

ORIGINAL



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September 2, 1998

Mrs. Blanca S. Bayo  
Director, Division of Records and Reporting  
Florida Public Service Commission  
2540 Shumard Oak Boulevard  
Tallahassee, Florida 32399

RE: Docket No. 980696-TP

Dear Mrs. Bayo:

Enclosed for filing in the above referenced dockets on behalf of AT&T of the Southern States, Inc.'s (AT&T) and MCI Telecommunications Corporation is the Rebuttal Testimony of Catherine Petzinger, John Hirshleifer, Michael Majoros, Art Lerma, and Don Wood/Brian Pitkin. Please note that the Rebuttal Exhibit CEP-1 attached to Catherine Petzinger's Rebuttal Testimony may contain proprietary confidential business information and is being filed separately in accordance with Rule 25-24.006(5), Florida Administrative Code.

Copies of the foregoing are being served on all parties or record in accordance with the attached Certificate of Service. Thank you for your assistance in this matter.

Sincerely,

*Tracy Hatch*  
Tracy Hatch

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RECORDS/REPORTING

**CERTIFICATE OF SERVICE  
DOCKET 980696-TP**

I HEREBY CERTIFY that a true and correct copy of the foregoing was furnished via \*hand delivery/\*\*Federal Express and U.S. Mail to the following parties of record on this 2<sup>nd</sup> day of September, 1998:

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**ORIGINAL**

**BEFORE THE  
THE FLORIDA PUBLIC SERVICE COMMISSION**

**DOCKET NO. 980696-TP**

**REBUTTAL TESTIMONY**

**OF**

**MICHAEL J. MAJOROS, JR.**

**ON BEHALF**

**OF**

**AT&T COMMUNICATIONS OF THE SOUTH CENTRAL STATES,  
INC.**

**AND**

**MCI TELECOMMUNICATIONS CORPORATION**

**SEPTEMBER 2, 1998**

DOCUMENT NUMBER-DATE

**09601 SEP-2 8**

FPSC-RECORDS/REPORTING

- 1 Q. PLEASE STATE YOUR NAME, POSITION AND BUSINESS  
2 ADDRESS.
- 3 A. My name is Michael J. Majoros, Jr. I am Vice President of the  
4 economic consulting firm of Snavelly King Majoros O'Connor & Lee,  
5 Inc. ("Snavelly King"). My business address is 1220 L Street, N.W.,  
6 Suite 410, Washington, D.C. 20005.
- 7 Q. ARE YOU THE SAME MICHAEL J. MAJOROS, JR. WHO  
8 SUBMITTED DIRECT TESTIMONY IN THIS PROCEEDING ON  
9 AUGUST 3, 1988?
- 10 A. Yes, I am.
- 11 Q. DID YOUR DIRECT TESTIMONY CONTAIN A DESCRIPTION OF  
12 YOUR BACKGROUND AND EXPERIENCE?
- 13 A. Yes, it did.
- 14 Q. WAS THIS TESTIMONY PREPARED BY YOU OR UNDER YOUR  
15 DIRECT SUPERVISION?
- 16 A. Yes it was. I should note, however, that this testimony and its  
17 analytical framework draws heavily upon work performed by myself  
18 and others at Snavelly King on behalf of AT&T, MCI and AT&T  
19 Canada LDS for use in other proceedings.
- 20 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?
- 21 A. In this testimony, I respond to the proposals of BellSouth, GTE and  
22 Sprint on the subject of the appropriate economic lives and future  
23 net salvage percents to be used in calculating depreciation

1           pursuant to the Universal Service Order of the Federal  
2           Communications Commission ("FCC").<sup>1</sup>

3   **Q.   PLEASE SUMMARIZE YOUR FINDINGS.**

4   **A.**   In my direct testimony, I explained that the FCC requires that Total  
5           Element Long-Run Incremental Cost ("TELRIC") methodology be  
6           used to estimate the cost of universal service.<sup>2</sup> I also found that the  
7           projection lives and future net salvage percents prescribed by the  
8           FCC are consistent with the FCC's Universal Service Order and  
9           appropriate for use in calculating depreciation. I recommended  
10          projection lives and future net salvage percents prescribed in 1995  
11          by the FCC for BellSouth-Florida and GTE-Florida. I also  
12          recommended lives and future net salvage percents for Sprint from  
13          the low end of the FCC ranges.<sup>3 4</sup> Since several of the lives  
14          proposed by BellSouth, GTE and Sprint are much shorter than  
15          those prescribed by the FCC in most major accounts, I conclude  
16          that they are too short to be used in universal service cost studies.  
17          The use of unrealistically short lives would overstate the cost of  
18          universal service and the subsidies necessary for its preservation.

19   **Q.   HAVE YOU COMPARED THE LIVES AND FUTURE NET**  
20   **SALVAGE VALUES PROPOSED BY BELL SOUTH, GTE AND**  
21   **SPRINT TO THOSE CONSISTENT WITH THE FCC'S RULES AS**  
22   **REFLECTED IN YOUR RECOMMENDATIONS?**

23   **A.**   Yes, I have. On Attachment MJM-7, I compare the proposals of

1 BellSouth, GTE and Sprint (Column d) to my recommendations.

2 The life proposals of BellSouth, GTE and Sprint (Column d)  
3 for digital switching, digital circuit and the outside plant accounts  
4 are generally much shorter than the latest FCC prescribed  
5 projection lives (Column c).

6 **Q. HOW DID BELLSOUTH, GTE AND SPRINT DEVELOP THEIR**  
7 **LIFE ESTIMATES?**

8 A. They relied largely upon "substitution analysis," which attempts to  
9 forecast the pattern by which new technology will replace old  
10 technology.<sup>8</sup> GTE and Sprint relied upon substitution analyses  
11 performed by Technologies Futures, Inc. ("TFI"), whose industry  
12 studies have been used frequently by local exchange carriers  
13 ("LECs") to justify shorter lives in regulatory depreciation  
14 proceedings.<sup>9</sup> TFI's studies are sponsored by the  
15 Telecommunications Technology Forecasting Group ("TTFG"), an  
16 industry association of BellSouth, GTE, Sprint and other major  
17 LECs in the United States and Canada. BellSouth also used to rely  
18 on TFI and at one point convinced this Commission to rely on TFI  
19 as well. However, that reliance has been shown to have been  
20 misplaced.

21 **Q. WHAT ASSUMPTIONS UNDERLIE THESE STUDIES?**

22 A. These studies are based upon the premise that LECs will replace  
23 their narrowband telecommunications networks with broadband



1 integrated networks capable of providing both telecommunications  
2 services and video services, such as cable television. According to  
3 these studies, Fiber-In-The-Loop ("FITL") will bring broadband to  
4 the home, displacing copper plant. This will result in the upgrading  
5 of all transmission systems to Synchronous Optical Network  
6 ("SONET"), replacing existing circuit equipment. TFI also predicts  
7 that Asynchronous Transfer Mode ("ATM") switching equipment will  
8 provide a broadband switching capability replacing today's  
9 narrowband switch fabrics.

10 Q. SHOULD TELRIC COST STUDIES BE BASED UPON  
11 ASSUMPTIONS SUCH AS THOSE UNDERLYING THESE  
12 ESTIMATES?

13 A. No. TELRIC is based on the use of the most efficient  
14 telecommunications technology currently available and the lowest  
15 cost network configuration, given the existing location of the  
16 incumbent LEC's wire centers. The TELRIC standard requires a  
17 determination of the stand-alone cost of unbundled network  
18 elements in an efficient telecommunications network.<sup>7</sup> The plant  
19 lives appropriate for such a calculation should not be based upon  
20 the assumption that efficient telecommunications facilities will be  
21 prematurely retired in order to provide broadband video services.  
22 The FCC has specifically ruled that the costs of premature  
23 retirements will not be charged to ratepayers. The FCC states:

1 Facilities upgrades and accelerated replacement of  
2 older facilities might also be undertaken primarily for  
3 the benefit of unregulated service offerings. The  
4 principles adopted in the Order dictates that such  
5 costs be excluded from the regulated accounts.<sup>9</sup>

6 The use of plant lives based upon the assumption that an  
7 integrated telecommunications/video network will replace the  
8 telecommunications network would effectively cause the costs of  
9 premature retirements to be charged to telephone ratepayers.

