ORIGINAL

DOCKET NO.: 981834-TP - [Petition of competitive carriers for Commission action to support local competition in BellSouth Telecommunications, Inc.'s service territory.]

DOCKET NO.: 990321-TP - [Petition of ACI Corp. d/b/a Accelerated Connections, Inc. for Generic investigation to ensure that BellSouth Telecommunications, Inc., Sprint-Florida, Incorporated, and GTE Florida Incorporated comply with obligation to provide alternative local exchange carriers with flexible, timely, and cost-efficient physical collocation.]

WITNESS: **Rebuttal Testimony Of Patricia S. Lee**, Appearing On Behalf Of Staff

DATE FILED: April 18, 2003

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REBUTTAL TESTIMONY OF PATRICIA S. LEE

Q. Please state your name and address.

A. My name is Patricia S. Lee. My business address is 2540 Shumard Oak Boulevard, Tallahassee, Florida, 32399-0850.

Q. By whom are you employed and in what capacity?

A. I am employed by the Florida Public Service Commission as a Senior Analyst - PSC in the Division of Economic Regulation.

Q. Please provide a brief description of your educational background and business experience.

A. I graduated from Appalachian State University in Boone, North Carolina in December 1970, receiving a Bachelor's degree in mathematics. I was employed as a high school mathematics teacher from 1971-1974, when I began working in the area of statistical analysis for the State of Florida. I joined the Public Service Commission staff in 1978. While my position has changed over the years, my areas of primary focus are depreciation and capital recovery. I have also reviewed and analyzed cost studies for the purpose of determining unbundled network element prices and universal service cost levels. In this regard, I have been responsible for depreciation issues and other issues such as determining the appropriate cost model inputs for copper and fiber material and installation costs, loading factors, and interoffice transport. In 1999, I gained the professional status of Certified Depreciation Professional (CDP) by the Society of Depreciation Professionals (SDP).

Q. What is the SDP?

A. SDP is an international organization whose goals include the promotion

of professional development within the depreciation field, the collection and exchange of information about depreciation engineering and analysis, and the provision of programs and publications concerning depreciation. The CDP distinction requires a written examination where the depreciation professional is tested on his or her knowledge of depreciation theory and application.

Q. What are your duties as a Senior Analyst - PSC?

A. I direct the analysis of depreciation rates and the capital recovery positions of Florida regulated utilities and the valuation of assets in a competitive market. In this capacity, I investigate, analyze, and evaluate valuation and depreciation methods and concepts. The determination of appropriate depreciation lives and salvage values requires an understanding of the plans, needs, and pressures facing an individual company. It also requires a knowledge of the various types of plant under study or review and the various factors impacting the depreciation parameters, such as competition and technological advancements.

I also confer with company officials, other state and federal agency personnel, and consulting firms on capital recovery matters in both the regulated and deregulated environments. Additionally, on behalf of the Commission, I have been a faculty member of the National Association of Regulatory Utility Commissioners (NARUC) Annual Regulatory Studies Program and also for the Society of Depreciation Professionals. I am also currently a member of the NARUC Staff Subcommittee on Depreciation and Technology. In this regard, I co-authored the NARUC 1996 *Public Utility Depreciation Practices* manual and three NARUC papers that addressed the impact of depreciation on infrastructure development, economic depreciation, and

stranded investment. Two of these papers were published in the 1996-1997 and 1998 SDP Journals.

Q. Have you previously testified before the Commission?

A. Yes, I have. I have proffered testimony in telecommunications, electric, and gas cases regarding depreciation-related issues.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to respond to the testimony of Verizon FL witness Sovereign regarding the depreciation lives and salvage value inputs to be used in the Total Element Long-Run Incremental Cost (TELRIC) study presented in this proceeding to develop recurring costs for collocation. I address the adequacy of the support witness Sovereign offers in his testimony and provide alternatives for the Commission to consider.

Q. Do you have any exhibits accompanying your testimony?

A. Yes. Attached to my testimony are Exhibits PSL-1 through PSL-5.

Q. Please comment on the need for the Commission to address the life and salvage values for Verizon's depreciable accounts as shown on witness Sovereign's Exhibit AES-1.

A. According to Exhibit BKE-1 of Verizon witness Ellis' testimony, page 231, only data for Buildings, Digital Switching, Circuit Equipment, Underground Cable - Metallic, Underground Cable - Fiber, and Conduit Systems are used to calculate the annual cost factors (ACFs) found in Verizon's collocation cost study. At this time, I am awaiting discovery responses to confirm that these are the only accounts involved. I believe that the Commission need only address the depreciation inputs for the accounts germane to the cost study at hand. For this reason, my testimony will address the

accounts for which I am assured at this point affect collocation recurring rates.

Q. What support does witness Sovereign offer for his recommended depreciation life inputs?

A. Witness Sovereign supports his recommended depreciation life inputs by the following:

1. They are the same lives that Verizon FL uses for financial accounting purposes.

2. They are in line with the lives reported by other competitors in their annual reports to stockholders.

3. They are in line with the lives used by cable television companies.

4. They are in line with the lives recommended by Technology Futures, Inc. (TFI).

Q. Has witness Sovereign provided any data, analyses, or study to support his recommended life and salvage inputs?

A. No, he has not. The only support witness Sovereign has provided is that outlined above. In this respect, I believe Verizon FL's life and salvage value inputs are not adequately supported.

I. ECONOMIC LIVES VS. FINANCIAL REPORTING LIVES

Q. Witness Sovereign testifies that Verizon FL continues to advocate the use of economic lives (also known as financial reporting lives). Do you agree that economic lives and financial reporting lives are one and the same?

A. I believe that "economic lives", "financial reporting lives", and "useful lives" are terms that are often times used synonymously. However, the underlying assumptions used in the development of these lives can often be different.

Q. Are Verizon FL's recommended depreciation life inputs consistent with Generally Accepted Accounting Principles (GAAP)?

