirshleifer's estimate of only 7.16%.

20
21 **D. ERRORS IN RECOMMENDED CAPITAL STRUCTURE**

22
23 **Q. Do you agree with Mr. Hirshleifer's heavy reliance on book value capital structures?**

24 A. No. Mr. Hirshleifer gives equal weight to book values and market values in producing his
25 capital structure recommendations for BST. He relies on a book value capital structure to

1 determine the low end of his recommended cost of capital range, while a market value
2 capital structure produces the high end of his range. Specifically, Mr. Hirshleifer uses book
3 value weights of 45% equity and 55% debt and market value weights of 84% equity and
4 16% debt for BST (Direct Testimony, p. 35, line 8 – p. 36, line 11). As noted above, by
5 placing equal weight on book- and market value-based capital structures, he uses an
6 effective capital structure of about 64% equity and 36% debt. However, the use of market
7 values is theoretically appropriate and consistent with establishing a forward-looking cost
8 of capital for use in a proceeding such as this one. My updated analysis below demonstrates
9 that BST's appropriate current capital structure consists of 88.84% equity and 11.16%
10 debt.

11
12 As discussed in my previously filed direct testimony (p. 30, line 17 – p. 33, line 14), market
13 values deserve higher weight because they are dynamically determined in the marketplace
14 by investors, while book values are the result of historical accounting practices. One-time
15 accounting events that do not change market values can significantly alter book values.
16 Examples of one-time events include restructuring charges, the adoption of SFAS 106 for
17 Other Post-Employment Benefits, and the discontinuance of regulatory accounting under
18 SFAS 71. Additionally, the point in time at which a company issued stock in the past can
19 influence backward-looking book values, while forward-looking market values are not
20 affected.

21
22 Over time, market values vary from book values as investors change the stock price in
23 reaction to new information. If a new event or announcement significantly enhances or
24 detracts from shareholder value, that change is immediately translated into a market value
25 change, while there is likely to be no immediate change in book value. Mr. Hirshleifer's

1 over-reliance on book values is unrepresentative of the investor's perspective and
2 introduces yet another downward bias to his cost of capital estimates.

3
4 **Q. What are the results of your updated test of the reasonableness of BST's use of an**
5 **11.25% overall cost of capital?**

6 A. Using the same approach as that in my direct testimony, I apply my updated estimates of
7 BST's cost of equity and cost of debt to the updated average market value-base capital
8 structure for the group of 20 firms shown to be comparable in risk to BST. As shown in
9 Billingsley Exhibit RSB-17, as of December 31, 1999, the average capital structure for the
10 firms comparable in risk to BST is 11.16% debt and 88.84% equity. Using an updated cost
11 of debt of 8.00% and a cost of equity from 15.50% to 16.26%, BST's implied overall cost
12 of capital is in the range of 14.66% to 15.34%. My estimates demonstrate that Mr.
13 Hirshleifer's estimated range of only 8.12% to 8.96% greatly underestimates BST's
14 forward-looking overall cost of capital. I conclude that BST's use of an 11.25% overall cost
15 of capital in its UNE cost studies is quite conservative.

16
17 **E. MISUNDERSTANDING OF THE NATURE AND SIGNIFICANCE**
18 **OF THE RISKINESS OF INVESTING IN THE**
19 **TELECOMMUNICATIONS INDUSTRY**
20

21 **Q. Do you agree with Mr. Hirshleifer's observations about the supposedly low relative**
22 **risk of "leasing" local exchange telephone network elements to retail providers?**

23 A. No. Mr. Hirshleifer only offers his unsupported opinion that "[t]his business should have
24 relatively low risk compared to many of the risky business endeavors being pursued by the
25 telephone holding companies" (Direct Testimony, p. 38, lines 23 - 25). However, he also

1 acknowledges that "... there remains some risk that consumers, particularly business users,
2 will bypass the network as other alternatives become available" (Direct Testimony, p. 40,
3 lines 8 - 10). Mr. Hirshleifer consequently recognizes the significant risk of consumers and
4 businesses bypassing BST's network but only offers his unsubstantiated opinion that this is a
5 "low risk" endeavor. Once again Mr. Hirshleifer substitutes his opinion for that of investors
6 in appraising capital costs.

7
8 **Q. Why is leasing long-term telephone network assets particularly risky?**

9 A. The leasing of long-term assets can be quite risky, especially when leasing rates are
10 regulated. In order for BST to earn reasonable returns on its network assets, the firm must
11 obtain revenues over the leasing period that cover its costs and appropriate risk-adjusted
12 profits. However, BST is partially dependent on regulators rather than solely on the market
13 to obtain such returns. Mr. Hirshleifer obviously recognizes that regulators' decisions may
14 well not be appealing to shareholders' when he notes:

15 There is still the risk of regulation itself. The rate of return a network is allowed to
16 earn depends on the outcome of proceedings such as this and remains somewhat
17 uncertain. (Direct Testimony, p. 40, lines 3 - 5.)

18
19 Because such uncertainty implies risk to investors, Mr. Hirshleifer acknowledges that there
20 is substantial risk in leasing BST's network elements. This risk implies higher required rates
21 of return and resulting capital costs. However, Mr. Hirshleifer's comments on the
22 supposedly low relative risk of network leasing are inconsistent with his recognition of high
23 regulatory risk and the significant risk of consumer and business bypass of BST's local
24 service network. Moreover, building and owning network facilities to lease to competitors is
25 particularly risky when one considers that the leases tend to be short-term in nature. A

1 competitor that builds up a sufficient number of customers can subsequently choose to build
2 its own facilities, thus stranding the incumbent local exchange company's (ILEC's) facilities.

3
4 **Q. How does technological change affect the risk of investing in long-term telephone
5 network assets?**

6 A. Network facilities reflect a given technology that often becomes obsolete quickly. BST must
7 consistently invest to keep its network elements up to date and should have the flexibility to
8 establish leasing rates accordingly. However, as noted above, they do not have this ability
9 under current regulations. This risk of technological obsolescence makes leasing network
10 elements risky. Such obsolescence imposes costs and therefore risks. The leasing of BST's
11 network assets poses significant risks to their investors that put upward pressure on its cost
12 of equity.

13
14 **Q. Do you agree with Mr. Hirshleifer's views on the risks that are reflected in capital
15 costs?**

16 A. No. Mr. Hirshleifer is incorrect and inconsistent in his testimony concerning the risks that
17 affect capital costs. For example, he emphasizes that:

18 ... the risk that a company will lose customers to competition - such as a network
19 leasing company losing business to competing facilities providers - is a diversifiable
20 risk which does not increase the risk premium according to capital market theory.

21 (Direct Testimony, p. 20, lines 6 – 10.)

22 Yet, as noted above, in discussing what he presumably considers to be the relevant risks
23 associated with the business of leasing unbundled network elements he notes that "... there
24 remains some risk that consumers, particularly business users, will bypass the network as
25 other alternatives become available" (Direct Testimony, p. 40, lines 8 - 10).

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On the one hand Mr. Hirshleifer argues that the risk of losing customers to competition should not affect capital costs and, on the other hand, he inconsistently asserts that the risk of bypass, which is just one way of losing customers, is relevant and thus affects capital costs.

Mr. Hirshleifer also inconsistently argues that:

In this proceeding, BA-NY's business at issue [sic] is not a diversified telephone holding company, but a company in the more specialized (and less risky) business of providing UNEs. (Direct Testimony, p. 47, lines 16 – 19.)

This observation is logically flawed, inconsistent, and apparently was intended to apply to Bell Atlantic in another proceeding outside of the state of Florida. If we accept Mr. Hirshleifer's assumption that diversification reduces relevant or priced risk, then the fact that "... the business at issue is not a diversified telephone holding company" could imply that it is *riskier*, not "less risky" than a diversified holding company. Mr. Hirshleifer's positions on relevant risk are confusing and inconsistent.

While Mr. Hirshleifer's view that greater risk of competition is not compensated in the cost of capital is strictly true in the pristine theoretical world of the CAPM, the practical realities of investing suggest otherwise. Indeed, the Federal Communications Commission (FCC) has stated that "... potential competition could increase the risks facing the incumbent LECs, and thus increase their cost of capital" (Notice of Proposed Rulemaking, Third Report and Order, and Notice of Inquiry, FCC 96-488, December 24, 1996, page 101, paragraph 228). Consequently, in contrast to Mr. Hirshleifer, the FCC views the enhanced risk posed by competition as a practical, significant influence on capital costs. While the CAPM provides useful insights into capital costs, it must be supplemented with other methods that recognize

1 the full array of practical risks facing investors, which Mr. Hirshleifer fails to do.

2
3 **III. REBUTTALS OF MR. WILLIAM J. BARTA'S REBUTTAL TESTIMONY**
4 **FILED ON BEHALF OF THE FCTA AND MS. CAROL BENTLEY'S**
5 **REBUTTAL TESTIMONY FILED ON BEHALF OF SUPRA**

6
7 **A. REBUTTAL OF MR BARTA'S TESTIMONY ON BEHALF OF THE FCTA**

8
9 **Q. What is Mr. Barta's stated opinion on the ILECs' capital costs?**

10 A. Mr. Barta observes that "... [i]t is likely that the forward-looking cost of capital for each of
11 the ILECs falls below the FCC's benchmark rate of return of 11.25% ..." (Rebuttal
12 Testimony, p. 12, line 24 – p. 13, line 1).

13
14 **Q. Does Mr. Barta offer any empirical evidence or provide any explanation for his**
15 **opinion concerning the ILECs' forward-looking cost of capital?**

16 A. No. Mr. Barta provides no evidence or explanation to support his opinion.

17
18 **Q. What is your evaluation of Mr. Barta's opinion that the ILECs' overall cost of capital**
19 **is below 11.25%?**

20 A. As summarized above and explained in detail below, I provide objective market-based
21 analysis that demonstrates that Mr. Barta's unsupported opinion concerning the ILEC's
22 capital costs does not apply to BST. Specifically, I show that BST's forward-looking overall
23 cost of capital is in the range of 14.66% to 15.34%, which is far in excess of 11.25%. Mr.
24 Barta comes forward with nothing to question this finding.

B. REBUTTAL OF MS. BENTLEY'S TESTIMONY ON BEHALF OF SUPRA

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Q. What is Ms. Bentley's position on the ILECs' riskiness and capital costs?

A. Ms. Bentley argues that "... the capital markets still view investments into these companies as being essentially risk-free" and concludes that "... shareholder investments into ILECs should not be allowed more than an eight to ten percent ... rate of return" (Rebuttal Testimony, p. 9, lines 3 – 7).

Q. Does Ms. Bentley offer any empirical evidence for her position that ILECs are "essentially risk-free" or that an appropriate return to ILEC shareholders is 8% to 10%?

A. No. Ms. Bentley provides no evidence to support her position.

Q. What is your evaluation of Ms. Bentley's opinions on the riskiness of the ILECs and their capital costs?

A. I believe that her unsupported opinions on the above points are contradicted by empirical capital market evidence in the case of BST. First, my analysis below shows that firms comparable in risk to BST have an average beta (systematic risk) coefficient of 0.78. A risk-free investment has a beta of 0. Thus, empirical capital market evidence decisively contradicts Ms. Bentley's assumption that the ILECs in general are "essentially risk-free" since BST is far from being so. Second, my analysis below demonstrates that BST's cost of equity is between 15.50% and 16.26%, which clearly indicates that the market perceives BST to be far from "essentially risk-free." Ms. Bentley's unsupported opinions on the ILECs' capital costs and riskiness are contradicted by capital market evidence.

1 **Q. Does this conclude your rebuttal testimony?**

2 **A. Yes.**

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1 MS. KEATING: Next is BellSouth's
2 Witness Milner.

3 CHAIRMAN DEASON: Witness Milner's prefiled
4 testimony without objection shall be inserted into the
5 record.

6 MS. KEATING: And Witness Milner had one
7 exhibit, WKM-1.

8 CHAIRMAN DEASON: That exhibit shall be
9 identified as Exhibit 41, and without objection shall be
10 admitted into the record.

11 (Exhibit Number 41 marked for identification and
12 entered into the record.)

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1 BELLSOUTH TELECOMMUNICATIONS, INC.
2 DIRECT TESTIMONY OF W. KEITH MILNER
3 BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION
4 DOCKET NO. 990649-TP
5 MAY 1, 2000

6
7 Q. PLEASE STATE YOUR NAME, YOUR BUSINESS ADDRESS, AND
8 YOUR POSITION WITH BELLSOUTH TELECOMMUNICATIONS, INC.
9 (BELLSOUTH).

10
11 A. My name is W. Keith Milner. My business address is 675 West Peachtree
12 Street, Atlanta, Georgia 30375. I am Senior Director - Interconnection
13 Services for BellSouth. I have served in my present role since February
14 1996, and have been involved with the management of certain issues
15 related to local interconnection, resale, and unbundling.

16
17 Q. PLEASE SUMMARIZE YOUR BACKGROUND AND EXPERIENCE.

18
19 A. My business career spans over 29 years and includes responsibilities in
20 the areas of network planning, engineering, training, administration, and
21 operations. I have held positions of responsibility with a local exchange
22 telephone company, a long distance company, and a research and
23 development company. I have extensive experience in all phases of
24 telecommunications network planning, deployment, and operations
25 (including research and development) in both the domestic and

1 international arenas.

2

3 I graduated from Fayetteville Technical Institute in Fayetteville, North
4 Carolina, in 1970, with an Associate of Applied Science in Business
5 Administration degree. I later graduated from Georgia State University in
6 1992 with a Master of Business Administration degree.

7

8 Q. HAVE YOU TESTIFIED PREVIOUSLY BEFORE ANY STATE PUBLIC
9 SERVICE COMMISSION, AND IF SO, BRIEFLY DESCRIBE THE
10 SUBJECT OF YOUR TESTIMONY?

11

12 A. I have previously testified before the state public service commissions in
13 Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, and South
14 Carolina, the Tennessee Regulatory Authority, and the Utilities
15 Commission in North Carolina on the issues of technical capabilities of the
16 switching and facilities network regarding the introduction of new service
17 offerings, expanded calling areas, unbundling, and network
18 interconnection.

19

20 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY BEING FILED
21 TODAY?

22

23 A. In my testimony, I will address the technical aspects of certain network-
24 related issues raised in this docket. These issues, in whole or in part, are
25 issues 3, 4, and 7.

1

2 **Issue 3(a): What are xDSL capable loops?**

3

4 Q. PLEASE DESCRIBE BELLSOUTH'S UNBUNDLED XDSL LOOP TYPES.

5

6 A. High Bit-Rate Digital Subscriber Line (HDSL) Compatible Loop: These
7 loops are best suited for HDSL services. The technical characteristics of a
8 loop are screened to ensure that the loop meets stringent industry
9 standards for Carrier Serving Area (CSA) transmission specifications to
10 support HDSL services. The strict requirements for these loops mean that
11 the end user must be served by a non-loaded copper pair, and the loop
12 typically cannot be more than 12,000 feet long on 24 gauge copper wire.
13 If 26 gauge copper wire is used, the limit is 9,000 feet or less. In either
14 case, the loop may have up to 2,500 feet of bridged tap with no single
15 bridged tap exceeding 2,000 feet.

16

17 Asymmetrical Digital Subscriber Line (ADSL) Compatible Loop: These
18 copper loops are provisioned according to the Revised Resistance Design
19 (RRD) industry standards which means they may be up to 18,000 feet
20 long and may have up to 6,000 feet of bridged tap which is inclusive of the
21 loop length. This means that for every foot of bridged tap, the loop length
22 is reduced by an equal amount. Therefore, an RRD loop that has 4,000
23 feet of bridged tap could be no longer than 14,000 feet.

24

1 Originally the ADSL compatible loop was set to the same CSA criteria as
2 the HDSL capable loop. However, in response to requests from ALECs,
3 the loop was changed to the RRD standards during the first quarter of
4 2000.

5
6 BellSouth developed both the HDSL capable loop and the ADSL capable
7 loop in response to the FCC's 96-325 Order and both loop types have
8 been available to Alternative Local Exchange Carriers (ALECs) since the
9 fourth quarter of 1996.

10
11 Unbundled Copper Loop (UCL) - These loops provide a "dry" copper pair
12 (that is, without using electronic devices) to an end user using the
13 Resistance Design (RD) industry standard. These loops may be up to
14 18,000 feet long and may have up to 6,000 feet of bridged tap, which is
15 exclusive of the loop length. This means the loop length is not reduced by
16 the bridged tap amount. Therefore, in some cases, the loop length may
17 be 18,000 feet long and have up to 6,000 feet of bridged tap. BellSouth is
18 not able to ensure that these loops will function properly for DSL service
19 since their physical characteristics may be beyond the maximum distance
20 for some DSL services and equipment. However, BellSouth will ensure
21 that these loops have electrical continuity and balance relative to the tip
22 and ring.

