

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of)
) CC Docket No. 94-1
Price Cap Performance Review)
for Local Exchange Carriers)

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NYNEX REPLY COMMENTS

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The NYNEX Telephone Companies

Campbell L. Ayling
1111 Westchester Avenue
White Plains, NY 10604
(914) 644-6306

Their Attorney

Dated: March 1, 1996

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(i)

SUMMARY

The record confirms that the Christensen moving average Total Factor Productivity (“TFP”) methodology should be adopted to compute the baseline for the productivity offset or X-Factors in the LEC price cap plan. It is the only methodology that satisfies the Commission’s criteria of (1) being economically meaningful, (2) ensuring that ongoing gains by LECs in reducing unit costs are passed through to customers, and (3) being reasonably simple and based on accessible and verifiable data.

The opposing parties’ comments are at odds with the Commission’s central purpose in this proceeding which is to determine X-Factors that mirror incentives in competitive markets and appropriately reward LECs for efficiency gains and pro-competitive behavior. The purpose of this proceeding is not, as some parties’ proposals would suggest, to blunt efficiency incentives by imposing rate of return-type regulation like sharing/low-end adjustments, driving rates to economic costs, or adopting X-Factor methodologies tied to earnings regulation. Many of these parties are trying to have it both ways: impose a deficient form of price cap regulation together with backward-looking rate of return regulation. Some commentors recommend X-Factors or adjustments thereto that are arbitrarily high and would penalize LECs. For example, such X-Factors as suggested by AT&T (8.8%), MCI (9.9%) and ICA (10.6% - 26.5%) -- further contaminated with onerous sharing obligations -- defy credibility and must be disregarded.

The Commission should stay the wise course it has already charted, *i.e.* a progressive and balanced LEC price cap plan that will smoothly transition to an environment of widespread competition and streamlined regulation or deregulation. In this regard, the record supports NYNEX’s pro-competitive and adaptive regulatory framework, which will enable

(ii)

the FCC to meet its policy goals by tying the availability of lower X-Factors to LECs' increasing efforts to foster competition in access and local exchange markets.

In Section II below, NYNEX shows that various parties' objections or adjustments to the Christensen moving average TFP methodology are misplaced or incorrect. That methodology directly measures LEC productivity in a simple manner, and relies on public and verifiable data. Further, the input price differential should be zero, no consumer productivity dividend should be applied, and only an interstate fixed factor adjustment having a sound economic basis should be added to the total company TFP result.

In Section III, we rebut parties' alternative methodologies for calculating the X-Factor. Such methodologies do not meet the Commission's X-Factor criteria, and are improperly tied to earnings-based regulation.

In Section IV, NYNEX demonstrates that the opposing parties have failed to justify the imposition of sharing and other elements of rate of return regulation in the price cap plan. Those parties' proposals would seriously thwart the efficiency incentives at the heart of that plan.

In Section V, we show that, notwithstanding other comments, the Commission should adopt NYNEX's multiple X-Factor proposal, which is adapted to marketplace changes and the development of competition. Our proposal has a sound basis in policy and economics.

In addition, we refute arguments for a per-line common line formula (Section VI) and for further limitations on allowable exogenous costs (Section VII).

Finally, if the Commission is not able to satisfactorily resolve the issues in this proceeding to issue an Order in reasonable time for effect in the 1996 Annual Access Tariff Filing, then the interim price cap plan should be maintained for at least that tariff year.

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NYNEX REPLY COMMENTS

The NYNEX Telephone Companies ("NYNEX")¹ file these Reply Comments to parties' comments submitted in response to the Commission's Fourth Further Notice of Proposed Rulemaking ("X-Factor NPRM") released September 27, 1995, in the above-captioned matter.

I. INTRODUCTION AND OVERVIEW

The record confirms that the Christensen moving average Total Factor Productivity ("TFP") methodology should be adopted to compute the baseline for the productivity offset or X-Factors in the LEC price cap plan. It is the only methodology that satisfies the Commission's criteria of (1) being economically meaningful, (2) ensuring that ongoing gains by LECs in reducing unit costs are passed through to customers, and (3) being reasonably simple and based on accessible and verifiable data.

