Comparison of 3-Stage DCF Model Estimates of Cost of Equity For Telephone Holding Companies as of 7/31/96 and 12/31/96

Company	Using Data as of 7/31/96	Using Data as of 12/31/96
Ameritech	11.14%	10.85%
Bell Atlantic	11.83%	11.40%
BellSouth	10.19%	10.33%
NYNEX	11.64%	11.19%
Pacific Telesis	9.58%	8.69%
SBC Communications	10.90%	10.75%
U.S. West	13.33%	12.34%
ALLTEL	11.95%	11.46%
Cincinnati Bell	9.56%	10.37%
GTE	11.84%	11.57%
SNET	11.44%	10.69%

SELECTION OF PLANT LIVES FOR USE IN FORWARD-LOOKING ECONOMIC COST CALCULATIONS

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Table of Contents

I. INTRODUCTION....1

A. Background....1
B. Criteria for Selection of Plant Lives....1

II. CURRENTLY PRESCRIBED FCC PROJECTION LIVES AREAPPROPRIATE FOR USE IN FLEC CALCULATIONS....4

A. FCC Methodology....4
B. Empirical Evidence....5

III. CURRENTLY PRESCRIBED STATE PROJECTION LIVES MAY BE APPROPRIATE FOR USE IN FLEC CALCULATIONS....8

IV. THE SHORTER LIVES PROPOSED BY SOME ILECS ARE NOT APPROPRIATE FOR USE IN FLEC CALCULATIONS....8

A. Technology Futures, Inc., Lives....8
B. IRS Plant Lives....14
C. Financial Books Plant Lives....15
D. Interexchange Carrier Plant Lives....15
E. Cable Company Plant Lives....16

V. CONCLUSION....17

Attachment 1 - FCC Ranges

Attachment 2 - LEC Plant Related Rates

SELECTION OF PLANT LIVES FOR USE IN FORWARD-LOOKING ECONOMIC COST CALCULATIONS

I. INTRODUCTION

A. Background

The Telecommunications Act of 1996 requires that the prices for interconnection and unbundled network elements charged by incumbent local exchange carriers ("ILECs") to competitve local exchange carriers ("CLECs") be set equal to their forward-looking economic costs ("FLEC"). In its First Report and Order in CC Docket No. 96-98, the Federal Communications Commission ("FCC") defined FLEC as Total Element Long Run Incremental Costs ("TELRIC") plus a share of associated forward-looking joint and common costs [1]. One of the most important variables driving the FLEC of unbundled network elements is the plant lives of the facilities and equipment that underlie the respective network elements. This paper reviews the criteria for selecting those plant lives and comments on the alternative sources of plant life estimates that have been proposed by parties for use in calculating FLEC.

B. Criteria for Selection of Plant Lives

There are three principal criteria that should govern the determination of plant lives used in FLEC calculations.

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[1] Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC Docket No. 96-98, First Report and Order, released August 8, 1996 ("August 8 Order"), para. 29.

1. The lives must be forward looking.[2]

The FCC's August 8 Order established Part 51 of the FCC rules. These rules state that the depreciation rates used in calculating the forward-looking economic costs of network elements should be economic depreciation rates.[3] To comply with this rule, the plant lives used in the depreciation calculation must be based upon the economic lives of newly placed plant.[4] Such plant lives are termed "projection lives," to differentiate them from "remaining lives" and "average service lives," which reflect past plant placements.

2. The lives must be unbiased, neither too long nor too short.

The selection of realistic projection lives is critical to the determination of FLEC. The use of unrealistically long lives would be unfair to the ILECs, since it could result in the pricing of network elements below their economic cost. The use of unrealistically short lives would result in the pricing of network elements above their economic cost and impede the development of competition in the local market.

The use of unrealistically short lives would also effectively require ratepayers to provide capital contributions to the ILECs.[5] If the unrealistically short lives were used

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[2] The plant to which the lives are applied must also be efficient on a forward-looking basis for serving the studied demand.

[3] 47 C.F.R. 51.505(b)(3).

[4] The economic life of an asset is its total revenue producing life. Public Utility Depreciation Practices, National Association of Regulatory Utility Commissioners, August 1996 ("Depreciation Practices"), p. 318.

[5] The Supreme Court has ruled that excessive depreciation results in an unwarranted capital contribution by telephone ratepayers. Lindheimer v. Illinois Bell Telephone Co., 292 U.S. 151, 78 L. ed. 1182, 54 S.Ct. 658 (1934).

only in the pricing of unbundled network elements, the ratepayers served by competitive local exchange carriers ("CLECs") would be discriminated against. This can be seen most easily through an illustration. Assume a plant asset costs $1,000 and will have a productive life of 10 years. Assume further that regulatory authorities allow the ILEC to depreciate this asset on a straight-line basis over 10 years, or $100 per year for general ratemaking purposes, but that they set unbundled network element rates to recover this investment over 5 years, or $200 per year. The ILEC's retail customers would thus pay for their use of this investment at a rate of $100 per year, while the customers of competitive local exchange carriers ("CLEC's") would pay at a rate of $200 per year. The excess revenues contributed by telephone ratepayers using CLECs would be available to the ILEC to distribute to its shareholders, to invest in unregulated ventures or to subsidize lower prices for its own retail customers.