23
24 The UCL was developed at the request of ALECs. The UCL has been
25 available to ALECs since the second quarter of 1999. BellSouth has also

1 recently developed a new variant of UCL. The UCL Long (UCL-L)
2 unbundled loop is a copper loop that is longer than 18,000 feet. Typically
3 applied telephony standards dictate that all copper loops longer than
4 18,000 feet would be loaded to properly serve dial-tone or "plain old
5 telephone service" (POTS) type customers. Therefore, the ALEC would
6 need to use BellSouth's Unbundled Loop Modifications (ULM) service
7 offering to have any load coils and/or bridged tap removed from these
8 loops in order to transform them into "dry" or "clean" copper loops. Mr.
9 Varner addresses the issue of rates for ULM.

10
11 Q. DOES BELLSOUTH HAVE ANY ADDITIONAL XDSL LOOPS?

12
13 A. BellSouth offers its Integrated Services Digital Network (ISDN)-capable
14 loop and is developing the Universal Digital Channel (UDC)-capable loop.
15 These loops are not specifically categorized as xDSL-capable loops but
16 they may support the DSL service known as Integrated Services Digital
17 Network Digital Subscriber Line (IDSL). BellSouth provisions its ISDN-
18 capable loops according to applicable industry standards which means
19 they may be provisioned over copper or via a Digital Loop Carrier (DLC)
20 system. These loops are also free of any load coils prior but are not
21 referred to as "clean copper loops" because they may be provisioned via
22 DLC systems which are completely compatible with ISDN service. As
23 mentioned, BellSouth is in the process of developing a loop known as a
24 UDC loop. This is the same as the ISDN-capable loop but is provisioned

1 in a manner that supports "data-only" ISDN that will better meet the needs
2 of ALECs that want to deploy IDSL.

3
4 **Issue 3(b): Should a cost study for xDSL-capable loops make distinctions**
5 **based on loop length and/or the particular DSL technology to be deployed?**

6
7 Q. WHAT IS THE IMPACT OF LOOP LENGTH AND/OR THE PARTICULAR
8 DSL TECHNOLOGY ON COST?

9
10 A. The usefulness of BellSouth's unbundled loops for the provisioning of DSL
11 services depends on a variety of factors, including the end user's distance
12 from the serving wire center, as well as the length and gauge of the
13 copper wire that serves the customer. Significantly, the same copper
14 loops that are used to provide DSL services are also utilized to provide
15 voice service to BellSouth's customers, as well as to other ALECs'
16 customers.

17
18 BellSouth ensures that the unbundled loops it provides meet appropriate
19 technical standards. As the FCC recognized: "[p]rovision of xDSL service
20 is subject to a variety of important technical constraints. One is the length
21 of the subscriber loop: ADSL, the most widely deployed xDSL-based
22 service, generally requires loops of less than 18,000 feet using current
23 technology. Another is the quality of the loop, which must be free of
24 excessive bridged taps, loading coils, and other devices commonly used
25 to aid in the provision of analog voice and data transmission, but which

1 interfere with the provision of xDSL services. 'Conditioning' loops to
2 remove those impediments, or constructing fiber-based digital loop carrier
3 systems to overcome loop length difficulties, can be expensive." See
4 Third Report and Order in CC Docket No. 98-147, rel. Dec. 9, 1999, ¶ 8, n.
5 9.

6
7 As a result of the above and as discussed in Issue 3(a) above, it is quite
8 evident that the cost of provisioning xDSL services is a function of both the
9 loop length and the particular DSL technology to be deployed. As a result,
10 it is appropriate for a cost study for xDSL-compatible loops to recognize
11 distinctions based on loop length for the particular DSL technology to be
12 deployed.

13
14 **Issue 4(b): How should access to such sub-loop elements be provided, and**
15 **how should prices be set?**

16
17 Q. WHAT IS BELLSOUTH'S POSITION ON THIS ISSUE?

18
19 A. BellSouth believes that access to such sub-loop elements should be
20 provided in a similar manner as approved by this Commission in its order
21 in Docket No. 990149-TP wherein the Commission approved BellSouth's
22 method of providing MediaOne with access to the sub-loop element called
23 Network Terminating Wire (NTW) in multiple dwelling units (MDU's). As I
24 will discuss in the following paragraphs, the considerations applicable to
25 access to a sub-loop element are the same whether the access point is at

1 an MDU or at some other point in the network between an end-user's
2 premises and the serving central office. Therefore, the concept of an
3 access terminal (as described by BellSouth in the MediaOne docket) by
4 which an ALEC can gain access to the unbundled sub-loop element
5 provides an appropriate level of technical security for the networks of each
6 company involved. Mr. Varner will address pricing issues in his testimony.

7
8 Q. WHAT ARE SUB-LOOP ELEMENTS?

9
10 A. Sub-loop elements are the individual elements that make up the entire
11 loop that extends from the BellSouth central office to the demarcation
12 point between BellSouth's network and the inside wire at the end user
13 customer's premises. No sub-loop elements, including those accounted
14 for as Network Terminating Wire (NTW) and Intra-building Network Cable
15 (INC), are classified as inside wire. Rather, since these sub-loop
16 elements are on the network side of the demarcation point, sub-loop
17 elements are all parts of BellSouth's loop facilities and, as such, are
18 subject to unbundling per the FCC's UNE Remand Order.

19
20 Q. PLEASE GIVE A BRIEF DESCRIPTION OF THE TECHNOLOGY
21 BELL SOUTH USES IN PROVIDING CUSTOMER LOOPS.

22
23 A. Today, BellSouth uses many types of facilities and technologies to
24 provision loops to its customers. In some cases, the facility may be a
25 basic architecture consisting of a pair of copper wires that extend from the

1 Main Distributing Frame (MDF) of the central office to the Network
2 Interface Device (NID) at the end user's premises. In other cases,
3 BellSouth may use a mixture of fiber optic cables, pairs of copper wires,
4 and sophisticated electronics to provision a circuit from the central office to
5 the end customer. As an example, Digital Loop Carrier (DLC) is one such
6 technology that uses a mixture of facilities and electronic equipment to
7 provide loops to end user customers. By offering these different types of
8 provisioning options, BellSouth is able to provide optimum flexibility and
9 cost-effectiveness during its service provisioning and maintenance
10 processes.

11
12 Q. PLEASE DISCUSS THE SUB-LOOP ELEMENT REFERRED TO AS
13 LOOP FEEDER.

14
15 A. In many cases BellSouth deploys a multiple circuit copper cable (for
16 example, a 1,200 pair cable) from its central office to a remote terminal
17 (RT) or cross-box located somewhere between the central office and the
18 end user customer's location. Each pair within this cable can be used to
19 carry a single voice conversation. This section of the loop is called the
20 loop feeder. Sometimes, loop feeder has been referred to as "the first
21 mile" of the loop in that it is the first section of cable leaving the BellSouth
22 central office headed towards a customer's premises. This loop feeder
23 section may also be provisioned using fiber optic cable.

24
25 The copper pairs of the loop feeder are then individually cross-connected

1 to pairs in smaller cables called loop distribution. The loop distribution
2 cables are attached to the loop feeder cables and serve all the houses or
3 businesses in a sub-section of one of the central office's serving areas.

4

5 Q. PLEASE DESCRIBE THE SUB-LOOP ELEMENT REFERRED TO AS
6 LOOP DISTRIBUTION.

7

8 A. Loop distribution facilities have been referred to as the "last mile" because
9 these are the facilities that go the "last mile" to the customer's premises.
10 The loop distribution cables are used to, in effect, "fan out" the availability
11 of the cable pairs and/or transmission channels, if electronic digital loop
12 carrier equipment is used, from the loop feeder cables. In this regard, the
13 cables one would see within a sub-division are generally loop distribution
14 cables. Between the loop feeder cable and the loop distribution cable is a
15 cabinet, above ground "hut", or below ground "controlled environment
16 vault" within which cross-connections and/or electronics are located.
17 These structures have been variously described as the
18 "Feeder/Distribution Interface", the "Serving Area Interface", the "Remote
19 Terminal" or, in its most simplistic configuration a "cross-connect box" or
20 simply "cross-box". Any of these terms provides a reasonable description
21 of the function of connecting a copper cable pair or fiber optic facility in the
22 loop feeder cable to a copper cable pair in the loop distribution cable. The
23 loop distribution facility eventually runs to the customer's building and is
24 then connected to Intrabuilding Network Cable (INC) and/or Network
25 Terminating Wire (NTW), or in single family dwellings, a "drop wire", which

1 connects the entire loop to the device called the Network Interface Device
2 (NID).

3
4 Q. PLEASE DESCRIBE THE SUB-LOOP ELEMENT REFERRED TO AS
5 THE NETWORK INTERFACE DEVICE (NID).

6
7 A. Simply stated, the NID provides a demarcation point between BellSouth's
8 facilities (that is, the loop) and the customer's facilities (that is, the inside
9 wire). Thus, the NID provides a way to connect the loop to the inside wire.
10 In some cases, the NID provides additional functions such as lightning
11 protection and loopback testing.

12
13 Q. PLEASE DESCRIBE THE SUB-LOOP ELEMENT REFERRED TO AS
14 INTRABUILDING NETWORK CABLE (INC).

15
16 A. In multi-story buildings, and in some campus-type properties, INC is that
17 part of BellSouth's loop facilities extending from a cross-connect terminal
18 at, or close to, the entrance point of the distribution cable. INC is another
19 sub-loop element that is located on the network side of the demarcation
20 point between BellSouth's network and the inside wire at an end user
21 customer's premises. INC in some cases is referred to as "riser cable."
22 Although INC may in some cases connect directly to the NID, typically it
23 connects to NTW in a wiring closet prior to final termination at the end
24 user's NID.

25

1 Q. PLEASE DESCRIBE THE SUB-LOOP ELEMENT REFERRED TO AS
2 NETWORK TERMINATING WIRE (NTW).

3

4 A. NTW is another sub-loop element of the BellSouth loop. Depending on
5 the type of building served, NTW provides a copper wire transmission path
6 between distribution cable or INC, and "fans out" to individual customer
7 suites or rooms within that building. In this sense, NTW is the "last" part of
8 the loop on the network side of the demarcation point.

9

10 To summarize, loop feeder cables are connected to loop distribution
11 cables which, in turn, are connected to INC and/or NTW, depending on
12 the situation, either of which then extends the loop to its final termination
13 at the customer's NID. The NID establishes the demarcation point
14 between BellSouth's network and the inside wire at the end user
15 customer's premises with both NTW, INC, loop distribution, and loop
16 feeder being located on BellSouth's side of the demarcation point and,
17 thus, comprising sub-loop elements of BellSouth's network.

18

19 Q. IS INTRABUILDING NETWORK CABLE (INC) AND NETWORK
20 TERMINATING WIRE (NTW) PART OF BELLSOUTH'S LOOP, OR ARE
21 THEY "INSIDE WIRE"?

22

23 A. INC (sometimes referred to as "riser cable") and NTW are sub-elements
24 of the loop. BellSouth expects to be, and is entitled to be, compensated
25 for the parts of BellSouth's loop used by an ALEC, including INC and

1 NTW. The loop, including all sub-elements, is on the network side of the
2 demarcation point or NID. The inside wire is on the customer's side of
3 that demarcation point. The demarcation point has clearly been
4 established by this Commission's rule 25-4.0345-1B.

5

6 **Q. WHAT IS BELLSOUTH'S BASIC POSITION REGARDING ALEC'S**
7 **ACCESS TO SUB-LOOP ELEMENTS LOCATED ON BELLSOUTH'S**
8 **SIDE OF THE DEMARCATION POINT?**

9

10 **A. Because BellSouth's loop feeder, loop distribution, NTW, and INC**
11 **constitute sub-loop elements, ALECs should obtain access to them in the**
12 **same manner as it obtains access to any other network element -- by**
13 **placing an order with BellSouth and paying a just and reasonable price for**
14 **the element.**

15

16 **Q. DOES BELLSOUTH PROVIDE ALECS UNBUNDLED ACCESS TO SUB-**
17 **LOOP ELEMENTS?**

18

19 **A. BellSouth offers access to all elements of its loop network through sub-**
20 **loop unbundling offerings that comply with the FCC's UNE Remand Order**
21 **and FCC Rule 319(a). In keeping with the full intent of the FCC's UNE**
22 **Remand Order, BellSouth is, and has been, providing sub-loop unbundling**
23 **at technically feasible points of access.**

24

25 **Q. PER THE FCC'S UNE REMAND ORDER, WHAT DO TECHNICALLY**

1 FEASIBLE POINTS OF ACCESS INCLUDE?

2

3 A. BellSouth will provide sub-loop unbundling at those technically feasible
4 points of access per the FCC's Remand Order. However, the Order
5 relating to access points is not entirely clear on this issue, and BellSouth
6 has sought additional clarification from the FCC as part of a Petition For
7 Reconsideration of the 319 Order. For example, the meaning of "access
8 to the Minimum Point of Entry (MPOE)" is unclear since the term MPOE is
9 generally used to define a location of the demarcation point, not a cross-
10 connect block or some other piece of hardware. In this sense, BellSouth
11 has no control over ALEC access to the location on a property for access
12 to facilities that are on the customer side of the demarcation at the MPOE.

13

14 Q. IS BELLSOUTH'S POSITION CONSISTENT WITH THIS COMMISSION'S
15 RULES REGARDING DEMARCATION POINTS?

16

17 A. Yes. BellSouth's position is entirely consistent with the rules created by
18 this Commission's rule 25-4.0345-1B.

19

20 Q. ARE THERE ANY OTHER AREAS OF CLARIFICATION THAT NEED TO
21 BE ADDRESSED RELATIVE TO "TECHNICALLY FEASIBLE POINTS OF
22 ACCESS"?

23

24 A. Yes. Access to sub-loop unbundling at the Main Distributing Frame (MDF)
25 is viable only for those network elements that normally terminate on the

1 MDF. One example of such a sub-loop element is loop feeder.

2

3 Q. WHAT IS YOUR UNDERSTANDING OF THE FCC'S STATEMENT THAT
4 BELLSOUTH IS REQUIRED TO PROVIDE ALECS "ACCESS TO
5 BELLSOUTH-OWNED INSIDE WIRING", AND WHAT IS ITS IMPACT, IF
6 ANY?

7

8 A. First, let me set out what the FCC stated. The FCC's Remand Order at
9 ¶223 is as follows:

10 We clarify that "technically feasible points" would include a point
11 near the customer premises, such as the point of interconnection
12 between the drop and the distribution cable, the NID, or the MPOE.
13 Such access would give competitors unbundled access to the
14 inside wire sub-loop element, in cases where the incumbent owns
15 and controls wire inside the customer premises. It would also
16 include any FDI, whether the FDI is located at a cabinet, CEV,
17 remote terminal, utility room in a multi-dwelling unit, or any
18 other accessible terminal. (Emphasis added).

19

20 The FCC's Remand Order at ¶182 describes more specifically "control" of
21 inside wire as follows:

22 Section 68.3 of our rules defines the demarcation point as that point
23 on the loop where the telephone company's control of the wire
24 ceases, and the subscriber's control (or, in the case of some
25 multiunit premises, the landlord's control) of the wire begins. Thus,

1 the demarcation point is defined by control; it is not a fixed location
2 on the network, but rather a point where an incumbent's and a
3 property owner's responsibilities meet. The demarcation point is
4 often, but not always, located at the minimum point of entry
5 (MPOE), which is the closest practicable point to where the
6 wire crosses a property line or enters a building. In multiunit
7 premises, there may be either a single demarcation point for the
8 entire building or separate demarcation points for each tenant,
9 located at any of several locations, depending on the date the
10 inside wire was installed, the local carrier's reasonable and
11 nondiscriminatory practices, and the property owner's preferences.
12 Thus, depending on the circumstances, the demarcation point may
13 be located either at the NID, outside the NID, or inside the NID.