A. I am not an accountant, although as a lay person and as a depreciation expert, I would say that the answer is yes. My reading of GAAP principles is that GAAP provides very general guidelines and only requires that the cost be spread in a consistent and rational manner over the expected useful life of the property. The term "useful life" is one which can mean a number of different things and be used in different ways.

Q. Please define useful life.

A. Useful life is a broad term that generally represents the period of time a group of assets will be useful, thereby providing service. The term is often used synonymously with terms such as service life, projection life, realized life, tax life, remaining life, or **economic life**.

Q. Is useful life different from physical life?

A. Yes. Physical life represents the entire period that the given group of assets will physically be in service. Physical life is usually longer than useful life. For example, manual cord boards, if you can find any these days, are still capable of providing service. Therefore, the physical life continues. Technology and economics caused this equipment to be retired, not the physical characteristics.

Q. Please comment on witness Sovereign's support that his recommended life

inputs are the same as the depreciation lives Verizon uses for financial reporting.

A. I don't think that the fact that witness Sovereign's recommended depreciation life inputs are the same as those that Verizon FL uses for financial reporting purposes lends support to the appropriateness of their use in determining collocation rates. Referring to the FCC's Tenth Report and Order on Universal Service, paragraph 429 states:

> ... the depreciation values used in the LECs' financial reporting are intended to protect investors by preferring a conservative understatement of net assets, partially achieving this goal by erring on the side of over-depreciation. These preferences are not compatible with the accurate estimation of the cost of providing services that are supported by the federal high-cost mechanism. We, therefore, decline to adopt the proposed life values used by LECs for financial reporting purposes.[1]

While universal service is different from unbundled network elements and collocation, the reasoning for not using depreciation input values that are used for financial reporting purposes is the same.

Moreover, as noted in *Depreciation Systems*, a company's income depends on the amount of depreciation charged against the revenues in any period. For this reason, many methods of arriving at depreciation expense have been developed over the years, each with a different point of view. "Stockholders, bondholders, consumers, regulators, and taxpayers each have a somewhat

different idea of what the income ought to be. Each group makes that judgment based on its relationship to the entity."[2]

Q. Does the FCC have any rules regarding the depreciation inputs to be used in pricing collocation?

A. Yes. Title 47, Part 51, of the Code of Federal Regulations, addresses interconnection. Specifically, Section 51.505 addresses the forward-looking economic cost of elements including collocation.

Section 51.505(b) defines TELRIC as "the forward-looking cost over the long run of the total quantity of the facilities and functions that are directly attributable to, or reasonably identifiable as incremental to, such element, calculated taking as a given the incumbent LEC's provision of other elements." The FCC further states that the TELRIC cost should be measured based on the use of the most efficient telecommunications technology currently available and the lowest cost network configuration, given the incumbent's existing wire centers. Additionally, the TELRIC cost should include a forward-looking cost of capital and depreciation rates. Specifically, Section 51.505(b)(3) requires that TELRIC compliant depreciation rates should be **economic depreciation rates**.

Q. What are economic depreciation rates?

A. There is really no such thing as economic depreciation rates. FCC Order FCC 96-325 explains that depreciation rates should reflect changes in economic value. "Properly calculated economic depreciation is a periodic reduction in the book value of an asset that makes the book value equal to its economic or market value."[3] This concept is known as economic depreciation, not economic depreciation rates. Based on FCC Order FCC 96-325, I believe the FCC intended

to require that TELRIC-compliant depreciation rates be developed under the economic depreciation concept.

Q. Please explain the economic depreciation concept.

A. Economic depreciation is a term that has evolved over time. In the 1960s, for example, economic depreciation was defined as ". . . the cost of depreciable assets consumed during a year, expressed in terms of purchasing power of the original investment. Economic depreciation can be calculated by adjusting either the actual-cost depreciation base or the actual-cost depreciation accrual so as to produce an annual depreciation accrual reflecting changes in the value of money brought about by price-level changes."[4] During the 1980s, the term economic depreciation was attached to the theory that measures depreciation by the periodic change in present value of an asset during a given year.[5] The 1996 NARUC depreciation manual defines economic depreciation as "the change in economic value of an asset from one time period to the next."[6]

Economic depreciation is the **method** by which the depreciation accruals or expenses are patterned and is driven by the income generated by an asset or group of assets. Generally, with a forecast of increasing revenues, the economic depreciation model will result in an accelerated form of depreciation accruals; a forecast of decreasing revenues results in a decelerated form of depreciation accruals.[7] Economic depreciation is closely related to the appraisal method.[8]

Q. How does traditional regulatory depreciation compare with economic depreciation?

A. In simplest terms, traditional regulatory depreciation is an accounting

issue based on the concept of allocation. Economic depreciation is based on the concept of valuation.

Traditionally, depreciation accounting is the systematic allocation of the cost of an asset or group of assets over the associated useful or service life, on a straight-line basis. This is achieved by charging a portion of the consumption of the assets to each accounting period, an accounting principle known as the matching principle. The goal is to provide a reasonable and consistent matching of expenses to the related period of service being rendered. In the case of depreciation, this means that depreciation expense should be spread as evenly as possible over the years the associated assets are providing service (estimated useful life or service life). The straight-line method of depreciation provides a uniform allocation of expense to each accounting period during the service life of the assets.

In comparison, economic depreciation is a valuation issue. Economic depreciation is driven by the income generated by an asset or group of assets. It is therefore a measure of change in the value of a group of assets from one year to the next. In theory, economic depreciation differs from traditional regulatory depreciation in that economic depreciation accruals will not be on a straight-line basis. This is because future income used in the economic depreciation model varies from year-to-year. In an economic depreciation model, items such as future interest rates, demand, and future revenues are forecasted to determine the depreciation accruals or expenses.[9]

Q. Where would economic depreciation be modeled in Verizon FL's cost study?

A. If Verizon FL is using economic depreciation in its collocation cost study, it would be reflected in the calculation of the annual depreciation

accruals in the annual cost factors (ACFs). Additionally, any accelerated depreciation mechanism would be modeled in the ACF calculations. These both relate to the calculation of depreciation accruals, not the determination of life.

