

The Massachusetts Decision

Because the parties refer often to a recent Massachusetts DPU decision,¹ it will briefly be described here. The proceeding involved arbitrations of interconnection agreements between New England Telephone (New York Telephone's affiliate within the NYNEX structure) and AT&T, MCI, Sprint, and others. The Massachusetts DPU determined that "the structure of the NYNEX model provides a good representation of a reconstructed local network that will employ the most efficient technology for reasonably foreseeable capacity requirements" but that it had "unresolved concerns" about the Hatfield model that led it to find that its sponsors had not met their burden of proving it the proper model to use to develop TELRIC costs. In rejecting the Hatfield model, the Massachusetts DPU added that though it ordinarily places little weight on decisions reached in other states, it saw a need to address AT&T's argument that the Hatfield model had been endorsed by at least two state commissions and that other states had adopted Hatfield-like numbers. It noted that Iowa had given no reason for adopting the model other than its public availability; that Minnesota, which endorsed Hatfield as the best evidence, noted the similar results reached, with respect to TELRIC costs, by Hatfield and the ILECs' competing model; and that a number of other states had declined to endorse Hatfield or had not considered it.²

Though it rejected the Hatfield model in principle, the Massachusetts DPU modified the New England Telephone study (similar in many respects to New York Telephone's study here) in

¹ Massachusetts Department of Public Utilities, DPU Cases 96-73/74 et al. - Consolidated Petitions of New England Telephone and Telegraph Company d/b/a NYNEX, et al., Phase 4 Order (issued December 4, 1996) (the Massachusetts Order). Not surprisingly, the parties cite the Massachusetts Order liberally when it supports their positions and generally disregard it (except when called upon to distinguish it) when it rejects their views.

² Ibid., pp. 23-26.

several ways, as follows. Many of these items are described in greater detail in the sections to which they pertain.

- It required geographic deaveraging and added a Central Boston zone to the three initially proposed by NYNEX.
- It rejected NYNEX's depreciation rates and modified its cost of capital.
- It modified the treatment of retail costs in the calculation of carrying charge factors.
- It reduced the carrying charge factors to bring them in line with the regional Bell operating company average.
- It reduced switch costs to reflect lines in service rather than lines of capacity.

More generally, AT&T warns that the record in the Massachusetts proceeding lacks what it characterizes as the evidence here, discussed below, that calls into question the fundamental credibility of New York Telephone's presentation.

INPUTS

This section of the opinion considers the various contested inputs to whatever model is used to determine element costs. Some of them (cost of capital and depreciation) were treated by the parties as independent inputs that would have to be used by either model. Others (such as fill factors and nature of the system to be built) were treated by the parties more as aspects of the models themselves but, as suggested above, can often be abstracted from the models and regarded as inputs. Under each heading we describe each study and the criticisms offered and follow that with a general discussion of the issues posed.

Cost of Capital

1. Introduction and Overview

The Act provides for the rate for a network element to be based on the cost of providing the element ("determined," however, "without reference to a rate of return or other rate-based proceeding") and permits the rate to include "a reasonable profit." The stayed FCC rules required use of a "forward-looking" cost of capital, and New York Telephone asserts that a forward-looking cost of capital is needed to avoid a mismatch with a forward-looking, TELRIC-determined investment base. At the same time, the FCC stated that the "currently authorized rate of return at the federal or state level is a reasonable starting point for TELRIC calculations, and incumbent LECs bear the burden of demonstrating with specificity that the business risks that they face in providing unbundled network elements and interconnection services would justify a different risk-adjusted cost of capital or depreciation rate."¹ The FCC went on to recognize incumbent LECs were likely to face increased risks that might warrant an increased cost of capital but noted as well that the network elements at issue here are generally bottleneck, monopoly services that do not now face significant competition. Only New York Telephone and AT&T offered full cost-of-capital presentations.

New York Telephone emphasized the FCC's forward-looking approach and contended it was entitled to a return on equity that recognized the risk associated with increased competition. It recognized that the New York cost manuals generally assume the use of a carrier's authorized rate of return in calculating incremental costs, but emphasized that the manuals provide for flexibility and that other methods may sometimes be warranted. It proposed a return on equity of 14.8%, a capital structure of 23.51% debt and 76.49% equity, and an overall cost of capital of 13.18%.

¹ First Report and Order, ¶ 702.

AT&T stressed the FCC's reliance on regulated returns as the starting point and its imposition on the LEC of the burden of proving an increase to be warranted. It noted as well that the cost manuals require the use of the currently allowed cost of capital and disputed New York Telephone's suggestion that this is an area in which the FCC requires a different approach from the Commission's own. AT&T proposed a cost of equity of 11.5%, a 45% debt/55% equity capital structure, and an overall cost of capital of 9.8%, 338 basis points below New York Telephone's request.

MCI's witness used, in his Hatfield study, an overall cost of capital of 10.01%, said to be based on data filed by AT&T and MCI with the FCC in a proceeding pertaining to the cost of capital for all regional Bell operating companies.