14
15 The above paragraphs from the Order suggest to me that the FCC
16 intended to include in the unbundling of what it refers to as "inside wire"
17 those facilities that exist today on the network side of the demarcation
18 point, and which are included in BellSouth's Accounts and Subsidiary
19 Records Categories as Network Terminating Wire (NTW), and that which
20 are defined in Part 32 of the Uniform System Of Accounting (USOA) as
21 Intrabuilding Network Cable (INC). As defined in several previous FCC
22 Orders, however, "inside wire" is located on the customer's side of the
23 demarcation point and is under control of the end user or, in some cases,
24 the landlord. In the situation of NTW and INC, ALECs should obtain
25 access to these sub-loop elements from BellSouth in the same manner as

1 it obtains access to any other unbundled network element. As to access
2 to the inside wire within the end user's premises, such access should be
3 obtained from the end user, or building owner.

4

5 Q. WHAT IMPACT, IF ANY, WOULD DIRECT ACCESS TO SUB-LOOP
6 UNBUNDLING HAVE ON END USER CUSTOMERS?

7

8 A. BellSouth believes that direct access by ALEC technicians could,
9 intentionally or unintentionally, disrupt the service provided by BellSouth to
10 end user customers, including both BellSouth's and ALECs' end user
11 customers. The FCC requires that "each carrier must be able to retain
12 responsibility for the management, control, and performance of its own
13 network." (First Report and Order in Docket 96-325, ¶ 203) If allowed,
14 direct access would render BellSouth incapable of managing and
15 controlling its network in the provision of service to its and certain ALECs'
16 end user customers. For reasons of network reliability and security,
17 BellSouth believes that direct access to its network facilities by ALECs is
18 not in the best interests of the end user customer, whether they be end
19 user customers of BellSouth or the ALECs.

20

21 Q. HAVE ANY STATE UTILITY COMMISSIONS CONSIDERED THE
22 APPROPRIATE METHOD FOR ALECS TO HAVE ACCESS TO
23 BELL SOUTH'S SUB-LOOP ELEMENTS?

24

25 A. Yes. This Commission considered the issue of access to the sub-loop

1 element referred to as Network Terminating Wire (NTW) in the arbitration
2 proceedings between BellSouth and MediaOne in Docket No. 990149-TP.
3 Also, the Georgia Public Service Commission considered this same issue
4 of access to NTW in the arbitration proceedings between BellSouth and
5 MediaOne in Docket No. 10418-U.

6
7 This Commission denied direct access to NTW and required an access
8 terminal to be placed between BellSouth's network and MediaOne's
9 network. The access terminal gives MediaOne the access to NTW it
10 desires without reducing network reliability and security. BellSouth
11 believes the underlying issues here (that is, providing a ALEC unbundled
12 access to the other sub-loop elements while preserving network reliability
13 and security) are the same as were addressed in the MediaOne arbitration
14 cited above. This Commission determined that MediaOne and others
15 could gain access to unbundled NTW without reducing network security
16 and reliability by adopting BellSouth's proposed form of access. A portion
17 of that Order follows:

18
19 "The record does not contain evidence of any case which would
20 support a proposal where one party is seeking to use its own
21 personnel to, in effect, modify the configuration of another party's
22 network without the owning party being present. We find that
23 MediaOne's proposal to physically separate BellSouth's NTW
24 cross-connect facility from BellSouth's outside distribution cross-
25 connect facilities is an unrealistic approach for meeting its

1 objectives. Therefore, BellSouth is perfectly within its rights to not
2 allow MediaOne technicians to modify BellSouth's network.

3

4 ...Based on the evidence presented at the hearing, we believe that
5 it is in the best interests of the parties that the physical
6 interconnection of MediaOne's network be achieved as proposed
7 by BellSouth.

8

9 We find from the record that at least one other ALEC in Florida and
10 an unknown number of ALECs in other states have been able to
11 provide service based on BellSouth's NTW proposal. Thus,
12 we believe that MediaOne should be able to provide service using
13 BellSouth's NTW proposal..."

14

15 The Georgia Commission likewise found that MediaOne should gain
16 access through the use of an access terminal and BellSouth's facilities. In
17 its Order, the Commission stated:

18

19 "As stated in the prior section, to the extent there is not currently a
20 single point of interconnection that can be feasibly accessed by
21 MediaOne, consistent with the FCC's Third Report and Order,
22 BellSouth must construct a single point of interconnection that will
23 be fully accessible and suitable for use by multiple carriers. Such
24 single points of interconnection shall be constructed consistent with
25 MediaOne's proposal such that MediaOne shall provide its own

1 cross connect (CSX) facility in the wiring closet to connect from the
2 building back to its network. MediaOne would then be able to
3 connect its customers within the MDU [that is, the Multiple Dwelling
4 Unit] by means of an 'access CSX'."

5
6 BellSouth believes the use of access terminals as ordered by the Florida
7 Commission and the Georgia Commission gives ALECs the requisite
8 access to unbundled sub-loop elements while still maintaining network
9 reliability and security. Such access should apply to all sub-loop
10 elements.

11
12 Q. WHAT IS YOUR UNDERSTANDING OF THE TERM "SPOI" AS USED
13 BY THE FCC IN ITS 319 REMAND ORDER?

14
15 A. The term "SPOI" refers to a single point of interconnection at multi-unit
16 premises that is suitable for use by multiple telecommunications carriers. I
17 believe the SPOI to be conceptually identical to the serving arrangement
18 approved by this Commission in the MediaOne Docket discussed above
19 except that it is intended for use by multiple carriers rather than by a single
20 carrier. Further, if the SPOI were established following the form of access
21 this Commission ordered for access to NTW in the previously mentioned
22 MediaOne arbitration proceeding, I believe that the resulting SPOI would
23 be compliant with this Commission's rule 25-4.0345-1B.

24
25 Q. HAVE YOU PREPARED AN EXHIBIT WHICH ILLUSTRATES AN

1 EXAMPLE OF BELL SOUTH'S PROPOSAL REGARDING SUB-LOOP
2 UNBUNDLING?

3

4 A. Yes. Exhibit WKM-1, which is attached to this testimony, contains four (4)
5 pages that I hope will aid in understanding this issue. Page 1 shows the
6 typical access to unbundled NTW in a "garden" apartment. The
7 apartments on page 1 could as easily be envisioned as separate floors in
8 a multi-story building. The point to be made here is that the access
9 terminal is cross-connected by tie cable pairs with the terminals of both
10 BellSouth and the ALEC thus allowing an ALEC access while preserving
11 network reliability and security. The access terminal in this scenario could
12 also function as a SPOI for UNTW access. Page 2 shows a typical
13 serving arrangement in multi-story buildings for which BellSouth is, at
14 present, the sole provider of telephone service. Page 3 shows BellSouth's
15 proposed form of access for an ALEC to the sub-loop elements NTW and
16 INC. BellSouth proposes the use of an access terminal or connecting
17 block on the cross-connect panel that is cross-connected by tie cable with
18 the terminals of both BellSouth and the ALEC. The cross-connect panel
19 for INC and the access terminal for UNTW access could also be serve as
20 a SPOI for use by multiple carriers. Page 4 shows access to the sub-loop
21 element Loop Distribution. In this instance only, an access terminal is
22 usually not appropriate because of severe space limitations within the
23 "cross-box" or similar structure. Rather, direct connections are made on
24 behalf of the ALEC at the "cross-box", provided there is space, by
25 BellSouth technicians.

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Issue 7: What are the appropriate assumptions and inputs for the following items to be used in the forward-looking recurring UNE cost studies?

(i) fiber cable (material and placement costs)

(j) copper cable (material and placement costs)

(m) digital loop carrier costs

Q. PLEASE PROVIDE THE NETWORK TECHNOLOGY ASSUMPTIONS USED IN DEVELOPING THE UNE LOOP COST STUDY?

A. *The network infrastructure design in the loop cost methodology starts with two basic assumptions. First, loops up to 12,000 feet from the central office are designed using copper. Second, loops longer than 12,000 feet are provided service using fiber feeder facilities and Next Generation Digital Loop Carrier (NGDLC).*

Q. PLEASE EXPLAIN WHY FIBER FEEDER FACILITIES ARE USED RATHER THAN COPPER FOR LOOPS LONGER THAN 12,000 FEET.

A. *The Total Element Long Run Incremental Cost (TELRIC) cost study methodology requires the use of the most economic architecture for the service for which costs are being developed. As explained by Ms. Caldwell in her testimony regarding the development of the loop costs, the primary consideration was for voice grade (or "narrowband") services. Costs were developed for loops of increasing length using both copper*

1 cable and fiber fed digital loop carrier. Depending on the type of
2 construction (aerial versus buried cable) and the volume of demand (cable
3 size or NGDLC size), the economics of provisioning begin to indicate the
4 use of fiber fed NGDLC rather than copper cable at approximately 10,000
5 feet of total loop length. Therefore, the economic crossover distance for
6 loop studies for voice grade services is approximately 12,000 feet.

7
8 It should be noted that, in actual network design, voice grade services are
9 mixed with demand for other types of service such as DS-1 and higher
10 bandwidth services. In selecting the infrastructure design for a network to
11 meet all of these demands, new copper cable is rarely the facility of choice
12 for the feeder network. Instead, fiber cable with fiber optic multiplexers
13 and NGDLC are used to meet the combined demand on the cable route.

14
15 Q. WHERE FIBER FED NGDLC IS PROVISIONED, PLEASE EXPLAIN
16 WHAT DESIGN CRITERIA ARE USED TO DETERMINE THE DESIGN
17 OF THE CABLE PLANT EXTENDING FROM THE NGDLC TO THE
18 CUSTOMER LOCATION?

19
20 A. Carrier Serving Area (CSA) design provides the rules for provisioning the
21 cable plant extending from the NGDLC to the customer location. These
22 design rules limit the total loop length from the NGDLC site to the
23 customer to 12,000 feet. Included in this 12,000 feet may be a maximum
24 of 2,500 feet of bridged tap. No single bridged tap may be longer than
25 2,000 feet.

1

2 Q. PLEASE EXPLAIN THE BENEFIT OF USING THE CARRIER SERVING
3 AREA DESIGN.

4

5 A. The economics that limit copper cable deployment distances from the
6 central office to the customer location are the same as those that limit
7 copper cable deployment from the NGDLC to the customer location. In
8 addition to the economics of the design itself, the 12,000 foot maximum
9 copper cable length makes copper loops compatible with many of the
10 digital subscriber line (DSL) technologies used today in providing
11 advanced services.

12

13 Q. IN YOUR TESTIMONY SO FAR, ONLY NGDLC HAS BEEN
14 MENTIONED. WHAT IS THE DIFFERENCE BETWEEN NGDLC AND
15 OTHER FORMS OF DIGITAL LOOP CARRIER (DLC)?

16

17 A. NGDLC describes a version of digital loop carrier equipment that provides
18 many enhanced services and cost-reducing features that are not available
19 on the older DLC systems. NGDLC systems are designed to support a
20 larger capacity of lines, up to 2,016, from a single common equipment set
21 than older vintages of DLC. For example, the larger capacity of NGDLC is
22 a significant improvement over the 96-line capacity of the older vintage
23 DLC referred to as "SLC-96", manufactured by Lucent Technologies.

24

1 Older vintage DLC cannot mix switched and non-switched provisioning
2 within a 96-line group economically and can only use integrated central
3 office alternatives economically when the 96-line group consists almost
4 entirely of switched service. In contrast, NGDLC remote terminals can be
5 configured on a circuit by circuit basis using integrated or universal central
6 office alternatives to provide switched and non-switched services.

7
8 In providing switched services, NGDLC can be integrated with the local
9 digital switch. In this mode of operation, traffic from the remote NGDLC
10 site to the central office can be concentrated onto only the number of
11 circuits required by the types of services provisioned from that site.
12 Typically, residential services can be concentrated at a 4:1 ratio. This
13 means that, on average, only one (1) line of capacity is required from the
14 NGDLC site to the switch for each four (4) residential lines served from the
15 NGDLC. For business services the typical concentration ratio is closer to
16 3:1.

17
18 In the older DLC systems, when DLC is integrated with the switch, it can
19 be configured with either no concentration or with 2:1 concentration. In
20 either circumstance, DLC uses more feeder capacity per line than does
21 NGDLC.

22
23 In providing non-switched services, NGDLC has the capability, on a line
24 by line basis, to provision remote NGDLC lines through the universal
25 capacity of the NGDLC central office terminal. This allows non-switched

1 services to be routed around the central office switch to connect with the
2 other customer locations of the non-switched services or to interconnect
3 with another telecommunications carrier's facilities. Since these services
4 are not switched, concentration is not feasible.

5

6 Q. WHY IS NGDLC ASSUMED IN THE LOOP COST METHODOLOGY?

7

8 A. The technical reasons I have described above provide the most forward
9 looking architecture to provide for voice grade loop requirements. These
10 technical advantages also offer economic advantages over older vintages
11 of DLC. Larger line capacity on the NGDLC system achieves economies
12 of scale, producing lower overall equipment costs. The capability to mix
13 switched and non-switched services on the same system eliminates
14 wasted capacity which adds economic benefit. Finally, the combination of
15 larger line capacity and greater concentration capability reduces loop
16 feeder capacity requirements resulting in lower overall costs.

17

18 Q. IN DISCUSSING OLDER VINTAGE DLC AND NGDLC, YOU MENTION
19 INTEGRATION WITH THE CENTRAL OFFICE SWITCH. PLEASE
20 DESCRIBE THE REQUIREMENTS THAT ARE FOLLOWED TO MAKE
21 INTERFACING WITH THE SWITCH POSSIBLE.

22

23 A. Two technical documents provide descriptions of digital loop carrier
24 systems and how they interface with local digital switches in the integrated
25 configurations. The first document to be issued was Technical Reference-

1 008 (TR-008). This document, authored by Bell Communications
2 Research, Inc. or "Bellcore" (the forerunner of Telecordia), described the
3 SLC-96 digital loop carrier system manufactured by AT&T before
4 divestiture and the document was jointly owned by AT&T and the Regional
5 Bell Operating Companies (RBOCs) at divestiture. The major portion of
6 that description still in use today is the portion describing the interface that
7 allows remote NGDLC/DLC to connect directly to a local digital switch at
8 the DS-1 level in what is referred to as an integrated configuration.

9
10 This configuration allows lines to be provisioned with channelization circuit
11 packs at the remote NGDLC/DLC but without per line circuit packs at the
12 central office switch. TR-008 describes two alternatives for this integrated
13 capability.

14
15 TR-008 Mode I is a non-concentrated alternative that requires feeder
16 capacity for every line on a full time basis. When this alternative is used,
17 four DS-1s (each with 24 channels for a total of 96 channels) are required
18 for each 96-line capacity TR-008 remote NGDLC/DLC system. This
19 configuration is used when high usage lines are to be served from the
20 remote NGDLC/DLC system. TR-008 Mode II is a concentrated
21 alternative that provides 2:1 concentration. When this alternative is used,
22 two DS-1s (each with 24 channels for a total of 48 channels) are required
23 for each 96-line capacity TR-008 remote NGDLC/DLC system.

24

1 Generic Requirement 303 (GR-303) (authored by Bellcore) provides a set
2 of generic requirements that describe more flexible NGDLC system types
3 and a more flexible interface to a local digital switch. The GR-303
4 interfaces for integrating NGDLC with a local digital switch can vary in line
5 capacity from 48 lines to 2,016 lines. The concentration allowed over
6 these interfaces is variable and can be matched to the services being
7 made available from the remote NGDLC site to allow the most economic
8 concentration ratio consistent with the service being provided. Typically,
9 residential services can be concentrated at a 4:1 ratio. This means that,
10 on average, only one line of capacity is required from the NGDLC site to
11 the switch for each 4 residential lines provided from the NGDLC to the
12 customer location. For business services the typical concentration ratio is
13 closer to 3:1.

14
15 While there are many variables that impact the decision of which switch
16 termination type to use for the interface between a remote NGDLC site
17 and the local digital switch, generally the most economic configurations
18 are provided by using GR-303 for sites with more than 150 lines in the
19 three to five year planning period. TR-008 is used for smaller remote
20 NGDLC sites.

21
22 Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

23
24 A. Yes.

1 BELLSOUTH TELECOMMUNICATIONS, INC.
2 REBUTTAL TESTIMONY OF W. KEITH MILNER
3 BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

4 DOCKET NO. 990649-TP

5 June 29, 2000

6

7 Q. PLEASE STATE YOUR NAME, YOUR BUSINESS ADDRESS, AND
8 YOUR POSITION WITH BELLSOUTH TELECOMMUNICATIONS, INC.
9 (BELLSOUTH).