10 **Q. IS THIS DISTINCTION BETWEEN TELECOMMUNICATIONS  
11 AND VIDEO SERVICES UNIQUE TO THE FCC?**

12 **A.** No. The Canadian Radio-Television and Telecommunications  
13 Commission ("CRTC") draws the very same distinction. The CRTC  
14 divides cost between the Competitive (non-regulated) and Utility  
15 (regulated) segments, and states:

16 The Commission finds that, in general, the most  
17 appropriate regulatory treatment for broadband  
18 initiatives is to require the telephone companies to  
19 assign to the Competitive segment all new  
20 investments and related expenses associated with  
21 the deployment of fiber, coaxial cable, optoelectrical  
22 equipment, asynchronous transfer mode (ATM)  
23 switches, and video servers.<sup>9</sup>

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The Commission does not foresee any instances where it would be appropriate to have fiber or coaxial cables in the distribution portion of the loop assigned to the Utility segment.<sup>10</sup>

**Q. ARE THE LIVES RESULTING FROM THE USE OF SUBSTITUTION ANALYSIS NECESSARILY ACCURATE?**

A. No. Substitution models merely provide a convenient method for plotting by year the growth of a new technology assuming the inputs to the formula are correct. The output of a substitution analysis is only as accurate as the inputs selected.

In the first place, substitution analysis is not even relevant unless it is known that a new technology will replace, not supplement an older technology. It appears, for example, that Asynchronous Transfer Mode ("ATM") switches will be deployed as a supplemental technology to digital switches, not as a replacement for them. As such, substitution analysis is of no relevance. This helps to explain low retirement rates for digital switching equipment.

indeed, even when a substitution has started, it does not necessarily follow that it will finish according to pattern. It appeared at one point, for example, that nuclear fuel would replace fossil fuel in electrical generation in this country. The use of substitution

1 formulas in that case would have resulted in dramatically incorrect  
2 predictions.

3 Even if a full substitution is likely, the formula requires the  
4 user to predict both the rate of substitution and the point at which  
5 the replacement technology will reach 50 percent of the universe."  
6 In other words, the analyst must insert as an input the average  
7 remaining life of the old technology, since this is essentially the 50  
8 percent level of the new technology. Although substitution  
9 methodology allows the preparation and presentation of impressive  
10 looking charts and tables, it is merely charting the assumptions  
11 made by the analyst. Its outputs at the hands of BellSouth or TFI  
12 are no more credible than their inputs.

13 **Q. HAS SUBSTITUTION ANALYSIS PROVEN ACCURATE OVER**  
14 **THE LONG RUN?**

15 **A.** No. Although TFI forecasts have been provided to the FCC for  
16 nearly a decade, they have not been relied upon in the selection of  
17 plant projection lives. Fatima K. Franklin, the Chief of the FCC's  
18 Competitive Analysis Branch, recently made a presentation at the  
19 Annual Meeting of the Society of Depreciation Professionals on the  
20 subject of forecasting. The charts from her presentation are  
21 provided as Attachment MJM-8. Charts 3 and 4 deal specifically  
22 with TFI's estimates. Chart 3 demonstrates that TFI's 1989  
23 estimates for the retirement of circuit equipment have proven

1 grossly inaccurate. The percent of 1987 circuit equipment  
2 surviving as of the end of 1996 is nearly three times as great as  
3 that predicted by its studies. Chart 4 demonstrates that its 1994  
4 estimates for circuit equipment and analog stored program control  
5 ("SPC") switches are already proving inaccurate.

6 Attachment MJM-9 provides a similar analysis of TFI's fiber  
7 in the feeder estimates. Page 1 of this analysis shows its  
8 predictions for the percent of fiber in the feeder in 1988, 1994 and  
9 1997, and actuals (in bold) through 1995. In 1988 TFI predicted a  
10 substitution of 22.55 percent by 1995; in 1994 its prediction  
11 dropped to 11.20 percent; and its latest study shows an actual of  
12 9.30 percent. Page 2 graphically portrays this data and  
13 demonstrates how TFI's life estimates have lengthened as actuals  
14 became available.

15 **Q. HAS BELLSOUTH'S USE OF SUBSTITUTION ANALYSIS**  
16 **PRODUCED ESTIMATES MORE ACCURATE THAN TFI'S**  
17 **ESTIMATES?**

18 **A.** No. Attachment MJM-10 to this testimony reproduces the "tracking  
19 reports" filed by BellSouth as part of its most recent 1996  
20 Depreciation Study. The FCC requires these reports to shed light  
21 on the accuracy of past forecasts by a LEC. Actual retirements  
22 from 1993 to 1995 as a percent of retirements forecast in 1993 for  
23 the South Central Bell Companies were as follows:

|   |                         |       |
|---|-------------------------|-------|
| 1 | Aerial Cable Metal      | 32.3% |
| 2 | Underground Cable Metal | 11.1% |
| 3 | Buried Cable Metal      | 23.6% |

4 This abysmal track record may have contributed to BellSouth's  
5 failure to request represcription in 1996.

6 **Q. DO YOU HAVE ANY FLORIDA-SPECIFIC INFORMATION?**

7 **A.** Yes. Attachment MJM-11 is a comparison of the TFI predictions  
8 upon which this Commission set BellSouth's copper cable  
9 depreciation rates in Docket No. 920385-TL. The table  
10 demonstrates that TFI was wrong by over \$900 million. The  
11 remaining lives based on TFI's forecast were equally as wrong.

12 **Q. ARE THE LIVES PROPOSED BY BELL SOUTH, GTE AND**  
13 **SPRINT CONSISTENT WITH THE LIVES THEY USE FOR**  
14 **PUBLIC REPORTING PURPOSES?**

15 **A.** Yes. Apparently they are at least for BellSouth and CTE.

16 **Q. DOES THE FACT THAT BELL SOUTH, GTE OR SPRINT MAY**  
17 **USE THESE LIVES FOR FINANCIAL REPORTING PURPOSES**  
18 **MAKE THEM APPROPRIATE FOR TELRIC PROCEEDINGS?**

19 **A.** No. Florida-specific FCC prescribed lives are available and should  
20 be used in TELRIC calculations. In a 1989 Petition, AT&T asked  
21 the FCC to base its regulatory depreciation on its financial books.<sup>12</sup>  
22 The FCC flatly rejected this request, stating:

23 We conclude that AT&T has not made a

1 sufficient showing that this Commission should base  
2 AT&T's book rates on the depreciation rates that it  
3 uses for financial reporting purposes. Initially, we  
4 observe that the present depreciation procedures  
5 have worked well for AT&T, in terms of ensuring more  
6 rapid capital recovery. Our recent depreciation orders  
7 have allowed AT&T to increase substantially its  
8 depreciation reserve, from 24.8% of plant as of  
9 January 1, 1984 to 30.1% as of January 1, 1989.  
10 AT&T does not state in its petition in what specific  
11 manner this Commission has been remiss in our  
12 depreciation rate prescriptions of recent years.  
13 Rather, it relies upon the fact that in 1988 it took a \$6  
14 billion writedown of its asset value for financial  
15 reporting purposes. This event may indicate that a  
16 new look at AT&T's depreciation situation is  
17 warranted, notwithstanding our recent depreciation  
18 represcription, and we are accordingly initiating herein  
19 an inquiry into AT&T's need for revised depreciation  
20 rates. However, that assessment can be  
21 accomplished using current procedures rather than  
22 depreciation rate methodologies that go well beyond  
23 those that we have traditionally employed. We have

1 taken a series of initiatives during the past decade to  
2 ensure that carriers are able to adjust their  
3 depreciation rates promptly to recover capital  
4 investment costs as quickly as possible under the  
5 federal regulatory scheme. We do not see a need  
6 now to abandon one of those initiatives to address  
7 what appears to be a temporary problem that can be  
8 resolved with measures less drastic than those  
9 suggested by AT&T.<sup>13</sup>

10 Q. HAS ANY MAJOR LEC CONCEDED THE BIAS INHERENT IN  
11 THE FINANCIAL BOOKS?

12 A. Yes. The lives used for financial accounting purposes are  
13 governed by the Generally Accepted Accounting Principle  
14 ("GAAP") of "conservatism." In the FCC's Prescription  
15 Simplification proceeding, GTE noted that the GAAP conservatism  
16 principle "prefers the understatement (versus overstatement) of net  
17 income and net assets where any potential measurement problems  
18 exist."<sup>14</sup> Most accountants would agree that the very nature of  
19 depreciation makes it a challenge to measure. GAAP, independent  
20 auditors and the Security and Exchange Commission, therefore,  
21 might well prevent the LECs from understating depreciation, since  
22 this would overstate net income and net assets. It is highly  
23 unlikely, however, that GAAP, or any financial auditor, would find



1           that a LEC (or any company, for that matter) had overstated its  
2           depreciation, since this would result in a conservative view of net  
3           income and net assets.