3. The lives must exclude the impact of premature retirements.

The lives must exclude the impact of premature retirements due to the provision, or prospective provision, of unregulated services. Pursuant to the FCC's rules, the costs associated with the accelerated replacement of facilities for the benefit of unregulated services are excluded from the regulated accounts.[6] Similarly, since the FCC's Part 51 rules require the calculation of FLEC according to the most efficient telecommunications technology currently available, the projection lives selected should not assume the premature retirement of plant for the benefit of unregulated services when that plant remains economically efficient for the provision of telecommunications

[6] Separation of costs of regulated telephone service from costs of nonregulated activities, CC Docket No. 86-111, Report and Order, FCC 86-564, released February 6, 1987, paragraph 115.

services.[7] For example, the plant lives selected should not assume the accelerated replacement of telecommunications plant to enable an ILEC to provide video programming services.

The following discussion of the appropriate source of plant lives for use in calculating FLEC will focus on the degree to which each source of plant lives meets these three criteria.

II. CURRENTLY PRESCRIBED FCC PROJECTION LIVES ARE APPROPRIATE FOR USE IN FLEC CALCULATIONS

A. FCC Methodology

The projection lives set by the FCC are appropriate for use in calculating FLEC. Pursuant to statutory responsibility, the FCC has been setting depreciation rates for telephone companies for over 50 years.[8] In general, it reviews full studies submitted by the largest companies on a triennial basis. The FCC bases its projection life findings on its analysis of the studies filed by the carriers and in consultation with the various state commission staffs. The opportunity to review periodically the plans of every large telephone company provides the FCC staff with the broadest possible perspective on this subject.

The projection lives set by the FCC are both forward-looking and unbiased. Over a decade ago the FCC directed its staff to put less emphasis on historic data in estimating productive lives, and to pay "closer attention to company plans,

[7] 47 C.F.R. 51.505(b)(1).

[8] 47 U.S.C. § 220(b).

technological developments and other future-oriented analyses."[9] Recently, the FCC reaffirmed its forward-looking orientation in connection with the simplification of its depreciation represcription practices. The FCC established a range of projection lives which could be selected by carriers for prescription on a streamlined basis.[10] The FCC stated that these ranges were based upon "statistical studies of the most recently prescribed factors. These statistical studies required detailed analysis of each carrier's most recent retirement patterns, the carriers' plans, and the current technological developments and trends."[11] As such, this streamlined represcription practice assures the development of projection lives that allow recovery of efficient forward-looking capital investments.

B. Empirical Evidence

Recent trends in depreciation reserve levels provide empirical evidence that the projection lives established by the FCC have been forward-looking and unbiased. As the FCC has recognized, "[t]he depreciation reserve is an extremely important indicator of the depreciation process because it is the accumulation of all past depreciation accruals net of plant retirements. As such, it represents the amount of a carrier's

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[9] Report on Telephone Industry Depreciation, Tax and Capital/Expense Policy, Accounting and Audits Division, Federal Communications Commission, April 15, 1987 ("AAD Report"), p. 3.

[10] See Attachment 1 for the ranges established by the FCC.

[11] FCC, Simplification of the Depreciation Prescription Process, CC Docket No. 92-296 ("Prescription Simplification" proceeding) Third Report and Order, FCC 95-181, released May 4, 1995, p. 6.

original investment that has already been returned to the carrier by its customers."[12]

The FCC's recognition of the reserve level as an indicator of the depreciation process can best be understood by examining a steady state example. Assume that we start with a stable environment in which the average age of plant is 9 years and the expected life of plant is 27 years. In this case, the straight-line add rate, retirement rate and accrual rate are all 3.7 percent, and the reserve level is stable at 33 percent of plant in service (9 years/27 years).[13] As we vary these factors, we can see the effect on the reserve level. For example:

> If the add rate were to increase above 3.7 percent, the reserve level would go down. This would not be a cause for concern, since the average age of plant would similarly represent a lower percent of its expected life.
>
> If the retirement rate were to increase above 3.7 percent, the reserve level would go down. This would be a cause for concern, since it would indicate that the actual life of plant is shorter than previously estimated. If the actual life is shorter, the reserve should be higher, not lower, than 33 percent.
>
> If the accrual rate were to increase above 3.7 percent, the reserve level would go up. This would not be appropriate absent a reduction in the actual life of the plant, since it would indicate that the age of plant is higher than 33 percent of its expected life.