MFS and Sprint also challenged New York Telephone's cost of capital as too high. MFS used AT&T's figure in re-running New York Telephone's study.

2. New York Telephone's Presentation

Through its witness Vander Weide, New York Telephone proposed, as noted, a cost of capital of 13.18%, comprising a 7.9% current cost of debt (reflecting issuances by companies having the same credit rating as NYNEX or New York Telephone), a capital structure containing 23.51% debt and 76.49% equity, and a cost of equity of 14.8%. The debt and equity ratios were derived from the Standard and Poor's (S&P) Industrials, on the premise that those competitive firms on average bear the same risk as New York Telephone or any other provider would face in financing a new network. Similarly, the 14.8% cost of equity was based on a discounted cash flow (DCF) analysis of the S&P Industrials that incorporated, among other things, the assumption of a constant earnings growth rate.

AT&T challenges the premise that the cost of capital should reflect the business risks incurred by competitive companies. It argues that the pertinent risks are those that New York Telephone would face in providing unbundled network elements, not those faced by the total enterprise; and that New

York Telephone has failed to show that the added risks of providing network elements, which remain a monopoly, justify any change in the current allowed cost of capital. Noting the FCC's observation that the risk-adjusted cost of capital need not be the same for all elements, AT&T contends that New York Telephone's witness "not only did not attempt to demonstrate any differences in risk for [New York Telephone's] various unbundled network elements, he made no effort to distinguish the risk that [New York Telephone] faces in providing monopoly wholesale telephone services from the business risk that it faces in providing its competitive telephone services, much less in its other far-flung business ventures" ¹ AT&T acknowledges that New York Telephone now faces some facilities-based competition in the local exchange market, but it sees no evidence of the extent of that competition or the degree to which it is likely to grow, and it asserts that New York Telephone, despite the unique availability to it of relevant data, made no effort to show the extent to which it has lost market share to competitors or expects to lose market share.

AT&T goes on to argue that New York Telephone's witness failed to perform an individual risk assessment for any of the companies on his comparison list and made no effort to show how they were comparable to New York Telephone. It notes that other jurisdictions have rejected proposals to use groups of industrial companies as a proxy for a DCF analysis of a telephone company's equity costs and asserts that its own witness showed that excluding non-comparable companies from Dr. Vander Weide's group reduced his calculated cost of equity from 14.8% to 13.1% or 13.2%. It observes as well that the proxy statement for the proposed NYNEX/Bell Atlantic merger incorporates a financial analysis that uses, for comparison, a group of other telephone companies. Moreover, that financial analysis refers to a Merrill Lynch DCF analysis that used different discount rates for each line of business and suggested applying a lower rate of

¹ AT&T's Initial Brief, p. 91.

return to the "telco business" than to either the prospective long-distance business or the existing wireless business of the two merging companies. MFS points out that New York Telephone could have analyzed telecommunications firms, more nearly comparable to New York Telephone.

AT&T criticizes as well Dr. Vander Weide's use of a constant-growth DCF model. It notes its own witness' observation that inasmuch as the assumed growth rate exceeds the average for the United States economy, limitless continued growth at that rate would result mathematically in the company ultimately consuming the entire economy, and it cites the Massachusetts DPU's rejection of the constant-growth analysis.

Finally, AT&T criticizes Dr. Vander Weide's reliance on the average capital structure of the S&P Industrials, asserting he provided no explanation of why that capital structure is the one that New York Telephone's financial managers would attempt to achieve on a going-forward basis. It contends that the debt equity ratio of 24%/76% is neither cost-minimizing nor efficient and that a less risky company--such as a supplier of unbundled network elements--could be expected to have more debt in its capital structure, (and a correspondingly reduced overall cost of capital) than would the S&P Industrials, which face greater risks.

New York Telephone responds that AT&T misreads the FCC's requirements, contending that the First Report and Order as a whole contemplates a forward-looking cost of capital consistent with other forward-looking aspects of the TELRIC analysis and foreseeing a dynamic competitive market. Paragraph 702, which AT&T relies on as establishing a presumption in favor of the authorized rate of return, recognizes that the 1996 Act precludes conducting a rate of return or "other rate-based" proceeding and refers to the authorized rate of return only as a starting point. New York Telephone argues as well that the authorized intrastate rate of return may differ from the FCC's rate of return; that the FCC's currently authorized 11.25% rate of return was prescribed in a 1990 order reflecting a traditional rate of return method;

that New York Telephone's current regulatory scheme in New York does not have an authorized rate of return for intrastate purposes and that the last such determination in New York also was made as long ago as 1990; that AT&T has not explained why its proposed 9.77% rate of return is preferable to the FCC's 11.25% authorized figure; and that an authorized rate of return is founded upon the carrier's books of account, while the TELRIC regulations prohibit consideration of the embedded costs recorded in the LEC's books of account.