Q. Please explain the term "service life."

A. The life of an asset refers to the period of time during which the depreciable plant is providing service and thus providing revenues to the company. As with the term useful life, service life is often used synonymously with terms such as average life, average remaining life, **economic life**, life characteristics, life indication, location life, probable life, realized life, average service life, and unrealized life.[10] All such terms relate to a measurement of the period of time the assets are expected to provide service.

Q. How are service lives and economic lives determined?

A. Service lives are determined by considering past as well as future forces of retirement. These forces, as Verizon witness Sovereign enumerates, include wear and tear, action of the elements, inadequacy, economic and technological obsolescence, changes in demand, and management decisions. Economic lives also consider forces of retirement as they relate to future revenues generated by a particular group of assets. Service lives, using either traditional or economic viewpoints, should therefore be expected to be similar when considering the same future forces of retirement.

The period of time the depreciable assets are in service is the service life. The period of time the assets are producing revenues is the economic life. If the assets are in service, it then follows that the assets are

producing revenues. Perhaps the revenues are not the same amount as in the past; however, this is not a life issue. Depreciation charges are based on service life/economic life rather than the time value of money.

Q. If service life and economic life are synonymous, what is the controversy and debate with witness Sovereign's recommended economic lives?

A. In this proceeding, witness Sovereign's testimony purports to support the depreciation lives and future net salvages used in Verizon's collocation cost studies. However, the support witness Sovereign offers is simply the fact that his recommended lives are the same lives Verizon uses for financial reporting purposes and intrastate reporting purposes. Furthermore, witness Sovereign asserts that Verizon FL's recommended lives are reasonable in comparison to the financial reporting lives of competitive telecommunications providers. Witness Sovereign would have the Commission believe that the lives and salvage values Verizon uses for financial reporting purposes originated without some type of analysis within Verizon. I find this very hard to believe given that BellSouth performs data analyses when determining its financial reporting depreciation lives.[11] Without company-specific data or analyses supporting witness Sovereign's allegations of shorter lives, I have difficulty in attesting to the reasonableness of his recommendations.

In the telecommunications industry, as has been the case for the past 20 years, such factors as technological change, competition, and governmental actions are primary considerations in estimating lives. In evaluating these factors, I believe it is important to draw on input from company planners, consultants, and even manufacturers, to the extent such is provided. For obsolete or threatened technologies, planning should be available within the

company. Telecommunications companies should be quite alert to their individual needs and in tune with plans for treatment of obsolete or threatened technologies and reactions to the competitive market.

II. BENCHMARKING

Q. Please comment on witness Sovereign's benchmarking with other competitors as a guide in determining the reasonableness of Verizon's life inputs.

A. Let me respond this way. I believe it is important to avail yourself of as much information as possible in determining depreciation lives. Benchmarking is another tool the depreciation professional should use. This being said, I also believe that with benchmarking we must be very careful to ensure that the comparison is apples-to-apples. In my opinion, it is important to understand the underlying assumptions of those lives used in a benchmarking comparison, whether the basis of the lives is technological obsolescence, wear and tear, tax considerations, or some other basis. Without such an understanding, any comparison is meaningless. Additionally, I believe that competitors are likely to be less capital intensive than an incumbent telecommunications company. With fewer switches and cables, replacement of equipment can be achieved much faster and easier.

Witness Sovereign compares his recommended lives to those reported by AT&T and WorldCom. As the witness notes, AT&T's 2001 annual report lists useful life ranges of 3 to 15 years for communications and network equipment. One of my concerns with drawing the conclusion that this is comparable to

Verizon's recommended lives is that I am unsure what AT&T considers in its grouping of communications and network equipment. The second concern I have is not having an understanding of the basis for AT&T's life ranges. These ranges could represent service lives, remaining lives, or even tax lives. While any would represent "useful life" under GAAP, they might not be comparable to Verizon FL's recommended lives.

For WorldCom and the MCI Group, I have similar concerns. The useful life ranges for transmission equipment reported by the MCI Group are 4 to 10 years; for the WorldCom group the life ranges are 4 to 40 years for the same group. The question that immediately surfaces is why is there so much difference in the high end of the life ranges. Certainly, a conclusion could be made that different equipment is included in transmission equipment reported by the WorldCom group.

Q. Have you conducted a benchmarking analysis?

A. At this time, there is outstanding discovery that will hopefully shed some light on the lives of Verizon's competitors. I will have to wait for that information to be received before I can analyze it. Again, I believe that benchmarking could be a useful tool in determining life inputs, but not the only tool that should be used. I also believe that it is imperative to understand the underlying assumptions in the benchmarked companies' reported lives to ensure that the comparison is apples-to-apples; that is, lives are measured in the same manner, determined by the same methodology, and correspond to the plant held by Verizon FL.

Q. Please comment on witness Sovereign's comparison to the lives used by the cable television operators.

A. Witness Sovereign's comments begin with the FCC's Second Report and Order, First Order on Reconsideration and Further Notice of Proposed Rulemaking, Order FCC 95-502, where the FCC established depreciation schedules for cable television operators. I have read the order and interpret it a little differently than witness Sovereign. The FCC ranges were simply the result of a staff survey of cable television cost of service filings. The FCC staff did not perform any detailed study or analytical review of the lives reported by the cable television operators in their annual reports to stockholders. Again, I do not believe such lives are relevant for TELRIC.

Q. Does the fact that Verizon FL's recommended lives are in line with those recommended by Technology Futures, Inc. (TFI) provide validity to witness Sovereign's recommended depreciation life inputs?

A. Not necessarily. While I believe the TFI reports provide another tool to use in developing depreciation lives, I have reservations with their results.