In summary, a declining reserve percent would be a reason for concern absent indications that it is merely the result of growth in plant. On the other hand, a rising

[12] AAD Report, pp. 5-6.

[13] Reserves will stabilized at 33 percent assuming a triangular (straight-line) mortality curve. See Notes for Engineering Economics Courses, American Telephone and Telegraph Company, Engineering Department, 1996, p. 121.

reserve percent is generally a sign that accrual rates anticipate increasing retirement levels. Indeed, absent indications that the expected life of plant is decreasing, it might be a sign that accrual rates are too high.

Attachment 2 to this report displays reserve levels and other plant rates since 1944 for all LECs providing full financial reports to the FCC. As shown on Page 1 of Attachment 2, reserve percents decreased steadily following World War II due to industry growth. These declines continued through the 1970's due in part to accrual rates which were too low.[14] As shown on Page 1 of Attachment 2, however, the FCC's change to forward-looking depreciation practices in the 1980s resulted in a dramatic rise in reserve levels after 1980. The composite reserve level rose from 18.7 percent in 1980 to an historic high of 45.1 percent in 1995. This track record indicates that accrual rates anticipate increasing retirement levels, and that the FCC's projection life estimates have been forward-looking and unbiased.

Confirmation of the forward-looking nature of current FCC prescriptions can be gained by comparing the 1995 accrual rate of 7.1 percent (Attachment 2, Page 4, Column l) to the 1995 retirement rate of 3.5 percent (Attachment 2, Page 4, Column k). The prescription of an accrual rate much higher than the current retirement rate indicates an expectation that the retirement rate will be much higher in the future. If the FCC were prescribing depreciation rates based upon historical indicators, it would be prescribing depreciation rates in the range of 3 to 5 percent.

Unfortunately, the growth in ILEC reserve levels may also indicate that the projection lives selected for some ILECs by the FCC have been influenced by the ILEC's plans to provide nonregulated video programming services on an integrated basis. If so, the current projection lives are shorter than appropriate for use in calculating FLEC. As discussed above, the appropriate projection lives for pricing

[14] AAD Report, p. 7.

unbundled network elements should assume the use of those assets solely to provide telecommunications. The use of currently prescribed FCC lives in FLEC calculations should, therefore, be viewed as a conservative assumption.

III. CURRENTLY PRESCRIBED STATE PROJECTION LIVES MAY BE APPROPRIATE FOR USE IN FLEC CALCULATIONS

In its August 8 Order, the FCC explicitly delegated to the states the responsibility for determining the depreciation rates to be used in the pricing of unbundled network elements.[15] This responsibility implies that the states are authorized to specify the projection lives to be used in pricing calculations. As long as the projection lives used by the state for ratemaking meet the criteria described above, they could be used in lieu of, or in conjunction with, the FCC's projection lives.

IV. THE SHORTER LIVES PROPOSED BY SOME ILECS ARE NOT APPROPRIATE FOR USE IN FLEC CALCULATIONS

A. Technology Futures, Inc., Lives

The Telecommunications Technology Forecasting Group("TTFG"), is an industry association of major ILECs in the United States and Canada. The TTFG pays Technology Futures, Inc. ("TFI") to conduct plant life studies and recommend plant lives based upon these studies. The ILECs often refer to TFI's opinions in support of their proposals for shorter plant lives in regulatory proceedings.

[15] August 8 Order, para. 29.

In recent state arbitration proceedings, TFI's Lawrence K. Vanston has contended that regulatory lives are unrealistically long because (1)they are designed to apply to embedded plant, (2) regulators plan to recover current deficiencies from future ratepayers, (3) regulators focus on plant retirements, and (4) regulators depend upon historical analyses.[16] Analysis shows that none of these allegations diminish the appropriateness of using the FCC's current projection lives in FLEC calculations.

First, regulators are well aware of the difference between projection lives, average service lives and remaining lives. Projection lives are defined as: "the average life expectancy of new additions to plant.[17] Such lives are by definition forward-looking. In the depreciation represcription process, projection lives are applied to embedded plant to determine the remaining lives of previously placed plant. In FLEC calculations, projection lives are applied to plant which is efficient on a forward-looking basis for serving the studied demand.

Second, Dr. Vanston states "regulators have traditionally recognized a reserve deficiency and allowed the LECs to recover the shortfall from future ratepayers. In a regulated monopoly environment this mechanism allowed regulators to prescribe long lives with the assurance that minimum long-term harm would befall the LEC."[18] The implication of this argument is that regulators purposely have been prescribing inappropriately long projection lives. Dr. Vanston offers no evidence whatsoever to prove this serious indictment of regulators and the regulatory process. Indeed, there is no such evidence, because the allegation is absolutely untrue.