New York Telephone goes on to assert that Dr. Vander Weide recognized that New York Telephone is not now facing competition comparable to that faced by the S&P Industrials but that he emphasized that investors are primarily interested in expected future competition. It asserts as well that Dr. Vander Weide did distinguish the risk factors faced by the various NYNEX ventures but believed that the presumption of monopoly power with respect to network elements was tantamount to assuming that the 1996 Act and regulatory efforts to encourage competition would fail. The premise conflicts as well, it says, with statements by AT&T and MCI concerning their own expectations with regard to local competition. It cites annual reports to shareholders showing that AT&T and MCI intend to compete vigorously in the local market as well as statements by executives of both firms concerning their expectations as to competition. It notes that the Massachusetts DPU recognized the increasing degree of business risk that NYNEX would confront as a result of competition. New York Telephone insists that only its study consistently follows the FCC's guidance, by adopting a forward-looking cost of capital.

New York Telephone adds that the statements in the merger proxy statement do not undermine its position. It cites the Massachusetts DPU's dismissal of AT&T's reference to the proxy statement and asserts that the investment analysts' reference to other communications holding companies as the basis for assessing the effects of the Bell Atlantic/NYNEX merger is not relevant to the question here, namely the risk that will be

faced in the future by New York Telephone in the provision of telephone service. Nor would New York Telephone assign any weight to the Merrill Lynch discount rate analysis cited by AT&T, noting that AT&T has not explained how Merrill Lynch conducted its analysis but that the analysis clearly does not follow the TELRIC method. And while AT&T characterized Merrill Lynch's statements as statements of fact, New York Telephone points out, Merrill Lynch stated that it had not independently verified information provided to it and offered various cautions regarding use of the analysis.

In response to AT&T's argument that unlimited continuation of above average growth would result in the firm ultimately consuming the entire U.S. economy, New York Telephone cites AT&T's witness' admission that the growth rates used by both parties witnesses in their analyses were estimated growth rates in earnings per share, not in total dollars, and that the repurchase by companies of their own shares reduces growth in total dollar earnings.

Finally, with regard to capital structure, New York Telephone offers similar arguments that AT&T is using a traditional monopoly rate of return analysis rather than a forward-looking analysis that contemplates competition.

3. AT&T's Presentation

Through its witness Hubbard, AT&T proposed a weighted average cost of capital of 9.8%, reflecting an equity cost of 11.5%, (based on a DCF analysis suggesting 11.0% and a capital asset pricing model (CAPM) analysis suggesting 11.9%), a debt cost of 7.7%, and a capital structure of approximately 45% debt/55% equity, based on the average of the market value and book value of equity. The recommendation was premised on the view that the provision of unbundled network elements is a line of business in which New York Telephone faces less business risk than it does in its corporate operations as a whole. In his DCF analysis, therefore, Professor Hubbard used, as the comparison group of companies, a group of other telephone companies,

including all of the regional Bell operating companies (RBOCs); and he contended that the market was not perceiving telephone companies, even after adoption of the 1996 Act, as subject to the same business risk as the average industrial company.

With respect to capital structure, AT&T's witness incorporated the book value of equity rather than exclusively its market value, noting, among other things, that the large stock price increases in 1995 had increased market values unexpectedly, thereby raising the equity component of a market-value-based capital structure and increasing the overall cost of capital. New York Telephone argues, however, that these market considerations changed after 1995 and that, in any event, a forward-looking approach requires using market values rather than book values reflecting historical costs. It notes that the Massachusetts DPU had rejected Dr. Hubbard's capital structure analysis on those grounds.

In his DCF analysis, AT&T's witness employed a three-stage growth model, on the premise that it was unrealistic to assume a constant growth rate in perpetuity. For the first five years, Dr. Hubbard used analysts' forecasts of growth; for the ensuing 15 years he assumed that the growth rate declined from the level of the first five years toward that of the economy as a whole; and from the 20th year forward he assumed that the growth rate equalled the growth rate of the economy as a whole. New York Telephone's witness agreed that a company could not be assumed to grow at a rate greater than the GNP forever; but he considered that irrelevant to a DCF analysis inasmuch as dividends beyond the 20- to 25-year point have practically no effect on a company's stock price. New York Telephone acknowledges that the Massachusetts DPU was persuaded by Dr. Hubbard's arguments in favor of the three-growth model, but it contends that in the Massachusetts proceeding, Dr. Vander Weide's response (including the observation that many companies have experienced growth in excess of the GNP for 20 or 25 years

or more¹) had not been set forth on the record. It contends as well that this Commission, though occasionally adopting a two-growth DCF model, had never adopted a three-stage model. AT&T responds that it was not the lack of evidence that led the Massachusetts DPU to reach its conclusion. It adds that, if New York precedent it to be brought into the picture, there is also no precedent for use of the proxy group of comparison companies proposed by New York Telephone. It notes as well that while the Massachusetts DPU accepted all other aspects of New York Telephone's presentation, its use of the three-growth DCF alone reduced the cost of equity from Dr. Vander Weide's recommended 14.8% to 11.38%.²

Finally, AT&T contends that its sensitivity analysis shows substituting its cost of capital for New York Telephone's reduces the monthly loop cost under New York Telephone's study by \$1.74.³ MFS calculates the comparable reduction as \$2.38.⁴ New York Telephone contends AT&T's sensitivity analysis is methodologically flawed in ways that overstate the effect of reducing the cost of capital.