10

11 A. My name is W. Keith Milner. My business address is 675 West Peachtree
12 Street, Atlanta, Georgia 30375. I am Senior Director - Interconnection
13 Services for BellSouth. I have served in my present role since February
14 1996, and have been involved with the management of certain issues
15 related to local interconnection, resale, and unbundling.

16

17 Q. ARE YOU THE SAME W. KEITH MILNER WHO FILED DIRECT
18 TESTIMONY IN THIS PROCEEDING?

19

20 A. Yes.

21

22 Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

23

24 A. I will respond to portions of the testimony of Supra Telecommunications &
25 Information Systems, Inc. (Supra Telecom) witness David Nilson.

1

2 Q. ON PAGE 4 OF HIS TESTIMONY, MR. NILSON STATES "ONE SUCH
3 FEATURE IS THE ABILITY OF THE PORT [THAT IS THE SWITCH
4 PORT] TO PRODUCE STUTTER DIALTONE, OR ACTIVATE A LIGHT
5 ON THE TELEPHONE SET OF A SUBSCRIBER IN RESPONSE TO A
6 SIGNAL FROM A VOICEMAIL SYSTEM OR PROVIDER TO LET THE
7 TELEPHONE SUBSCRIBER KNOW THERE IS A MESSAGE WAITING.
8 TRADITIONALLY THIS TASK HAS BEEN DONE VIA THE SYSTEM
9 MESSAGE DESK INTERFACE (SMDI) AND ENHANCEMENTS TO IT
10 SUCH AS INTER SWITCH VOICE MESSAGING (ISVM) WHICH
11 ALLOWS ONE SWITCH TO PASS MESSAGING REQUESTS ACROSS
12 THE NETWORK TO OTHER SWITCHES WITHOUT THE USE OF A
13 DEDICATED NETWORK." DO YOU AGREE WITH MR. NILSON'S
14 DESCRIPTION OF SMDI AND ISVM?

15

16 A. Yes, to an extent. I wish to explain, however, that neither SMDI or ISVM
17 are themselves *call related databases*. Neither are SMDI or ISVM
18 themselves signaling networks, though it is possible to use SMDI or ISVM
19 in conjunction with signaling systems such as Signaling System 7 (SS7).

20

21 Q. ON PAGE 4 OF HIS TESTIMONY, MR. NILSON STATES HIS
22 APPARENT BELIEF THAT SMDI AND ISVM ARE FUNCTIONS
23 PROVIDED BY THE SWITCH PORT. DO YOU AGREE?

24

1 A. Yes. Both SMDI and ISVM capabilities are available to Supra Telecom or
2 any ALEC (Alternative Local Exchange Carrier) when that ALEC acquires
3 unbundled local switching from BellSouth.

4

5 Q. ON PAGE 4 OF HIS TESTIMONY, MR. NILSON ASSERTS THAT IN
6 FLORIDA THERE IS NO UNBUNDLED ACCESS TO SMDI OR ISVM.
7 DO YOU AGREE?

8

9 A. No. If I correctly read Mr. Nilson's testimony, he seems to say that Supra
10 Telecom cannot acquire access to SMDI or ISVM on an unbundled basis.
11 He is incorrect. Supra Telecom or any other ALEC need simply acquire
12 unbundled local switching from BellSouth and thus gain access to SMDI or
13 ISVM functionality. If, on the other hand, Mr. Nilson is advocating a new
14 unbundled network element called unbundled SMDI or unbundled ISVM, I
15 believe there is no need for such a new offering since the functionality is
16 already available via unbundled local switching.

17

18 Q. ON PAGE 5 OF HIS TESTIMONY, MR. NILSON STATES "BELLSOUTH
19 DOES NOT PROVIDE UNBUNDLED ACCESS TO THIS SIGNALING
20 NETWORK, BUT IN THEIR FFC #1 [sic] ACCESS TARIFF LISTS SMDI
21 AND SOMETHING CALLED ISMDI." IS MR. NILSON CORRECT THAT
22 BELLSOUTH DOES NOT OFFER UNBUNDLED ACCESS TO ITS
23 SIGNALING NETWORK?

24

1 A. No, he is mistaken. First, the FCC, for example in its decision in
2 BellSouth's second Louisiana 271 application, found that BellSouth offers
3 nondiscriminatory access to its signaling network as required by the
4 Telecommunications Act of 1996. Second, although Mr. Nilson then
5 opines that SMDI is not as cost effective for an ALEC as using ISVM,
6 both SMDI and ISMDI offer advantages to users of those services.
7 BellSouth's Access Tariffs offer a variety of services, and no one service is
8 "best" in every case. BellSouth endeavors to have a wide product range
9 in order to be able to offer customers the services they want. If Supra
10 Telecom wants to purchase SMDI from BellSouth's Access Tariff, Supra
11 Telecom is free to do so. If Supra Telecom prefers ISMDI to SMDI, Supra
12 Telecom is free to purchase ISMDI via BellSouth's Access Tariff.

13

14 Q. ON PAGE 5 OF HIS TESTIMONY MR. NILSON STATES "NOWHERE IS
15 THERE ANY MENTION OF DIRECT ACCESS TO THE ISVM
16 SIGNALING, OR UNBUNDLED ACCESS TO ANY SIGNALING
17 REQUIRED TO ACTIVE MWI [THAT IS, MESSAGE WAITING
18 INDICATOR] ON A LEASED LOCAL SWITCHING PORT. THESE
19 OMISSIONS ARE CREATING AN UNUSUALLY HIGH BARRIER TO
20 ENTRY FOR AN ALEC LIKE SUPRA TELECOM WHO IS EXPECTED BY
21 TELEPHONE SUBSCRIBERS TO PROVIDE THE SAME SERVICES AS
22 THE ILEC AS SEAMLESSLY AS THE ILEC PROVIDES THOSE
23 SERVICES." PLEASE RESPOND.

24

1 A. First of all, I assume that when Mr. Nilson said, "Nowhere is there any
2 mention of direct access..." that he is again referring to BellSouth's Access
3 Tariff. If I am correct, then there is no need in the section of the Access
4 Tariff where BellSouth offers SMDI or ISMDI for the Access Tariff to
5 discuss how an ALEC such as Supra Telecom can gain access to
6 BellSouth's signaling network on an unbundled basis. Likewise, there is
7 no need for BellSouth's Access Tariff discussions of SMDI or ISMDI to
8 inform Supra Telecom as to how to avail itself of unbundled local
9 switching. Thus I believe that Mr. Nilson is mistaken when he says that to
10 not have such discussions in BellSouth's Access Tariffs have the effect of
11 "creating an unusually high barrier to entry for an ALEC such as Supra
12 Telecom..." Surely Mr. Nilson is aware of the difference in Access
13 Services and unbundled network elements. If his suggestion is that
14 BellSouth should offer its Access Services at Total Element Long Run
15 Incremental Cost (TELRIC) based rates, he is mistaken.

16
17 Q. ON PAGE 6 OF HIS TESTIMONY, MR. NILSON STATES "ALEC
18 ACCESS TO THE ISVM SIGNALING 'NETWORK' SHOULD BE
19 DEFINED AS A FUNDAMENTAL COMPONENT OF LOCAL SWITCHING
20 LINE AND TRUNK PORTS AND ALEC ACCESS TO THIS NETWORK
21 REQUIRED OF AND PROVIDED BY ALL FLORIDA ILECS AS IT IS
22 ELSEWHERE IN THE COUNTRY." DOES BELLSOUTH OPERATE AN
23 "ISVM SIGNALING NETWORK" AS MR. NILSON PURPORTS?
24

1 A. No. BellSouth uses SS7 network architecture for its switch-to-switch
2 signaling needs. SS7 networks are multifunctional, and there is no need
3 for a separate ISVM signaling network as Mr. Nilson's statement implies.
4 Instead, BellSouth's SS7 network handles all inter-switch signaling using
5 industry standard signaling message formats. If Supra Telecom wants to
6 acquire unbundled local switching and then use the SMDI and ISMDI
7 functionality of that unbundled local switching, Supra Telecom is free to do
8 so. If Supra Telecom wants to acquire unbundled signaling, it is free to do
9 that as well. BellSouth provides both unbundled local switching and
10 unbundled access to its signaling network to Supra Telecom and every
11 other ALEC in Florida. Thus, I strongly deny Mr. Nilson's assertion that
12 BellSouth has artificially created barriers to competition. To the contrary,
13 BellSouth has unbundled its network according to the requirements of the
14 FCC and this Commission. If Mr. Nilson envisions some new unbundled
15 network element that he believes BellSouth should provide, he has failed
16 in explaining what that new unbundled network element would be. If he is
17 attempting to simply re-price access services at TELRIC based rates, I
18 believe his proposal should be rejected out of hand.

19

20 Q. ON PAGE 7 OF HIS TESTIMONY, MR. NILSON IMPLIES THAT SOME
21 NEW FORM OF DIRECT ACCESS TO LOCAL NUMBER PORTABILITY
22 (LNP) QUERY SERVICE SHOULD BE PROVIDED AND STATES
23 "THERE IS NO WAY FOR AN ALEC TO DIRECTLY PROVISION LNP
24 TRANSLATIONS..." PLEASE RESPOND.

25

1 A. Mr. Nilson is incorrect. Supra Telecom is free to create its own LNP
2 database, as have numerous ALECs. Or Supra Telecom is free to
3 subscribe to the LNP database service offered by commercial providers.
4 Or Supra Telecom is free to subscribe use BellSouth's LNP Query Service
5 to meet its call routing responsibilities.

6
7 BellSouth's LNP Query Service is a call related database service that is
8 used by local carriers and other carriers who do not choose to build their
9 own LNP database. LNP Query Service allows an ALEC to query the
10 BellSouth LNP database on a real time, call related basis to obtain LNP
11 routing information. The information in BellSouth's LNP database is
12 obtained from Nuestar, the National LNP Administrator. This is the same
13 information that is downloaded to all LNP database owners, and Nuestar,
14 not BellSouth, controls distribution. BellSouth does not enter information
15 related to routing ported numbers directly into its own LNP database, but
16 rather receives a download of the information from Nuestar, just as every
17 other LNP database owner does.

18
19 BellSouth's LNP Query Service has nothing to do with the actual porting of
20 numbers by the switches involved, but rather provides a method for
21 carriers without an LNP database to be able to fulfill their call processing
22 responsibilities. BellSouth's LNP Query Service has been offered under
23 its FCC Tariff Number 1 since the fourth quarter of 1998. BellSouth
24 currently has thirty-five customers for this service. This service is not
25 ordered via a Local Service Request (LSR), but rather is ordered using a

1 specific set of implementation forms available to ALECs and other carriers
2 from their assigned BellSouth Account Manager.

3
4 If Mr. Nilson's reference to directly provisioning LNP translations relates to
5 the porting of numbers, I fail to understand his concern. BellSouth must
6 know of Supra Telecom's intentions with regard to individual Supra
7 Telecom end user customers. If Supra Telecom wishes to port a number
8 from BellSouth, Supra Telecom must include that information on its LSR
9 (Local Service Request) to BellSouth, and then perform its responsibilities
10 along with BellSouth in conducting the loop cutover process with LNP, a
11 topic that has been scrutinized in exhaustive detail in other proceedings
12 before this Commission.

13
14 Q. ON PAGE 7 OF HIS TESTIMONY, MR. NILSON DISCUSSES THE LINE
15 INFORMATION DATABASE (LIDB) AS PART OF HIS EARLIER
16 DISCUSSION OF LNP QUERY SERVICE. ARE LNP QUERY SERVICE
17 AND LIDB RELATED?

18
19 A. No. Without explanation, Mr. Nilson jumps to the subject of LIDB access
20 so I cannot fathom the relationship to his earlier testimony. He seems to
21 be advocating ALEC access to the call related database referred to as
22 LIDB (which BellSouth already provides), but I cannot tell what, if any,
23 issue Mr. Nilson has regarding BellSouth's provision of access to LIDB.

24
25 Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

1

2 A. Yes.

1 MS. KEATING: Next is GTE-Florida's Witness
2 Trimble.

3 CHAIRMAN DEASON: Witness Trimble's prefiled
4 testimony without objection shall be inserted into the
5 record.

6 MS. KEATING: And Witness Trimble had Exhibits
7 DBT-1 through DBT-4.

8 CHAIRMAN DEASON: Those exhibits shall be
9 identified as Composite Exhibit 42, and without objection
10 shall be admitted into the record.

11 (Exhibit Number 42 marked for identification and
12 entered into the record.)

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DIRECT TESTIMONY OF DENNIS B. TRIMBLE

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

A. My name is Dennis B. Trimble, and I am the Assistant Vice President - Pricing Strategy for GTE Service Corporation. My business address is 600 Hidden Ridge Drive, Irving, Texas.

Q. PLEASE SUMMARIZE YOUR EDUCATION AND WORK EXPERIENCE.

A. I received an undergraduate degree in business and an M.B.A. from Washington State University in the early 1970s. I also served as an Assistant Professor at the University of Idaho, where I taught undergraduate courses in statistics, operations research, and decision theory. From 1973 to 1976 I completed course work towards a Ph.D. degree in business at the University of Washington.

I joined GTE in 1976 as an Administrator of Pricing Research for General Telephone Company of the Northwest. From 1976 until 1985 I held various positions within GTE Northwest and GTE Service Corporation in the areas of demand analysis, market research, and strategic planning. In 1985, I was named Director of Market Planning for GTE Florida, Incorporated, and in 1987 I became GTE Florida's Director of Network Services Management. From 1989 to 1994 I was the Director of Demand Analysis and Forecasting for GTE Telephone

1 Operations. In October 1994 I became Director of Pricing and Tariffs
2 for GTE Telephone Operations, and in 1996 I was named Assistant
3 Vice President of Marketing Services. I assumed my *current position*
4 – Assistant Vice President of Pricing Strategy --in February 1998.

5

6 **Q. HAVE YOU PREVIOUSLY TESTIFIED ON BEHALF OF GTE?**

7 A. Yes. I have presented *testimony on behalf of GTE* before various
8 state commissions, including the Florida Commission and
9 commissions in Alabama, California, Hawaii, Indiana, South Carolina,
10 Texas, and Virginia.

11

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

13 A. My testimony identifies and addresses the policy issues presented by
14 this proceeding, and sets forth GTE's proposed *monthly recurring*
15 charges (MRCs) and non-recurring charges (NRCs) for unbundled
16 network elements (UNEs). I also address the Commission's
17 specifically designated Issues 1, 2, 4-6, and 9-13.

18

19 My testimony includes 4 exhibits:

20 Exhibit DBT-1 lists GTE's proposed MRCs.

21 Exhibit DBT-2 lists GTE's proposed NRCs.

22 Exhibit DBT-3 shows the calculations underlying GTE's fixed
23 allocator.

24 Exhibit DBT-4 shows the calculations underlying GTE's three-
25 zone UNE deaveraging proposal.

1 Q. WHAT OTHER GTE WITNESSES HAVE FILED DIRECT TESTIMONY
2 IN THIS PROCEEDING?

3 A. In addition to my testimony, GTE is presenting the testimony of five
4 witnesses who support GTE's proposed costs and prices for specific
5 UNEs. These costs and prices fall into two categories: (1) the costs and
6 prices of the UNEs themselves, which are reflected in GTE's proposed
7 MRCs; and (2) the costs and prices for ordering and provisioning UNEs,
8 which are reflected in GTE's proposed NRCs.

9

10 GTE witnesses **David Tucek** and **Michael Norris** sponsor GTE's cost
11 model, the Integrated Cost Model (ICM), which calculates the TELRICs
12 of the various UNEs. Mr. Tucek sponsors the ICM's investment
13 calculations, and Mr. Norris sponsors the ICM's expense calculations and
14 GTE's wholesale-only common cost calculations. As discussed by Mr.
15 Tucek, the resulting TELRICs are fully consistent with the FCC's current
16 cost rules.

17

18 GTE witness **Linda Casey** sponsors GTE's NRC Study, which calculates
19 the variable and fixed/shared costs associated with ordering and
20 provisioning UNEs.

21

22 GTE witnesses **Gregory Jacobson** and **Alan Sovereign** sponsor GTE's
23 proposed forward-looking cost of capital and depreciation rates,
24 respectively. Mr. Tucek, Mr. Norris and Ms. Casey use these inputs to
25 help calculate the TELRICs and NRC-related costs.

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I use Mr. Tucek's cost calculations to develop monthly recurring prices for UNEs, and I use Ms. Casey's cost calculations to develop a set of non-recurring charges.