The opposing parties' comments are at odds with the Commission's central purpose in this proceeding which is to determine X-Factors that mirror incentives in competitive markets and appropriately reward LECs for efficiency gains and pro-competitive behavior.

¹ The NYNEX Telephone Companies are New England Telephone and Telegraph Company and New York Telephone Company.

The purpose of this proceeding is not, as some parties' proposals would suggest, to blunt efficiency incentives by imposing rate of return-type regulation like sharing/low-end adjustments, driving rates to economic costs, or adopting X-Factor methodologies tied to earnings regulation. Many of these parties are trying to have it both ways: impose a deficient form of price cap regulation together with backward-looking rate of return regulation. Some commentators recommend X-Factors or adjustments thereto that are arbitrarily high and would penalize LECs. For example, such X-Factors as suggested by AT&T (8.8%), MCI (9.9%) and ICA (10.6% - 26.5%) -- further contaminated with onerous sharing obligations -- defy credibility and must be disregarded.

The Commission should stay the wise course it has already charted, i.e. a progressive and balanced LEC price cap plan that will smoothly transition to an environment of widespread competition and streamlined regulation or deregulation. In this regard, the record supports NYNEX's pro-competitive and adaptive regulatory framework, which will enable the FCC to meet its policy goals by tying the availability of lower X-Factors to LECs' increasing efforts to foster competition in access and local exchange markets.

In Section II below, NYNEX shows that various parties' objections or adjustments to the Christensen moving average TFP methodology are misplaced or incorrect. That methodology directly measures LEC productivity in a simple manner, and relies on public and verifiable data. Further, the input price differential should be zero, no consumer productivity dividend should be applied, and only an interstate fixed factor adjustment having a sound economic basis should be added to the total company TFP result.

In Section III, we rebut parties' alternative methodologies for calculating the X-Factor. Such methodologies do not meet the Commission's X-Factor criteria, and are improperly tied to earnings-based regulation.

In Section IV, NYNEX demonstrates that the opposing parties have failed to justify the imposition of sharing and other elements of rate of return regulation in the price cap plan. Those parties' proposals would seriously thwart the efficiency incentives at the heart of that plan.

In Section V, we show that, notwithstanding other comments, the Commission should adopt NYNEX's multiple X-Factor proposal, which is adapted to marketplace changes and the development of competition. Our proposal has a sound basis in policy and economics.

In addition, we refute arguments for a per-line common line formula (Section VI) and for further limitations on allowable exogenous costs (Section VII).

Finally, if the Commission is not able to satisfactorily resolve the issues in this proceeding to issue an Order in reasonable time for effect in the 1996 Annual Access Tariff Filing, then the interim price cap plan should be maintained for at least that tariff year.

II. VARIOUS PARTIES' OBJECTIONS OR ADJUSTMENTS TO THE CHRISTENSEN MOVING AVERAGE TFP METHODOLOGY ARE WITHOUT MERIT

A. Accessibility And Verifiability Of Data, And Simplicity

AT&T criticizes the Christensen TFP methodology, previously submitted by USTA in an earlier phase of this proceeding, as relying on nonpublic and nonverifiable data.² ICA adds that the methodology is complicated and controversial.³

² AT&T 9-10. See also Ad Hoc 4, MCI 10.

³ See also American Petroleum Institute ("API"), Cincinnati Bell Telephone ("CBT"), ICA 2, 5.