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[16] See, e.g., Massachusetts, D.P.U. 96-73/74, 96-75, 96-80/81, 96-83, 96-94 Phase 4, Direct Testimony of Lawrence K. Vanston, Ph. D., ("Vanston Mass. Direct"), pp. 3-6.

[17] Depreciation Practices, p. 322 (emphasis added).

[18] Vanston Mass. Direct, p. 4.

Third, it is true that regulators focus on plant retirements, but this focus is entirely appropriate. The economic life of an asset is its total revenue producing life. That life begins the day the plant is placed "in service" and ends the day it is withdrawn from service (i.e.-retired). Dr. Vanston alleges that "equipment is not retired until well after its economic value has ended."[19] Although this is contrary to all logic, to support this contention, Dr. Vanston creates a hypothetical example in which all but 5 circuits on a 900-pair cable are withdrawn from service, but the cable is not retired. This hypothetical example portrays a misunderstanding of the real world. In the first place, the situation described would be rarely consistent with prudent engineering and accounting practices. Secondly, telephone plant consists largely of "lumpy" investments. As such, they tend to be less-utilized at the outset (since spare capacity to serve growth is built into construction plans) and fully-utilized when they are retired and replaced by larger capacity facilities. The revenues produced by an asset, therefore, are normally greater in its later years than in its early years.

Finally, Dr. Vanston's charge that regulators depend on historical analyses no longer holds true. As explained above, the FCC and other regulators long ago turned their attention to company plans, technological developments and other future oriented analyses. It is high time that this tired criticism be withdrawn from service and properly retired.

Indeed, this criticism may better be applied to Dr. Vanston's methodology of "substitution analysis" for calculating allegedly forward-looking depreciation rates. In his criticism of mortality analyses, Dr. Vanston states that "[t]his use of historical data contains the built-in assumption that the future will be much like the past."[20] This assumption, in fact, is the very basis of his own substitution analysis. Dr. Vanston

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[19] Id., p. 5.

[20] Id.

predicts an "avalanche" of retirements in various accounts based upon the application of past retirement patterns of obsolescent technologies to future circumstances. This technique relies, for example, on retirement patterns such as those describing the replacement of crossbar switches in the 1980's.[21] In their own way, substitution analyses are as dependent on historical data as mortality analyses.

In a similar vein, Dr. Vanston claims that competition will cause a shortening of plant lives.[22] This contention also requires close examination. In the first place, competition based upon the resale of ILEC services and the purchase of ILEC unbundled network elements does nothing at all to affect the lives of ILEC plant. Indeed, to the extent that ILEC wholesale and network element prices are set at economic levels, uneconomic facilities-based competition will be discouraged, and ILEC plant lives thereby extended.

Secondly, it is generally accepted that competition drives prices toward cost and spurs innovation. Some innovations may indeed result in the replacement of facilities when such replacement is cost-effective. Other innovations, however, are likely to extend the life of plant facilities to ensure cost-effectiveness. AT&T, for example, has found it can extend the life of its 4 ESS digital switches by adding adjunct processors to them. Many ILECs also used this same technique to extend the life of their 1A analog switches in recent years.

While competition may well cause the unit prices of traditional services to decrease, it is also likely to increase demand for such services and lead to the introduction of innovative new services over existing facilities. The implementation of Integrated Services Digital Network ("ISDN") and Asynchronous Digital Subscriber Line ("ADSL") is likely to greatly enhance ILEC revenue streams from existing facilities.

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[21] Id., Exhibit B., p. 8.

[22] Id., p. 16.

Such possibilities are in stark contrast to TFI's view of the future. Dr. Vanston's proposed lives are based upon the premise that the ILECs will replace their narrowband telecommunications networks with broadband integrated networks capable of providing both telecommunications services and video services, such as cable television.[23] According to Dr. Vanston, Fiber In The Loop ("FITL") will bring broadband to the home, displacing copper plant.[24] This will result in the upgrading of all transmission systems to Synchronous Optical Network ("SONET"), replacing existing circuit equipment.[25] Asynchronous Transfer Mode ("ATM") switching equipment will provide a broadband switching capability replacing today's narrowband switch fabrics.[26]

FLEC calculations for unbundled network elements should not be based upon assumptions such as these. The FLEC for these elements is based on the use of the most efficient telecommunications technology currently available and the lowest cost network configuration, given the existing location of the incumbent LEC's wire centers. The FLEC standard requires a determination of the cost of unbundled network elements in a telecommunications network that is most efficient to provide these elements.[27] The plant lives appropriate for such a calculation should not be based upon the assumption that efficient telecommunications facilities will be prematurely retired in order to provide broadband video services.