Q. HOW IS YOUR TESTIMONY STRUCTURED?

A. My testimony is divided into two parts. Part I discusses the policy issues presented by this proceeding, such as the need to address UNE prices, universal service, and retail rates simultaneously. Part II sets forth GTE's responses to the Commission's specific issues.

I. POLICY ISSUES

Q. SHOULD UNE PRICES BE BASED SOLELY ON TOTAL ELEMENT LONG RUN INCREMENTAL COST (TELRIC) PLUS A SHARE OF "FORWARD-LOOKING" COMMON COSTS?

A. No. GTE has long maintained that UNE prices must, in the aggregate, reflect an ILEC's actual costs. The FCC's current pricing rules, however, require UNE prices to be based solely on TELRICs plus a share of forward-looking common costs. GTE does not agree with the FCC's pricing rules, but GTE recognizes that these rules are binding upon state commissions. For this reason, the proposals set forth in Part II of my testimony fully comply with the FCC's rules.

Please note, however, that the Court of Appeals for the Eighth Circuit is considering the substantive validity of the FCC's rules in response to the

1 Supreme Court's decision in AT&T v. Iowa Utilities Board, 119 S. Ct. 721
2 (1999). GTE's current UNE rates, and any new rates imposed upon it as
3 a result of this proceeding, are subject to change depending on the
4 Eighth Circuit's ruling.

5

6 **Q. SHOULD UNE PRICES BE DEAVERAGED IN THE ABSENCE OF (1)**
7 **RETAIL RATE DEAVERAGING, AND (2) AN EXPLICIT, SUFFICIENT,**
8 **AND COMPETITIVELY NEUTRAL UNIVERSAL SERVICE FUND?**

9 A. Absolutely not. UNE rates and retail rates are inextricably linked. Today,
10 retail rates reflect implicit supports that promote universal service. For
11 example, rates for many business and vertical services are set well above
12 cost in order to support below-cost rates for basic residential service.
13 Retail rate "averaging" is another form of implicit support – residential
14 subscribers in low-cost, high-density areas are charged the same
15 averaged rate as residential subscribers in high-cost, low-density areas.
16 These implicit supports, however, are not sustainable in a competitive
17 environment and do not promote efficient competition. Rather, implicit
18 supports encourage CLECs to cream-skim the low-cost, high-price
19 business customers and to ignore the high-cost, low-price residential
20 customers.

21

22 The FCC recognized this point when it stayed its UNE deaveraging rule
23 until completion of its universal service proceeding. The FCC reasoned
24 that a stay was required to afford the FCC and the states "the opportunity
25 to consider in a coordinated manner the deaveraging issues that are

1 arising in a variety of contexts," such as retail rate deaveraging and
2 universal service reform:

3 By linking the duration of the stay to the universal service
4 proceeding, we afford the states and ourselves the
5 opportunity to consider in a coordinated manner the
6 deaveraging issues that are arising in a variety of contexts
7 affecting local competition. We are considering in the
8 universal service proceeding what level of geographic
9 deaveraging to use in determining the universal service
10 support available to non-rural LECs serving high-cost
11 areas. States are confronting similar issues. In addition,
12 in the access charge reform proceeding, we are continuing
13 to assess the application of deaveraging policies to the
14 interstate access rates of incumbent LECs. Applying
15 different standards for, or degrees of, geographic
16 deaveraging in different contexts might create arbitrage
17 opportunities or distort entry incentives for new competitors.

18 Temporarily staying the effectiveness of section 51.507(f)
19 will afford regulators the opportunity to consider the
20 ramifications of deaveraging for the pricing of unbundled
21 network elements, for universal service support in high-cost
22 areas, and for interstate access services.

23 Stay Order, CC Docket No. 96-98 (May 7, 1999) (emphasis added). In
24 sum, deaveraged UNE rates cannot be established in a vacuum. They
25 are inextricably linked to deaveraged retail rates and universal service

1 support.

2

3 **Q. DO THE ARBITRAGE PROBLEMS DISCUSSED ABOVE EXIST IN**
4 **FLORIDA TODAY?**

5 A. Yes. Even in the absence of deaveraged UNE rates, GTE's competitors
6 are exploiting arbitrage opportunities. CLECs are building facilities in
7 GTE's highest-density serving areas (such as Tampa, Clearwater, and St.
8 Petersburg) and are cream-skimming GTE's business customers. At the
9 same time, residential customers are generally being ignored. The
10 CLECs are, in essence, engaged in "deaveraged" facilities-based
11 competition, selectively choosing the customers and geographic areas
12 they serve. Since they are not required to serve high-cost customers in
13 high-cost areas, they only target GTE's low-cost, high-value customers
14 in GTE's more dense serving areas.

15

16 **Q. WHAT SHOULD THE COMMISSION DO TO PREVENT OR MITIGATE**
17 **THIS CREAM-SKIMMING?**

18 A. Above all, the Commission should not adopt deaveraged UNE prices until
19 retail rates are deaveraged and an explicit, sufficient, competitively
20 neutral fund is established in accord with Section 254 of the
21 Telecommunications Act of 1996. In conjunction with establishment of
22 the fund, the Commission should affirm that the CLECs' funding
23 obligation will be retroactive. In other words, rate arbitrage will allow
24 CLECs to siphon off today's implicit supports, which will adversely affect
25 universal service. CLECs should be required to contribute their fair share

1 of support even though a permanent explicit fund has not yet been
2 established.

3

4

II. GTE'S RESPONSES TO ISSUES

5

ISSUE 1

6

**Q. WHAT FACTORS SHOULD THE COMMISSION CONSIDER IN
7 ESTABLISHING RATES AND CHARGES FOR UNES (INCLUDING
8 DEAVERAGED UNES AND UNE COMBINATIONS)?**

9

A. First, as discussed above, the Commission should consider the effect of
10 UNE rates on the *preservation and advancement* of universal service and
11 on the development of fair and efficient competition.

12

13

Generally, UNE rates should reflect a reasonable share of common
14 costs, and should be deaveraged only for those UNEs that exhibit
15 material variations in cost based on geography.

16

17

Moreover, UNE costs should be calculated at a wire center level. If costs
18 vary significantly between wire centers, then the wire centers should be
19 mapped into rate zones so that a single UNE price can be established for
20 each zone. In creating these rate zones, the Commission must weigh the
21 costs of deaveraging (e.g., the administrative and billing costs) against
22 the expected consumer gains.

23

24

ISSUE 2(a)

25

Q. WHAT IS THE APPROPRIATE METHODOLOGY TO DEAVERAGE

1 **UNES, AND WHAT IS THE APPROPRIATE RATE STRUCTURE FOR**
2 **DEAVERAGED UNES?**

3 A. The current FCC rules require UNE prices to be deaveraged into at least
4 three zones per state based on geographic differences in cost. Given
5 this, GTE proposes that the Commission retain a single rate for GTE and
6 develop different cost-based rates applicable to BellSouth and Sprint. In
7 this way, the Commission would have established at least three zones
8 per state, each of which reflects different cost characteristics.

9
10 If the Commission rejects this approach, then GTE proposes it establish
11 three new zones for the entire state after examining the cost submissions
12 of all the ILECs. GTE may submit such a proposal after it reviews the
13 cost filings and testimony of the other carriers.

14
15 If the Commission rejects this alternative, then GTE proposes three cost-
16 based zones for its service area. Our methodology for developing these
17 zones is fairly straightforward: first, we calculate the average costs for
18 UNEs at a wire center level; second, we identify those UNEs that have
19 significant cost differences between wire centers; third, we map or group
20 each wire center into one of three cost-based zones.

21
22 Finally, the rate structure for each UNE should reflect a balance of (1)
23 cost-causation principles, e.g., the matching of costs to prices, (2) the
24 opportunity for cost recovery, and (3) ease of administration, e.g., the
25 costs of billing. For example, unbundled local switching costs can be

1 divided into four categories: (1) local call set-up, (2) local call duration, (3)
2 local call transport, and (4) local call termination. Theoretically, GTE
3 could charge these four separate rate elements for all local switching.
4 GTE, however, charges an average per minute of use (mou) rate that
5 assumes a holding time ("local call duration") of about four minutes. Most
6 other ILECs use this same rate structure. For typical local calls, this rate
7 structure makes sense—it's easier to administer and bill a single mou
8 rate, and this rate allows the ILEC to recover its costs because the typical
9 local call has an average holding time of about four minutes.

10

11 In some instances, however, a different rate structure may be
12 appropriate. For example, many CLECs argue that ISP traffic is "local"
13 and that the ILEC's local switching rate should be used for reciprocal
14 compensation purposes. This ISP traffic, however, has much longer
15 holding times than typical local calls—perhaps an hour or more per call.
16 GTE does not believe that this traffic is local, but even if it is, a different
17 rate structure would be required, such as a mou rate that assumes a
18 holding time of one hour, or a two-part rate that recovers call set-up costs
19 separately. These types of rate structures more accurately reflect the cost
20 characteristics of ISP traffic, and more properly balance cost causation,
21 cost recovery, and administrative ease.

22

23 **ISSUE 2(b)**

24 **Q. FOR WHICH OF THE FOLLOWING UNES SHOULD THE**
25 **COMMISSION SET DEAVERAGED RATES?**

- 1 **(1) LOOPS (ALL)**
- 2 **(2) LOCAL SWITCHING**
- 3 **(3) INTEROFFICE TRANSPORT (DEDICATED AND SHARED)**
- 4 **(4) OTHER (INCLUDING COMBINATIONS)**

5 A. At this time, GTE believes that only loop prices should be deaveraged,
6 because only loop costs show significant variation between different
7 geographic areas. Although switching costs do vary based upon the size
8 of switch and traffic volumes, GTE does not believe that the different
9 traffic sensitive costs warrant deaveraged unbundled switching prices.
10 Additionally, the TELRICs for interoffice transmission facilities already
11 reflect distance, traffic, and volume characteristics that effectively
12 deaverages these UNE offerings.

13

14 It appears that CLECs agree that only loop prices need be deaveraged.
15 For example, in the state of Washington (Dockets No. UT-960369, UT-
16 960370 and UT-960371), AT&T stated that "[the] Commission need only
17 deaverage the unbundled loop rate. . . . Obviously, it does not make
18 sense to deaverage rates where real cost differences do not exist."
19 (Direct Testimony of AT&T witness Denny, at pages 2-3). Other CLECs
20 echoed this point. (Reply Testimony of William Page Montgomery on
21 behalf of Advanced TelCom Group, Inc., Electric Lightwave, Inc., GST
22 Telcom Washington, Inc., NewEdge Networks, Inc., and Nextlink
23 Washington, Inc., at page 3). Following this logic, the prices for UNE
24 combinations should be deaveraged only for those combinations that
25 include the local loop.

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Q. WHY IS GTE NOT PROPOSING DEAVERAGED UNE PRICES FOR THESE "LOOP" FACILITIES?

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A. First, the costs of loop conditioning, electronics, and cross connects do not vary significantly (if at all) by geography.

Second, although the cost of inside wire and dark fiber may vary based on geography, GTE proposes that such costs (and prices) be established on a bona fide request (BFR) basis. These facilities are inherently location or customer-specific, and therefore no cost model can be expected to calculate reasonable average costs for them. For example,

1 an office building may require *greatly different inside wire* than a single-
2 *family residence*, and therefore there will be significant differences in per
3 unit costs even if the building and residence are within the same wire
4 center. Indeed, GTE may not own any inside wire or dark fiber
5 connected to a specific customer or deployed in a specific area. For
6 these reasons, GTE proposes that the price of inside wire and dark fiber
7 be negotiated on a BFR basis. When a CLEC requests these facilities
8 in a given area, GTE will first determine whether they exist. If they do,
9 GTE will develop costs and prices based on the FCC's rules.

10
11 **ISSUE 4**

12 **Q. WHICH SUBLOOP ELEMENTS, IF ANY, SHOULD BE UNBUNDLED IN**
13 **THIS PROCEEDING, AND HOW SHOULD PRICES BE SET?**

14 A. At this time, the Commission should not establish a uniform unbundling
15 rule for subloops. As with dark fiber and inside wire, GTE's existing
16 subloops are location and customer-specific. Given this, GTE proposes
17 a BFR approach to subloop unbundling.

18
19 GTE's will use its BFR approach only to (1) evaluate the technical
20 feasibility of subloop requests and (2) establish the costs and prices for
21 subloop collocation. GTE proposed this BFR approach in its 1996
22 arbitrations with AT&T, MCI, and SPRINT, and since that time only one
23 CLEC has requested subloop unbundling. (The CLEC subsequently
24 canceled this request.)
25

1 The BFR process proposed by GTE is also consistent with the FCC's
2 approach to subloop unbundling as set forth in the Third Report and
3 Order, CC Docket No. 96-98. Specifically, paragraph 224 of the order
4 provides as follows:

5 Our approach to subloop unbundling permits evaluation of the
6 technical feasibility of subloop unbundling on a case-by-case
7 basis, and takes into account the different loop plant that has been
8 deployed in different states. We find that the questions of
9 technical feasibility, including the question of whether or not
10 sufficient space exists to make interconnection feasible at
11 assorted huts, vaults, and terminals, and whether such
12 interconnection would pose a significant threat to the operations
13 of the network, are fact specific. Such issues of technical
14 feasibility are best determined by state commissions, because
15 state commissions can examine the incumbent's specific
16 architecture and the particular technology used over the loop, and
17 thus determine whether, in reality, it is technically feasible to
18 unbundle the subloop where a competing carrier requests.
19 (Emphasis added)

20
21 Although GTE will address the technical feasibility of subloop unbundling
22 on a case-by-case basis, GTE's prices for subloop facilities, including
23 deaveraged prices, will be filed in GTE's June 2000 filing in accord with
24 FCC requirements. Specifically, GTE will propose TELRIC-based prices
25 for unbundled feeder facilities and unbundled distribution facilities. The

1 feeder facility extends from the central office main distribution frame
2 (MDF) to the feeder distribution interface (FDI), which may be a cross-
3 connect box or a digital loop carrier (DLC). The distribution facility
4 extends from the FDI to the network interface device (NID).

5

6 GTE's proposal to offer two types of subloops—feeder and distribution—is
7 consistent with the Commission's earlier rulings. In the 1996 arbitrations,
8 the CLECs requested, and the Commission ordered, unbundling of
9 feeder and distribution facilities.

10

11 In sum, GTE will present deaveraged costs and deaveraged MRCs for
12 feeder and distribution in its June 2000 filing. In addition to these MRCs,
13 GTE will propose a set of NRCs to recover the provisioning costs
14 associated with subloop unbundling.

15

16 **ISSUE 4(b)**

17 **Q. HOW SHOULD ACCESS TO SUCH SUBLOOP ELEMENTS BE**
18 **PROVIDED, AND HOW SHOULD PRICES BE SET?**

19 A. GTE will file its testimony on subloop unbundling as a part of its June
20 2000 filing. In general, though, the technically feasible points of access
21 to feeder facilities are the MDF, FDI, and DLC; the technically feasible
22 points of access to the distribution facilities are the FDI, DLC, and
23 pedestals. Again, though, whether it is technically feasible to unbundle
24 a particular subloop at a particular point should be decided on a case-by-
25 case basis.

1

2 In all instances, the CLEC must deliver its facility to the approved access
3 point, and GTE will connect the CLEC's facility to GTE's network. GTE
4 will recover the costs of connecting the facilities through a set of non-
5 recurring charges, which will be part of GTE's June 2000 filing.

6

7

ISSUE 5

8

**Q. FOR WHICH SIGNALING NETWORKS AND CALL-RELATED
9 DATABASES SHOULD RATES BE SET?**

9

10 A. FCC Rule 319(e) requires ILECs to provide access to signaling networks,
11 call-related databases, and service management systems on an
12 unbundled basis. Rule 319 further defines these elements as follows:

13

(a) Signaling networks include, but are not limited to, signaling
14 links and signaling transfer points (Rule 319(e)(1)), and

14

15

(b) For purposes of switch query and database response
16 through a signaling network, an incumbent LEC shall
17 provide access to its call-related databases, including but
18 not limited to, the Calling Name Database, 911 Database,
19 E911 Database, Line Information Database, Toll Free
20 Calling Database, Advanced Intelligent Network
21 Databases, and downstream number portability databases
22 by means of physical access at the signaling transfer point
23 linked to the unbundled databases (Rule 319(e)(2)(A)).

21

22

23

24

25 With one exception, GTE has proposed TELRIC-based prices for all
these databases, and these prices are set forth in Exhibit DBT-1. GTE

25

1 has not proposed prices for access to 911 and E911 databases. GTE
2 proposes to establish these arrangements on a case-by-case basis.