These parties' arguments are baseless. These parties' criticisms of the Christensen method are directed to the 1993 update methodology submitted in earlier phases of the proceeding. As discussed herein, in the present proceeding Christensen and Associates have updated, revised and simplified their LEC TFP study in a way that meets the concerns previously expressed by the Commission and other parties.⁴ That study meets Commission objectives by being soundly based on economic theory, i.e. directly measuring LEC productivity by taking all inputs (labor, capital, materials) and all outputs (lines, minutes, etc.) into account; employing calculations that are reasonably simple; and using public and verifiable data.⁵

Christensen Associates have prepared a detailed response to commentors' critiques of the Christensen TFP study regarding the use of public and verifiable data. This rebuttal is annexed as Attachment A.⁶ In this rebuttal, Dr. Christensen shows that the simplified model, as documented in the Total Factor Productivity Review Plan ("TFPRP"), is based solely on publicly verifiable data and relies on simplification of some computations. As such, it can be updated and verified in a straightforward manner. With these modifications, the TFPRP addresses all substantive concerns previously raised by the Commission.

A number of changes have been made in the simplified TFP study to employ public data sources. Specifically, in the simplified study, the output measurements are now derived through the use of booked revenues as reported in the Form M (ARMIS 43-02), as opposed to the use of billed revenues. For capital, the simplified method uses the U.S.

⁴ NYNEX 13-14, 17-18.

⁵ See X-Factor NPRM at ¶¶ 16-17. Contrary to ICA's statement (at pp. 6-7), the TFP method has also been used by the U.S. Bureau of Labor Statistics in its various multi-factor productivity studies.

⁶ Christensen, Schoech, and Meitzen, Total Factor Productivity Methods for Local Exchange Carrier Price Cap Plans: Reply Comments, CC Docket No. 94-1, March 1, 1996.

economy cost of capital implicit in the U.S. National Income and Product Accounts as opposed to the Moody's average yield on public utility bonds. The simplified model also uses the investment price indexes published by the U.S. Bureau of Economic Analysis instead of Telephone Plant Indices ("TPIs"). The simplified method also employs 1988 book values for gross plant, as reported in the Form M, for the derivation of capital benchmarks, instead of the 1984 current cost of gross plant. These modifications, thoroughly detailed and documented in the Appendix A of the NYNEX Comments and the TFPRP in this proceeding,⁷ make moot all criticisms regarding the use of non-public, non-verifiable data. The Commission should therefore affirm its tentative conclusion to use the Christensen moving average TFP method in the LEC price cap plan.⁸

B. Input Price Differential

AT&T and Ad Hoc claim that another flaw of the Christensen TFP method is the absence of an input price differential ("IPD"), *i.e.*, an adjustment to reflect any difference between LEC input prices and the national economy. AT&T asserts that both Christensen and National Economic Research Associates ("NERA") used "specious statistical logic" to determine a zero IPD.

These parties are incorrect. Christensen and NERA properly demonstrated that the long term differential between LEC input prices and input prices for the economy as a whole is zero; and, given its volatility, there is no statistical basis for using an observed short run differential as a projection of expected future trends.⁹ To similar effect, the FCC

⁷ Christensen, Schoech, and Meitzen, *Total Factor Productivity Methods for Local Exchange Carrier Price Cap Plan*, December 18, 1995, pp. 3-4, 10, 15-19.

⁸ See LEC Price Cap Review Order, CC Docket No. 94-1, First Report and Order released April 7, 1995, ¶¶ 11, 145, 157.

⁹ See NYNEX 21-22.

in its LEC Price Cap Review Order (at ¶ 161) observed that a proposed average IPD for 1984-92 was not justified as a reliable predictor of future price differentials.¹⁰ In fact, as explained in the attached Christensen Rebuttal (p. 21), short term fluctuations in one direction are likely to be followed by short term fluctuations in the other direction. This point is also supported by the findings of the California PUC in a recent proceeding addressing testimony of both Dr. Christensen and Dr. Selwyn. The California Commission determined:

Finally, although we find the arguments of Dr. Selwyn on “input price differentials” theoretically interesting, we conclude that there is no basis for concluding that an empirical input price differential will exist in the next three years, or that it exists today.