The TFI industry studies are commissioned by the Telecommunications Technology Forecasting Group (TTFG), an industry consortium founded in 1984. Member companies of TTFG include Verizon, Sprint, SBC Communications, Bell Canada, BellSouth Telecommunications, and Qwest.

The TFI studies rely largely on "substitution analysis" which attempts to forecast the pattern by which new technology will replace old technology. An inherent flaw in the substitution model is that it assumes that new technology will completely replace, not supplement, the old technology. For example, it is my understanding that Asynchronous Transfer Mode (ATM) switching will be deployed as a supplemental technology to existing digital

switches, not as a replacement technology. ALEC testimonies presented in other state proceedings proffer that not all cost-reducing technologies operate to the detriment of existing technologies; some cost-reducing technologies are complementary to existing technologies and increase cash flows over time. Further, "demand-enhancing technological progress" should be considered. It is my understanding that such can cause the demand curve to shift upwards, perhaps as a result of improvements in quality or in the form of new products brought about by the technological change. The result of demand-enhancing technological progress is not to reduce the value of existing networks, but to increase their value.[12]

Q. What other concerns do you have with relying on TFI's recommended lives?

A. Witness Sovereign notes that TFI specifically addresses lives to be used for outside plant cable, central office switching, and circuit equipment. In a 1997 presentation by Fatina K. Franklin of the FCC at the Annual Meeting of the Society of Depreciation Professionals, it was demonstrated that TFI's 1989 predictions for circuit equipment sorely overstated actual retirements. Chart 3 of Exhibit PSL-1 shows TFI predictions that only 21 percent of the circuit investment would be surviving at the end of 1996, while companies 1996 and 1997 depreciation studies showed actual survivors of 60 percent at the end of 1996. TFI predicted nearly three times the retirements as actually occurred.

Exhibit PSL-2 provides an analysis of TFI's fiber in the feeder projections. The data shown on page 1 of the exhibit shows the percent of fiber in the feeder to working lines predicted by TFI in 1988, 1994, 1997, and 2002.[13] If we look at the projections of substitution by 2001, a 78.54 percent

substitution was predicted in 1988, dropping to 45.90 percent in 1994, and 34.60 percent in 1997. The actual copper feeder substitution in 2001 was 32.7 percent. A similar analysis of TFI's fiber in the distribution portion of the network is found in Exhibit PSL-3. As shown on page 1 of the exhibit, the 1994 TFI study predicted a substitution of 42.4 percent by 2003, the 1997 study predicted a substitution of 16.8 percent, and the 2002 study predicted a substitution of 0.5 percent.[14] Page 2 of Exhibit PSL-3 provides a graphic display of the data. Both Exhibits PSL-2 and PSL-3 clearly indicate the change that can take place over time with substitution analyses. Compared with actual substitution of copper facilities, the 1988-1997 TFI forecasts have proven to be overly optimistic and slower displacement has actually occurred. This is important as these analyses are the basis for TFI's recommended economic lives. The decreases in substitution rates reflect lengthened life estimates as actuals have become available.

It should also be mentioned that the TFI studies note that their life estimates are for the industry; some companies may have higher or lower lives. The results are average remaining lives. The projection life (that is, the life for new additions) is computed from the remaining life and depends on the particular age distribution of plant for a given company.

III. ADDITIONAL CONCERNS

Q. What other concerns do you have with Verizon's recommended lives?

A. I have reservations with witness Sovereign's recommended 15-year economic life for underground metallic cable. I am assuming this short life

is predicated largely on a presumption of a rapid displacement of metallic cable in the feeder and distribution portions of the network. In this regard, the U.S. Supreme Court dismissed Verizon's arguments regarding the rapid obsolescence of loop facilities and the inappropriateness of the FCC's prescribed life and salvage ranges. Specifically, the Supreme Court found:

> As to depreciation rates, it is well to start by asking how serious a threat there may be of galloping obsolescence requiring commensurately rising depreciation rates. The answer does not support the incumbents. The local-loop plant makes up at least 48 percent of the elements incumbents will have to provide . . . and while the technology of certain other elements like switches has evolved very rapidly in recent years, loop technology generally has gone no further than copper twisted-pair wire and fiber optic cable in the past couple of decades. . . . We have been informed of no specter of imminently obsolescent loops requiring a radical revision of currently reasonable depreciation. This is significant because the FCC found as a general matter that federally prescribed rates of depreciation and counterparts in many States are fairly up to date with the current state of telecommunications technologies as to different elements.[15]

Additionally, the technological view of twisted pair copper cable plant does not suggest that utilization of this technology is lessening. Factually, the quantity of services provided over copper is expanding. Further, in situations where fiber cables are placed in the feeder portion of the network

parallel to existing copper cables, the placement of digital loop carrier systems allows for the functional replacement of the copper feeder and their reuse as distribution without any physical retirement. This permits continued utilization of the copper cables.

I do not have Verizon FL-specific data at this time. However, assuming that Verizon FL is experiencing a similar pattern of retirements as BellSouth, retirements of copper plant have generally not been much different in recent years than they were before the advent of fiber technology and competition.[16] If one were to rely totally on history, it would then follow that the life expectancy for copper cable today would be in the 40+ year range. However, lives are much shorter to recognize that fiber technology or even wireless technology will impact the life of copper facilities. The point of contention is how much impact there will be.

IV. SALVAGE VALUES

Q. Please comment on witness Sovereign's recommended salvage values.

A. Witness Sovereign's recommended salvage values for Buildings and Conduit Systems are the same as those the Commission adopted for Verizon FL in Order No. PSC-02-1574-FOF-TP, issued November 15, 2002, in Docket No. 990649B-TP. Minor differences exist in Circuit Equipment, and metallic and fiber Underground Cable.

Witness Sovereign's testimony is void of any support or justification for his salvage value recommendations. For this reason, I am unable to comment on the reasonableness of the recommendations. However, I have

requested data through discovery that hopefully will help in assessing the appropriate salvage values.