3

4 **ISSUE 6**

5 **Q. UNDER WHAT CIRCUMSTANCES, IF ANY, IS IT APPROPRIATE TO**
6 **RECOVER NON-RECURRING COSTS THROUGH RECURRING**
7 **RATES?**

8 A. Generally, it is not appropriate to recover non-recurring costs through
9 recurring rates. If a cost is incurred only once, it should be recovered
10 through a one-time payment. Otherwise, the party that has incurred the
11 cost (the ILEC) acts as nothing more than a lender: it incurs an
12 immediate cost, but recovers its cost over time through a series of
13 payments.

14

15 There are two exceptions to this general rule. First, parties sometimes
16 agree to recover non-recurring costs through a monthly recurring rate.
17 In such instances, however, the parties' contract contains an early
18 termination provision, under which the buyer must pay its bill in full or
19 continue to make monthly payments (plus appropriate interest) even if it
20 discontinues operation.

21

22 Second, a company may charge a monthly recurring price for a non-
23 recurring cost where the cost object has a reasonably certain revenue-
24 producing life and is expected to be reusable by different customers. A
25 traditional example is the local loop—rather than assess a one-time

1 charge to an end user to recover the total cost of the loop, GTE and other
2 ILECs assess monthly recurring charges. In the past, ILECs were fairly
3 certain that the local loop would be in service for a given period of time
4 and that customers would continue to use it (and thus pay for it) over this
5 entire period. Given the passage of the Act and the presence of facilities-
6 based carriers, however, there is much more uncertainty, which leads to
7 increased risk that must be reflected in the ILECs' cost of capital. In the
8 same vein, ordering and provisioning costs are truly customer specific
9 and are caused by an activity that is not reusable; therefore, an NRC
10 recovery mechanism has always been the most appropriate for these
11 types of costs.

12

13 **Q. PLEASE PROVIDE AN EXAMPLE OF HOW UTILITIES MAY EMPLOY**
14 **NON-RECURRING CHARGES FOR RECOVERY OF ONE-TIME**
15 **COSTS.**

16 A. Many utilities assess a one-time "special construction charge" where a
17 customer requests a facility that is not usually deployed and is not
18 reasonably certain to be used by future customers. For example,
19 suppose a customer requests an exceptionally large and costly special
20 telecommunications facility to serve that customer's particular business
21 needs. If the ILEC believes the facility is not likely to be used by
22 subsequent tenants, it may assess a one-time charge to recover the
23 entire cost of the facility.

24

25 Most ILECs, including GTE, have tariff provisions that allow them to

1 assess such a charge under the circumstances described above. For
2 example, Section A5 of GTE Florida's General Services Tariff, which is
3 titled "Charges Applicable Under Special Conditions", gives GTE the
4 authority to institute one-time charges in cases that involve uncertain cost
5 recovery, unusually expensive equipment, no immediate prospect of
6 reusing the plant provided, and various other special circumstances.

7

8 This one-time pricing structure is used because it best matches the cost
9 to the cost-causer. In fact, if the ILEC were required to charge an MRC
10 for the special facility and the customer subsequently abandoned the
11 plant, the ILEC would suffer a "stranded cost" that would be borne by its
12 other customers.

13

14 **Q. ARE GTE'S PROPOSED NRCS BASED ON THE PRINCIPLES YOU'VE**
15 **OUTLINED?**

16 A. Yes. GTE's NRCs capture the non-recurring costs that are caused by the
17 cost causer (e.g., the CLEC). As discussed in the testimony of GTE
18 witness Linda Casey, GTE incurs two types of non-recurring costs: the
19 variable costs (principally, labor costs) that arise when GTE employees
20 review, process, and provision CLEC orders; and the shared/fixed costs
21 for the computers, buildings, and similar facilities devoted to fulfilling
22 CLEC requests.

23

24 GTE has proposed a set of NRCs to capture these two types of cost. In
25 general, GTE proposes NRCs to capture the variable costs based on the

1 time needed to process different types of CLEC orders. A CLEC that
2 places an order for a simple two-wire loop will incur a lower NRC than a
3 CLEC that places a more complicated order requiring special engineering
4 studies or a special network configuration. Ms. Casey explains how GTE
5 studied the different activities associated with different types of CLEC
6 requests to produce four separate categories of CLEC orders.

7
8 GTE's NRCs also reflect recovery of a portion of GTE's annual
9 shared/fixed costs. Specifically, whenever a CLEC places an order or
10 initiates an activity involving GTE's National Open Market Centers
11 (NOMCs), the rate the CLEC pays for "ordering" activity includes a
12 shared/fixed recovery amount of \$6.16. As I discuss later in my
13 testimony, this charge is based on an estimate of how many times
14 CLECs will use GTE's NOMCs in a year. For example, if the total annual
15 fixed costs equal \$150, and if CLECs were expected to contact GTE's
16 NOMCs a total of 100 times a year, then the "ordering" NRC would
17 include \$1.50 for recovery of shared/fixed NOMC costs. CLECs who
18 rarely (or never) use GTE's NOMC will pay very little (or nothing).

19
20 GTE's proposed shared/fixed amount, which is added to each "ordering"
21 NRC, acts to spread recovery of the "fixed / shared" costs of the NOMCs
22 over time and thus allows CLECs to pay for this cost in installments. If
23 the Commission disagrees with this rate structure, then GTE must be
24 able to recover all its costs through some other mechanism (e.g., a non-
25 bypassable surcharge on all CLEC bills or all end-user bills, or a one-time

1 charge assessed to all CLECs).

2

3 GTE's NRCs are set forth in Exhibit DBT-2. I discuss these NRCs more
4 fully below in my response to Issue 9(a).

5

6 **ISSUE 9(a)**

7 **Q. WHAT ARE THE APPROPRIATE RECURRING RATES (AVERAGED**
8 **OR DEAVERAGED AS THE CASE MAY BE) AND NON-RECURRING**
9 **CHARGES FOR EACH UNE LISTED IN THE STAFF'S ISSUES LIST?**

10 A. GTE's proposed MRCs and NRCs are set forth in Exhibits DBT-1 and
11 DBT-2, respectively. First, I will explain how the MRCs were developed,
12 and then I will discuss the NRCs.

13

14 In developing MRCs for each UNE, GTE used the following formula:

15
$$\text{UNE price} = \text{TELRIC plus } x, \text{ where } x \text{ is a reasonable share}$$

16
$$\text{of wholesale-related common costs}$$

17

18 The TELRICs were calculated by the ICM, and are discussed in the
19 testimony of GTE witness Tucek. The total forward-looking common
20 costs were calculated by the ICM's expense module, and are discussed
21 in the testimony of GTE witness Norris.

22

23 GTE assigned a reasonable share of common cost using the fixed
24 allocator approach, under which TELRICs are "marked up" by an equal
25 percentage. The fixed allocator was determined using the following

1 formula:

2 Fixed Allocator = (1) total wholesale-related common costs,
3 divided by (2) the sum of all direct costs for all UNEs that
4 would be needed by CLECs to serve all existing customers.

5

6 Please note that the denominator of GTE's equation includes only the
7 direct costs of those elements that are being marked up. If an MRC or
8 NRC does not include a mark-up, then the direct costs of those facilities
9 or activities associated with the MRC or NRC are not included in the
10 denominator. GTE does not propose to mark-up any of its NRCs;
11 therefore, the direct costs associated with these NRCs are excluded from
12 GTE's calculation.

13

14 Here's an example of how the formula works: If the sum of the direct
15 costs is \$100, and the total annual common costs are \$25, the fixed
16 allocator is 25%. Thus, if the TELRIC of a given UNE were \$30 per
17 month, we would multiply it by 1.25 to arrive at a price of \$37.50.

18

19 As explained by Mr. Norris, GTE's total forward-looking common costs
20 equal \$192.3 million per year. The sum of the TELRICs for all UNEs and
21 other direct costs of facilities to be marked up is \$1,064.2 million per year
22 (this calculation is shown on Exhibit DBT-3). Thus, the fixed allocator is
23 18.1%.

24

25 **Q. DOES THE FIXED ALLOCATOR APPROACH COMPLY WITH THE**

1 **FCC'S CURRENT PRICING RULES?**

2 A. Yes. In its First Report and Order in CC Docket No. 96-98, at paragraph
3 696, the FCC held that a fixed allocator is a "reasonable allocation
4 method."

5
6 A fixed allocator, however, does not necessarily reflect the competitive
7 market. Where, as here, significant common costs must be recovered,
8 "the orthodox concept of second best pricing is the inverse elasticity
9 principle, or Ramsey pricing." Nat'l Rural Telecom Assoc. v. FCC, 988
10 F.2d 174, 182 (D.C. Cir. 1993). The FCC, however, expressly forbids the
11 use of Ramsey pricing in setting UNE rates because it could "raise the
12 prices" of "relatively inelastic" UNEs, such as the local loop (First Report
13 and Order at paragraph 696). In other words, economic efficiency and
14 competitive markets dictate Ramsey-based prices, but the FCC expressly
15 prohibits such prices in order to promote competition. GTE does not
16 agree with the FCC's self-contradictory analysis or the FCC's pricing
17 rules, which, as noted above, are under review by the Eighth Circuit.
18 Nevertheless, GTE has complied with these rules in developing UNE
19 prices in this proceeding.

20

21 **Q. WHAT ARE THE APPROPRIATE RECURRING RATES FOR UNES?**

22 A. GTE's proposed MRCs are set forth in Exhibit DBT-1. These MRCs are
23 based on TELRICs, as required by the current FCC rules.

24

25 As discussed above, if the Commission requires GTE to establish

1 deaveraged MRCs within its service territory, then GTE proposes to
2 deaverage loop MRCs into three cost-based zones. These deaveraged
3 loop prices also are included in Exhibit DBT-1.

4

5 **Q. HOW DID GTE DEVELOP THESE COST-BASED ZONES AND THE**
6 **RESULTING MRCS?**

7 A. As discussed earlier, GTE calculated loop costs at the wire center level
8 and then "mapped" each wire center into one of three cost-based zones.

9

10 In Florida, GTE has 90 wire centers. The loop costs in each wire center
11 are shown on Exhibit DBT-4. As illustrated by that exhibit, the TELRICs
12 of unbundled two-wire loops vary from a low of \$12.03 to a high of
13 \$99.74, and the resulting statewide average cost is \$24.06.

14

15 All wire centers in which the average loop cost is less than the statewide
16 average loop cost of \$24.06 were mapped to Zone 1. All wire centers in
17 which the average loop cost is between the statewide average and 150%
18 of the statewide average were mapped to Zone 2. All wire centers in
19 which the average loop cost is greater than 150% of the statewide
20 average were mapped to Zone 3.

21

22 Once the wire centers were mapped, we calculated the average cost for
23 each zone. We then marked up this cost by the fixed allocator of 18.1%
24 to develop the MRCs. These calculations are shown on Exhibit DBT-4.

25

1 **Q. WHAT ARE THE APPROPRIATE NON-RECURRING CHARGES**
2 **(NRCs)?**

3 A. GTE's proposed NRCs are set forth in Exhibit DBT-2. As shown on this
4 exhibit, most UNEs have two types of NRCs: an ordering charge and a
5 provisioning charge. The ordering charge, as its name suggests, reflects
6 the costs GTE incurs when a CLEC places an order for a UNE (e.g., a
7 two-wire loop) or an activity (e.g., removing bridged taps). The
8 provisioning charge reflects the cost of provisioning that order or activity
9 (e.g., the cost of sending a technician to the field to remove bridged taps).

10

11 **Q. WHAT COSTS DO THESE NRCs REFLECT?**

12 A. The ordering and provisioning NRCs reflect the two different types of
13 costs GTE incurs in accepting and fulfilling CLEC orders: variable costs
14 and fixed/shared costs.

15

16 **Q HOW WERE THESE COSTS DEVELOPED?**

17 A. GTE's variable costs were developed based on the time needed to
18 process the different types of CLEC orders. Ms. Casey's testimony
19 explains how GTE developed these charges by studying the different
20 activities associated with different types of CLEC requests and by
21 applying current labor rates. GTE has developed separate sets of NRCs
22 that link the cost with the cost-causer, e.g., a CLEC that places an order
23 for a simple two-wire loop will incur a lower NRC than a CLEC that places
24 a more complicated order.

25

1 GTE's shared/fixed costs were developed based on the costs GTE
2 actually incurred, as described in GTE's NRC Study. GTE proposes to
3 recover these costs through an additional amount included in the NRC
4 rate assessed on every CLEC order. Specifically, whenever a CLEC
5 places an order or initiates an activity involving GTE's NOMCs, the
6 CLEC's "ordering" NRC includes \$6.16 for recovery of shared/fixed
7 NOMC costs. This amount is based on an estimate of how many times
8 CLECs will use GTE's NOMCs in a year. The assumptions and
9 calculations supporting this charge are included in Exhibit DBT-2, page
10 15.

11
12 Again, these variable and shared/fixed costs are reflected in the
13 "ordering" and "provisioning" NRCs shown on Exhibit DBT-2, pages 1 -
14 4.

15
16 **Q. PLEASE PROVIDE AN EXAMPLE OF THE NRCS LISTED ON EXHIBIT**
17 **DBT-2.**

18 A. Please refer to page 1 of Exhibit DBT-2, which shows the ordering and
19 provisioning NRCs applicable to an initial order for an "Exchange-basic"
20 two-wire loop. The total cost of ordering this facility (using manual
21 method) is \$38.75, and GTE's proposed NRC equals this cost (as noted
22 above, GTE does not mark-up its NRCs). As shown on page 5 of Exhibit
23 DBT-2, this cost includes the variable costs associated with this order
24 plus a share of the NOMC fixed costs.

25

1 The total cost (and NRC) of provisioning this initial facility is \$42.17, and
2 includes the costs incurred in the provisioning of the initial loop. This
3 provisioning NRC does not include a share of the NOMC fixed cost-
4 -since the NOMC cost is caused by the ordering, not the provisioning,
5 and therefore it is recovered through the ordering NRC.

6

7 **Q. HAS GTE PROPOSED RATES FOR ALL THE UNES LISTED IN ISSUE**

8 **9?**

9 A. No. GTE has proposed rates for all the UNEs listed except subloops,
10 dark fiber, and UNE combinations. GTE will file cost studies, proposed
11 prices, and supporting testimony for these UNEs in June, 2000.

12

13 Furthermore, GTE has not proposed rates for packet switching. The
14 FCC, in its Third Report and Order, held that ILECs need not unbundle
15 packet switching. There is one exception to this rule: an ILEC must
16 unbundle packet switching where (1) the ILEC has placed its own DSLAM
17 in a remote terminal and is offering advanced services, and (2) the ILEC
18 does not permit the CLEC to collocate its DSLAM in that remote terminal
19 (Third Report and Order at para. 313). At this time, GTE has not placed
20 a DSLAM in any remote terminal to offer advanced services, and
21 therefore the FCC's exception is not triggered. If, in the future, GTE
22 elects to place DSLAMs in remote terminals, requests for unbundled
23 packet switching by CLECs will be handled via BFR, on a case-by-case
24 basis.

25

1 **ISSUE 9(b)**

2 **Q. SUBJECT TO THE STANDARDS OF THE FCC'S THIRD REPORT AND**
3 **ORDER, SHOULD THE COMMISSION REQUIRE ILECS TO**
4 **UNBUNDLE ANY OTHER ELEMENTS OR COMBINATIONS OF**
5 **ELEMENTS? IF SO, WHAT ARE THEY AND HOW SHOULD THEY BE**
6 **PRICED?**

7 A. The Commission should not require ILECs to unbundle other elements
8 at this time. First, the FCC's rules that govern ILEC unbundling
9 requirements have again been appealed. The Supreme Court struck
10 down the FCC's previous unbundling rules in AT&T v. Iowa Utilities
11 Board, 119 S. Ct. 721 (1999), and many ILECs believe the FCC failed to
12 follow the Court's direction in developing its revised list of UNEs on
13 remand. Given the uncertainty surrounding the FCC's standard for
14 unbundling, states should not impose additional requirements at this time.

15

16 Second, a state commission must apply the Act's "necessary and impair
17 test" before it can require an element to be unbundled. Based on the
18 evidence presented at the FCC's remand proceeding, this test is very
19 fact-intensive, and ILECs must be able to depose and otherwise take
20 discovery of all CLECs to assist in developing the facts.