4. Discussion

New York Telephone greatly strains the FCC's forward-looking concept in taking it as warrant for regarding NYNEX as comparable, for cost of capital purposes, to certain industrial firms operating in different, if fully competitive markets. One can recognize the consequences of competition in telecommunications without concluding that NYNEX will operate in the same environment and face the same risks as the S&P Industrials.

¹ Tr. 3,854.

² AT&T's Reply Brief, p. 50, n. 15.

³ AT&T's Initial Brief, p. 106.

⁴ MFS' Initial Brief, p. 50.

AT&T's proxy group, meanwhile, uses a group of telecommunications firms whose capital costs reflect the lower risks associated with regulation, along with the market's recognition of the onset of competition in areas traditionally seen as monopolies. The resulting figures provide a reasonable starting point for estimating NYNEX's own capital costs, since it, too, is a firm whose traditional monopoly lines of business are being opened to competition. But this starting point must be adjusted to reflect a change in NYNEX's risk profile. Accordingly, we will use AT&T's proxy group to calculate the DCF-based cost of equity (which already reflects the market's judgments regarding the effects of competition on the proxy group companies). The historical debt/equity ratio, however, will be modified, from 45%/55% to 40%/60%, in order to bring it, and the resulting overall cost of capital, within the range of those that might characterize a communications firm such as NYNEX operating in the competitive environment we are endeavoring to promote.

With respect to the growth element of the DCF analysis, we have traditionally used, in rate cases, a single-growth model (or, on occasion, a two-growth model), and AT&T has shown no need to depart from that practice here. To be sure, a firm maintaining an above-average growth rate in perpetuity would, as an arithmetic truism, eventually consume the entire economy; but that absurd theoretical result has not precluded use of an above-average single growth rate in the past¹ and need not be of any greater practical concern here. Among other things, New York Telephone properly notes that stock repurchases reduce growth in total dollar earnings, and its witness Vander Weide pointed out that dividends more than 20 to 25 years out have little effect on a firm's stock price and that use of a single-stage, above

¹ E.g., Case 90-G-0734, National Fuel Gas Distribution Corporation - Rates, Opinion No. 91-16 (issued July 19, 1991) (growth factor of 6.1%; Gross Domestic Product growth of 2.8%).

average growth factor requires assuming only that above-average growth can be sustained for 20 or 25 years.¹

Accordingly, we will use a DCF-based cost of equity, measured with reference to AT&T's proposed proxy group, of 12.1%. We reach this figure by combining a single growth rate of 8.3% (based on IBES growth rates as of January 16, 1997) with a dividend yield of 3.8% (measured as of February 21, 1997) and excluding, as unnecessary and contrary to precedent, New York Telephone's proposed upward adjustments for quarterly dividend payments and flotation costs.² The estimated cost of debt is 7.3%, representing the average (as of December 31, 1996) of Moody's composite rate for Aa rated debt and S&P's composite rate for A rated debt. The resulting overall cost of capital, reflecting a debt/equity ration of 40%/60%, is 12.1%, as determined in the table that follows; that figure is within the range suggested by the record as a whole, and we adopt it as an input for new runs of both the Hatfield model and the New York Telephone study.

	<u>%</u>	<u>Cost Rate</u>	<u>Return</u>
Debt	40%	7.3%	2.9%
Equity	<u>60%</u>	12.1%	<u>7.3%</u>
Total	<u>100%</u>		<u>10.2%</u>

Tr. 3,747-3,748.

² With respect to quarterly dividends, see, e.g., Case 28947, The Brooklyn Union Gas Company - Rates, Opinion No. 85-15 (issued September 26, 1985), mimeo p. 51 (adjustments such as this are "unnecessarily complex refinements"). More specifically, the effects of quarterly dividend payments need not be recognized inasmuch as investors can reinvest dividends themselves and do not regard the proceeds of doing so as part of their expected return. As for flotation costs, see, e.g., Case 28947, New York Telephone Company - Rates, Opinion No. 85-17 (issued October 11, 1985), mimeo pp. 196-198 (denying flotation costs in the absence of clear evidence of contemplated stock issuance).

Depreciation Lives

1. Overview

Under long-standing practice, New York Telephone's depreciation lives for purposes of determining allowed depreciation expense in rate cases, like those of other ILECs, are set through the "triennial rescription," a process in which the state regulator and the FCC, with participation by the regulated company, determine the lives to be used. In its present cost study, New York Telephone did not use these prescribed rates; instead, it employed, and defended through its witness Vanston, the depreciation lives it has used for financial reporting purposes since 1995, when an accounting change required it to restate its depreciation accounts to reflect the full effects of generally accepted accounting principles (GAAP).¹ The new depreciation lives are shorter, and the depreciation cost reflected in the study is correspondingly greater. The AT&T and MCI Hatfield models, in contrast, used the currently prescribed depreciation lives.