The Canadian Radio-Television and Telecommunications("CRTC") draws the very same distinction. The CRTC divides cost between the Competitive (nonregulated) and Utility (regulated) segments, and states:

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[23] Id., Part B, pp. 2, 6 and passim.

[24] Id., Part B, pp. 2, 6, 19-23 and passim.

[25] Id., Part B, pp. 3, 24-25 and passim.

[26] Id., Part B, pp. 2, 27-28 and passim.

[27] 47 C.F.R. 51.505 (c)(2)(A).

> The Commission finds that, in general, the most appropriate regulatory treatment for broadband initiatives is to require the telephone companies to assign to the Competitive segment all new Investments and related expenses associated with the deployment of fiber or coaxial cable, optoelectrical equipment, asynchronous transfer mode (ATM) switches, and video servers.[28]
>
> * * *
>
> 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.[29]

In summary, the lives recommended by Dr. Vanston of TFI are not appropriate for the pricing of unbundled network elements. The Massachusetts Department of Public Utilities stated the matter succinctly in its recent FLEC decision:

> Under the terms of the Local Competition Order, it is NYNEX's burden to prove the reasonableness of its proposed depreciation rates. Dr. Vanston's testimony does not effectively rebut Mr. Lee's characterization of the FCC process, and, although he has offered general opinions about the degree of technological change that might occur in the industry, he has presented no NYNEX-specific analysis that might cause us to think that the FCC lives are not appropriate.
>
> We find, based on this record, that the projection lives prescribed by the FCC in its last represcription of NYNEX's depreciation rates are the

[28] CRTC, Implementation of Regulatory Framework - Splitting of the Rate Base and Related Issues, Telecom Decision CRTC 95-21, 31 October 1995, pp. 34-35.

[29] Id., p. 35.

> kind of forward-looking projection lives required in a TELRIC study.[30]

B. IRS Plant Recovery Lives

The plant recovery lives established by the Internal Revenue Service ("IRS") would not be appropriate for use in calculating FLEC. IRS lives are intentionally biased on the short side as a public policy incentive for businesses to invest in capital equipment.[31] The Commerce Clearing House, Inc. ("CCH") states:

> The Accelerated Cost Recovery System (ACRS), mandatory for most depreciable-type tangible property placed in service after 1980, was born out of a consensus that further incentives were needed to stimulate capital investment....The approach incorporated in the Economic Recovery Tax Act of 1981 moves away from the useful-life concept and minimizes exceptions and elections.
>
> Since ACRS is not based on estimated useful lives, cost recovery under it does not, in a strict dictionary sense, qualify as depreciation....As a matter of convenience-and consistent with IRS language-ACRS is here classified as a system of depreciation even though it is a system for recovering the cost of property over periods that are shorter than the useful life of the property.[32]

Effectively, the IRS is providing cost-free capital contributions financed at taxpayer expense to companies making capital investments .[33] These capital contributions reduce the need for the company to finance its construction

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[30] Massachusetts, D.P.U. 96-73/74, 96-75, 96-80/81, 96-83, 96-94-Phase 4, Decision dated December 4, 1996, pp. 55-56.

[31] Depreciation Practices, p. 20.

[32] CCH, 1982 Depreciation Guide.

[33] Id., pp. 197-198.

program from debt or equity. In regulatory proceedings, such capital contributions that have already been paid for by taxpayers are subtracted from the carrier's rate base so they are not again paid for by ratepayers.

C. Financial Books Plant Lives

The plant lives used by the ILECs on their financial books would not be appropriate for use in calculating FLEC. These lives are also biased on the short side, but for different reasons. As the FCC has recognized, the lives used for financial accounting purposes are governed by the Generally Accepted Accounting Principle ("GAAP") of "conservatism."[34] Under this principle, accounting methods are used which ensure that neither current income nor asset values are overstated. Absent a virtual guarantee of future recovery, therefore, GAAP requires that assets be written down to a level for which recovery can reasonably be assumed. Indeed, the more that is written down, the greater the conservatism of accounting. This conservatism effectively creates a bias towards shorter life estimates and larger plant writedowns. It should be noted that the carriers which have written down their financial books have not written down their regulatory books.

Financial book lives for some ILECs may also be shorter due to their plans to replace their existing telecommunication networks with integrated telecommunications/video networks. Under these circumstances, it may well be appropriate for the ILECs to use shorter lives for financial reporting purposes. As discussed above, however, this does not make these lives in any way relevant for FLEC purposes.

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[34] Prescription Simplification proceeding, Report and Order, FCC 93-452, released October 20, 1993, para. 46.