21

22 **ISSUE 10**

23 **Q. WHAT IS THE APPROPRIATE RATE, IF ANY, FOR CUSTOMIZED**
24 **ROUTING?**

25 A. GTE proposes that the rates for customized routing be established on a

1 case-by-case basis.

2

3 By way of background, ILECs are no longer required to provide Operator
4 Services and Directory Assistance (OS/DA) on an unbundled basis where
5 they offer customized routing. GTE offers customized routing in all areas
6 subject only to site-specific technical limitations. GTE also is willing to
7 offer its OS/DA services to CLECs at market-based rates. Since 1996,
8 however, GTE has not received any requests for customized routing.
9 Given this, GTE does not believe the costs and prices for customized
10 routing should be established here.

11

12 **ISSUE 11**

13 **Q. WHAT IS THE APPROPRIATE RATE, IF ANY, FOR LINE**
14 **CONDITIONING, AND IN WHAT SITUATIONS SHOULD THE RATE**
15 **APPLY?**

16 A. According to the FCC's Third Report and Order, ILECs are required to
17 "condition" loops so as to allow requesting carriers to offer advanced
18 services. For example, today's copper loops may include load coils,
19 bridged taps and similar devices that ILECs have added to gain
20 architectural flexibility and improve voice transmission capability. These
21 devices, however, diminish the loop's capacity to deliver advanced
22 services. The FCC requires ILECs to remove these devices and thus
23 "condition" the loop.

24

25 GTE's proposed NRCs for loop conditioning are listed in Exhibit DBT-2.

1 These NRCs reflect the cost GTE actually incurs in conditioning loops.
2 Some CLECs, however, contend that the loop conditioning charge should
3 be \$0.00, based on the premise that a "forward-looking network" would
4 not contain bridged taps, filters and other such devices and therefore
5 there is nothing to remove. The FCC's Third Report and Order, however,
6 at paragraphs 192-193, clearly states that requesting carriers must
7 compensate the ILEC for all loop conditioning, including conditioned
8 loops of 18,000 feet or shorter.

9

10 The cost support for GTE's loop conditioning NRCs is set forth in GTE's
11 NRC Study, which is sponsored by Ms. Casey.

12

13 **ISSUE 12**

14 **Q. WITHOUT DECIDING THE SITUATIONS IN WHICH SUCH**
15 **COMBINATIONS ARE REQUIRED, WHAT ARE THE APPROPRIATE**
16 **RECURRING AND NON-RECURRING RATES FOR THE FOLLOWING**
17 **UNE COMBINATIONS:**

18 (1) "UNE platform" consisting of: loop (all), local
19 (including packet, where required) switching (with
20 signaling), and dedicated and shared transport
21 (through and including local termination);

22

23 (2) "Extended links" consisting of: (a) loop, DS0/1
24 multiplexing, DS1 interoffice transport; (b) DS1 loop,
25 DS1 interoffice transport; and (c) DS1 loop, DS1/3

1 **multiplexing, DS3 interoffice transport.**

2 A. GTE will submit its MRCs and NRCs for UNE platforms when it files its
3 cost studies for these platforms in June 2000. At that time, GTE will also
4 file proposed prices for enhanced extended links (EELs), which are
5 combinations of the local loop and transport elements.

6
7 GTE's obligation to provide EELs is currently governed by paragraph 480
8 of the FCC's Third Report & Order. Specifically, GTE is not required to
9 provide EELs unless they currently exist in combined form in GTE's
10 network. Even if they do exist in GTE's current network (e.g., as special
11 access circuits), CLECs cannot engage in rate arbitrage by "replacing"
12 special access circuits with EELs or by purchasing EELs to provide
13 exchange access. The FCC has a separate proceeding underway to
14 resolve this issue, and until it does, CLECs may not use EELs to provide
15 exchange access.

16
17 Finally, GTE is not required to provide unbundled switching in certain
18 areas (including the Tampa area) where (1) a CLEC is providing service
19 to four or more end users and (2) GTE voluntarily offers EELs (Third
20 Report and Order at paragraph 253). GTE will determine whether to
21 provide switching or EELs on a case-by-case basis.

22 **ISSUE 13**

23 **Q. WHEN SHOULD THE RECURRING AND NON-RECURRING RATES**
24 **AND CHARGES TAKE EFFECT?**

25 A. The rates set forth on Exhibits DBT-1 and DBT-2 should take effect on

1 the date the Commission finally approves them, in accord with paragraph
2 7 of the "Joint Stipulation Regarding Interim Deaveraging" approved by
3 the Commission on February 22, 2000. (Order No. PSC-00-0380-S-TP.)
4 *Of course, GTE must be allowed sufficient time to make the necessary*
5 *billing and systems changes, and therefore GTE requests the*
6 *Commission give ILECs thirty days to implement the rates after the*
7 *Commission approves them.*

8

9 Please note, however, that if rate for a particular UNE is established in
10 this proceeding but a CLEC's current interconnection agreement does not
11 include that UNE, the CLEC is not entitled to the UNE until the parties
12 *execute an appropriate amendment. In this way, the parties can ensure*
13 *that all related terms and conditions are included.*

14

15 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

16 A. Yes.

17

18

19

20

21

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25

GTE FLORIDA

ADDITIONAL DIRECT TESTIMONY OF DENNIS B. TRIMBLE

DOCKET NO. 990649-TP

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

A. My name is Dennis B. Trimble and I am the Assistant Vice President - Pricing Strategy for GTE Service Corporation. My business address is 600 Hidden Ridge Drive, Irving, Texas.

Q. ARE YOU THE SAME DENNIS TRIMBLE WHO FILED DIRECT TESTIMONY IN THIS DOCKET ON MAY 1, 2000?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR ADDITIONAL DIRECT TESTIMONY?

A. The purpose of this testimony is to submit GTE Florida Incorporated's ("GTE") proposed non-recurring charges (NRCs) and monthly recurring charges (MRCs) for: (a) dark fiber loops, (b) dark fiber transport, and (c) subloop elements, which were requested in the Commission's Issue 9(a). I will provide GTE's proposed rates for unbundled network platforms (UNE-Ps) and enhanced extended links (EELs) as requested by the Commission's Issue 12. In addition, I will provide GTE's proposed rate for access and use of Intra-Building Riser Cable.

1 (Note: Exhibits DBT-1 through DBT-4 were previously filed on May 1,
2 2000, with my direct testimony.)

3

4

ISSUE 9(A)(10) – DARK FIBER LOOP

5

Q. PLEASE DESCRIBE HOW GTE DEFINES DARK FIBER LOOPS.

6

A. From GTE's perspective, dark fiber loops are defined as currently
7 deployed, unused fiber strands through which no light is transmitted
8 or installed fiber optic cable that is not carrying a signal. The
9 alternative local exchange carrier ("ALEC") buying the dark fiber is
10 expected to put its own electronics and signals on the fiber to make
11 it "lit." Spare wavelengths on a fiber, which may result from the use
12 of wave division multiplexing (WDM) or dense wave division
13 multiplexing (DWDM) equipment, are not considered spare dark fiber.

14

15

Although GTE does not agree with the FCC's ruling that dark fiber
16 satisfies the "necessary and impair" standards required to be deemed
17 a UNE, GTE recognizes that the FCC's rules are currently binding
18 upon state commissions and GTE will abide by the FCC's guidelines.

19

20

ALEC access to GTE's dark fiber will only be allowed at a fiber patch
21 panel. Patch panels are usually found at the customer's premises,
22 GTE's central office, and potentially at a remote hut or a digital loop
23 carrier location. Access to dark fiber will not be allowed at the various
24 fiber splice points that may exist in GTE's network.

25

1 **Q. HOW WILL ALECs BE ABLE TO DETERMINE IF DARK FIBER IS**
2 **AVAILABLE ON A SPECIFIC ROUTE?**

3 A. A pre-ordering process has been established to allow ALECs to
4 determine if dark fiber is available on a specific route as well as the
5 physical parameters of the given dark fiber facility. This process will
6 be initiated upon receipt of an access service request ("ASR") service
7 inquiry request from an ALEC. The charge for this preordering activity
8 is based solely on its cost and is listed on page 1 of Exhibit DBT-6 as
9 "Advanced – Service Inquiry Charge" in the "Unbundled Dark Fiber"
10 section of the exhibit.

11

12 **Q. WHAT IS GTE'S PROPOSED MRC FOR AN UNBUNDLED DARK**
13 **FIBER LOOP?**

14 A. As depicted on page 3 of Exhibit DBT-5, GTE's proposed rate is
15 \$68.50 per fiber optic strand. In addition, Exhibit DBT-5 provides
16 MRCs for dark fiber sub-loop elements. The fixed-allocation pricing
17 computations that derive this rate are also depicted in Exhibit DBT-5.

18

19 **Q. WHAT NRCS ARE ASSOCIATED WITH DARK FIBER LOOPS?**

20 A. GTE's proposed non-recurring cost-derived charges for ordering and
21 provisioning of dark fiber loops can be found in Exhibit DBT-6 in the
22 "Unbundled Dark Fiber" section of the exhibit.

23

24

25

1 **Q. WILL GTE IMPOSE ANY RESTRICTIONS ON THE AMOUNT OF**
2 **DARK FIBER ANY ALEC MAY PURCHASE ON ANY GIVEN**
3 **ROUTE?**

4 A. Yes. The FCC, in its Third Report and Order ("Remand Order"),
5 identified various guidelines for limiting the availability of dark fiber to
6 help address the legitimate concerns of GTE and other ILECs (see
7 paragraphs 199 and 352 as well as footnote 694 of the FCC's
8 Remand Order). The limiting guidelines I am presenting below are
9 consistent with those discussed by the FCC.

10

11 Because GTE has an obligation to provide service as a carrier of last
12 resort ("COLR"), it is concerned about ensuring that sufficient network
13 transmission capacity exists to meet its service commitments.
14 Requiring incumbent LECs to make their reserve capacity available
15 to *new entrants* discourages otherwise efficient investment. The
16 Company will implement several reasonable limitations on dark fiber
17 to ensure that it can meet its COLR obligations, as well as enable
18 *maintenance and restoration activities*. First, GTE will forbid any
19 single ALEC, in any two-year period, from leasing more than 25
20 percent of the available dark fiber in a given segment of the network.
21 This 25 percent rule will assure that no one ALEC is allowed to horde
22 fiber strands and will also assure that some level of dark fiber remains
23 available to handle GTE's requirements for potential emergency
24 restoration, maintenance, and/or carrier of last resort obligations.
25 Second, GTE reserves the right to revoke leased fiber from ALECs

1 with 12 months notice (upon establishing a sufficient need to the
2 satisfaction of the Commission) and also reserves the right to take
3 back underused (less than OC-12) fiber. Moreover, GTE reserves the
4 right to petition to the Commission, in accord with paragraph 352 of
5 the FCC Remand Order, to keep additional dark fiber as
6 circumstances warrant.

7

8 **ISSUE 9(A)(17) – DARK FIBER INTEROFFICE FACILITIES**

9 **Q. HOW DOES GTE DEFINE DARK FIBER INTEROFFICE FACILITIES**
10 **(IOF)?**

11 A. Dark fiber IOF is defined by GTE as any unused fiber stands that exist
12 between a fiber patch panel located within one GTE central office and
13 a fiber patch panel in the next GTE central office through which the
14 fiber is routed.

15

16 **Q. DO THE ALEC-PURCHASING RULES YOU JUST DESCRIBED**
17 **FOR DARK FIBER LOOPS ALSO APPLY TO DARK FIBER IOF?**

18 A. Yes, the 25 percent rule, as well as rules concerning acceptable
19 points of access apply equally to dark fiber IOF as well as dark fiber
20 loops.

21

22 **Q. WHAT TELRIC-BASED RATES DOES GTE PROPOSE FOR DARK**
23 **FIBER IOF?**

24 A. The proposed MRC rates are based on a “per termination” and “per
25 airline mile” rate structure and are depicted in Exhibit DBT-5.

1 Likewise, the associated NRCs for ordering and provisioning are
2 depicted in Exhibit DBT-6 in the "Unbundled Dark Fiber" section of the
3 exhibit.

4

5

ISSUE 9(A)(11) – SUBLOOP ELEMENTS

6

Q. FOR WHAT SUBLOOP ELEMENTS IS GTE PROPOSING PRICES?

7

A. GTE is proposing rates for three separate subloop elements for both
8 2-wire and 4-wire UNE loops: (1) feeder, (2) distribution, and (3) drop.

9

10

11

12

13

14

15

16

17

18

19

Q. HOW DO ALECs GAIN ACCESS TO SUBLOOP FACILITIES?

20

21

22

23

24

25

A. Like dark fiber, the existence of and ability to access subloop
elements is very customer-specific and must be evaluated on a case-
by-case basis. Access to subloop elements may occur at a MDF, a
cross-connect box or DLC, or at the terminal serving the customer's
premise. In all cases, the requesting ALEC must first collocate at the
point (or points) where access to the subloop is requested or establish

1 a point of connection (POC) at those points. As a note, a POC is like
2 a meet-point arrangement in that it is a physical interface that
3 establishes the point at which the ILEC's facilities will be connected
4 with the ALEC's facilities. In order to establish a POC at the
5 requested interface location, the ALEC must first submit a Collocation
6 Request to their appropriate GTE account management team. The
7 collocation request process will determine the technical feasibility of
8 the ALEC's unbundled subloop request, any labor and/or capital
9 costs for which the ALEC is responsible, and the proposed
10 provisioning time frames to facilitate the creation of a POC with the
11 ALEC.

12

13 **Q. WHAT RATES IS GTE PROPOSING FOR UNE SUBLOOP**
14 **ELEMENTS?**

15 A. GTE's proposed TELRIC-derived, deaveraged MRC rates are
16 depicted in Exhibit DBT-5, while the appropriate ordering and
17 provisioning NRCs are contained in Exhibit DBT-6.

18

19 **Q. IS GTE PROPOSING RATES FOR ANY OTHER SUBLOOP-LIKE**
20 **UNES?**

21 A. Yes, GTE is introducing another UNE, specifically Intra-Building Riser
22 Cable, which is a form of inside wire that is owned by GTE. As I
23 stated in my Direct Testimony, the existence of any GTE owned riser
24 cable must be determined on a case by case basis. If GTE owned
25 riser cable is part of the facilities serving a given customer, then

1 GTE's proposes to charge an MRC per pair of wires for recovery of
2 GTE's costs. The specific charge proposed by GTE can be found in
3 Exhibit DBT-5 under the section "Intra-Building Riser Cable".

4

5 **Q. WILL THIS RISER CABLE CHARGE APPLY TO ALECS**
6 **WHENEVER RISER CABLE IS PART OF THE FACILITIES**
7 **SERVING AN END USER CUSTOMER?**

8 A. Yes. None of GTE's proposed UNE loop or subloop rates include any
9 amounts for recovery of GTE owned riser cable costs. Therefore, it
10 is appropriate to implement this charge whenever any ALEC requests
11 UNE access to an end user served by riser cable facilities.

12

13 **ISSUE 12(1) – UNE PLATFORMS**

14 **Q. FOR WHAT UNE PLATFORMS WILL GTE BE PROPOSING**
15 **RATES?**

16 A. GTE is proposing rates for four specific platforms, which integrate
17 combinations of a UNE loop and a UNE port as follows:

18 (1) Basic Analog Platform, which is comprised of a 2-wire UNE
19 loop and basic analog line side port;

20 (2) ISDN BRI Platform, which is comprised of a 2-wire UNE loop
21 and an ISDN BRI digital line side port;

22 (3) ISDN PRI Platform, which is comprised of a DS-1 UNE loop
23 and an ISDN PRI digital port; and

24 (4) DS-1 Platform, which is comprised of a DS-1 UNE loop and a
25 DS-1 digital trunk side port.

1 **Q. WHAT PRICE STRUCTURE AND PRICE LEVELS IS GTE**
2 **PROPOSING FOR EACH SPECIFIC UNE PLATFORM?**

3 A. Based on the TELRIC costs (which are supported by Company
4 witness Tucek), GTE's proposed deaveraged MRCs for each
5 platform are listed in Exhibit DBT-5. As stated in Exhibit DBT-5,
6 GTE's proposed switch usage rates (end-office and tandem) and
7 common/shared transport rates will also apply, as appropriate, for all
8 minutes of use generated from the platform. Likewise, GTE's
9 proposed rates for switch features and database queries will also
10 apply when specific switch features are ordered or when "non-call set-
11 up" queries to GTE's databases occur.