The arguments with respect to this issue parallel in some ways those on cost of capital. New York Telephone emphasizes the forward-looking orientation of a TELRIC study as described by the FCC, noting, among other things, what it sees as the FCC's rejection of "regulatory depreciation rates" as a basis for the costing of unbundled elements.² It notes as well the FCC's statement that depreciation rates should reflect "the true changes in the economic value of an asset"³ and argues that

¹ The change involved New York Telephone's discontinuation of the use of Financial Accounting Standards Board (FASB) Statement No. 71, "Accounting for Certain Types of Regulation," and movement to FASB No. 101, "Regulated Enterprises--Accounting for the Discontinuance of FASB Statement No. 71."

² First Report and Order, ¶ 632; that paragraph actually describes the FCC's tentative conclusions in its Notice of Proposed Rulemaking.

³ First Report and Order, ¶ 703.

despite recent attempts by the FCC and state regulators to reflect more current data and technological change in the represcription, the process continues "overwhelmingly to rely upon historic data and continues to reflect an assumption that the primary issue in setting depreciation rates is one of timing, with regulators parceling out the recovery, over time, of book capital investment among the regulated company's pool of 'captive' customers."¹ It argues as well that while our cost manuals contemplate the use of prescribed depreciation rates, they recognize that alternatives may be warranted in appropriate circumstances.

AT&T, meanwhile, points again to the FCC's statement that the prescribed depreciation rates are the starting point² and to the cost manuals' presumption that the prescribed rates will be used. Under both documents, it maintains, the LEC has the burden of justifying a departure, and New York Telephone has not met that burden or even acknowledged it.

2. New York Telephone's Study

In arguing against the use of prescribed lives, New York Telephone's witness Vanston asserted, among other things, that they did not attempt to reflect the lives of a new, "reconstructed" network as required by TELRIC; that they were often unrealistically long in order to achieve their regulatory purposes and therefore often resulted in reserve deficiencies; that they placed primary emphasis on past retirement practices, which did not reflect the actual decline in the economic or market value of assets; and that they are premised on the view that the future will be much like the past. He believed that the lives used by New York Telephone were in fact conservative, inasmuch as they are applied to the installed base of New York Telephone's investment rather than a reconstructed network of the

¹ New York Telephone's Initial Brief, p. 117.

² First Report and Order, ¶ 702.

sort mandated by the FCC for TELRIC purposes, and that reflecting the effect of competition on the useful life of New York Telephone's investment would result in even shorter lives.

New York Telephone acknowledges that the FCC rejected the use of GAAP financial data for represetation purposes, but contends that decision has no bearing on the use of GAAP data for TELRIC purposes. It asserts the FCC rejected the use of GAAP data because of its concern that it would suppress earnings and permit LECs to avoid earnings sharing under the FCC's price cap system, a matter not pertinent here. In addition, the FCC was concerned that the market was insufficiently competitive to justify use of GAAP data; but, New York Telephone says, competition has increased since issuance of that FCC order and a TELRIC analysis must take account of future competition and its effect on the value of depreciated assets. New York Telephone adds that the GAAP lives at issue here are subject to review and challenge in this case; cites a recent decision of the California Public Utilities Commission that endorsed the use of Pacific Bell's GAAP depreciation lives for purposes of a TSLRIC cost study and rejected arguments by AT&T and MCI in favor of the prescribed lives; and notes that this Commission and its staff have consistently endorsed the movement by New York Telephone and other telephone corporations to GAAP based accounting.

AT&T vigorously challenged New York Telephone's position on a wide variety of grounds. It maintained, among other things, that Dr. Vanston had not conducted specific analyses of New York Telephone and had simply predicted that current technologies would become obsolete before their physical lives ran out. It cites what it regards as various contradictions or inconsistencies within Dr. Vanston's testimony or between that testimony and other evidence and points to one instance in which the prediction of obsolescence is premised on NYNEX's plans to put in place a broadband network to provide high-capacity data, video, and other enhanced services that go beyond the basic telecommunication services on which the TELRIC network should be premised. Nor does AT&T see any reason to

assign presumptive reliability to the depreciation lives used by New York Telephone for financial reporting purposes. It points to the conservatism of GAAP as a factor tending to shorten useful lives in order to ensure return of investment.

Finally, AT&T performed a sensitivity analysis on New York Telephone's cost study which, it maintains, shows that changing the depreciation lives from those used by New York Telephone to those used in AT&T's Hatfield model reduces the cost of an unbundled loop by \$1.16.