4           In its October 1993 Order, the FCC agreed with GTE,  
5           stating:

6           One of the primary purposes of GAAP is to ensure  
7           that a company does not present a misleading picture  
8           of its financial condition and operating results by, for  
9           example, overstating its asset values or overstating  
10          its earnings, which would mislead current and  
11          potential investors. GAAP is guided by the  
12          conservatism principle which holds, for example, that,  
13          when alternative expense amounts are acceptable,  
14          the alternative having the least favorable effect on net  
15          income should be used. Although conservatism is  
16          effective in protecting the interest of investors, it may  
17          not always serve the interest of ratepayers.  
18          Conservatism could be used under GAAP, for  
19          example, to justify additional (but, perhaps not  
20          "reasonable") depreciation expense by a LEC to avoid  
21          its sharing obligation. Thus, GAAP would not  
22          effectively limit the opportunity for LECs to manage  
23          earnings so as to avoid the sharing zone as the basic

1 factor range option. In this instance, GAAP does not  
2 offer adequate protection for ratepayers.<sup>15</sup>

3 **Q. IN AN EARLIER CASE BELLSOUTH CLAIMED THAT IT HAS A**  
4 **RESERVE DEFICIENCY ON AN FCC BASIS. IS THIS AN**  
5 **ACCURATE STATEMENT?**

6 **A.** No. BellSouth claims a reserve deficiency calculated on the basis  
7 of its financial book lives. On an FCC basis, using FCC prescribed  
8 lives, BellSouth has a reserve surplus of \$2.0 billion as of January  
9 1, 1997.<sup>16</sup> BellSouth reported a \$450 million surplus for Florida  
10 alone.

11 **Q. BELLSOUTH COMPARES ITS PROPOSED LIVES TO THE**  
12 **LIVES PRESCRIBED BY THE FCC FOR AT&T IN 1994.<sup>17</sup> DO**  
13 **AT&T LIVES PROVIDE AN APPROPRIATE BENCHMARK?**

14 **A.** No. Any comparison to lives prescribed for AT&T in 1994 is  
15 irrelevant because in 1994 AT&T was an interexchange carrier  
16 ("IXC"). The very same FCC Order that prescribed the lives for  
17 AT&T in 1994 also prescribed much longer lives for thirteen LECs.  
18 Clearly, the FCC recognized the difference between the  
19 appropriate lives for an IXC and a LEC. The FCC explicitly noted  
20 this difference in its Prescription Simplification proceeding when it  
21 stated:

22 We believe the underlying considerations that go into  
23 estimating the basic factors are sufficiently different

1           for the two groups [IXC and LEC] that they should be  
2           considered separately.<sup>18</sup>

3           The plant lives of IXCs are simply not appropriate for use in  
4           calculating TELRIC for local service. The expected productive life  
5           of plant is largely dependent upon its specific use. To use an  
6           extreme, but apt, analogy, the expected productive life of the  
7           copper wire installed in a house is many times that of the copper  
8           wire installed in an automobile. Despite surface similarity, the use  
9           of plant by LECs to provide local exchange and exchange access  
10          service is much different than the use of plant by IXCs to provide  
11          interexchange services.

12          IXCs are much less capital intensive than LECs, and thus  
13          are able to economically replace their plant much faster than LECs  
14          when the occasion demands. To service all homes and  
15          businesses in the Nation, an IXC needs only about 150 switches  
16          and 100,000 sheath kilometers of cable.<sup>19</sup> To gain the same  
17          ubiquity for local exchange service, the LECs require over 23,000  
18          switches and 6,000,000 sheath kilometers of cable.<sup>20</sup> No matter  
19          how motivated the LECs may be, the sheer magnitude and  
20          complexity of the replacement effort ensures that replacement is a  
21          long, drawn-out process. This difference also helps explain why  
22          facilities-based competition came quickly to the interexchange  
23          industry and has been painfully slow in the local exchange industry.

1           The key investments in TELRIC proceedings are local loops  
2           and end office switches. The IXCs have neither local loops or end  
3           office switches in the plant they currently depreciate. If and when  
4           they establish end office switches and local loops, it would be  
5           reasonable for the IXCs to look to FCC prescribed lives for LEC  
6           end office switches and local loop plant as benchmarks. Similarly,  
7           it would be reasonable for BellSouth to look to IXC lives for its  
8           interexchange plant. It is not, however, reasonable to use IXC lives  
9           for local plant, or vice versa.

10   **Q.   WHAT EFFECT WOULD THE USE IN TELRIC CALCULATIONS**  
11   **OF PLANT LIVES WHICH ARE UNREALISTICALLY SHORT**  
12   **HAVE ON UNIVERSAL SERVICE?**

13   **A.   The use of unrealistically short lives would overstate the cost of**  
14   **universal service and the subsidies necessary for its preservation.**

15   **Q.   BASED ON THE DIRECT TESTIMONY FILED BY THE ILECS IN**  
16   **THIS CASE, DO YOU BELIEVE ANY ADJUSTMENT IS**  
17   **WARRANTED IN THE RECOMMENDATION YOU GAVE IN**  
18   **YOUR DIRECT TESTIMONY?**

19   **A.   No. I still believe the depreciation rates I recommended in my**  
20   **direct testimony are the most appropriate rates to use in this**  
21   **proceeding.**

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

23   **A.   Yes, it does.**

---

<sup>1</sup> Federal-State Joint Board on Universal Service, CC Docket No. 96-45, Report and Order, FCC 97-157, released May 8, 1997 ("Universal Service Order").

<sup>2</sup> Majoros Direct, pp. 4.

<sup>3</sup> *Id.*, p. 11.

<sup>4</sup> Simplification of the Depreciation Prescription Process, CC Docket No. 92-296 ("Prescription Simplification").

<sup>5</sup> Direct Testimony of G. David Cunningham, page 5.

<sup>6</sup> Testimony of Allen E. Sovereign, page 16, and Testimony of Kent W. Dickerson, page 8

<sup>7</sup> FCC, Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC Docket No. 96-98, first Report and Order, FCC 96-325, released August 8, 1996 (August 8 Order), Appendix B ("Rules"), ¶ 51.505 (c)(2)(A).

<sup>8</sup> Separation of costs of regulated telephone service from costs of non-regulated activities, CC Docket No. 86-111, Report and Order, FCC 86-564, released February 6, 1987, paragraph 115.

<sup>9</sup> CRTC, Implementation of Regulatory Framework - Splitting of the Rate Base and Related Issues, Telecom Decision CRTC 95-21, 31 October 1995, pp. 34-35.

<sup>10</sup> *Id.*, p.35.

<sup>11</sup> The Modification of the Commission's Depreciation Prescription Practices as Applied to AT&T and The Prescription of Revised AT&T Depreciation Rates, Petition of American Telephone and Telegraph, February 15, 1989.

<sup>12</sup> *Id.*, Memorandum Opinion and Order, FCC 89-325, adopted November 22, 1989 (footnote deleted).

<sup>13</sup> Prescription Simplification, Comments of GTE Service Corporation and its affiliated domestic telephone operations companies ("GTE"), March 10, 1993, p. 14.

<sup>14</sup> Prescription Simplification, Report and Order, FCC 93-452,

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released October 20, 1993, para. 46.

<sup>15</sup> Attachment MJM-12 to this testimony summarizes the Statement C Reports filed by BellSouth with the FCC last year.

<sup>16</sup> Cunningham Testimony, page 9.

<sup>17</sup> Prescription Simplification, Notice of Proposed Rulemaking, FCC 92-296, released December 29, 1992.

<sup>18</sup> 1994 FCC Statistics of Common Carriers, p. 159.

<sup>19</sup> Id.

EastSouth Universal Service  
Depreciation Parameter Comparison  
Florida Docket No. 980686-TP

