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August 27, 2001

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Room TWB 204  
Washington, D.C. 20554

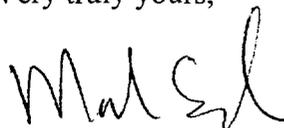
Re: CC Docket Nos. 00-218, 00-249, and 00-251

Dear Ms. Salas:

Enclosed for filing please find an original and three copies of WorldCom, Inc. and AT&T's Rebuttal Testimony, including a CD ROM containing supporting work papers, on pricing issues. An additional eight copies have been provided in a separate envelope to be delivered to the arbitrator. Finally, an extra copy is enclosed to be file-stamped and returned.

If you have any questions, please do not hesitate to call me at 202-639-6005. Thank you very much for your assistance with this matter.

Very truly yours,



Mark D. Schneider

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FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

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AUG 27 2001

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

In the Matter of )  
Petition of WorldCom, Inc. Pursuant )  
To Section 252 (e)(5) of the )  
Communications Act for Expedited )  
Preemption of the Jurisdiction of the )  
Virginia State Corporation Commission )  
Regarding Interconnection Disputes )  
With Verizon Virginia, Inc., and for )  
Expedited Arbitration )

CC Docket No. 00-218

In the Matter of )  
Petition of Cox Virginia Telecom, Inc. )  
Pursuant to Section 252 (e)(5) of the )  
Communications Act for Preemption )  
Of the Jurisdiction of the Virginia State )  
Corporation Commission Regarding )  
Interconnection Disputes with Verizon )  
Virginia, Inc. and for Arbitration )

CC Docket No. 00-249

In the Matter of )  
Petition of AT&T Communications )  
Virginia Inc., Pursuant to Section 252 (e)(5) )  
of the Communications Act for Preemption )  
of the Jurisdiction of the Virginia )  
Corporate Commission Regarding )  
Interconnection Disputes with Verizon )  
Virginia, Inc. )

CC Docket No. 00-251

**REBUTTAL TESTIMONY OF RICHARD B. LEE**  
**ON BEHALF OF AT&T<sup>1</sup> AND WORLDCOM, INC.**

August 27, 2001

<sup>1</sup> The AT&T entities sponsoring this Rebuttal Testimony are AT&T Communications of Virginia, Inc., TCG Virginia, Inc., ACC National Telecom Corp., MediaOne of Virginia and MediaOne Telecommunications of Virginia, Inc. (together, "AT&T").

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LISA BODE

# Rebuttal Testimony of Richard B. Lee

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**I. INTRODUCTION**

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

A. My name is Richard B. Lee. I am Vice President of the economic consulting firm of Snavelly King Majoros O'Connor & Lee, Inc. ("Snavelly King"). My business address is 1220 L Street, N.W., Suite 410, Washington, D.C. 20005.

**Q. ARE YOU THE SAME RICHARD B. LEE WHO SUBMITTED DIRECT TESTIMONY IN THIS PROCEEDING ON JULY 31, 2001?**

A. Yes, I am.

**Q. DID YOUR TESTIMONY CONTAIN A DESCRIPTION OF YOUR BACKGROUND AND EXPERIENCE?**

A. Yes, it did.

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

A. In this rebuttal testimony, I will respond to the direct testimony of Verizon-Virginia ("VZ-VA") witnesses Allen E. Sovereign ("Sovereign Direct"), Dr. John M. Lacey ("Lacey Direct"), Dr. Kenneth Gordon ("Gordon Direct") and Dr. Howard Shelanski ("Shelanski Direct") on the subject of the depreciation parameters appropriate for use in Total Element Long-Run Incremental Cost ("TELRIC") calculations.

**Q. WHAT DEPRECIATION PARAMETERS DOES MR. SOVEREIGN PROPOSE?**

A. On Page 1 of Attachment 1 to this rebuttal testimony, I show Mr. Sovereign's depreciation life proposals in Column d. I have compared these proposals to:

- the range of projection lives prescribed by the Federal Communications Commission ("FCC") pursuant to its

1 Prescription Simplification proceeding<sup>2</sup> (Columns a  
2 and b); and  
3

- 4 • the projection lives last prescribed by the FCC for VZ-  
5 VA(Column c).  
6  
7

8 On Page 2 of Attachment 1 to this rebuttal testimony, I have compared future net  
9 salvage percents in the same format.

10 **Q. WHAT DO YOU CONCLUDE?**

11 A. I conclude that the lives proposed by Mr. Sovereign for most accounts are significantly  
12 shorter than those prescribed by the FCC. The result is to increase unbundled network  
13 element (“UNE”) prices by inflating the depreciation expense associated with each UNE.  
14 Adoption of Verizon’s proposed lives are thus inappropriate for use in TELRIC  
15 calculations. Indeed, many of the lives proposed by Mr. Sovereign are even shorter than  
16 the low point of the range prescribed by the FCC pursuant to its Prescription  
17 Simplification proceeding.