Indeed, the record contains substantial evidence that the input price differential between the telecommunications industry and the U.S. economy is zero. ... Based on this record, there is no basis to conclude that the input price differential is different from zero. This result arises because the average of a highly volatile short-term input price differential provides a poor basis to predict future input price behavior.¹¹

In Attachment B, NERA again confirms that the long term IPD is zero, and that there was no permanent change in the trend at divestiture.¹² Given such record evidence, the Commission should not include an IPD in the long term LEC price cap plan.

¹⁰ See also X-Factor NPRM at ¶ 103 (“The input price differential appears to be more volatile over time than the TFP differential.”)

¹¹ Public Utilities Commission of the State of California, Investigation Number 95-05-047, Interim Opinion, Decision 95-12-052, December 20, 1995, pp. 67-68.

¹² Attachment B, National Economic Research Associates (NERA), Taylor, Tardiff, and Zarkadas, Economic Evaluation of Selected Issues from the Fourth Further Notice of Proposed Rulemaking in the LEC Price Cap Performance Review Reply Comments, March 1, 1996, pp. 14-20.

C. Total Company TFP Result

AT&T criticizes the Christensen TFP methodology for determining LEC productivity on a total company rather than interstate basis.¹³ According to AT&T, which relies upon a Statement prepared by Dr. Norsworthy, changes in interstate productivity can be reliably separated from total company productivity changes, so that the total company TFP result is understated by at least 1.93%.¹⁴

AT&T's contentions are mistaken and miss a critical distinction between the calculation of an interstate TFP, which would not be meaningful, and a total company TFP adjusted for interstate differences, which could be based upon sound economics. The Commission has previously considered and rejected a proposal to calculate TFP on an interstate basis, finding that:

No party has argued that the production functions (the technological relationship between inputs and outputs) significantly differ for intrastate and interstate services in ways that can be readily measured or separated. We therefore tentatively conclude that TFP should be calculated on a total-company, rather than interstate basis.¹⁵

Furthermore, as shown by NERA, the calculation of TFP on anything less than a total company basis is not economically meaningful, and jurisdictional separations (Part 36) does not provide an economic basis for jurisdictional productivity analysis. TFP simply cannot be calculated on an interstate basis.

In Attachment A, Dr. Christensen shows that AT&T (Dr. Norsworthy) incorrectly claims that one can measure TFP for interstate access services. In attempting to do so, Dr.

¹³ See also Ad Hoc, API, MCI, Telecommunications Resellers Association ("TRA").

¹⁴ See also Ad Hoc (attaching a Report by Economics and Technology, Inc. ["ETI"] which purports to find an X-Factor of 9.9% for the LECs' interstate services, and 7.1% for the LECs' interstate and intrastate combined operations).

¹⁵ LEC Price Cap Review Order at ¶ 159. See also X-Factor NPRM at ¶ 63; NYNEX 18-20.

Norsworthy erroneously assumes that inputs grow at the same rates for interstate access and other regulated telephone services provided by the LECs. He further claims that no specific allocation of costs is required by this assumption. Dr. Norsworthy in no way attempts to specifically identify the input costs associated with the interstate jurisdiction. He simply assumes that they are the same as for the intrastate jurisdiction. This assumption, which is not substantiated, is not economically sound and invalidates his theory on interstate TFP. Dr. Norsworthy has offered no solution to computing an economically meaningful measure of interstate input, and indeed there is no solution.¹⁶ Based on the record presented in this proceeding, the Commission should reaffirm its tentative conclusion and adopt a productivity offset based on a total company TFP result as presented by Dr. Christensen.