| Account Number | Account Name              | Life              |                    |              | Furniture Net Salvage |                   |                    |              |              |
|----------------|---------------------------|-------------------|--------------------|--------------|-----------------------|-------------------|--------------------|--------------|--------------|
|                |                           | FCC Range Low (a) | FCC Range High (b) | SK Elec. (c) | BS Prod. (d)          | FCC Range Low (e) | FCC Range High (f) | SK Elec. (g) | BS Prod. (h) |
| 2112           | Motor Vehicles            | 7.5               | 9.5                | 7.5          | 9.0                   | 10.0              | 20.0               | 10.0         | 16.0         |
| 2114           | Spec. Purp. Vehicles      | 12.0              | 18.0               | 7.5          | 7.0                   | 0.0               | 10.0               | 10.0         | 0.0          |
| 2115           | Garage Work Equip         | 12.0              | 18.0               | 12.0         | 12.0                  | 0.0               | 10.0               | 0.0          | 0.0          |
| 2116           | Other Work Equip          | 12.0              | 18.0               | 15.0         | 15.0                  | 0.0               | 10.0               | 1.0          | 0.0          |
| 2121           | Buildings                 | N/A               | N/A                | 48.0         | -5.0                  | N/A               | N/A                | 4.0          | 0.0          |
| 2122           | Furniture                 | 15.0              | 20.0               | 11.0         | 15.0                  | 0.0               | 10.0               | 14.0         | 10.0         |
| 2123.1         | Off. Support Equip        | 10.0              | 15.0               | 10.5         | 11.5                  | 0.0               | 10.0               | 10.0         | 5.0          |
| 2123.2         | Co. Comm. Equip           | 7.0               | 10.0               | 7.0          | 7.0                   | -5.0              | 10.0               | 10.0         | 10.0         |
| 2124           | Gen. Purpose Computers    | 6.0               | 8.0                | 4.4          | 5.0                   | 0.0               | 5.0                | 0.0          | 0.0          |
| 2212           | Digital Switching         | 18.0              | 18.0               | 18.0         | 10.0                  | 0.0               | 5.0                | 0.0          | 0.0          |
| 2220           | Operator Systems          | 9.0               | 12.0               | 10.0         | 10.0                  | 0.0               | 5.0                | 0.0          | 0.0          |
| 2231           | Radio Systems             | 9.0               | 15.0               |              | 9.0                   | -5.0              | 5.0                |              | -5.0         |
| 2232           | Digital Circuit           | 11.0              | 13.0               | 10.5         | 9.0                   | 0.0               | 5.0                | 0.0          | 0.0          |
| 2351           | Public Telephones         | 7.0               | 10.0               | 7.0          |                       | 0.0               | 10.0               | 10.0         |              |
| 2382           | Other Terminal Equip.     | 5.0               | 8.0                |              | 6.0                   | -5.0              | 5.0                |              | 5.0          |
| 2411           | Poles                     | 25.0              | 35.0               | 35.0         | 34.0                  | -75.0             | -50.0              | -75.0        | -60.0        |
| 2421.1         | J. Aerial Cable - Met     | 20.0              | 26.0               | 18.0         | 14.0                  | -35.0             | -10.0              | -11.0        | -14.0        |
| 2421.2         | Aerial Cable - Fiber      | 25.0              | 30.0               | 25.0         | 20.0                  | -25.0             | -10.0              | -11.0        | -14.0        |
| 2422.1         | Underground Cable - Met   | 25.0              | 30.0               | 23.0         | 12.0                  | -50.0             | -5.0               | -7.0         | -5.0         |
| 2422.2         | Underground Cable - Fiber | 25.0              | 30.0               | 25.0         | 20.0                  | -20.0             | -5.0               | -6.0         | -8.0         |
| 2423.1         | Buried Cable - Met        | 20.0              | 26.0               | 18.0         | 14.0                  | -10.0             | 0.0                | -8.0         | -7.0         |
| 2423.2         | Buried Cable - Fiber      | 25.0              | 30.0               | 25.0         | 20.0                  | -10.0             | 0.0                | 0.0          | -7.0         |
| 2424.1         | Submarine Cable - Met     | 25.0              | 30.0               |              | 14.0                  | -5.0              | 0.0                |              | -5.0         |
| 2424.2         | Submarine Cable - Fiber   | 25.0              | 30.0               |              | 14.0                  | -5.0              | 0.0                |              | -5.0         |
| 2426.1         | Intruding Cable - Met     | 20.0              | 25.0               | 20.0         | 20.0                  | -30.0             | -5.0               | -12.0        | -10.0        |
| 2426.2         | Intruding Cable - Fiber   | 25.0              | 30.0               | 20.0         | 0.0                   | -15.0             | 0.0                | -12.0        | -10.0        |
| 2441           | Conduit Systems           | 50.0              | 60.0               | 55.0         | 55.0                  | -10.0             | 0.0                | -7.0         | -10.0        |

Source: Cons. A, B, & F - FCC Docket No. 98-298 Orders issued 6/25/98 and 5/4/95  
 Cons. G, G - Florida Dkt. Nos. 980683-TP/980684-TP/971140 TP Order, except the  
 2421, 2422, and 2423 Star accounts. These are as prescribed by the FCC.  
 Cons. d, h - Direct Testimony of G. David Currengram, Exhibit DDC-2, August 3, 1998.  
 Docket No. 980686-TP

GTE Universal Service  
Depreciation Parameter Comparison  
Florida Docket No. 980696-TP

| Account Number | Account Name              | Life      |          |          |           | Future Net Salvage |          |          |           |
|----------------|---------------------------|-----------|----------|----------|-----------|--------------------|----------|----------|-----------|
|                |                           | FCC Range |          | SK       | GTE       | FCC Range          |          | SK       | GTE       |
|                |                           | Low (a)   | High (b) | Rec. (c) | Prop. (d) | Low (e)            | High (f) | Rec. (g) | Prop. (h) |
| 2112           | Motor Vehicles            | 7.5       | 9.5      | 7.5      | 8.0       | 10.0               | 20.0     | 18.0     | 10.0      |
| 2114           | Spec. Purp. Vehicles      | 12.0      | 18.0     | 7.5      | 10.0      | 0.0                | 10.0     | 18.0     | 0.0       |
| 2115           | Garage Work Eqpt          | 12.0      | 18.0     | 12.0     | 10.0      | 0.0                | 10.0     | 0.0      | 0.0       |
| 2116           | Other Work Eqpt           | 12.0      | 18.0     | 12.0     | 10.0      | 0.0                | 10.0     | 0.0      | 0.0       |
| 2121           | Buildings                 | N/A       | N/A      | 40.0     | 30.0      | N/A                | N/A      | 0.0      | 0.0       |
| 2122           | Furniture                 | 15.0      | 20.0     | 15.0     | 10.0      | 0.0                | 10.0     | 9.0      | 0.0       |
| 2123.1         | Ofc. Support Eqpt         | 10.0      | 15.0     | 10.0     | 10.0      | 0.0                | 10.0     | 8.0      | 0.0       |
| 2123.2         | Co. Comm. Eqpt            | 7.0       | 10.0     | 7.0      | 10.0      | -5.0               | 10.0     | -5.0     | 0.0       |
| 2124           | Gen. Purpose Computers    | 6.0       | 8.0      | 6.0      | 5.0       | 0.0                | 5.0      | 0.0      | 0.0       |
| 2212           | Digital Switching         | 16.0      | 18.0     | 16.0     | 10.0      | 0.0                | 5.0      | 0.0      | 0.0       |
| 2220           | Operator Systems          | 8.0       | 12.0     | 8.0      | 10.0      | 0.0                | 5.0      | 0.0      | 0.0       |
| 2231           | Radio Systems             | 9.0       | 15.0     |          | 10.0      | -5.0               | 5.0      |          | 0.0       |
| 2232           | Digital Circuit           | 11.0      | 13.0     | 9.0      | 8.0       | 0.0                | 5.0      | 3.0      | 0.0       |
| 2351           | Public Telephones         | 7.0       | 10.0     | 7.0      | 7.0       | 0.0                | 10.0     | 0.0      | 0.0       |
| 2362           | Other Terminal Equip.     | 5.0       | 8.0      |          | 5.0       | -5.0               | 5.0      |          | 0.0       |
| 2411           | Poles                     | 25.0      | 35.0     | 25.0     | 25.0      | -75.0              | -50.0    | -75.0    | 50.0      |
| 2421.1         | Aerial Cable - Met        | 20.0      | 28.0     | 20.0     | 15.0      | -35.0              | -10.0    | -35.0    | -10.0     |
| 2421.2         | Aerial Cable - Fiber      | 25.0      | 30.0     | 25.0     | 20.0      | -25.0              | -10.0    | -25.0    | -10.0     |
| 2422.1         | Underground Cable - Met   | 25.0      | 30.0     | 25.0     | 15.0      | -30.0              | -5.0     | -17.0    | -10.0     |
| 2422.2         | Underground Cable - Fiber | 25.0      | 30.0     | 25.0     | 20.0      | -20.0              | -5.0     | -9.0     | -10.0     |
| 2422.1         | Buried Cable - Met        | 20.0      | 26.0     | 20.0     | 15.0      | -10.0              | 0.0      | -10.0    | -10.0     |
| 2423.2         | Buried Cable - Fiber      | 25.0      | 30.0     | 25.0     | 20.0      | -10.0              | 0.0      | -10.0    | -10.0     |
| 2424.1         | Submarine Cable - Met     | 25.0      | 30.0     |          | 15.0      | -5.0               | 0.0      |          | -10.0     |
| 2424.2         | Submarine Cable - Fiber   | 25.0      | 30.0     |          | 20.0      | -5.0               | 0.0      |          | -10.0     |
| 2426.1         | Intrabldg Cable - Met     | 20.0      | 25.0     | 20.0     | 15.0      | -30.0              | -5.0     | -10.0    | -10.0     |
| 2426.2         | Intrabldg Cable - Fiber   | 25.0      | 30.0     | 20.0     | 20.0      | -15.0              | 0.0      | -10.0    | -10.0     |
| 2441           | Conduit Systems           | 50.0      | 60.0     | 50.0     | 40.0      | -10.0              | 0.0      | -10.0    | -10.0     |