18 In marked contrast to his life proposals, Mr. Sovereign’s future net salvage  
19 percent proposals are almost all within the ranges prescribed by the FCC. I do not  
20 oppose the use of Mr. Sovereign’s future net salvage percents.  
21

---

<sup>2</sup> FCC, Simplification of the Depreciation Prescription Process, CC Docket No. 92-296 (“Prescription Simplification” proceeding).

1                                    **II.     FINANCIAL BOOK LIVES SHOULD NOT BE**  
2                                    **USED IN TELRIC CALCULATIONS**

3  
4 **Q.     WHAT IS THE BASIS FOR MR. SOVEREIGN'S LIFE PROPOSALS?**

5 A.     Mr. Sovereign states that the lives he proposes are those used by Verizon for financial  
6 book purposes in 2000.<sup>3</sup> Drs. Lacey, Gordon and Shelanski all support the use of these  
7 financial book lives in this proceeding.<sup>4</sup>

8 **Q.     SHOULD FINANCIAL BOOK LIVES BE USED IN TELRIC STUDIES?**

9 A.     No. In a 1989 Petition, AT&T asked the FCC to base its regulatory depreciation on its  
10 financial books.<sup>5</sup> The FCC flatly rejected this request, stating:

11             We conclude that AT&T has not made a sufficient showing that  
12 this Commission should base AT&T's book rates on the  
13 depreciation rates that it uses for financial reporting purposes.  
14 Initially, we observe that the present depreciation procedures have  
15 worked well for AT&T, in terms of ensuring more rapid capital  
16 recovery. Our recent depreciation orders have allowed AT&T to  
17 increase substantially its depreciation reserve, from 24.8% of plant  
18 as of January 1, 1984 to 39.1% as of January 1, 1989. AT&T does  
19 not state in its petition in what specific manner this Commission  
20 has been remiss in our depreciation rate prescriptions of recent  
21 years. Rather, it relies upon the fact that in 1988 it took a \$6  
22 billion writedown of its asset value for financial reporting  
23 purposes. This event may indicate that a new look at AT&T's  
24 depreciation situation is warranted, notwithstanding our recent  
25 depreciation prescription, and we are accordingly initiating  
26 herein an inquiry into AT&T's need for revised depreciation rates.  
27 However, that assessment can be accomplished using current  
28 procedures rather than depreciation rate methodologies that go well  
29 beyond those that we have traditionally employed. We have taken  
30 a series of initiatives during the past decade to ensure that carriers

---

3             Sovereign Direct at 3.

4             Lacey Direct at 3-17; Gordon Direct at 25-28; Shelanski Direct at 30-32.

5             FCC, 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.

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

8 **Q. DID AT&T SEEK RECONSIDERATION OF THIS RULING?**

9 A. No. I was instrumental in the filing of AT&T's Petition and the decision not to seek  
10 reconsideration. The FCC convinced me that the financial books of a company are  
11 biased to protect investors and not appropriate for use in regulation. The FCC also  
12 convinced me that their existing procedures, given the prescription of forward-looking  
13 projection lives, would allow AT&T the opportunity to recover its capital investments.

14 **Q. HAS ANY MAJOR LEC CONCEDED THE BIAS INHERENT IN THE**  
15 **FINANCIAL BOOKS?**

16 A. Yes. The lives used for financial accounting purposes are governed by the Generally  
17 Accepted Accounting Principle ("GAAP") of "conservatism." In the FCC's Prescription  
18 Simplification proceeding, GTE noted that the GAAP conservatism principle "prefers the  
19 understatement (versus overstatement) of net income and net assets where any potential  
20 measurement problems exist."<sup>7</sup> Most accountants would agree that the very nature of  
21 depreciation makes it a challenge to measure. GAAP, independent auditors and the  
22 Security and Exchange Commission, therefore, might well prevent local exchange  
23 carriers ("LECs") from understating depreciation, since this would overstate net income

---

6 *Id.*, Memorandum Opinion and Order, FCC 89-325, adopted November 22, 1989, ¶ 23 (footnote deleted).

7 Prescription Simplification, Comments of GTE Service Corporation and its affiliated domestic telephone operations companies ("GTE"), March 10, 1993, at 14.

1 and net assets. It is highly unlikely, however, that GAAP, or any financial auditor, would  
2 find that a LEC (or any company, for that matter) had overstated its depreciation, since  
3 this would result in a conservative view of net income and net assets.