D. Interexchange Carrier Plant Lives

The plant lives used by interexchange carriers ("IXCs") would not be appropriate for use in calculating the FLEC of ILECs. The expected productive life of plant is largely dependent upon its specific use. To use an extreme, but apt, analogy, the expected productive life of the copper wire installed in a house is many times that of the copper wire installed in an automobile. Despite surface similarity, the use of plant by ILECs to provide local exchange and exchange access services is much different than the use of plant by IXCs to provide interexchange services.

In the first place, FLEC calculations are largely concerned with the costs of local loops and end office switches. IXCs, by definition, provide no local loops or end office switches, so the lives of their plant are irrelevant to the matter at hand.

More fundamentally, IXCs are much less capital intensive than ILECs, and thus are able to replace their plant much faster than ILECs when the occasion demands. To service all homes and businesses in the Nation, an IXC needs only about 150 switches and 100,000 sheath kilometers of cable. To gain the same ubiquity for local exchange service, the ILECs require over 23,000 switches and 6,000,000 sheath kilometers of cable.[35] No matter how motivated the ILECs are, the replacement of their local network facilitates is a long, drawn-out process.

Certain plant used by an ILEC to provide interexchange services may, however, have similar lives to IXCs. Conversely, plant placed by an IXC in the future to provide local services may have similar lives to ILECs.

E. Cable Company Plant Lives

[35] 1994 FCC Statistics of Common Carriers, p.159.

The plant lives used by cable companies would not be appropriate for use in calculating FLEC for the same reason that IXC lives are inappropriate. It makes little sense to reach out to a different industry which provides a very different service to seek lives for telephone plant, when prescribed lives by company and state are available for telephone plant from the FCC.

Certain plant used by an ILEC to provide cable services, however, may have similar lives to cable companies. Conversely, plant placed by a cable company in the future to provide local telephone services may have similar lives to ILECs.

V. CONCLUSION

The projection lives established by the FCC are appropriate for use in the calculation of FLEC. Projection lives established by state commissions for intrastate ratemaking purposes may also be appropriate for use in the calculation of FLEC.

APPENDIX B

ACCOUNTS AND RANGES FOR PHASE ONE IMPLEMENTATION

ACCOUNT NUMBER	ACCOUNT NAME	DEPRECIATION RATE CATEGORY	PROJECTION LIFE RANGE (YEARS) LOW	PROJECTION LIFE RANGE (YEARS) HIGH	FUTURE NET SALVAGE RANGE (PERCENT) LOW	FUTURE NET SALVAGE RANGE (PERCENT) HIGH
2112	Motor Vehicles	Motor Vehicles	7.5	9.5	10	20
2113	Aircraft	Aircraft	7	10	30	60
2114	Special Purpose Vehicles	Special Purpose Vehicles	12	18	0	10
2115	Garage Work Equipment	Garage Work Equipment	12	18	0	10
2116	Other Work Equipment	Other Work Equipment	12	18	0	10
2122	Furniture	Furniture	15	20	0	10
2123.1	Office Support Equip	Office Support Equip	10	15	0	10
2123.2	Co. Communications Equip	Co. Communications Equip	7	10	-5	10
2124	Gen. Purpose Computers	Gen. Purpose Computers	6	8	0	5
2231	Radio Systems	Radio Systems	9	15	-5	5
2232	Circuit Equipment	Digital Data Service	7	11	-5	10
2232	Circuit Equipment	Analog	8	11	-5	0
2311	Station Apparatus	Station Apparatus	5	8	-5	5
2341	Large PBX	Large PBX	5	8	-5	5
2351	Public Telephone	Public Telephone	7	10	0	10
2362	Other Terminal Equipment	Other Terminal Equipment	5	8	-5	5
2421	Aerial Cable	Non-Metallic	25	30	-25	-10
2422	Underground Cable	Non-Metallic	25	30	-20	-5
2422	Underground Cable	Metallic	25	30	-30	-5
2423	Buried Cable	Non-Metallic	25	30	-10	0
2424	Submarine Cable	Submarine Cable	25	30	-5	0
2441	Conduit Systems	Conduit Systems	50	60	-10	0

Source: Simplification of the Depreciation Prescription Process, CC Docket No. 92-296, Second Report and Order, FCC 94-174, released June 28, 1994.