IV. RECOMMENDATION

Q. What alternatives do you recommend regarding depreciation life and salvage value inputs to use for the purpose of this proceeding in developing recurring collocation rates for Verizon FL?

A. I believe there are several alternatives to witness Sovereign's recommended life and salvage value inputs that the Commission may consider. A comparison of the alternatives are shown on Exhibit PSL-4.

The first alternative is that the Commission could adopt the same depreciation life and salvage value inputs it adopted for Verizon by Order No. PSC-02-1574-FOF-TP. This decision was made relatively recently, and I see no reason why the life and salvage value inputs used in developing unbundled network element (UNE) rates should be any different than those to be used in developing collocation recurring rates. Certainly, witness Sovereign has not presented any new information or evidence to warrant a different decision.

Q. Please respond to witness Sovereign's allegation that the Commission's decision in the recent UNE order did not appropriately reflect Verizon's forward-looking lives and should not be adopted in this proceeding.

A. That case is currently on appeal, but I believe the Commission's UNE decision is a valid determination of the forward-looking depreciation life and salvage value inputs to use in Verizon FL's cost study.

Q. What is your second alternative?

A. A second alternative is that the Commission could rely on the FCC's established ranges of depreciation lives. In this regard, witness Sovereign asserts that the FCC's ranges are not forward-looking. However, in the 1998 review of depreciation requirements for ILECs, the FCC concluded that:

> These ranges can be relied upon by federal and state regulatory commissions for determining the appropriate depreciation factors for use in establishing high cost support and interconnection and UNE prices.[17]

The FCC also affirmed that its life and salvage ranges are forward-looking. Specifically, the FCC stated that:

> In adopting a forward-looking mechanism for high-cost support, we found that depreciation expense calculations based on the Commission's prescribed projection lives and salvage factors represent the best forward-looking estimates of depreciation lives and net salvage percentages.[18]

I have attached as Exhibit PSL-5, the FCC prescribed ranges of lives and salvage values. There are no FCC ranges for the account Buildings. As noted in the Third Report and Order, FCC 95-181, the ILECs have been permitted great flexibility in subcategorizing the Buildings account to meet an individual company's circumstances.[19] Because of the significant differences among the categorization methods, the FCC concluded it could not establish nationwide

ranges without a great deal of work. Recognizing that the planning of the companies did not indicate significant additions or retirements in the near future, the FCC concluded that the underlying factors for buildings were not likely to change, and an extensive analysis of the buildings account was not necessary.

Q. Are there any other alternatives the Commission should consider?

A. Not at this time, as responses to discovery are pending. However, upon review of the record evidence presented at the scheduled hearing, additional alternatives may be able to be formulated for the Commission to consider.

V. CONCLUSION

Q. Please summarize your testimony.

A. The Commission need only address the depreciation inputs for accounts for which data are used in determining Verizon FL's recurring collocation rates. These accounts are Buildings, Digital Switching, Circuit Equipment, Underground Cable - Metallic and Fiber, and Conduit Systems. I disagree with witness Sovereign's recommended life and salvage value inputs for these accounts. He has provided no company-specific data or analyses supporting the allegations of shorter lives. Furthermore, witness Sovereign has provided no support whatsoever for his recommended salvage values. As an alternative to witness Sovereign's recommendations, I believe the Commission could adopt the economic lives and salvage values recently ordered in determining UNE recurring rates for Verizon FL based on the fact that no new information or evidence has been presented to warrant a different conclusion. Another

alternative for the Commission to consider is to adopt economic lives and salvage values in line with the FCC-approved life and salvage ranges.

Q. Does this conclude your testimony?

A. Yes it does.

ENDNOTES

1. Tenth Report and Order, FCC 99-304, CC Docket No. 96-45 and Docket No. 97-16, released Nov. 2, 1999, ¶ 429. (Order on Federal-State Joint Board on Universal Service and Forward-Looking Mechanism for High Cost Support for Non-Rural LECs)

2. *Depreciation Systems*, Frank K. Wolf and W. Chester Fitch, Iowa State University Press, Ames, Iowa, 1994, pp. 5-6.

3. First Report and Order, FCC 96-325, CC Docket No. 96-98 and Docket No. 95-185, released Aug. 8, 1996, ¶ 703.

4. Paul J. Garfield, Ph.D. and Wallace F. Lovejoy, Ph.D., *Public Utility Economics*, (Prentice Hall, Inc. 1964).

5. See, for example, Michael L. Katz and Harvey S. Rosen, *Micro economics*, 2nd Edition, (Burr Ridge, IL: 1994), p. 213.

6. NARUC *Public Utility Depreciation Practices*, 1996, p. 318.

7. Journal of the Society of Depreciation Professionals, 1998, pp. 72-74.

8. NARUC *Public Utility Depreciation Practices*, 1996, p. 54.

9. Journal of the Society of Depreciation Professionals, 1998, pp. 74-75.

10. NARUC *Public Utility Depreciation Practices*, 1996, pp. 321, 324.

11. See Direct Testimony of G. David Cunningham, Docket 990649-TP, Exhibit GDC-1.

12. See Direct Testimony of Dr. Michael A. Crew on behalf of AT&T Communications of the Midwest, Inc. and MCIMETRO Access Transmission Services, Inc., State of Iowa Department of Commerce Utilities Board, Docket No. RPU-96-9, Apr., 1997. See also Direct Testimony of Richard B. Lee on behalf of AT&T Communications of Delaware, Inc. Before the Public Service Commission of Delaware, Docket No. 96-324, Feb., 1997.

13. *Technology Substitution in Transmission Facilities for Local Telecommunications*, Lawrence K. Vanston and Ralph C. Lenz (1988), Exhibit 4.10; *Transforming the Local Exchange Network: Analyses and Forecasts and Technology Change*, Lawrence K. Vanston (1994), Exhibit 3.9; *Transforming the*

Local Exchange Network: Analyses and Forecasts and Technology Change, 2nd Edition, Lawrence K. Vanston, Ray L. Hodges, and Adrian J. Poitras (1997), Exhibit 3.9; *Transforming the Local Exchange Network: Review & Update*, Lawrence K. Vanston, Ray L. Hodges (2002), Table 7.1.