4 **Q. DID THE FCC AGREE WITH GTE AND CONCLUDE THAT FINANCIAL**  
5 **BOOK DEPRECIATION SHOULD NOT BE USED FOR REGULATORY**  
6 **PURPOSES?**

7 A. Yes. In its October 1993 Order, the FCC agreed with GTE, stating:

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

25  
26 The Commission recently revisited this issue in response to a petition by the  
27 United States Telecom Association ("USTA").<sup>9</sup> The Commission reiterated its

---

<sup>8</sup> FCC, Prescription Simplification, Report and Order, FCC 93-452, released October 20, 1993, ¶ 46.

<sup>9</sup> Forbearance from Depreciation Regulation of Price Cap Local Exchange Carriers, Petition for Forbearance of the United States Telephone Association, filed September 21, 1998.

1 conclusion that conservatism “did not offer adequate protection for ratepayers in the case  
2 of depreciation accounting.”<sup>10</sup> The Commission added:

3 We are not persuaded that the role of the conservatism principle  
4 has changed or that we should change our previous decision.<sup>11</sup>  
5  
6

7 **III. COMPETITOR LIVES DO NOT PROVIDE**  
8 **AN APPROPRIATE BENCHMARK**  
9  
10

11 **Q. DO YOU AGREE WITH MR. SOVEREIGN THAT COMPETITOR LIVES**  
12 **PROVIDE AN APPROPRIATE BENCHMARK FOR LIVES TO BE USED IN**  
13 **TELRIC CALCULATIONS?**<sup>12</sup>

14 A. No, I don't. Mr. Sovereign compares his life proposals to the financial book lives of  
15 AT&T and WorldCom as reported in their annual reports to stockholders.<sup>13</sup>

---

10 FCC, United States Telephone Association's Petition for Forbearance from Depreciation Regulation of Price Cap Local Exchange Carriers, ASD 98-91, Memorandum Opinion and Order, FCC 99-397, released December 30, 1999, ¶ 48.

11 *Id.*

12 Sovereign Direct at 12-15.

13 *Id.* at 12-13.

1 These financial book lives are based on GAAP, and subject to the conservative bias  
2 described at length above. All Mr. Sovereign's comparison serves to prove is that the  
3 financial book lives used by Verizon are similar to the financial book lives used by  
4 AT&T and WorldCom. Such lives may protect the interest of investors, but they are not  
5 appropriate for use in TELRIC calculations.

6 **Q. ARE MR. SOVEREIGN'S COMPARISONS TO CABLE TELEVISION ("CATV")**  
7 **LIVES APPROPRIATE?**<sup>14</sup>

8 A. No, they are not. The FCC did not perform independent analyses of the life  
9 characteristics of CATV plant as it has for telephone plant for over 50 years. The life  
10 ranges the FCC adopted for CATV operators were based upon a statistical analysis of the  
11 financial book lives that CATV operators were using. These CATV lives were also  
12 based on GAAP, and thus inappropriate for use in TELRIC calculations. Instead of  
13 benchmarking his proposals against CATV operator life ranges, *Mr. Sovereign should*  
14 *have benchmarked his proposals against the telephone company ranges prescribed by the*  
15 *FCC*. Attachment 1 to this rebuttal testimony makes this comparison, and demonstrates  
16 that Mr. Sovereign's life proposals are far too short for use in TELRIC calculations.

---

<sup>14</sup> *Id.* at 14.

1                                    **IV.    TFI LIVES DO NOT PROVIDE AN**  
2                                    **APPROPRIATE BENCHMARK**  
3  
4

5    **Q.    DO YOU AGREE WITH MR. SOVEREIGN THAT THE LIFE**  
6                                    **RECOMMENDATIONS OF TECHNOLOGY FUTURES INC. ("TFI") PROVIDE**  
7                                    **AN APPROPRIATE BENCHMARK FOR LIVES TO BE USED IN TELRIC**  
8                                    **CALCULATIONS?**<sup>15</sup>

9    A.    No, I don't.

10 **Q.    WHAT IS THE BASIS OF TFI'S RECOMMENDATIONS?**

11 A.    TFI's recommendations are based upon studies sponsored by the Telecommunications  
12 Technology Forecasting Group ("TTFG"), an industry association of major LECs in the  
13 United States and Canada.<sup>16</sup> TFI's studies have been frequently used by LECs to justify  
14 shorter lives in regulatory depreciation proceedings. TFI's President, Dr. Lawrence K.  
15 Vanston, has testified on behalf of GTE, Rochester Telephone Corporation, Southern  
16 New England Telephone, and various Regional Bell Operating Companies ("RBOCs") in  
17 the U.S., and on behalf of Bell Canada and the other Stentor Companies in Canada.