Source: Cols. a, b, e, f = FCC Docket No. 92-296 Orders released 6/25/94 and 5/4/95  
 Cols. c, g = FCC Parameter Report, August 11, 1995  
 Cols. d, h = Direct Testimony of Allan E. Sovereign, Exhibit AES-2, Docket No. 980696-TP



Sprint-Florida, Inc. Universal Services  
Depreciation Parameter Comparison  
Florida Docket No. 980896-TP

| Account Number | Account Name              | Life              |                    |             | Sprint-FL Prod. | Future Net Salvage |                    |             |                     |
|----------------|---------------------------|-------------------|--------------------|-------------|-----------------|--------------------|--------------------|-------------|---------------------|
|                |                           | FCC Range Low (a) | FCC Range High (b) | SX Rec. (c) |                 | FCC Range Low (e)  | FCC Range High (f) | SX Rec. (g) | Sprint-FL Prod. (h) |
| 2112           | Motor Vehicles            | 7.5               | 9.5                | 7.5         |                 | 10.0               | 20.0               | 10.0        |                     |
| 2114           | Spec. Purp. Vehicles      | 12.0              | 18.0               | 12.0        |                 | 0.0                | 10.0               | 0.0         |                     |
| 2115           | Garage Work Eqpt          | 12.0              | 18.0               | 12.0        |                 | 0.0                | 10.0               | 0.0         |                     |
| 2116           | Other Work Eqpt           | 12.0              | 18.0               | 12.0        |                 | 0.0                | 10.0               | 0.0         |                     |
| 2121           | Buildings                 | N/A               | N/A                | N/A         |                 | N/A                | N/A                | N/A         |                     |
| 2122           | Furniture                 | 15.0              | 20.0               | 15.0        |                 | 0.0                | 10.0               | 0.0         |                     |
| 2123.1         | Off. Support Eqpt         | 10.0              | 15.0               | 10.0        |                 | 0.0                | 10.0               | 0.0         |                     |
| 2123.2         | Co. Comm. Eqpt            | 7.0               | 10.0               | 7.0         |                 | -5.0               | 10.0               | -5.0        |                     |
| 2124           | Gen. Purpose Computers    | 6.0               | 8.0                | 6.0         |                 | 0.0                | 5.0                | 0.0         |                     |
| 2212           | Digital Switching         | 18.0              | 18.0               | 18.0        |                 | 0.0                | 5.0                | 0.0         |                     |
| 2220           | Operator Systems          | 8.0               | 12.0               | 8.0         |                 | 0.0                | 5.0                | 0.0         |                     |
| 2231           | Radio Systems             | 9.0               | 15.0               | 9.0         |                 | -5.0               | 5.0                | -5.0        |                     |
| 2232           | Digital Circuit           | 11.0              | 13.0               | 11.0        |                 | 0.0                | 5.0                | 0.0         |                     |
| 2251           | Public Telephones         | 7.0               | 10.0               | 7.0         |                 | 0.0                | 10.0               | 0.0         |                     |
| 2362           | Other Terminal Equip.     | 5.0               | 8.0                | 5.0         |                 | -5.0               | 5.0                | -5.0        |                     |
| 2411           | Poles                     | 25.0              | 35.0               | 25.0        |                 | -75.0              | -60.0              | -75.0       |                     |
| 2421.1         | Aerial Cable - Met        | 20.0              | 28.0               | 20.0        |                 | -35.0              | -10.0              | -35.0       |                     |
| 2421.2         | Aerial Cable - Fiber      | 25.0              | 30.0               | 25.0        |                 | -25.0              | -10.0              | -25.0       |                     |
| 2422.1         | Underground Cable - Met   | 25.0              | 30.0               | 25.0        |                 | -30.0              | -5.0               | -30.0       |                     |
| 2422.2         | Underground Cable - Fiber | 25.0              | 30.0               | 25.0        |                 | -20.0              | -5.0               | -20.0       |                     |
| 2423.1         | Buried Cable - Met        | 20.0              | 28.0               | 20.0        |                 | -10.0              | 0.0                | -10.0       |                     |
| 2423.2         | Buried Cable - Fiber      | 25.0              | 30.0               | 25.0        |                 | -10.0              | 0.0                | -10.0       |                     |
| 2424.1         | Submarine Cable - Met     | 25.0              | 30.0               | 25.0        |                 | -5.0               | 0.0                | -5.0        |                     |
| 2424.2         | Submarine Cable - Fiber   | 25.0              | 30.0               | 25.0        |                 | -5.0               | 0.0                | -5.0        |                     |
| 2426.1         | Intertiding Cable - Met   | 20.0              | 25.0               | 20.0        |                 | -30.0              | -5.0               | -30.0       |                     |
| 2426.2         | Intertiding Cable - Fiber | 25.0              | 30.0               | 25.0        |                 | -15.0              | 0.0                | -15.0       |                     |
| 2441           | Conduit Systems           | 50.0              | 60.0               | 50.0        |                 | -10.0              | 0.0                | -10.0       |                     |

Source: Col. a, b, e, f = FCC Docket No. 92-392 Orders released 6/28/94 and 5/4/95  
Col c = Column (a)  
Col g = Column (e)

**SOCIETY OF DEPRECIATION PROFESSIONALS**  
Annual Meeting

**FORECASTING**

FATINA K. FRANKLIN  
FEDERAL COMMUNICATIONS COMMISSION  
SEPTEMBER 22, 1997

## LIFE SPAN OR FORECAST METHOD

1. Large Individual Identifiable Units
2. Forecast Of An Individual Retirement Date Or Overall Life Span
3. Life Span - Yrs. From Avg. Date Of Placing To Avg. Date Of Retirement
4. Future Additions Are Integral Part Of Initial Installation

## ANALOG ELECTRONIC SWITCHING (INDIVIDUAL RETIREMENT DATE)

| Location Name      | Type | Equipped Lines | Year Placed | Book Investment | Est. Date Of Retirement |
|--------------------|------|----------------|-------------|-----------------|-------------------------|
| Springfield        | 1A   | 50,000         | 1979        | 15,000,000      | 1999                    |
| Paris              | 2B   | 10,000         | 1980        | 2,500,000       | 1998                    |
| Lexington          | RSS  | 1,000          | 1984        | 500,000         | 1997                    |
| Total or Composite |      | 61,000         | 1979.3      | 18,000,000      | 1998.8                  |

## DIGITAL ELECTRONIC SWITCHING (OVERALL LIFE SPAN)

| Location Name      | Type    | Equipped Lines | Year Placed | Book Investment |
|--------------------|---------|----------------|-------------|-----------------|
| Jackson            | 5ESS    | 55,000         | 1985        | 20,000,000      |
| Gainesville        | DMS-100 | 9,000          | 1987        | 5,000,000       |
| Lexington          | RSS     | 200            | 1990        | 300,000         |
| Total or Composite |         | 65,200         | 1985.5      | 25,300,000      |

Est. Avg. Retirement Year = 1985.5 + 20 Year Span = 2005.5

# PRODUCT LIFE CYCLE

## Company A Buried Metallic Cable

| <u>Year</u> | <u>1994 Study Forecast</u> | <u>1997 Study Actuals/Forecast</u> | <u>Beg of Year Investment</u> |
|-------------|----------------------------|------------------------------------|-------------------------------|
| 1994        | 214.9                      | 229.8 (A)                          |                               |
| 1995        | 140.5                      | 153.5 (A)                          |                               |
| 1996        | <u>86.5</u>                | <u>62.1 (A)</u>                    |                               |
| Total       | 441.9                      | 445.4 (A)                          |                               |
| 1997        | 43.4                       | 33.2 (F)                           | 221.3                         |
| 1998        | 41.0                       | 132.8 (F)                          | 188.1                         |
| 1999        | <u>44.6</u>                | <u>55.3 (F)</u>                    | <u>55.3</u>                   |
| Total       | 129.0                      | 221.3 (F)                          | 464.7                         |

Average Remaining Life (As of 1/1/97) =  $464.7 / 221.3 - 0.5 = 1.6$  Years

## Company B Aerial Metallic Cable

| <u>Year</u> | <u>1991 Study Forecast</u> | <u>1994 Study Forecast</u> | <u>1997 Study Actuals</u> |
|-------------|----------------------------|----------------------------|---------------------------|
| 1994        | 7,416                      | 5,887                      | 3,532                     |
| 1995        | 10,318                     | 7,532                      | 3,818                     |
| 1996        | <u>12,697</u>              | <u>9,037</u>               | <u>3,490</u>              |
| Total       | 30,433                     | 22,456                     | 10,840                    |

# Substitution Analysis 1

## OBSOLESCENCE OF CIRCUIT EQUIPMENT-ALL CATEGORIES SURVIVORS REMAINING FROM 1987 INVESTMENT

| <u>Technology Futures Inc.*</u><br><u>End Of</u><br><u>Year</u> | <u>Percentage</u><br><u>Surviving</u> | <u>Percent Surviving From</u><br><u>FCC Carriers Reviewed In</u> |              |
|---|---------------------------------------|--|--------------|
|   |                                       | <u>1996#</u>   | <u>1997@</u> |
| 1987  | 100                                   |  |              |
| 1988  | 90                                    |  |              |
| 1989  | 83                                    |  |              |
| 1990  | 73                                    |  |              |
| 1991  | 62                                    |  |              |
| 1992  | 53                                    |  |              |
| 1993  | 44                                    |  |              |
| 1994  | 35                                    |  |              |
| 1995  | 27                                    | 60.6   |              |
| 1996  | 21                                    |  | 59.2         |

ARL (As of 1-1-89) = 5.3 Years

\* Technological Substitution in Circuit Equipment  
For Local Telecommunications  
Copyright 1989, Technology Futures, Inc.