MFS and Sprint offer similar arguments, suggesting that New York Telephone's presentation is designed to take account of technological obsolescence in order to finance upgrading its network; a proper TELRIC study, in contrast, concerns itself only with the lowest-cost provisioning of the element in question. Sprint notes the rejection of Dr. Vanston's presentation by other state commissions. AT&T, in its reply brief, points to the Massachusetts DPU's rejection of New England Telephone's depreciation presentation and its adoption of AT&T's proposal to use prescribed lives; it adds its view that on this issue (in contrast to elsewhere) the record in Massachusetts is very similar to the record here.

In response, New York Telephone defends its presentation at length and in detail. Emphasizing Dr. Vanston's experience in depreciation matters (which it contrasts with AT&T witness Lee's allegedly limited recent experience with depreciation), it denies that Dr. Vanston's analysis is generic and maintains he analyzed each relevant technology in detail and showed why the prescribed lives were too long for TELRIC purposes. It maintains that the lives used in its study are based on New York Telephone's specific construction plans and the competitive situation faced by New York Telephone, matters with which Dr. Vanston is familiar. It disputes in detail AT&T's allegations of inconsistency, contending, among other things, that Dr. Vanston had disavowed any reliance on NYNEX's broadband

plans and had reflected the switching technology that would be most efficient for everything, including voice.¹

New York Telephone also disputes the accuracy of AT&T's sensitivity analysis, contending it ignores the inverse relationship between depreciation and Return, Interest, and Tax (RIT) costs, both of which are affected by economic lives. Ignoring this relationship overstates the differences between the effects of the competing sets of lives. In addition, it contends that AT&T did not simply substitute Hatfield model lives for New York Telephone's; rather, AT&T used, without explanation, a uniform 20-year life for most outside plant assets.

3. Hatfield Studies

AT&T presented its views on depreciation through its witness Lee, who, in support of reliance on the prescribed rates, described what he considered to be the ways in which the FCC had employed increasingly forward-looking analyses in determining depreciable lives for telephone companies. As a result of these changes, he noted, depreciation reserve levels had risen and the FCC projection lives averaged to a 7.9% depreciation rate composite in contrast to New York Telephone's average retirement rate of only 4.2%.²

New York Telephone attacked Mr. Lee's presentation, contending that he evaluated the Hatfield model's depreciation rates without addressing himself to New York Telephone's network plans and without even being aware that the depreciation rates used in the Hatfield model were not those for New York Telephone but rather those that had been prescribed for Bell Atlantic's Maryland subsidiary. It contends that Mr. Lee ignored the difference between prescribed lives and economic lives, a difference still recognized by the FCC in the First Report and

¹ New York Telephone's Reply Brief, p. 63, citing Tr. 3,969.

² AT&T's Initial Brief, p. 115.

Order even though prescribed lives were becoming more forward-looking.

New York Telephone's brief offers a list of alleged flaws in Mr. Lee's testimony. It notes, among other things, that Mr. Lee had on various occasions taken issue with the resubscription process results; that net salvage values had been omitted from the Hatfield depreciation calculations; that, in the face of increased competition, the depreciation practices of firms like MCI and AT&T, not subject to the resubscription process, become increasingly relevant to New York Telephone; and that the FCC's recent simplification of the resubscription process, contrary to Mr. Lee's suggestion, merely modified procedures but did not adjust the method to reflect such factors as technological or competitive change. It goes on to cite various aspects of the FCC's order in that proceeding that refer to historical booked data.

New York Telephone also denies that the recent rise in depreciation reserve levels suggests the propriety of using prescribed lives, contending that reserve deficiencies remain and confirm that the resubscription process is not keeping pace with technological and competitive change. It also disputes AT&T's reliance on the fact that New York Telephone's composite depreciation rate is higher than its average retirement rate, denying there is a linear relationship between the two rates.

In response, AT&T cites Mr. Lee's testimony that the FCC has been prescribing forward-looking depreciation lives for over a decade and that the Hatfield depreciation lives, notwithstanding their origin in Maryland, are comparable to the latest lives prescribed by the FCC for New York Telephone in major categories and shorter than the latest New York PSC lives in a number of cases. It characterizes New York Telephone's arguments as "disingenuous at best, and intentionally misleading at worst."¹

¹ AT&T's Reply Brief, p. 84.

4. Discussion

Notwithstanding the differing emphasis placed on the documents by AT&T and New York Telephone, the import of both the First Report and Order and the cost manuals is clear: prescribed rates may not be the last word on depreciation, but they are very much the first word, and it is up to the LEC to demonstrate the propriety of departing from them. One substantive consideration in that regard is whether the prescribed rates are sufficiently forward-looking to satisfy the requirements of a proper incremental study. The Hatfield proponents maintain they are; New York Telephone maintains they are not; and the long and detailed argumentation in the briefs is devoted to various aspects of that fundamental question. A subordinate question is whether, if the prescribed rates are found unsuitable for present purposes, New York Telephone's GAAP-based rates are a proper substitute, but that question need not be reached if the prescribed rates are found suitable.