18 **Q.    HAVE REGULATORS GENERALLY ACCEPTED TFI'S LIFE**  
19                                    **RECOMMENDATIONS?**

20 A.    No. For example, by comparing the low end of the current FCC life range (Column a on  
21 Page 1 of Attachment 1) to VZ-VA's proposed lives (Column d), for digital switching,  
22 digital circuit and the cable accounts, one can see the difference between the lives  
23 prescribed by the FCC and those similar to TFI's recommendations.

---

<sup>15</sup> *Id.*, at 12 and 15-16.

<sup>16</sup> Larry K. Vanston, Ray L. Hodges, and Adrian J. Poitras, *Transforming the Local Exchange Network: Analyses and Forecasts of Technology Change* (Technology Futures, Inc., 2d Ed. 1997), at vii-viii.

1 **Q. HOW DOES TFI DEVELOP ITS LIFE ESTIMATES?**

2 A. Largely through "substitution analysis," which attempts to forecast the pattern by which  
3 new technology will replace old technology.<sup>17</sup>

4 **Q. IS SUBSTITUTION ANALYSIS A FORWARD-LOOKING METHOD OF**  
5 **ESTIMATING LIVES?**

6 A. Not really. The assumption that the future will be much like the past is the very basis of  
7 substitution analysis. TFI predicts an "avalanche" of retirements in various accounts  
8 based upon the application of past retirement patterns of obsolete technologies to future  
9 circumstances. This technique relies, for example, on retirement patterns such as those  
10 describing the replacement of crossbar switches in the 1980's.<sup>18</sup>

11 **Q. WHAT SPECIFIC "AVALANCHES" DOES TFI FORESEE FOR TELEPHONE**  
12 **PLANT?**

13 A. TFI's recommendation lives are based upon the premise that the LECs will replace their  
14 narrowband telecommunications networks with broadband integrated networks capable  
15 of providing both telecommunications services and video services, such as cable  
16 television.<sup>19</sup> According to TFI, Fiber in the Loop ("FITL") will bring broadband to the  
17 home, displacing copper plant.<sup>20</sup> This will result in the upgrading of all transmission  
18 systems to Synchronous Optical Network ("SONET"), replacing existing circuit

---

<sup>17</sup> *Id.* at 4-7.

<sup>18</sup> *Id.* at 29.

<sup>19</sup> *Id.* at 2, 27 and *passim*.

<sup>20</sup> *Id.*, at 2, 8-16 and 74-111. Verizon has no planning forecast for FITL in Virginia (VZ-VA response to AT&T/WCOM 2-13).

1 equipment.<sup>21</sup> And Asynchronous Transfer Mode ("ATM") switching equipment will  
2 provide a broadband switching capability replacing today's narrowband switch fabrics.<sup>22</sup>

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

5 A. No. Substitution analysis merely provides a convenient method for plotting by year the  
6 growth of a new technology assuming the inputs to one's formula are correct. The output  
7 of a substitution analysis is only as correct as the inputs selected.

8 In the first place, substitution analysis is not even relevant unless it is known that  
9 a new technology will replace, not supplement, an older technology. For example, to the  
10 extent that ATM switches are deployed at all, they will be deployed as a supplemental  
11 technology to digital switches, not as a replacement for them. As such, substitution  
12 analysis is of no relevance. Indeed, even when a substitution has started, it does not  
13 necessarily follow that it will finish according to pattern. It appeared at one point, for  
14 example, that nuclear fuel would replace fossil fuel in electrical generation in this  
15 country. The use of substitution formulae in that case would have resulted in  
16 dramatically incorrect predictions.

17 Even if a full substitution is likely, the formula requires the user to predict both  
18 the rate of substitution and the point at which the replacement technology will reach 50  
19 percent of the universe of equipment being studied.<sup>23</sup> In other words, the analyst must  
20 insert as an input the average remaining life of the old technology, since this is essentially

---

21 *Id.* at 2, 16-18 and 113-125.

22 *Id.* at 2, 23-27 and 159-172. Verizon has no plans for ATM switch deployment in Virginia (VZ-VA response to AT&T/WCOM 2-9).

23 The formula can also be used by selecting the rate of substitution and the 1 percent level.

1 the 50 percent level of the new technology. Although the substitution methodology  
2 allows the preparation and presentation of impressive looking charts and tables, it is  
3 merely charting the assumptions made by the analyst. Its outputs at the hands of TFI are  
4 no more credible than TFI's inputs.

5 **Q. HAVE TFI'S FORECASTS PROVEN ACCURATE OVER THE LONG RUN?**

6 A. No. Although TFI's forecasts have been provided to the FCC for over a decade, they  
7 have not been relied upon in the selection of plant projection lives.