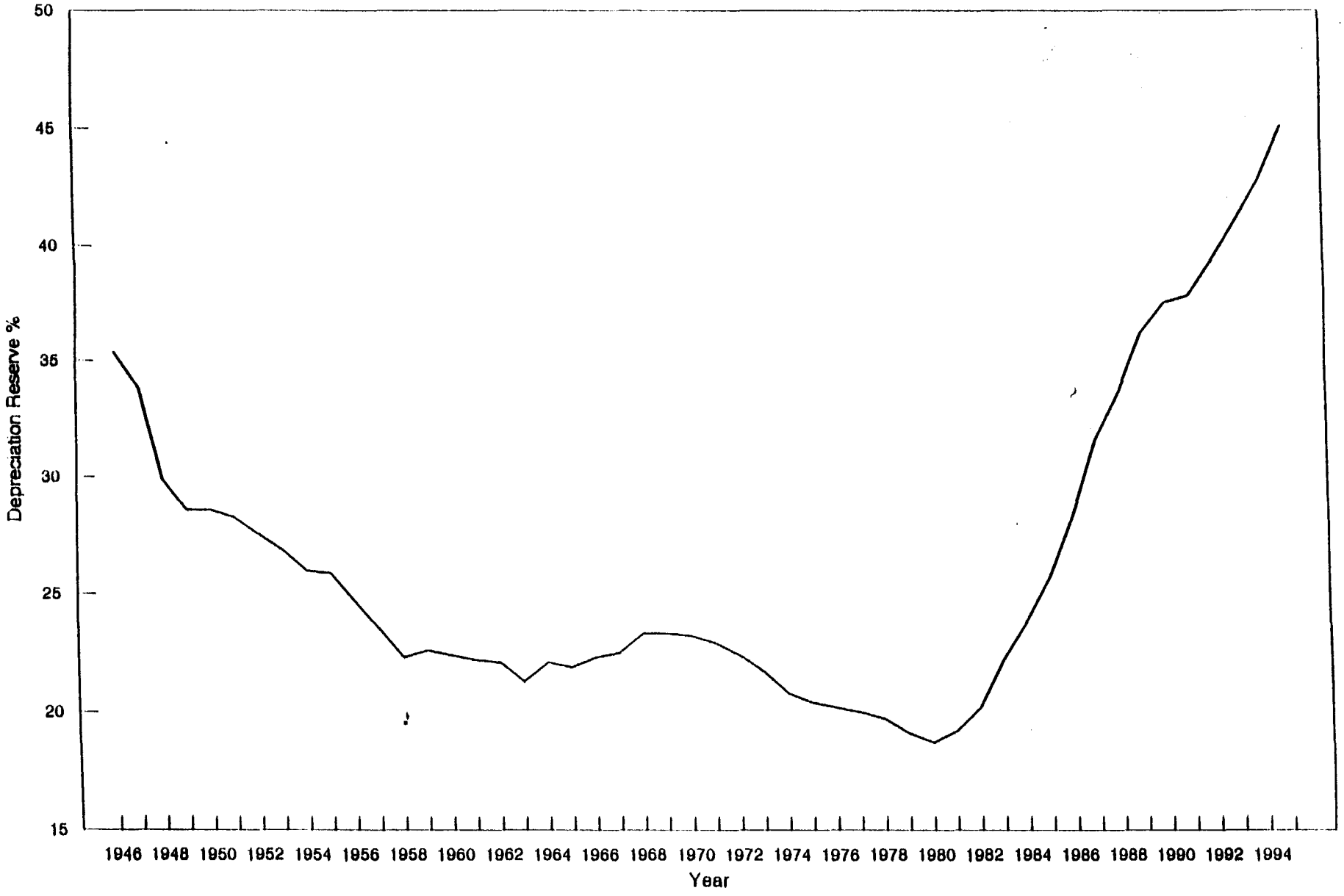
ACCOUNTS AND RANGES

ACCOUNT NUMBER	ACCOUNT NAME	DEPRECIATION RATE CATEGORY	PROJECTION LIFE RANGE (YEARS)		FUTURE NET SALVAGE RANGE (PERCENT)	
			LOW	HIGH	LOW	HIGH
2220	Digital switching	Digital Switching	16	18	0	5
2220	Operator systems	Combined	8	12	0	5
2232	Circuit equipment	Digital	11	13	0	5
2411	Poles	Poles	25	35	-75	-50
2421	Aerial cable	Metallic	20	26	-35	-10
2423	Buried cable	Metallic	20	26	-10	0
2426	Intrabuilding network cable	Metallic	20	25	-30	-5
2426	Intrabuilding network cable	Non-metallic	25	30	-15	0

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

Depreciation Reserve Percent

All Lecs



All LEC's Plant Related Rates

(Dollars in Millions)