AT&T and Ad Hoc go on to claim that the FCC has no legal choice but to determine an interstate LEC X-Factor. These parties rely primarily on the landmark case of Smith v. Illinois Bell Tel. Co.¹⁷ It is a spurious contention that Smith compels the Commission to rely only on an interstate TFP. Smith held only that a telephone company's costs must be separated between the interstate and intrastate jurisdictions so that the FCC and state commissions could exercise their regulatory powers within their respective spheres. As Ad Hoc concedes (at p. 6), "Smith obviously does not address the issue of whether carrier TFP rates must be calculated separately for interstate and intrastate services." The initial price cap rates were based upon July 1990 interstate rates established under rate of return regulation, and therefore reflected jurisdictionally separated interstate costs. The FCC's price cap formula for ongoing revisions to interstate rates also properly

¹⁶ Attachment A, p. 5.

¹⁷ 282 U.S. 133 (1930).

reflects interstate costs in, *e.g.*, exogenous cost adjustments, determination of rates for new services and end user common line, and calculation of interstate rates of return for sharing and low-end adjustments. In the case of TFP X-Factors, similar to the GDP-PI and industry interstate rate of return target, the FCC clearly has a rational, economic basis for employing total company data to determine proxies for supporting regulation of interstate rates.

The Commission indicated that if inclusion of intrastate performance data introduces a systematic downward bias in the TFP, such as by diluting higher interstate access demand and output growth, “we believe it preferable to address such a problem directly, rather than attempting to construct an interstate factor based on regulatory accounting and other regulatory requirements that may not fully reflect economic costs.”¹⁸ That is, TFP must be calculated on a total company basis. However, the question remains whether the use of total company TFP for developing a productivity offset leads to interstate rates that are just and reasonable. In this regard, NYNEX remains willing to consider such an interstate adjustment to the total company TFP result to properly reflect interstate differences, if such an adjustment is based on sound economic rationale.¹⁹ NYNEX foresees that such an adjustment would be based primarily on differences in demand growth between the interstate and state jurisdictions, and different margins or markups between the two jurisdictions.

D. Other Alleged Errors

AT&T alleges that the prior Christensen TFP study also contains errors relating to supposed wrong assumptions on long term cost of capital, depreciation based on an

¹⁸ LEC Price Cap Review Order at ¶ 159; see X-Factor NPRM at ¶ 65. See also Ameritech 7.

¹⁹ See NYNEX 3, 20-21.

outdated study, and misallocated capital inputs to LECs. For its part, MCI asserts that the TFP study should use current FCC-prescribed depreciation rates. MCI attaches a report by MICRA purporting to show that the FCC's current policy for setting depreciation rates has not led to a significant overevaluation of LEC assets, and therefore adequately reflects economic lives of plant. MCI also contends that the TFP study must use the FCC-prescribed 11.25% interstate rate of return as the applicable cost of capital. Ad Hoc/ETI presents criticisms similar to AT&T and MCI, and adds several additional technical items (e.g., labor index adjustments, accounting for hedonic price changes).

These parties' criticisms are without merit. As Dr. Christensen shows in Attachment A, AT&T's criticisms of the capital input calculations are incorrect. First, Dr. Norsworthy incorrectly asserts that the USTA measure of capital is flawed because it fails to distinguish between the costs of debt and equity capital, and overstates the price of capital because it does not address the different tax implications of debt and equity financing. As stated in the original TFP study (p. 8), the tax on capital income is based on the taxes reported in the Form M. Dr. Christensen used the taxes actually paid -- the most appropriate measure for developing an effective tax rate -- in the measure of capital.

Second, Dr. Christensen shows that Dr. Norsworthy is mistaken in stating that the USTA model is based on an unsound assumption that capital inputs are adjusted at all times to cost minimizing levels.²⁰ In fact, Dr. Christensen shows that this assumption is very appropriate given the nature of the telephone industry, and there are no compelling reasons to undertake the difficult and contentious task of econometrically estimating the cost functions for the LECs.

²⁰ Attachment A, pp. 14-15.

Third, Dr. Christensen shows that Dr. Norsworthy provides an incorrect explanation of the depreciation rates used in the TFP study. Those depreciation rates were obtained directly from Jorgensen and represent the most appropriate rates for use in a TFP study.²¹ Furthermore, those depreciation rates create a symmetry or consistency between measured LEC capital input and measured U.S. economy capital input. Finally, as detailed in Attachment A, Dr. Christensen rebuts other allegations made by Dr. Norsworthy and shows that the Christensen methodology provides the most sound way for calculating TFP.