8 The FCC has stated:

9 Given the significant uncertainty that even TFI acknowledges  
10 exists in forecasting plant replacement over the next fifteen years,  
11 we do not find that the carriers that advocate adoption of TFI's  
12 much shorter projection lives have met their burden. Depreciation  
13 reserves are at 52 percent, an all-time high, and have increased for  
14 each of the past five years. There is no evidence that the large  
15 wave of plant replacements forecast by TFI, which should result in  
16 increased retirements, has begun or is about to begin.

17 \* \* \*

18 We conclude, therefore, that the TFI study fails to establish  
19 convincingly that current projection lives are inadequate.<sup>24</sup>  
20  
21  
22

23 Attachment 2 to this testimony provides an analysis of TFI's fiber in the feeder  
24 estimates. Page 1 of this analysis shows TFI's predictions for the percent of fiber in the  
25 feeder in 1988, 1994 and 1997, and actuals through 2000. In 1988 TFI predicted a  
26 substitution of 70.59 percent by 2000; in 1994 its prediction dropped to 38.00 percent; in  
27 1997 its prediction dropped to 29.00 percent; and actual data for 2000 is 21.68 percent.  
28 Page 2 graphically portrays this data and demonstrates how TFI's life estimates have

---

<sup>24</sup> FCC, 1998 Biennial Regulatory Review-Review of Depreciation Requirements for Incumbent Local Exchange Carriers, CC Docket 98-137, Report and Order, FCC 99-397, released December 30, 1999 ("1999 Update"), ¶ 16 (footnotes deleted).

1 lengthened as actual data became available.

2  
3 **V. FCC PROJECTION LIVES ARE FORWARD-LOOKING**  
4 **AND APPROPRIATE**

5  
6 **Q. DO YOU AGREE WITH MR. SOVEREIGN'S CRITICISM OF PRESCRIBED**  
7 **LIVES?**

8 A. No, I don't. Mr. Sovereign contends that prescribed lives are based on an outdated,  
9 historical approach which results in artificially long lives.<sup>25</sup>

10 Prior to 1980, this was a valid criticism. As I explained in my direct testimony,  
11 however, the FCC and other regulators long ago turned their attention to company plans,  
12 technological developments and other future oriented analyses.<sup>26</sup> It is high time that this  
13 tired criticism of prescribed lives be withdrawn from service and retired. This same  
14 argument was raised years ago by Verizon in PUC970005. The Commission was not  
15 convinced then, nor should it be now, by such an argument.

16 **Q. DO YOU AGREE WITH MR. SOVEREIGN'S CONTENTION THAT**  
17 **ECONOMIC LIVES ARE GENERALLY SHORTER THAN PRESCRIBED**  
18 **ASSET LIVES?**<sup>27</sup>

19 A. No, I don't. The economic life of an asset is its total revenue producing life.<sup>28</sup> In  
20 general, this economic life begins the day an asset is placed "in service" and ends the day  
21 it is withdrawn from service (*i.e.*, retired).<sup>29</sup>

---

25 Sovereign Direct at 16-18.

26 Lee Direct at 3-8.

27 Sovereign Direct at 17.

1           Mr. Sovereign contends, however, that the economic life of an asset can be  
2 affected even when no retirements are evident. To support his contention, Mr. Sovereign  
3 creates a hypothetical example in which only 700 pairs of a 1200 pair cable are being  
4 used because 300 customers have left for competitors' networks.<sup>30</sup> Accepting *arguendo*  
5 this extreme hypothetical, Mr. Sovereign's conclusion is flawed. The economic life of  
6 the 1200 pair cable will not change under this example, although the economic value of  
7 the cable might be reduced. On the other hand, it is entirely possible that the economic  
8 value of the cable serving the 700 remaining customers may be even greater than when it  
9 served 1000 customers, if the remaining customers generate more revenue by subscribing  
10 to advanced services.

11           In any case, if Mr. Sovereign's hypothesis were correct, one would expect the  
12 utilization of copper cable to be significantly reduced. As Attachment 3 shows, however,  
13 this has not been the case for VZ-VA.

---

28           Public Utility Depreciation Practices ("Depreciation Practices"), National Association of Regulatory Utility  
Commissioners, August 1996, at 318.

29           Contrary to Mr. Sovereign's comment on page 16 of his testimony, the "physical" life of an asset may be  
much longer than its economic life.

30           Note that this hypothetical example assumes that none of these 300 customers are being served over LEC  
facilities by means of resale or UNE's.