As noted, AT&T offered evidence that recent FCC represcriptions have been more forward-looking. And while New York Telephone takes issue with that premise, noting the continued reliance of the represcription on historical information, it appears that the process has become sufficiently forward-looking to be relied on here. In a document that formed part of the basis for the most recent represcription,¹ our Communications Division, which participated in the represcription process, noted approvingly that the NYNEX study at issue there had taken account of "potentially significant near term changes in outside plant technology," such as the replacement of copper with fiber. Among the staff recommendations was a reduction in service life for copper cable that, though not justified by past account activity, was warranted by the potential for substantial competition in the local exchange business. We find ample basis

¹ New York State Department of Public Service, Communications Division - Valuation and Cost Analysis Section, "1995 Depreciation Study for New York Telephone" (April 1995).

for crediting AT&T's argument that the represcription process has become more forward-looking.

New York Telephone, as noted, emphasizes the continued reliance of represcribed rates on historical data. But, as explained below (in a context where the shoe is on the other foot and New York Telephone is seeking to avoid the charge that its use of historical data implies that its study is improperly examining embedded costs), a forward-looking study need not avoid all reliance on historical data. There is simply no basis for concluding that the most recent represcribed depreciation lives are improper for use in a TELRIC study. Indeed, New York Telephone continues to use the prescribed lives on its regulated books of account and has not shortened them, as it would be free to do.

Given the (rebuttable) presumption, under both the First Report and Order and the cost manuals, in favor of the prescribed rates, a decision that those rates are acceptable obviates detailed evaluation of New York Telephone's proposal. It is worth noting, however, that New York Telephone has not shown why GAAP-based rates are proper, nor has it fully come to grips with the concern that adoption of its GAAP-based depreciation rates would unduly inflate the cost of network elements, in effect requiring its competitors to subsidize its own competitive ventures.

Finally, New York Telephone is correct that the depreciation rates for Bell Atlantic's Maryland subsidiary should not be used here. The rates should be those most recently prescribed for New York Telephone itself.

Demand Increment, System Size, and Fill Factor

The TELRIC network requires assumptions about the total demand to be served; but because a reasonably designed network must provide a degree of spare capacity, it also requires assumptions about the "utilization factor" or "fill factor"; that is, the proportion of a facility that will actually be used. AT&T points out, correctly, that the FCC has recognized the link

between total demand and fill factors: "per unit costs shall be derived from total costs using reasonably accurate 'fill factors' (estimates of a proportion of a facility that will be 'filled' with network usage); that is, the per unit costs associated with a particular element must be derived by dividing the total cost associated with the element by a reasonable projection of the actual total usage of the element."¹ Notwithstanding that connection between the concepts, they can for the most part be considered separately for analysis purposes; the principal overlap, discussed below, is AT&T's concern that New York Telephone in effect double counted the need for spare capacity by first projecting a greater capacity than required to serve existing demand and then applying fill factors, thereby "adding excess capacity on top of excess capacity."²

1. New York Telephone's Approach

a. General Considerations

Noting that the Toll and Access Manual provided for an incremental cost study to be based on the total current quantity of the element or service being studied, New York Telephone's study considered the current level of demand (measured as of December 31, 1995) and made no "speculative attempt" to project the demand at some future time.³ In determining the network plant needed to serve that demand, however, New York Telephone considered what it regarded as reasonable utilization levels. It explains that in assigning utilization levels, it did not use "objective fills" (*i.e.*, the criterion that triggers replacement or augmentation of existing facilities), inasmuch as delaying replacement or augmentation beyond that point would create an unacceptable risk of service outages and that maintaining network

¹ First Report and Order, ¶ 682, cited at AT&T's Initial Brief, p. 56.

² AT&T's Initial Brief, p. 56.

³ New York Telephone's Initial Brief, p. 23.

components at the objective fill level would entail a virtually continuous process of replacement and augmentation, thereby increasing costs.² But neither, New York Telephone continues, did it use current actual fill factors uncritically, inasmuch as the forward-looking network assumes 100% deployment of technologies that are not universally used in the existing network and that may have different fill factors. Accordingly, New York Telephone explains, it has

in general taken an engineering approach, in which engineering judgment is used to determine initial placement and augmentation approaches for various types of facilities, and these intervals (together with considerations relating to allowances for facilities dedicated to testing, the size of the facilities increments that are available, etc.) are in turn used to determine the fill levels that are likely over the "life cycle" between successive augmentations. The fill chosen represents an intermediate level between the level that would be experienced immediately after augmentation and the much higher level that would be experienced

² Ibid., p. 37. Pertinent terminology related to fill factors is described as follows in a March 8, 1995 staff memorandum to the Commission concerning the Loop Cost Manual, quoted there in fn. 50:

Physical fill refers to the actual number of pairs in a cable (e.g., 300 pair) and assumes that every pair is available for use. Objective fill refers to the usable capacity, which is usually the engineering design limit. In most cases cables are engineered to exhaust at an established percentage of their physical fill (e.g., 85%) with the remaining pairs unavailable for subscriber use (i.e., found defective, or needed for testing, signaling or maintenance purposes). Average fill is related to the actual average unused capacity. It is calculated by averaging the spare capacity on the date the plant was initially placed in service and the spare capacity at objective fill level. This average is allocated to the units in use, or in the case of cable, [the] working pair.

immediately before the following augmentation.¹

New York Telephone believes this average fill factor is consistent with the FCC's guideline that calculations of per-unit costs be based on "reasonable projection[s] of the actual total usage of the elements."² Finally, New York Telephone explains that different fill factors are assigned to different network elements and sub-elements because engineering considerations will differ depending on the facility. It asserts, for example, that distribution fill tends to be low because it is more cost-effective to install enough distribution cable in a new building or residential development to serve every potential resident even if the area is not yet fully populated;³ on the other hand, switches tend to have high fill factors because of a different augmentation approach.

AT&T criticized New York Telephone's approach on a variety of grounds. It asserts, for example, that while New York Telephone cited the toll manual as support for using the current quantity of the element being studied, the loop manual in fact requires that an incremental cost study begin with the projection of reasonably anticipated demand for the period during which the rates under consideration will be in effect. And, it continues, while New York Telephone's study used the existing demand as of December 31, 1995, in requesting the engineering inputs used in the study, New York Telephone had directed its engineers to base their submissions on "the quantities of actual loop facilities needed to serve total anticipated loop demand."⁴ AT&T accordingly asserts that New York Telephone in fact based its study on some unstated assumption with regard to demand that

¹ New York Telephone's Initial Brief, pp. 38-39.

² First Report and Order, ¶ 682.

³ This is referred to as the "serving area" approach.

⁴ Tr. 3,137 (New York Telephone witness Gansert), quoted at AT&T's Initial Brief, p. 62 and AT&T's Reply Brief, p. 61.

differs from the actual demand as of year end 1995 and that the study accordingly is seriously flawed.

Not only is it impossible, according to AT&T, to relate the size of New York Telephone's TELRIC network quantitatively to any measure of anticipated demand; in addition, the engineering estimates used in sizing the system appear to incorporate greater capacity than required to serve existing demand. New York Telephone's engineering witness Gansert testified, AT&T notes, that in developing their estimates, New York Telephone's field engineers were instructed to incorporate capacity sufficient "to accommodate current base demand plus anticipated growth in the normal planning cycle."¹ These engineering judgments, accordingly, incorporated spare capacity; and the application of fill factors, AT&T suggests, thereby double counts the spare capacity needed by the system.

As for the fill factors themselves, AT&T suggests they are unsupported by anything other than Mr. Gansert's opinion as to their reasonableness. And when Mr. Gansert does explain the fill factors, AT&T continues, he applies "business as usual" engineering assumptions as if to design a slowly evolving network with incremental additions over time; only in such circumstances could fill factors be as low as some of those he supported. A proper TELRIC study, however, assumes a network that is "dropped in place, *i.e.* [,] created from scratch, at the moment in time when the TELRIC costs of the network are being determined."² (AT&T notes in this regard that the "dropped in place" assumption is what caused New York Telephone witness Vanston, in his depreciation study, to contemplate no depreciation reserves in the TELRIC model; "where all the capital assets are brand new, none of them has yet had an opportunity to depreciate."³)

¹ Tr. 3,138 (New York Telephone witness Gansert).

² AT&T's Initial Brief, p. 59.

³ Id.

In sum, AT&T insists that New York Telephone has not sustained its burden of showing that its assumptions regarding demand satisfy the FCC criterion that it be based on a reasonable projection of the actual total usage of the element. Similar criticisms are raised by MFS¹ and Sprint.² MFS suggests fill factors are understated by New York Telephone's use of current, rather than future, higher demand.

In response, New York Telephone seeks to discredit AT&T's concern about double counting. It argues that determining the quantity of network elements needed to satisfy current demand and determining and applying utilization factors are not separate, successive analyses but "merely different sides of the same coin."³ It contends the Massachusetts DPU recognized as much, finding that AT&T had misconstrued the nature of the analysis conducted by New York Telephone.⁴

With regard to its use of average utilization factors, New York Telephone asserts that AT&T's "dropped in place" argument ignores the time dimension and fails to recognize the need to augment a network periodically in a manner that reflects past and future growth. It characterizes AT&T's approach as "think not of the morrow" and denies that point of view could succeed in the real world, where growth is a reality. It notes the Massachusetts DPU's statement that "although [the TELRIC] network may be viewed as 'dropped in place,' it will presumably exist beyond the moment it is dropped in place, and there is no reason to believe that the same set of drivers that exist today when NYNEX plans its own network would not exist in a situation

¹ MFS' Initial Brief, pp. 32-34

² Sprint's Initial Brief, pp. 8-9.

³ New York Telephone's Reply Brief, p. 37.

⁴ Ibid., pp. 37-38, citing the Massachusetts Order, pp. 32-33.