# Includes NET, SNET, US West, GTE-South & GTE-SW

@ Includes Southwestern Bell, Cincinnati Bell & US West

## Substitution Analysis 2

### Non-SONET Circuit Equipment Survivors

| <u>Technology Futures Inc.*</u> |                   | Percent Surviving From   |              |
|---------------------------------|-------------------|--------------------------|--------------|
| <u>End</u>                      | <u>% Of 1994</u>  | <u>Carriers Reviewed</u> |              |
| <u>Of</u>                       | <u>Investment</u> | <u>By FCC Staff In</u>   |              |
| <u>Year</u>                     | <u>Surviving</u>  | <u>1996#</u>             | <u>1997@</u> |
| 1994                            | 100               |                          |              |
| 1995                            | 89                | 97.6                     |              |
| 1996                            | 76                |                          | 93.7         |

ARL (As of 1-1-95) = 3.7 Years

### Analog SPC Survivors

| <u>Technology Futures Inc.*</u> |                   | Percent Surviving From   |              |
|---------------------------------|-------------------|--------------------------|--------------|
| <u>End</u>                      | <u>% Of 1994</u>  | <u>Carriers Reviewed</u> |              |
| <u>Of</u>                       | <u>Investment</u> | <u>By FCC Staff In</u>   |              |
| <u>Year</u>                     | <u>Surviving</u>  | <u>1996#</u>             | <u>1997@</u> |
| 1994                            | 100.0             |                          |              |
| 1995                            | 82.1              | 95.0                     |              |
| 1996                            | 58.9              |                          | 84.1         |

ARL (As of 1-1-95) = 2.8 Years

- \* Depreciation Lives for Telecommunications Equipment: Review & Update  
Copyright 1996, Technology Futures, Inc.

# Includes NET, SNET, US West, GTE-South & GTE-SW

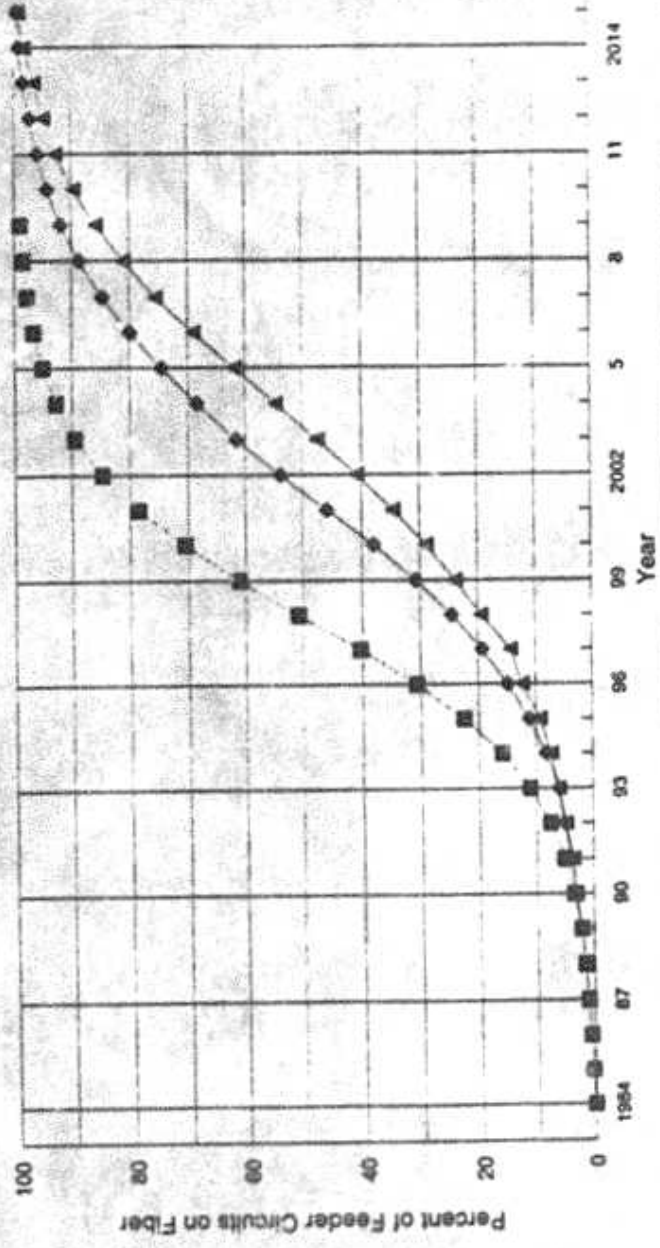
@ Includes Southwestern Bell, Cincinnati Bell & US West

**COMPARISON OF TFI'S FIBER FEEDER FORECASTS  
(PERCENT OF CIRCUITS SERVED BY FIBER CABLE)**

| <u>End-of-Year</u> | <u>TFI's<br/>1988<br/>Forecast<br/>%</u> | <u>TFI's<br/>1994<br/>Forecast<br/>%</u> | <u>TFI's<br/>1997<br/>Forecast<br/>%</u> |
|--------------------|--|--|--|
| 1982               | 0.0                                      | 0.0                                      | 0.0                                      |
| 1983               | 0.1                                      | 0.1                                      | 0.1                                      |
| 1984               | 0.1                                      | 0.1                                      | 0.1                                      |
| 1985               | 0.4                                      | 0.4                                      | 0.4                                      |
| 1986               | 0.7                                      | 0.7                                      | 0.7                                      |
| 1987               | 1.1                                      | 1.1                                      | 1.1                                      |
| 1988               | 1.6                                      | 1.6                                      | 1.6                                      |
| 1989               | 2.2                                      | 2.2                                      | 2.2                                      |
| 1990               | 3.4                                      | 3.1                                      | 3.1                                      |
| 1991               | 5.1                                      | 3.8                                      | 3.7                                      |
| 1992               | 7.6                                      | 5.1                                      | 4.9                                      |
| 1993               | 11.1                                     | 6.1                                      | 6.1                                      |
| 1994               | 16.0                                     | 8.3                                      | 7.4                                      |
| 1995               | 22.6                                     | 11.2                                     | 9.3                                      |
| 1996               | 30.8                                     | 15.0                                     | 12.4                                     |
| 1997               | 40.4                                     | 19.4                                     | 14.4                                     |
| 1998               | 50.8                                     | 24.6                                     | 19.5                                     |
| 1999               | 61.2                                     | 30.8                                     | 23.9                                     |
| 2000               | 70.6                                     | 38.0                                     | 29.0                                     |
| 2001               | 78.5                                     | 45.9                                     | 34.6                                     |
| 2002               | 84.8                                     | 53.9                                     | 40.8                                     |
| 2003               | 89.5                                     | 61.6                                     | 47.5                                     |
| 2004               | 92.9                                     | 68.5                                     | 54.6                                     |
| 2005               | 95.2                                     | 74.6                                     | 61.9                                     |
| 2006               | 96.8                                     | 80.0                                     | 69.1                                     |
| 2007               | 97.9                                     | 84.7                                     | 75.6                                     |
| 2008               | 98.6                                     | 88.7                                     | 81.1                                     |
| 2009               | 99.1                                     | 91.9                                     | 85.8                                     |
| 2010               |  | 94.3                                     | 89.7                                     |
| 2011               |  | 96.0                                     | 92.8                                     |
| 2012               |  | 97.3                                     | 94.9                                     |
| 2013               |  | 98.4                                     | 96.5                                     |
| 2014               |  | 99.1                                     | 98.2                                     |
| 2015               |  | 99.5                                     | 99.2                                     |

Note: Bold indicates actual industry percents at the time TFI projections developed.