14. *Transforming the Local Exchange Network: Analyses and Forecasts and Technology Change*, Lawrence K. Vanston (1994), Exhibit 3.15; *Transforming the Local Exchange Network: Analyses and Forecasts and Technology Change*, 2nd Edition, Lawrence K. Vanston, Ray L. Hodges, and Adrian J. Poitras (1997), Exhibit 3.37; *Transforming the Local Exchange Network: Review & Update*, Lawrence K. Vanston, Ray L. Hodges (2002), Table 7.4.

15. Verizon Communications, Inc., et. al. V. Federal Communications Commission, et. al., 152 L. ed. 2d 701, 122 S. Ct. 1646 (2002).

16. Order No. PSC-01-1181-FOF-TP, issued May 25, 2001, Docket No. 990619-TP, p. 170.

17. 1998 Biennial Regulatory Review-Review of Depreciation Requirements for Incumbent Local Exchange Carriers, CC Docket 98-137, Report and Order, FCC 99-397, released Dec. 30, 1999, ¶ 34.

18. 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 Dec. 30, 1999, ¶ 61.

19. Third Report and Order, FCC 95-181, CC Docket No. 92-296, Simplification of the Depreciation Prescription Process, released May 4, 1995, ¶ 17.

SOCIETY OF DEPRECIATION PROFESSIONALS
Annual Meeting

FORECASTING

Fatina K. Franklin
FEDERAL COMMUNICATIONS COMMISSION
SEPTEMBER 22, 1997

Chart 1

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	2S	10,000	1980	2,500,000	1988
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	56,000	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

Chart 2

PRODUCT LIFE CYCLE

COMPANY A

BURIED METALLIC CABLE

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

Year	1991 Study Forecast	1994 Study Forecast	1997 Study Actuals
1994	7,418	5,887	3,532
1995	10,318	7,532	3,818
1996	12,697	9,037	3,490
Total	30,433	22,456	10,840

Chart 3

Substitution Analysis 1

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

Technology Futures Inc. *		Percent Surviving From FCC Carriers Reviewed In	
End of Year	Percentage Surviving	1996#	1997@
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

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

@ Includes Southwestern Bell, Cincinnati Bell & US West

Chart 4

Substitution Analysis 2

Non-SONET Circuit Equipment Survivors

Technology Futures Inc. *		Percent Surviving From FCC Carriers Reviewed In	
End of Year	Percentage Surviving	1996#	1997@
1994	100		
1995	89	97.6	
1996	76		93.7

ARL (As of 1-1-96) = 3.7 Years

Analog SPC Survivors

Technology Futures Inc. *		Percent Surviving From FCC Carriers Reviewed In	
End of Year	Percentage Surviving	1996#	1997@
1994	100.0		
1995	82.1	97.6	
1996	58.9		93.7

ARL (As of 1-1-96) = 3.7 Years

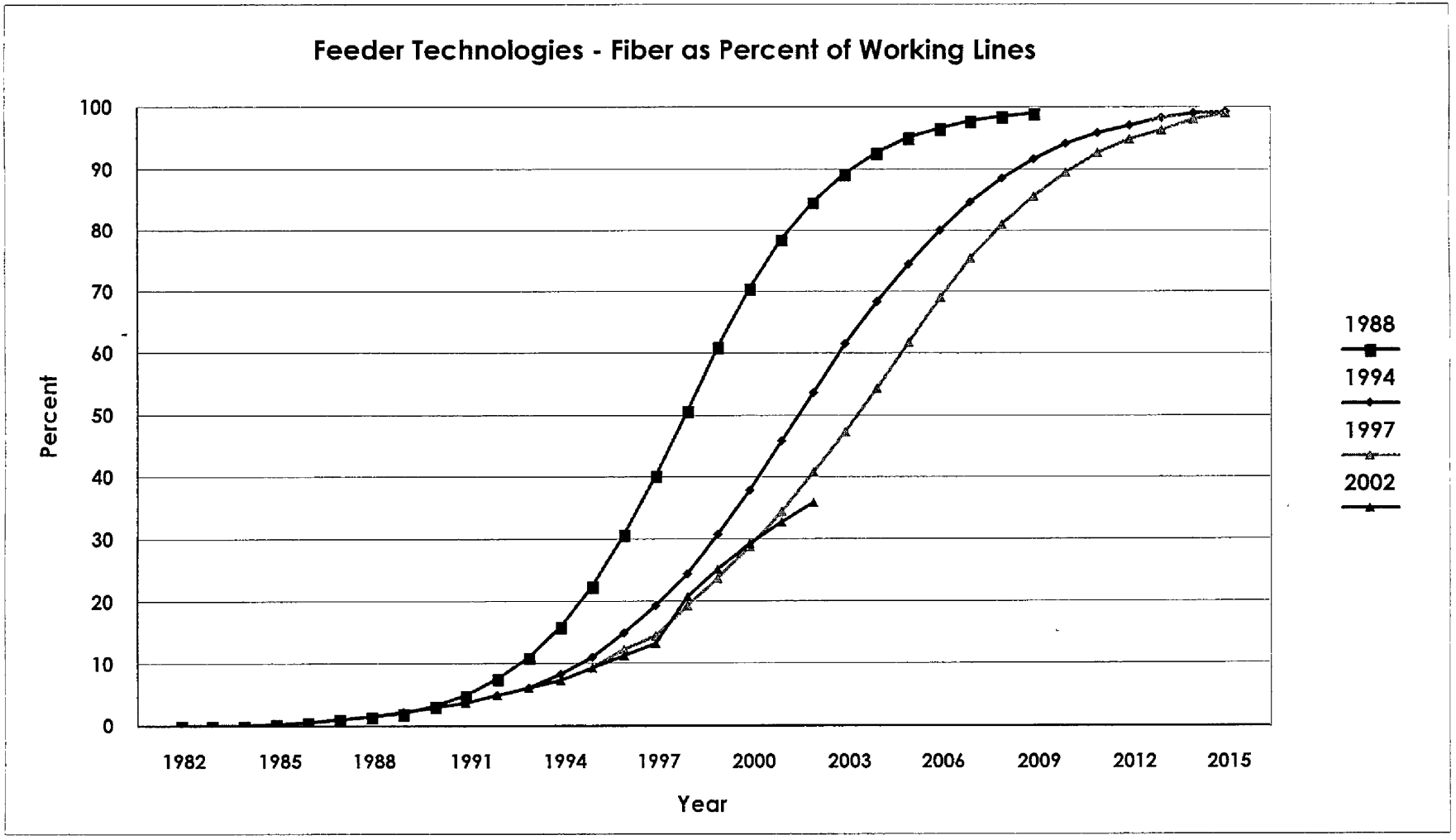
* Technological Substitution in Circuit Equipment
For Local Telecommunications