As for MCI's allegations, Dr. Vander Weide shows in Attachment C that the Baseman/Van Gieson study relied upon by MCI is invalid because it fails to distinguish between accounting concepts and economic concepts.²² That study purports to show that the RBOCs' profits have not been distorted by inadequate depreciation reserves. Baseman/Van Gieson inappropriately place primary reliance on FCC-prescribed depreciation rates rather than market-determined depreciation rates. The FCC-prescribed depreciation rates do not reflect economic lives, but rather are largely based on noneconomic policy considerations and results negotiated with state commissions and LECs.

API maintains halfheartedly (at pp. 3-4) that the TFP methodology should expand measures of performance to include telecommunications providers other than LECs. However, this approach should not be adopted since, as API concedes (at pp. 6-8), the FCC may face real obstacles in obtaining the necessary data, and there are valid concerns

²¹ Attachment A, pp. 17-18. See also NYNEX Comments, Appendix A, pp. 12-14.

²² Attachment C, Affidavit of Dr. James H. Vander Weide in Support of Reply Comments of The United States Telephone Association, pp. 15-16.

regarding timely receipt, verifiability and public availability of data, as well as overall complexity of this approach. The Commission should avoid these administrative burdens and continue to focus its TFP review on the LECs. As an alternative to an expanded measure, API urges that the Commission purposely skew its TFP assumptions and calculations towards producing a higher X-Factor.²³ API's alternative clearly would be arbitrary and unfair to LECs, and should be dismissed.

Finally, several parties suggest that since some LECs selected a 5.3% X-Factor under the currently effective interim plan, the Christensen TFP results are understated and the range of available X-Factors needs to be revised upward.²⁴ This is a bogus argument. There is no necessary relation between a LEC's choice from the available X-Factor options in the 1995 annual filing and the level of industry productivity. The fact that the 5.3% option involves no sharing may have induced some LECs to select that option even if they did not consider themselves capable of sustaining that level of productivity over the long term. Further, four of the price cap LECs chose the 4.0% X-Factor for all or some of their tariff entities, representing 33% of the total interstate revenue under price caps. If these LECs were experiencing higher productivity, they would have had reason to elect one of the higher X-Factor options having less or no sharing obligations.

E. Moving Average TFP

AT&T opposes a moving average TFP, asserting that it would delay benefits to consumers and create pernicious incentives for LECs to try to reduce short run productivity.²⁵

²³ API 8.

²⁴ AT&T 25-26; API 3; MCI 21.

²⁵ AT&T 33-34. See also ICA, MCI, TRA.

AT&T's arguments are wrong and the Commission should affirm its tentative conclusion to employ a moving average X-Factor.²⁶ As the Commission has recognized, the moving average reflects changes in LEC unit costs in the recent past.²⁷ Those changes, e.g., LEC reductions in unit costs, are passed through to customers in a timely manner, thereby meeting the FCC's second criterion for an appropriate X-Factor.

At the same time, the moving average X-Factor properly sets a standard for future performance based upon recent actual performance.²⁸ Importantly, since the moving average is based on industry performance as a whole, the performance of any individual LEC will affect the average only minimally.²⁹ It is baseless speculation by AT&T and Ad Hoc to suggest that LECs would purposely lower their productivity to somehow gerrymander the moving average. Instead, LECs will retain a powerful incentive to meet or beat the moving average X-Factor, so that they can enjoy the resulting gains. In sum, the moving average X-Factor maintains strong efficiency incentives and strikes a reasonable balance between flowing LEC efficiency gains to customers and shareholders.