### Comparison of TFI Faorecast of Feeder Circuits on Fiber Cable



■ 1988 Forecast ◆ 1994 Forecast ▲ 1997 Forecast



**TRACK RECORD**  
**COMPARISON OF ACTUAL RETIREMENTS AND ADDITIONS**  
**TO THE 1990 AND 1993 DEPRECIATION STUDY FORECASTS**

Retirements-Aerial Cable Metal

| Activity<br>Year | (3000)                    |                           |           | Percent Change<br>1990-1993<br>Study Forecast<br>D = B/A | Percent<br>Achievement<br>Actuals vs 1993<br>Study Forecast<br>E = C/B |       |
|------------------|---------------------------|---------------------------|-----------|--|--|-------|
|                  | 1990<br>Study<br>Forecast | 1993<br>Study<br>Forecast | Actuals # |  |  |       |
|                  | A                         | B                         | C         |  |  |       |
| Alabama          | 1993                      | 11,316                    | 13,604    | 4,977  | 120.2%   | 36.6% |
|                  | 1994                      | 11,803                    | 17,226    | 6,090  | 148.0%   | 35.3% |
|                  | 1995                      | 12,276                    | 20,679    | 5,675  | 170.1%   | 27.2% |
|                  | Totals                    | 35,395                    | 51,711    | 16,742   | 148.1%   | 32.4% |
| Kentucky         | 1993                      | 10,058                    | 13,953    | 3,338  | 138.7%   | 23.9% |
|                  | 1994                      | 10,547                    | 17,038    | 4,353  | 161.5%   | 25.5% |
|                  | 1995                      | 11,053                    | 20,117    | 4,367  | 182.0%   | 21.7% |
|                  | Totals                    | 31,658                    | 51,108    | 12,058   | 161.4%   | 23.6% |
| Louisiana        | 1993                      | 11,327                    | 12,793    | 4,593  | 112.9%   | 35.9% |
|                  | 1994                      | 11,913                    | 15,700    | 4,648  | 131.8%   | 29.6% |
|                  | 1995                      | 12,507                    | 18,608    | 6,188  | 148.8%   | 33.3% |
|                  | Totals                    | 35,747                    | 47,101    | 15,429   | 131.6%   | 32.8% |
| Mississippi      | 1993                      | 10,380                    | 16,408    | 4,946  | 158.1%   | 30.2% |
|                  | 1994                      | 10,928                    | 20,365    | 8,097  | 186.4%   | 39.8% |
|                  | 1995                      | 11,490                    | 24,331    | 5,640  | 211.8%   | 23.2% |
|                  | Totals                    | 32,798                    | 61,104    | 18,685   | 186.3%   | 30.6% |
| Tennessee        | 1993                      | 13,038                    | 15,524    | 6,750  | 119.1%   | 43.5% |
|                  | 1994                      | 13,607                    | 19,006    | 7,259  | 139.7%   | 38.2% |
|                  | 1995                      | 14,167                    | 22,486    | 9,557  | 158.7%   | 42.5% |
|                  | Totals                    | 40,810                    | 57,016    | 23,566   | 139.7%   | 41.3% |
| Company          | 1993                      | 56,117                    | 72,282    | 24,606   | 128.8%   | 34.0% |
|                  | 1994                      | 58,798                    | 89,337    | 30,447   | 151.9%   | 34.1% |
|                  | 1995                      | 61,493                    | 106,421   | 31,427   | 173.1%   | 29.5% |
|                  | Totals                    | 176,408                   | 268,040   | 86,480   | 151.9%   | 32.3% |

TRACK RECORD (cont'd)

Retirements-Underground Cable Metal

(5000)

| Activity Year | 1990           | 1993           | Actuals <sup>a</sup> | Percent Change | Percent Achievement |                 |
|---------------|----------------|----------------|----------------------|----------------|---------------------|-----------------|
|               | Study Forecast | Study Forecast |                      | 1990-1993      |                     | Actuals vs 1993 |
|               | A              | B              | C                    | D = B/A        | E = C/B             |                 |
| Alabama       | 1993           | 8,607          | 13,496               | 1,452          | 155.8%              | 10.8%           |
|               | 1994           | 8,863          | 16,353               | 2,889          | 184.5%              | 17.7%           |
|               | 1995           | 9,144          | 19,155               | 2,877          | 209.9%              | 15.0%           |
|               | Totals         | 26,614         | 49,044               | 7,218          | 184.3%              | 14.7%           |
| Kentucky      | 1993           | 5,312          | 9,214                | 486            | 173.5%              | 5.3%            |
|               | 1994           | 5,501          | 10,766               | 264            | 195.7%              | 2.5%            |
|               | 1995           | 5,711          | 12,288               | 945            | 215.2%              | 7.7%            |
|               | Totals         | 16,524         | 32,268               | 1,695          | 195.3%              | 5.3%            |
| Louisiana     | 1993           | 13,627         | 23,905               | 2,358          | 175.4%              | 9.9%            |
|               | 1994           | 14,176         | 27,469               | 3,603          | 193.8%              | 13.1%           |
|               | 1995           | 14,798         | 30,932               | 2,702          | 209.1%              | 8.7%            |
|               | Totals         | 42,599         | 82,306               | 8,663          | 193.2%              | 10.5%           |
| Mississippi   | 1993           | 3,376          | 6,100                | 716            | 180.7%              | 11.7%           |
|               | 1994           | 3,552          | 7,042                | 1,175          | 198.3%              | 16.7%           |
|               | 1995           | 3,755          | 7,961                | 457            | 212.0%              | 5.7%            |
|               | Totals         | 10,683         | 21,103               | 2,348          | 197.5%              | 11.1%           |
| Tennessee     | 1993           | 11,640         | 18,648               | 2,376          | 160.2%              | 12.7%           |
|               | 1994           | 11,687         | 21,094               | 3,579          | 180.5%              | 17.0%           |
|               | 1995           | 11,703         | 23,445               | 1,661          | 200.3%              | 7.1%            |
|               | Totals         | 35,030         | 63,187               | 7,616          | 180.4%              | 12.1%           |
| Company       | 1993           | 42,562         | 71,363               | 7,388          | 167.7%              | 10.4%           |
|               | 1994           | 43,779         | 82,724               | 11,510         | 189.0%              | 13.9%           |
|               | 1995           | 45,109         | 93,621               | 8,642          | 208.0%              | 9.2%            |
|               | Totals         | 131,450        | 247,908              | 27,540         | 188.5%              | 11.1%           |

<sup>a</sup> Forecasted 1995  
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TRACK RECORD (cont'd)

Retirements-Buried Cable Metal

(\$000)

| Activity<br>Year | 1990                   | 1993                   | Actuals \$<br>C | Percent Change                         | Percent   |       |
|------------------|------------------------|------------------------|-----------------|--|---|-------|
|                  | Study<br>Forecast<br>A | Study<br>Forecast<br>B |                 | 1990-1993<br>Study Forecast<br>D = B/A | Achievement<br>Actuals vs 1993<br>Study Forecast<br>E = C/B |       |
| Alabama          | 1993                   | 18,678                 | 24,279          | 5,578                                  | 130.0%  | 24.5% |
|                  | 1994                   | 19,625                 | 33,333          | 8,680                                  | 154.6%  | 28.5% |
|                  | 1995                   | 20,619                 | 36,411          | 8,958                                  | 178.6%  | 19.1% |
|                  | Totals                 | 58,920                 | 91,023          | 21,614                                 | 154.5%  | 23.7% |
| Kentucky         | 1993                   | 8,983                  | 11,833          | 3,116                                  | 131.7%  | 25.3% |
|                  | 1994                   | 9,371                  | 13,373          | 3,415                                  | 142.7%  | 25.8% |
|                  | 1995                   | 9,748                  | 14,858          | 3,793                                  | 152.4%  | 25.5% |
|                  | Totals                 | 28,102                 | 40,062          | 10,324                                 | 142.6%  | 25.8% |
| Louisiana        | 1993                   | 28,418                 | 38,681          | 10,001                                 | 136.1%  | 25.9% |
|                  | 1994                   | 30,003                 | 44,998          | 9,902                                  | 150.0%  | 22.0% |
|                  | 1995                   | 31,664                 | 51,188          | 8,705                                  | 161.7%  | 17.0% |
|                  | Totals                 | 90,085                 | 134,863         | 28,608                                 | 149.7%  | 21.2% |
| Mississippi      | 1993                   | 13,678                 | 24,014          | 6,534                                  | 175.6%  | 27.2% |
|                  | 1994                   | 14,286                 | 29,382          | 7,634                                  | 205.5%  | 26.0% |
|                  | 1995                   | 14,857                 | 34,700          | 8,841                                  | 233.6%  | 25.5% |
|                  | Totals                 | 42,821                 | 88,076          | 23,009                                 | 205.7%  | 26.1% |
| Tennessee        | 1993                   | 19,817                 | 35,772          | 8,967                                  | 180.5%  | 25.1% |
|                  | 1994                   | 20,629                 | 41,417          | 11,188                                 | 200.8%  | 27.0% |
|                  | 1995                   | 21,439                 | 46,931          | 9,140                                  | 218.9%  | 19.5% |
|                  | Totals                 | 61,885                 | 124,120         | 29,293                                 | 200.6%  | 23.6% |
| Company          | 1993                   | 89,572                 | 134,579         | 34,596                                 | 150.2%  | 25.7% |
|                  | 1994                   | 93,914                 | 159,481         | 40,817                                 | 169.8%  | 25.6% |
|                  | 1995                   | 98,327                 | 184,084         | 37,435                                 | 187.2%  | 20.3% |
|                  | Totals                 | 281,813                | 478,144         | 112,848                                | 169.7%  | 23.6% |