1 VI. COMPETITION AND TECHNOLOGY HAVE NOT  
2 SHORTENED PLANT LIVES IN RECENT YEARS  
3  
4

5 Q. DO YOU AGREE WITH MR. SOVEREIGN THAT COMPETITION AND  
6 TECHNOLOGICAL INNOVATION HAVE SHORTENED PLANT LIVES IN  
7 RECENT YEARS?<sup>31</sup>

8 A. No. The forward-looking lives prescribed by the FCC have long reflected the life  
9 shortening effects of facilities bypass, or competition, that have been predicted for well  
10 over a decade. However, the passage of the Telecommunications Act of 1996 has  
11 promised potential competitors alternatives to bypass, such as resale and the leasing of  
12 unbundled network elements. These alternatives will reduce the incidence of bypass,  
13 increase demand for existing facilities, and lengthen plant lives.

14 Indeed, facilities based competition might actually serve to lengthen some plant  
15 lives. It is generally accepted that competition spurs innovation and drives prices toward  
16 cost. Some innovative technologies result in the replacement of existing plant; some  
17 result in the enhancement of existing plant. In the early 1990's it appeared that the LECs  
18 would be replacing their copper distribution plant with fiber and coaxial cable to enable  
19 them to provide broadband video services as well as telephony. The development of  
20 Digital Subscriber Line ("DSL") technology has progressed to the point, however, where  
21 it is practical, and economic, to provide high speed Internet access, and even cable  
22 television services, over plain old copper wire. In the case of DSL technology, an  
23 innovation spurred by competition has served to extend the life of existing copper  
24 facilities.

---

<sup>31</sup> Sovereign Direct at 5-8.



I, RICHARD B. LEE hereby swear and affirm that the foregoing rebuttal testimony was prepared by me or under my direct supervision or control and is true and accurate to the best of my knowledge and belief.

Signed:

A handwritten signature in black ink, appearing to read "Richard B. Lee", written over a horizontal line.

**Projection Life Comparison**

	Account Number	Account Name	FCC Range		FCC	VZ
			<u>Low</u> (a)	<u>High</u> (b)	<u>VA</u> (c)	<u>VA</u> (d)
1	2112	Motor Vehicles	7.5	9.5	7.5	8.0
2	2115	Garage Work Eqpt	12.0	18.0	18.5	
3	2116	Other Work Eqpt	12.0	18.0	12.0	10.0
4	2121	Buildings	N/A	N/A	60.0	30.0
5	2122	Furniture	15.0	20.0	15.0	12.0
6	2123.1	Ofc. Support Eqpt	10.0	15.0	10.0	10.0
7	2123.2	Co. Comm. Eqpt	7.0	10.0	11.4	8.0
8	2124	Gen. Purpose Computers	6.0	8.0	7.0	5.0
9	2212	Digital Switching	12.0	18.0	17.5	10.0
10	2220	Operator Systems	8.0	12.0	15.0	10.0
11	2231	Radio Systems	9.0	15.0	9.0	5.0
12	2232	Digital Circuit	11.0	13.0	11.5	9.0
13	2351	Public Telephones	7.0	10.0	11.8	8.0
14	2362	Other Term. Eqpt	5.0	8.0	9.5	8.0
15	2411	Poles	25.0	35.0	30.0	30.0
16	2421	Aerial Cable - Met	20.0	26.0	23.0	17.0
17	2421	Aerial Cable - Fiber	25.0	30.0	25.0	20.0
18	2422	Underground Cable - Met	25.0	30.0	25.0	17.0
19	2422	Underground Cable - Fiber	25.0	30.0	25.0	20.0
20	2423	Buried Cable - Met	20.0	26.0	21.0	17.0
21	2423	Buried Cable - Fiber	25.0	30.0	25.0	20.0
22	2424	Submarine Cable	25.0	30.0	25.0	17.0
23	2426	Intrabldg Cable - Met	20.0	25.0	24.0	17.0
24	2426	Intrabldg Cable - Fiber	25.0	30.0	30.0	20.0
25	2441	Conduit Systems	50.0	60.0	50.0	50.0

Source: Col a, b = FCC Docket No. 92-296 Orders released 6/28/94 and 5/4/95  
and Docket No. 98-137 Order released 12/30/99.