	Telecommunications Plant in Service												
	BOY (a)	EOY (b)	Average (c)=(a+b)/2	Increase (d) = b-a	Add (e)	Ret (f)	Deprec (g)	EOY Reserve (h)	AVG Reserve (i)	Add Rate (j) = e/a	Retire Rate (k) = f/a	Deprec Rate (l) = g/c	Reserve Percent (m) = h/b
1946		6,500	3,250	6,500				2,300					35.4
1947	6,500	7,400	6,950	900				2,500	2,400				33.8
1948	7,400	8,700	8,050	1,300				2,600	2,550				29.9
1949	8,700	9,800	9,250	1,100				2,800	2,700				28.6
1950	9,800	10,500	10,150	700				3,000	2,900				28.6
1951	10,500	11,300	10,900	800				3,200	3,100				28.3
1952	11,300	12,300	11,800	1,000				3,400	3,300				27.6
1953	12,300	13,400	12,850	1,100				3,600	3,500				26.9
1954	13,400	14,600	14,000	1,200				3,800	3,700				26.0
1955	14,600	15,800	15,200	1,200				4,100	3,950				25.9
1956	15,800	17,400	16,600	1,600				4,300	4,200				24.7
1957	17,400	19,600	18,500	2,200				4,600	4,450				23.5
1958	19,600	22,000	20,800	2,400				4,900	4,750				22.3
1959	22,000	23,000	22,500	1,000				5,200	5,050				22.6
1960	23,000	25,000	24,000	2,000	2,700	700	1,100	5,600	5,400	11.7	3.0	4.6	22.4
1961	25,000	27,000	26,000	2,000	2,800	800	1,200	6,000	5,800	11.2	3.2	4.6	22.2
1962	27,000	29,000	28,000	2,000	2,900	900	1,300	6,400	6,200	10.7	3.3	4.6	22.1
1963	29,000	32,000	30,500	3,000	4,000	1,000	1,400	6,800	6,600	13.8	3.4	4.6	21.3
1964	32,000	34,000	33,000	2,000	2,900	900	1,600	7,500	7,150	9.1	2.8	4.8	22.1
1965	34,000	37,000	35,500	3,000	4,100	1,100	1,700	8,100	7,800	12.1	3.2	4.8	21.9

All LEC's Plant Related Rates

(Dollars in Millions)

	Telecommunications Plant in Service												
	BOY (a)	EOY (b)	Average (c)=(a+b)/2	Increase (d) = b-a	Add (e)	Ret (f)	Deprec (g)	EOY Reserve (h)	AVG Reserve (i)	Add Rate (j) = e/a	Retire Rate (k) = f/a	Deprec Rate (l) = g/c	Reserve Percent (m) = h/b
1966	37,000	40,000	38,500	3,000	4,100	1,100	1,900	8,900	8,500	11.1	3.0	4.9	22.3
1967	40,000	44,000	42,000	4,000	5,100	1,100	2,100	9,900	9,400	12.8	2.8	5.0	22.5
1968	43,249	47,123	45,186	3,874	5,104	1,230	2,304	10,979	10,440	11.8	2.8	5.1	23.3
1969	47,175	51,724	49,450	4,549	6,022	1,473	2,507	12,072	11,526	12.8	3.1	5.1	23.3
1970	51,723	56,951	54,337	5,228	6,880	1,651	2,751	13,213	12,643	13.3	3.2	5.1	23.2
1971	56,972	63,090	60,031	6,118	8,052	1,933	3,016	14,447	13,830	14.1	3.4	5.0	22.9
1972	63,068	69,870	66,469	6,802	9,044	2,242	3,330	15,643	15,045	14.3	3.6	5.0	22.4
1973	69,951	77,442	73,697	7,491	10,085	2,595	3,659	16,769	16,206	14.4	3.7	5.0	21.7
1974	77,107	84,888	80,998	7,781	11,024	3,243	4,047	17,685	17,227	14.3	4.2	5.0	20.8
1975	84,799	92,284	88,542	7,485	10,881	3,396	4,486	18,809	18,247	12.8	4.0	5.1	20.4
1976	92,591	99,879	96,235	7,288	11,139	3,856	4,934	20,163	19,486	12.0	4.2	5.1	20.2
1977	101,237	109,496	105,367	8,259	12,438	4,136	5,630	21,903	21,033	12.3	4.1	5.3	20.0
1978	109,502	119,336	114,419	9,834	14,549	4,681	6,199	23,474	22,689	13.3	4.3	5.4	19.7
1979	118,612	129,972	124,292	11,360	16,843	5,452	6,820	24,881	24,178	14.2	4.6	5.5	19.1
1980	129,767	142,096	135,932	12,329	18,694	6,378	7,804	26,512	25,697	14.4	4.9	5.7	18.7
1981	142,121	155,845	148,983	13,724	19,482	5,749	8,664	29,932	28,222	13.7	4.0	5.8	19.2
1982	155,907	168,075	161,991	12,168	18,466	6,409	9,757	33,957	31,945	11.8	4.1	6.0	20.2
1983	169,162	178,482	173,822	9,320	16,076	6,664	11,340	39,571	36,764	9.5	3.9	6.5	22.2
1984	152,315	159,798	156,057	7,483	14,994	4,994	10,048	37,996	38,784	9.8	3.3	6.4	23.8
1985	174,218	186,294	180,256	12,076	18,972	6,687	11,469	43,837	40,917	10.9	3.8	6.9	25.7