## COMPARISON OF BELL SOUTH'S METALLIC CABLE FORECAST TO ACTUAL RETIREMENTS

(BellSouth of Florida - Docket No. 920385-TL)

|                                | BellSouth<br>of Florida<br>Retirement<br>Forecast<br>(\$000)<br>(a) | Total<br>Actual<br>Booked<br>Retirements<br>(\$000)<br>(b) | Retirements<br>Associated With<br>Hurricane<br>Andrew<br>(\$000)<br>(c) | Normal<br>Retirements<br>Excluding<br>Andrew<br>(\$000)<br>(d=b-c) | Forecast<br>Error **<br>(%)<br>(e=(a-d)/a) |
|--------------------------------|---|--|---|--|--|
| <b>Aerial Cable - Metallic</b> |   |  |   |  |  |
| 1992                           | 15,306  | 23,228   | 2,577   | 20,651   | -34.9%                                     |
| 1993                           | 19,917  | 26,934   | 14,802  | 12,332   | 38.1%                                      |
| 1994                           | 25,512  | 9,343  | 0   | 9,343  | 63.4%                                      |
| 1995                           | 31,214  | 12,840   | 0   | 12,840   | 58.9%                                      |
| 1996                           | 35,722  | 8,995  | 0   | 8,995  | 74.8%                                      |
| 1997                           | 37,788  | 8,701 *  | 0   | 8,701  | 77.0%                                      |
| Totals for Years 1992-1997     | 166,459   | 90,041   | 17,179  | 72,862   | 56.0%                                      |

BellSouth of Florida - Docket No. 920385-TL Authorized Lives Based on Bell South Forecast (Aerial Cable - Metallic)

Authorized Remaining Life 9.7 Years  
Associated Projection Life 15.5 Years

|                                     | BellSouth<br>of Florida<br>Retirement<br>Forecast<br>(\$000)<br>(a) | Total<br>Actual<br>Booked<br>Retirements<br>(\$000)<br>(b) | Retirements<br>Associated With<br>Hurricane<br>Andrew<br>(\$000)<br>(c) | Normal<br>Retirements<br>Excluding<br>Andrew<br>(\$000)<br>(d=b-c) | Forecast<br>Error **<br>(%)<br>(e=(a-d)/a) |
|-------------------------------------|---|--|---|--|--|
| <b>Underground Cable - Metallic</b> |   |  |   |  |  |
| 1992                                | 43,211  | 10,495   | 39  | 10,456   | 75.8%                                      |
| 1993                                | 53,215  | 19,402   | 221   | 19,181   | 64.0%                                      |
| 1994                                | 63,915  | 14,845   | 0   | 14,845   | 76.8%                                      |
| 1995                                | 74,534  | 11,837   | 0   | 11,837   | 84.1%                                      |
| 1996                                | 81,990  | 6,178  | 0   | 6,178  | 92.5%                                      |
| 1997                                | 82,709  | 3,698 *  | 0   | 3,698  | 95.5%                                      |
| Totals for Years 1992-1997          | 399,574   | 66,455   | 260   | 66,195   | 83.4%                                      |

BellSouth of Florida - Docket No. 920385-TL Authorized Lives Based on Bell South Forecast (Underground Cable - Metallic)

Authorized Remaining Life 6.0 Years  
Associated Projection Life 11.6 Years

|                                | BellSouth<br>of Florida<br>Retirement<br>Forecast<br>(\$000)<br>(a) | Total<br>Actual<br>Booked<br>Retirements<br>(\$000)<br>(b) | Retirements<br>Associated With<br>Hurricane<br>Andrew<br>(\$000)<br>(c) | Normal<br>Retirements<br>Excluding<br>Andrew<br>(\$000)<br>(d=b-c) | Forecast<br>Error **<br>(%)<br>(e=(a-d)/a) |
|--------------------------------|---|--|---|--|--|
| <b>Buried Cable - Metallic</b> |   |  |   |  |  |
| 1992                           | 57,236  | 22,881   | 783   | 22,098   | 62.1%                                      |
| 1993                           | 76,137  | 22,283   | 4,438   | 17,845   | 76.6%                                      |
| 1994                           | 97,482  | 23,508   | 0   | 23,508   | 75.9%                                      |
| 1995                           | 119,162   | 20,135   | 0   | 20,135   | 83.1%                                      |
| 1996                           | 135,835   | 21,445   | 0   | 21,445   | 84.2%                                      |
| 1997                           | 162,227   | 15,600 *   | 0   | 15,600   | 89.0%                                      |
| Totals for Years 1992-1997     | 629,079   | 125,850  | 5,221   | 120,629  | 80.8%                                      |

BellSouth of Florida - Docket No. 920385-TL Authorized Lives Based on Bell South Forecast (Buried Cable - Metallic)

Authorized Remaining Life 9.0 Years  
Associated Projection Life 15.0 Years

|                                     |             |           |          |             |       |
|-------------------------------------|-------------|-----------|----------|-------------|-------|
| Total Metallic Cable                | \$1,194,112 | \$282,346 | \$22,660 | \$259,686   | 78.3% |
| Combined Forecast Error (1992-1997) |             |           |          | (\$934,426) |       |

\* Forecast Activity, Cunningham's Testimony Docket No. 980698-TP, Table A's.

\*\* Positive value indicates BellSouth's Docket No. 920385-TL forecast of more retirements in life projections than actually occurred.

## Summary of Reserves On FCC Basis

(Dollars in Thousands)

### BellSouth

| <u>State</u>   | <u>1/1/98<br/>Investment</u><br>a | <u>Book<br/>Reserve</u><br>b | <u>Percent</u><br>c = b / a | <u>Theoretical<br/>Reserve</u><br>d | <u>Percent</u><br>e = d / a | <u>Surplus</u><br>f = b - d | <u>Percent</u><br>g = f / a |
|----------------|-----------------------------------|------------------------------|-----------------------------|-------------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Alabama        | 4,495,450                         | 2,305,080                    | 51.3%                       | 2,049,569                           | 45.6%                       | 255,511                     | 5.7%                        |
| Florida        | 11,221,015                        | 5,913,028                    | 52.7%                       | 5,462,663                           | 48.7%                       | 450,364                     | 4.0%                        |
| Georgia        | 8,546,417                         | 4,285,198                    | 50.1%                       | 3,951,720                           | 46.2%                       | 333,478                     | 3.9%                        |
| Kentucky       | 2,468,479                         | 1,253,552                    | 50.8%                       | 1,116,112                           | 45.2%                       | 137,440                     | 5.6%                        |
| Louisiana      | 4,533,989                         | 2,597,514                    | 57.3%                       | 2,307,926                           | 50.9%                       | 289,588                     | 6.4%                        |
| Mississippi    | 2,989,921                         | 1,606,380                    | 53.7%                       | 1,437,854                           | 48.1%                       | 168,527                     | 5.6%                        |
| North Carolina | 4,788,910                         | 2,355,183                    | 49.2%                       | 2,230,763                           | 46.6%                       | 124,420                     | 2.6%                        |
| South Carolina | 2,918,692                         | 1,497,967                    | 51.3%                       | 1,442,795                           | 49.4%                       | 55,172                      | 1.9%                        |
| Tennessee      | <u>4,908,301</u>                  | <u>2,333,198</u>             | <u>47.5%</u>                | <u>2,176,157</u>                    | <u>44.3%</u>                | <u>157,041</u>              | <u>3.2%</u>                 |
| <b>Total</b>   | <b>46,871,174</b>                 | <b>24,147,099</b>            | <b>51.5%</b>                | <b>22,175,557</b>                   | <b>47.3%</b>                | <b>1,971,542</b>            | <b>4.2%</b>                 |

Source: Carrier submissions pursuant to Section C-1 of Depreciation Study Guide