Col c = FCC Parameter Report, 8/30/94

Col d = Sovereign Direct, Attachment A

**Future Net Salvage Comparison**

	Account Number	Account Name	FCC Range		FCC	VZ
			<u>Low</u> (a)	<u>High</u> (b)	<u>VA</u> (c)	<u>VA</u> (d)
1	2112	Motor Vehicles	10.0	20.0	10.0	15.0
2	2115	Garage Work Eqpt	0.0	10.0	1.0	
3	2116	Other Work Eqpt	0.0	10.0	0.0	0.0
4	2121	Buildings	N/A	N/A	4.0	2.0
5	2122	Furniture	0.0	10.0	0.0	0.0
6	2123.1	Ofc. Support Eqpt	0.0	10.0	12.0	0.0
7	2123.2	Co. Comm. Eqpt	-5.0	10.0	8.0	0.0
8	2124	Gen. Purpose Computers	0.0	5.0	7.0	3.0
9	2212	Digital Switching	0.0	5.0	1.0	2.0
10	2220	Operator Systems	0.0	5.0	0.0	0.0
11	2231	Radio Systems	-5.0	5.0	-5.0	-5.0
12	2232	Digital Circuit	0.0	5.0	0.0	1.0
13	2351	Public Telephones	0.0	10.0	10.0	0.0
14	2362	Other Term. Eqpt	-5.0	5.0	18.0	0.0
15	2411	Poles	-75.0	-50.0	-43.0	-90.0
16	2421	Aerial Cable - Met	-35.0	-10.0	-17.0	-10.0
17	2421	Aerial Cable - Fiber	-25.0	-10.0	-25.0	-10.0
18	2422	Underground Cable - Met	-30.0	-5.0	2.0	-10.0
19	2422	Underground Cable - Fiber	-20.0	-5.0	-20.0	-10.0
20	2423	Buried Cable - Met	-10.0	0.0	-4.0	-5.0
21	2423	Buried Cable - Fiber	-10.0	0.0	-10.0	-10.0
22	2424	Submarine Cable	-5.0	0.0	-8.0	-5.0
23	2426	Intrabldg Cable - Met	-30.0	-5.0	-20.0	-5.0
24	2426	Intrabldg Cable - Fiber	-15.0	0.0	-7.0	-10.0
25	2441	Conduit Systems	-10.0	0.0	-10.0	-10.0

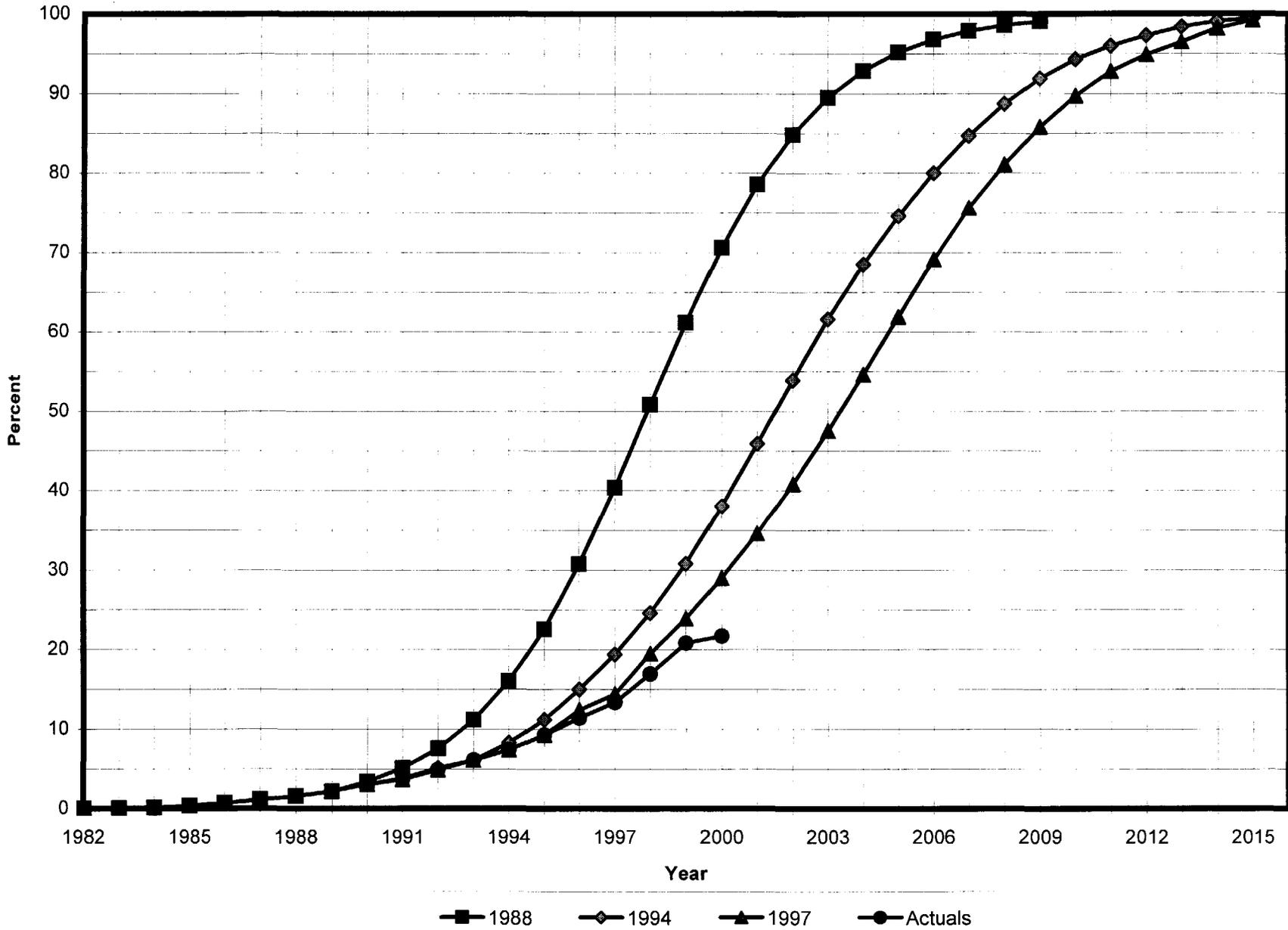
Source: Col a, b = FCC Docket No. 92-296 Orders released 6/28/94 and 5/4/95  
 Col c = FCC Parameter Report, 8/30/94  
 Col d = Sovereign Direct, Attachment A