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

@ Includes Southwestern Bell, Cincinnati Bell & US West

PERCENT FIBER IN FEEDER				
	TFI Studies			
Year	1988	1994	1997	Actual Percent
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 40
1998	50.80	24.60	19.50	20 80
1999	61 15	30.80	23.90	25.30
2000	70 59	38.00	29.00	29.49
2001	78.54	45.90	34.60	32.43
2002	84.81	53.90	40 80	36.08
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	

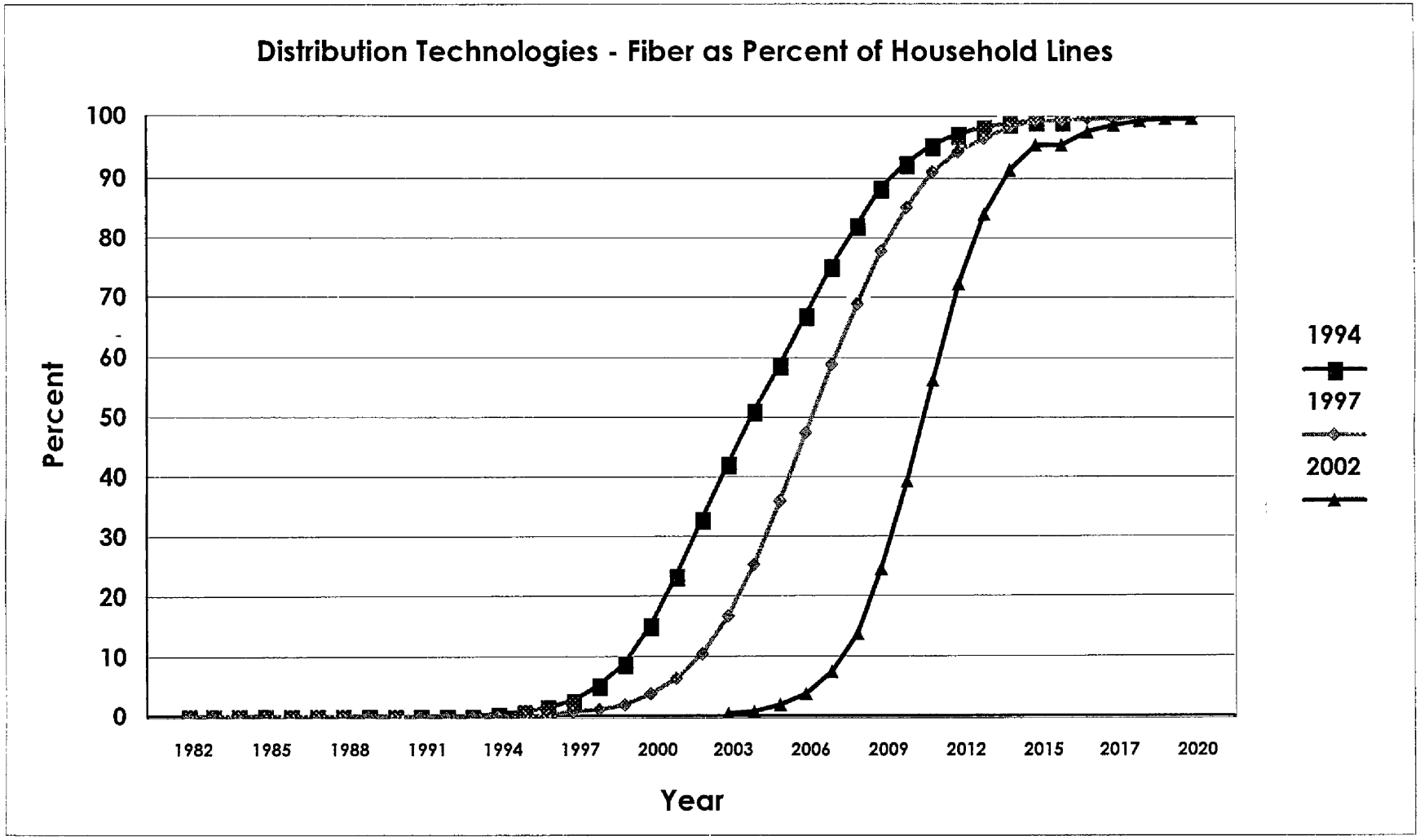
Source: 1982-1995=TFI 1997 Study
1996-2002=ARMIS 43-07 Reports (ALL LECs, Row 390/Row 370)


Feeder Technologies - Fiber as Percent of Working Lines
Percent
100
90
80
70
60
50
40
30
20
10
0
1982
1985
1988
1991
1994
1997
2000
2003
2006
2009
2012
2015
Year
1988
1994
1997
2002