12

13 Exhibit DBT-6 contains GTE's proposed ordering and provisioning
14 NRCs for UNE platforms.

15

16 **ISSUE 12(2) – Enhanced Extended Links (EELs)**

17 **Q. WHAT ARE EELS?**

18 A. An EEL is a combination of UNEs (an unbundled loop, multiplexing as
19 required, and interoffice dedicated transport) that facilitates the
20 "extension" of an unbundled loop beyond the GTE central office that
21 serves an end-user customer. By using an EEL, the ALEC can avoid
22 the need to collocate at every central office to gain access to the
23 unbundled loops within each central office. The FCC's rule 51.319
24 allows ILECs that provide EELs in the top 50 metropolitan statistical
25 areas (MSAs) to exempt themselves from providing unbundled local

1 switching to requesting ALECs when the ALEC intends to serve a
2 customer with four or more voice grade (DSO) equivalents or lines.
3 GTE will be offering EELs in the "Tampa – St. Petersburg –
4 Clearwater" MSA and thus this exemption will apply for GTE.

5

6 **Q. WHAT PRICES IS GTE PROPOSING FOR THE EEL**
7 **COMBINATIONS LISTED IN THE COMMISSION'S ISSUE 12(2)?**

8 A. The MRCs and proposed rate structures for each of the specified EEL
9 combinations are presented in Exhibit DBT-5 and the associated
10 ordering and provisioning NRCs are listed in Exhibit DBT-6.

11

12 **Q. DOES THIS CONCLUDE YOUR ADDITIONAL DIRECT**
13 **TESTIMONY?**

14 A. Yes.

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GTE FLORIDA

REBUTTAL TESTIMONY OF DENNIS B. TRIMBLE

DOCKET NO. 990649-TP

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

A. My name is Dennis B. Trimble and I am the Assistant Vice President - Pricing Strategy for GTE Service Corporation. My business address is 600 Hidden Ridge Drive, Irving, Texas.

Q. ARE YOU THE SAME DENNIS TRIMBLE WHO FILED DIRECT TESTIMONY IN THIS DOCKET ON MAY 1, 2000?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. I will respond to various issues raised in the direct testimonies of the Alternative Local Exchange Carriers (ALECs). Specifically, I will respond to the testimony filed by Jeffrey King, on behalf of AT&T Communications of the Southern States, Inc. (AT&T) and MCI Worldcom, Inc.; George Ford, on behalf of Z-Tel Communications, Inc. (Z-Tel); Terry Murray, on behalf of Bluestar Networks, Inc., Covad Communications Company and Rhythms Links Inc.; William Barta, on behalf of the Florida Cable Telecommunications Association (FCTA); and David Nilson, on behalf of Supra Telecommunications & Information Systems, Inc. (Supra).

ISSUE 5: SIGNALING NETWORKS AND CALL RELATED**DATABASES**

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Q. Z-TEL WITNESS FORD AND SUPRA WITNESS NILSON ASK THE COMMISSION TO ESTABLISH RATES FOR VARIOUS ADVANCED INTELLIGENT NETWORK (AIN) ITEMS. DO YOU AGREE WITH THEIR PROPOSALS?

A. No. Unlike Bell South, GTE Florida Incorporated (GTEFL or GTE) has not developed a generic Service Creation Environment (e.g., AIN Toolkit) nor has it developed a generic Service Management System. GTE has not developed these platforms because no ALEC has issued a bonafide request seeking access to these elements. There are many complex technical issues involved with providing access to these elements which must be resolved before a determination can be made whether GTE can satisfy any ALECs' specific request.

Q. IN HIS DIRECT TESTIMONY, AT&T AND MCI WORLDCOM WITNESS KING ASKS THE COMMISSION TO DESIGNATE DAILY USAGE INFORMATION (E.G., ADUF, ODUF, EODUF) AS A UNE AND SET RATES FOR IT. (KING DT AT 4-5.) CAN YOU COMMENT ON THIS PROPOSAL?

A. It is difficult for me to offer specific comment on Mr. King's proposal because he doesn't explain what "daily usage information" means. GTEFL does not have any databases known by the acronyms Mr. King mentions. Without knowing what Mr. King means, my general

1 observation would be that it is important to carefully define "call-
2 related databases." GTE's view is that call-related databases are
3 those SS7 databases that supply information or instructions used for
4 "billing and collection or used in the transmission, routing, or other
5 provision of a telecommunications service." (FCC's Local Competition
6 First Report and Order, footnote 1126).

7

8 In any event, Mr. King has simply listed the items for which he
9 believes rates should be set. He doesn't offer any rationale as to *why*
10 the Commission should determine these things to be SS7 call related
11 databases and price them accordingly. This lack of supporting
12 evidence is reason enough to reject all of the items on his list.

13

14 **ISSUE 6: RECOVERY OF NON-RECURRING COSTS THROUGH**
15 **RECURRING RATES**

16

17 **Q. DO THE PARTIES GENERALLY AGREE AS TO WHAT TYPES OF**
18 **NON-RECURRING COSTS SHOULD BE RECOVERED THROUGH**
19 **RECURRING RATES?**

20 **A.** At a very high level, I believe there is some level of agreement. AT&T
21 witness Jeffrey King seems to summarize this general understanding
22 when he states: "Further if, the activity being performed is a one time
23 activity, but has the potential to benefit all future users of a particular
24 telecommunication facility, the costs of the activity typically are
25 characterized as recurring." (King DT at 6.) In a similar vein, Supra

1 witness David Nilson appropriately states the flip side of the pricing
2 issue: "Task related non-recurring costs are specific to a given
3 carrier's order for a particular service and should remain non-
4 recurring costs." (Nilson DT at 9.)

5
6 The disagreement arises when various ALEC witnesses propose that
7 if a *non-recurring charge* exceeds some undefined, unquantified
8 "threshold for competitive entry," the Commission should direct
9 recovery of the *non-recurring cost* within an existing recurring rate
10 element. (King DT at 7; Murray DT at 14.) The Commission should
11 reject this proposal.

12
13 The ALECs' approach would force ILECs to operate as "bankers" for
14 the ALECs' and imprudent bankers, at that, because they would be
15 forced to accept *all* the risk of non-recovery of NRCs. *Supra* witness
16 Nilson chastises the ILECs for seeking "financial protection from an
17 ALEC who cancels service early." (Nilson DT at 10.) In the real world,
18 bankers do, in fact, implement financial measures to protect
19 themselves from customers that default on their loans. But the ILECs
20 are not seeking to impose any such measures on the ALEC. They
21 are seeking only what they are due, full payment of legitimately
22 incurred charges from the cost causer, the ALEC. This is entirely fair
23 and reasonable. Ms. Murray complains that "the risk associated with
24 nonrecurring charges will increase the expected return that investors
25 will demand to provide capital to new entrants." (Murray DT at 7.) By

1 the same token, if that risk is transferred to the ILEC, then its cost of
2 capital will increase. As between the two parties, principles of
3 fairness and cost causation demand that the ALEC bear the risk of
4 non-recurring charge recovery. There is no reason to force the
5 ILEC's customers to bear the cost of an ALEC losing a customer or
6 going out of business. Such corporate welfare would be particularly
7 unfair and unwarranted considering that there is no evidence that
8 non-recurring charges are a barrier to entry. The levels of competitive
9 entry in Florida have been among the very highest in the nation and
10 there is no sign that this trend will abate.

11

12 **Q. MS. MURRAY CRITICIZES, IN PARTICULAR, THE ILECS'**
13 **PROPOSED NON-RECURRING CHARGES ASSOCIATED WITH**
14 **THE PROVISION OF XDSL-CAPABLE LOOPS. (MURRAY DT AT**
15 **12.) HOW DO YOU RESPOND TO THIS CRITICISM?**

16 **A.** As an initial matter, I don't think her discussion of specific rates is
17 appropriate at this stage of the proceeding. Without giving any
18 details, Ms. Murray claims there are "errors" in the ILECs' non-
19 recurring cost studies and accuses the ILECs of "exaggerating" non-
20 recurring cost levels. (Murray DT at 13.) It is not clear whether Ms.
21 Murray has even analyzed GTEFL's studies or whether she is simply
22 assuming that the ILECs will misrepresent the costs underlying the
23 non-recurring rates. In any event, I understand that parties were
24 directed at this stage to answer only the question of whether it is ever
25 appropriate to recover non-recurring costs through recurring rates.

1 Specific costs and prices, including non-recurring rates, are to be
2 addressed in later testimony and hearings.

3

4 Even so, I can't let Ms. Murray's allegations about GTEFL's line
5 conditioning rates stand without at least some brief comment at this
6 point. Ms. Murray compares GTEFL's line conditioning rates with its
7 loop rates. Those loop rates are calculated using a long-run, forward-
8 looking methodology, which assumes that the network will be totally
9 rebuilt from scratch. Thus, the cost of a loop reflects enormous
10 economies of scale (e.g., thousands of loops are built at once). Loop
11 conditioning, on the other hand, is a loop-specific event. Perhaps if
12 Ms. Murray were to compare the cost of building just one loop with the
13 cost of conditioning just one loop, she would see a dramatically
14 different picture. Ms. Murray's comparison is just idle rhetoric that
15 attempts to shroud the rational comparison of costs and the
16 understanding of what really generates those costs.

17

18 **ISSUE 9(B):SHOULD THE COMMISSION REQUIRE THE ILECS TO**
19 **UNBUNDLE ADDITIONAL ELEMENTS OR COMBINATIONS OF**
20 **ELEMENTS?**

21

22 **Q. SUPRA WITNESS NILSON REQUESTS THAT THE COMMISSION**
23 **DESIGNATE THE FOLLOWING AS UNES: (A) ACCESS TO**
24 **DSLAMS IN THE CENTRAL OFFICE AND AT REMOTE**
25 **TERMINALS, (B) WAVE DIVISION MULTIPLEXING, AND (C) XDSL-**

1 **CAPABLE LOOPS DEFINED BY DISTANCE FROM THE CENTRAL**
2 **OFFICE. DOES GTE AGREE THAT UNE-TYPE PRICES SHOULD**
3 **BE DEVELOPED FOR EACH OF THESE?**

4 A. No. First, I should reiterate that a state commission must apply a
5 "necessary and impair" test before it can require an element to be
6 unbundled. Likewise a determination of whether it is technically
7 feasible to unbundle an element must also be performed. I am
8 unaware of any "necessary and impair" studies that have addressed
9 the necessity to offer DSLAMs as a *standalone element* or Wave
10 Division Multiplexing as UNEs. Supra's request to classify these two
11 items as UNEs must simply be rejected due to the lack of required
12 support analysis showing that they satisfy the "necessary and impair"
13 standard for UNEs.

14
15 Supra's third request for a new classification of loops based on
16 current distance limitations for xDSL technologies should also be
17 dismissed as an *inappropriate definition* for a UNE loop. As a matter
18 of public policy, loop length should never be considered as a driver for
19 rate deaveraging unless it is accompanied by significant differences
20 in customer density within the wire center's serving area. If the
21 density characteristics are relatively homogeneous within a wire
22 center's *serving territory*, then pricing based on loop length just results
23 in another mechanism to facilitate rate arbitrage. An alternative local
24 exchange carrier (ALEC) can simply build its switch on the other side
25 of town, self-provision its short loops, and then pay short-loop prices

1 to the ILEC for loops that would be long loops to the ALEC. If density
2 characteristics are relatively homogeneous, then the appropriate
3 factor in the setting of competitively efficient and neutral rates is the
4 average cost in that homogeneous area. The arbitrary placement of
5 a wire center should not make one customer more coveted than
6 another identical customer in that homogeneous area.

7
8 In addition, Supra's proposal to deaverage UNE loops based on
9 length considerations appears to be inconsistent with current FCC
10 rules. The FCC's rules are clear: they require geographically
11 deaveraged rate zones, not different length-based rates in the same
12 geographic zone. Webster's Dictionary defines a zone as "a region
13 or area set off as distinct from surrounding or adjoining parts", or "one
14 of the sections of an area created for a particular purpose", or "a
15 specific district, area, etc. within which a uniform charge is made for
16 transportation, mail delivery, or other service" (see, e.g., Webster's
17 New Universal Dictionary). Supra's proposal does not fall within this
18 definition: it does not establish rate zones, as this term is commonly
19 defined, and it does not establish geographically deaveraged rates;
20 instead, it establishes length-based rates that would result in different
21 rates for UNE loops within the same geographic area.

22
23 Finally, Supra's proposal does not address the effect of loop length
24 specific prices on retail costing and pricing issues, or on universal
25 service support issues. If wholesale rates are based on loop length,

1 then retail rates and universal service support must also be based on
2 loop length, otherwise the Commission would have established
3 arbitrary and inconsistent wholesale and retail rate structures, which
4 would perpetuate arbitrage and economically inefficient rate
5 structures.

6
7 In sum, *Supra's* proposal for a UNE loop defined by a specific
8 technology-driven loop length is unworkable and in conflict with
9 current FCC rules. It must be rejected.

10

11 **Q. FCTA WITNESS BARTA CLAIMS THAT HE HAS NOT HAD THE**
12 **OPPORTUNITY TO FULLY EXAMINE THE ILECS' COST STUDIES.**
13 **IS THIS COMPLAINT WARRANTED?**

14 A. No, this complaint is not warranted with regard to GTEFL's cost study
15 submissions. Mr. Barta repeatedly claims that the "complexity and
16 magnitude of the ILECs' filings have prohibited a comprehensive
17 examination of the key areas of the TELRIC studies within the
18 ordered procedural schedule." (Barta DT at 5-6, 14-16.) In response,
19 I would point out that the FCTA, along with the other parties in this
20 docket, established the procedural schedule by stipulation over six
21 months ago. These parties, including FCTA, were quite familiar with
22 cost study filings and their level of complexity when the schedule was
23 established. GTEFL has fully adhered to the schedule for cost study
24 submissions. It filed a recurring cost study on April 17, 2000. The
25 associated, non-recurring study was filed on May 1, 2000. Although

1 GTEFL understands some ALECs have had complaints about their
2 ability to review BellSouth's cost studies, there were no such
3 complaints with regard to GTE's studies.

4
5 The Commission has already made substantial accommodations for
6 the ALECs in view of their purported problems with the BellSouth
7 studies. The issues that demand most scrutiny of the cost study
8 methodology were moved to the September hearings. The ALECs'
9 deadline for filing testimony on the reduced set of issues for the July
10 hearing was also extended by a week. Still, Mr. Barta indicates that
11 the ALECs have not been afforded adequate opportunity to do a
12 comprehensive examination of the ILECs' studies (Barta DT at 6),
13 such that it "may be necessary to submit supplemental direct
14 testimony." (Barta DT at 16.)

15
16 There is no need to give the ALECs any more opportunity than they
17 have already had to review GTEFL's studies, and GTEFL will
18 vigorously oppose any attempt by the ALECs to submit additional
19 testimony out of time.

20
21 **Q. MR. BARTA ALSO FILED TESTIMONY ON ISSUES 7(t),**
22 **EXPENSES, AND 7(u), COMMON COSTS. WILL THESE ISSUES**
23 **BE INCLUDED IN THE JULY HEARINGS?**

24 **A.** It is my understanding that these issues will not be included in the
25 July hearings and are not to be addressed in this round of testimony.

1 As such, GTEFL will not respond to Mr. Barta's testimony on expense
2 inputs and common costs at this point, but will do so at the
3 appropriate time.

4

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

6 A. Yes.

7 (Transcript continues in sequence in Volume 3.)

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1 STATE OF FLORIDA)

2 : CERTIFICATE OF REPORTER

3 COUNTY OF LEON)

4

5 I, JANE FAUROT, RPR, Chief, FPSC Bureau of Reporting
6 Official Commission Reporter, do hereby certify that the
7 Hearing in Docket No. 990649-TP was heard by the Florida
8 Public Service Commission at the time and place herein
9 stated.

7

8 It is further certified that I stenographically
9 reported the said proceedings; that the same has been
10 transcribed under my direct supervision; and that this
11 transcript, consisting of 163 pages, Volume 2 constitutes
12 a true transcription of my notes of said proceedings and
13 the insertion of the prescribed prefiled testimony of the
14 witness(s).

11

12 I FURTHER CERTIFY that I am not a relative, employee,
13 attorney or counsel of any of the parties, nor am I a
14 relative or employee of any of the parties' attorneys or
15 counsel connected with the action, nor am I financially
16 interested in the action.

14

15 DATED this 25TH DAY OF JULY, 2000.

15

16



17

JANE FAUROT, RPR
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Chief, Bureau of Reporting
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