**PERCENT FIBER IN FEEDER**

<b><u>Year</u></b>	<b><u>TFI Study</u></b>			<b><u>Actual Percent</u></b>
	<b><u>1988</u></b>	<b><u>1994</u></b>	<b><u>1997</u></b>	
1982	0.00	0.00	0.00	0.00
1983	0.05	0.10	0.10	0.10
1984	0.13	0.10	0.10	0.10
1985	0.35	0.40	0.40	0.40
1986	0.69	0.70	0.70	0.70
1987	1.14	1.10	1.10	1.10
1988	1.57	1.60	1.60	1.60
1989	2.18	2.20	2.20	2.20
1990	3.41	3.10	3.10	3.10
1991	5.11	3.80	3.70	3.70
1992	7.59	5.10	4.90	4.90
1993	11.13	6.10	6.10	6.10
1994	16.03	8.30	7.40	7.40
1995	22.55	11.20	9.30	9.30
1996	30.75	15.00	12.40	11.42
1997	40.37	19.40	14.40	13.38
1998	50.80	24.60	19.50	16.95
1999	61.15	30.80	23.90	20.82
2000	70.59	38.00	29.00	21.68
2001	78.54	45.90	34.60	
2002	84.81	53.90	40.80	
2003	89.49	61.60	47.50	
2004	92.85	68.50	54.60	
2005	95.19	74.60	61.90	
2006	96.79	80.00	69.10	
2007	97.87	84.70	75.60	
2008	98.59	88.70	81.10	
2009	99.07	91.90	85.80	
2010		94.30	89.70	
2011		96.00	92.80	
2012		97.30	94.90	
2013		98.40	96.50	
2014		99.10	98.20	
2015		99.50	99.20	

Source of Actuals: 1982 - 1995 = TFI 1997 Study  
1996 - 2000 = ARMIS 43-07 Reports  
(All LECs, Row 390 / Row 370)

# TFI STUDIES - PERCENT FIBER IN FEEDER



### Copper Utilization

State: Virginia

Carrier: Verizon

<u>Year</u>	<u>Working Channels (Row 380)</u> (a)	<u>Equipped Channels (Row 430)</u> (b)	<u>Percent Working</u> (c) = a / b
1990	2,661,034	4,475,672	59.5%
1991	2,647,198	4,490,827	58.9%
1992	2,613,839	4,545,263	57.5%
1993	2,629,652	4,990,522	52.7%
1994	2,635,004	4,887,577	53.9%
1995	2,675,742	5,332,152	50.2%
1996	2,770,199	4,811,868	57.6%
1997	2,828,734	4,926,844	57.4%
1998	2,854,014	4,836,726	59.0%
1999	2,872,968	4,902,751	58.6%
2000	2,754,744	4,732,079	58.2%

Source: ARMIS 43-07 Reports

## CERTIFICATE OF SERVICE

I do hereby certify that true and accurate copies of the foregoing AT&T and WorldCom's Rebuttal Testimony on pricing issues were delivered this 27th day of August, 2001, by federal express and regular mail to:

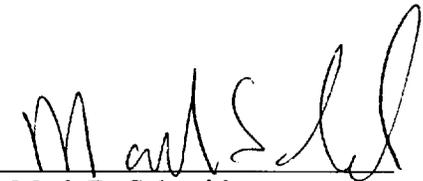
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