Distribution Technologies - Fiber as Percent of Household Lines			
	TFI Studies		
Year	1994	1997	2002
1982	0.0	0.0	
1983	0.0	0.0	
1984	0.0	0.0	
1985	0.0	0.0	
1986	0.0	0.0	
1987	0 0	0.0	
1988	0.0	0.0	
1989	0.0	0.0	
1990	0.0	0.0	
1991	0.0	0.0	
1992	0.1	0.0	
1993	0.2	0.0	
1994	0.4	0.0	
1995	0.8	0.2	
1996	1 5	0.3	
1997	2.8	0.8	
1998	5.2	1.4	
1999	9.1	2.1	
2000	15.3	3.7	
2001	23.6	6.4	
2002	33.1	10.6	
2003	42.4	16.8	0.5
2004	51.0	25.3	1.0
2005	59.0	35.9	2.0
2006	67.1	47.6	3.9
2007	75.0	58.9	7.5
2008	82.2	68.9	13.9
2009	88 2	77.5	24.4
2010	92.5	85.1	39.3
2011	95.4	90.8	56 4
2012	97.3 ,	94.4	72 1
2013	98.4	96.6	83.8
2014	99 1	98.3	91.2
2015	99 5	99 4	95.4
2016		99.8	97.6

Distribution Technologies - Fiber as Percent of Household Lines			
	TFI Studies		
Year	1994	1997	2002
2017		99.9	98.8
2018		100.0	99.4
2019		100.0	99.7
2020		100.0	99.8

Note: 2002 projections depict TFI's middle scenario.


Distribution Technologies - Fiber as Percent of Household Lines
Percent
100
90
80
70
60
50
40
30
20
10
0
1982
1985
1988
1991
1994
1997
2000
2003
2006
2009
2012
2015
2017
2020
Year
1994
1997
2002

COMPARISON OF LIFE INPUTS			
Account	Verizon*	FCC Ranges#	Witness Lee@
	(Yrs.)	(Yrs.)	(Yrs.)
Buildings	33.0	N/A	45.0
Circuit	9.0	11-13	8.0
Switching	12.0	12-18	13.0
Underground Ca - Metallic	15.0	25-30	23.0
Underground Ca - Fiber	20.0	25-30	20.0
Conduit Systems	50.0	50-60	55.0

* Witness Sovereign Exhibit AES-1.
# Second Report and Order, FCC 94-174, Simplification of Depreciation Prescription Process, released June 28, 1994, Appendix B; Third Report and Order, FCC 95-181, Simplification of Depreciation Prescription Process, released Mary 4, 1995, Appendix B; Report and Order, FCC 99-397, 1998 Biennial Regulatory Review-Review of Depreciation Requirements for Incumbent Local Exchange Carriers, Appendix B.
@ Order No. PSC-02-1574-FOF-TP, issued November 15, 2002, in Docket No. 990649B-TP.

COMPARISON OF SALVAGE VALUES			
Account	Verizon*	FCC Ranges#	Witness Lee@
	(%)	(%)	(%)
Buildings	0	N/A	0
Circuit	2	0-5	0
Switching	0	0-5	0
Underground Cable- Metallic	(10)	(30)-(5)	(8)
Underground Cable - Fiber	(5)	(20)-(5)	(8)
Conduit Systems	(10)	(10)-0	(10)

* Witness Sovereign Exhibit AES-1.
# Second Report and Order, FCC 94-174, Simplification of Depreciation Prescription Process, released June 28, 1994, Appendix B; Third Report and Order, FCC 95-181, Simplification of Depreciation Prescription Process, released Mary 4, 1995, Appendix B; Report and Order, FCC 99-397, 1998 Biennial Regulatory Review-Review of Depreciation Requirements for Incumbent Local Exchange Carriers, Appendix B.
@ Order No PSC-02-1574-FOF-TP, issued November 15, 2002, in Docket No 990649B-TP.

DEPRECIATION RANGES ADOPTED IN CC DOCKET NO. 98-137-DECEMBER 17, 1999				
RANGES FOR ACCOUNTS				
Depreciation Rate Category	Projection Life Range (Years)		Future Net Salvage Range (Percent)	
	Low	High	Low	High
Motor Vehicles	7.5	9.5	10	20
Aircraft	7.0	10.0	30	60
Special Purpose Vehicles	12.0	18.0	0	10
Garage Work Equipoment	12.0	18.0	0	10
Other Work Equipment	12.0	18.0	0	10
Furniture	15.0	20.0	0	10
Office Support Equipment	10.0	15.0	0	10
Co Communications Equipment	7.0	10.0	(5)	10
General Purpose Computers	6.0	8.0	0	5
Digital Switching	12.0	18.0	0	5
Operator Systems	8.0	12.0	0	5
Radio Systems	9.0	15.0	(5)	5
Circuit Equipment - Dds	7.0	11.0	(5)	10
Circuit Equipment - Analog	8.0	11.0	(5)	0
Circuit Equipment - Digital	11.0	13.0	0	5
Station Apparatus	5.0	8.0	(5)	5
Large Pbx	5.0	8.0	(5)	5
Public Telephone	7.0	10.0	0	10
Other Terminal Equipment	5.0	8.0	(5)	5
Poles	25.0	35.0	(75)	(50)
Aerial Cable - Metallic	20.0	26.0	(35)	(10)
Aerial Cable - non Metallic	25.0	30.0	(25)	(10)
Underground Cable - Metallic	25.0	30.0	(30)	(5)
Underground Cable- non Metallic	25.0	30.0	(20)	(5)
Buried Cable - Metallic	20.0	26.0	(10)	0
Buried Cable - non Metallic	25.0	30.0	(10)	0
Submarine Cable	25.0	30.0	(5)	0
Intrabldg Network Cbl - Metallic	20.0	25.0	(30)	(5)
Intrabldg Network Cbl - non Metallic	25.0	30.0	(15)	0
Conduit Systems	50.0	60.0	(10)	0