Adoption of a moving average X-Factor would also enable the Commission to reduce administrative burdens in several ways. First, since the moving averages captures recent changes in LEC performance, it obviates any perceived need for a sharing mechanism to flow LEC productivity gains to consumers.³⁰ Second, it will remove the need for most types of exogenous cost adjustments since cost changes borne by LECs will be incorporated into the moving average in a timely manner. Third, an annually updated

²⁶ Price Cap Review Order at ¶ 145; X-Factor NPRM at ¶ 25.

²⁷ X-Factor NPRM at ¶ 97.

²⁸ See X-Factor NPRM at ¶ 97.

²⁹ See X-Factor NPRM at ¶ 98.

³⁰ See LEC Price Cap Review Order at ¶¶ 153, 191.

moving average X-Factor will eliminate the need for price cap performance reviews which are so costly and time-consuming for the Commission and parties.³¹ Accordingly, the Commission should reject as unnecessary and burdensome the proposals by AT&T, GSA and MCI for frequent, major LEC price cap performance reviews.

F. Consumer Productivity Dividend

AT&T and Ad Hoc favor the continuation of a Consumer Productivity Dividend (“CPD”). AT&T asserts that a CPD will account for expected gains in productivity from price cap regulation, and will offer a “stretch factor” for the LECs.³² Ad Hoc believes a CPD will reduce the importance of sharing by reducing the risk of LEC excessive returns.³³

These parties provide no basis for continuation of any CPD in the LEC price cap plan. They ignore the fact that the FCC’s rationale for a CPD (set at 0.5%) was to assure that the initial efficiency gains from replacing rate of return regulation with price cap regulation would flow to customers in the form of lower rates.³⁴ However, since LECs have been under price cap regulation for over five years now (since 1991), the original purpose of a CPD has long since been satisfied.³⁵ Also, AT&T’s notion of a “stretch

³¹ See LEC Price Cap Review Order at ¶¶ 9, 153.

³² AT&T 35.

³³ Ad Hoc 8.

³⁴ See LEC Price Cap Order, 5 FCC Rcd. 6786, ¶ 100 (1990).

³⁵ AT&T argues (at p. 35) that a CPD of 0.5% should be applied as both the AT&T and USTA TFP studies are based in part on data from the period preceding price cap regulation. The USTA TFP methodology, which employs a five-year moving average, relies almost entirely on data from the period under price caps and as a result reflects the productivity improvements for that period. AT&T also bases its arguments in support of a CPD on the theory that the LECs should be able to increase productivity growth in the near future through technological advances and learning effects gained from additional experience with new technologies. (See AT&T at 35.) However, the LECs have introduced new technologies into the network infrastructure throughout the evolution of the network. There is no basis to assume that the most recent technological developments would yield productivity efficiencies over and above those which have been realized in the past.

factor” is arbitrarily one-sided and contrary to the Commission’s criterion that the X-Factor be economically meaningful.

A moving average TFP X-Factor further defeats any argument for a CPD, since the moving average will timely pass LEC efficiency gains to consumers. In any event, Ad Hoc’s concerns about potential excessive returns are misplaced since, as addressed infra, all aspects of rate of return regulation should be removed from the price cap plan.

III. ALTERNATIVE METHODOLOGIES FOR DETERMINING THE X-FACTOR ARE INFERIOR AND SHOULD BE REJECTED

A. AT&T Model

AT&T presents a purported TFP “Performance-Based Model,” described by Dr. Nornworthy, which claims to correct errors in the prior Christensen TFP study. AT&T’s model should be rejected as a thinly disguised version of a Historical Revenue Method that relies heavily on earnings and noneconomic allocations.

In Attachment B, NERA shows that the Performance-Based Model (“PBM”) does not calculate total factor productivity, and is in fact more like a Historical Revenue Model than a TFP study.³⁶ As described infra, the Historical Revenue Model is an inappropriate method for calculating the X-Factor in the long-term plan.³⁷

NERA also shows that the PBM is conceptually flawed, does not result in a meaningful measure of either outputs or inputs, and contains numerous errors.³⁸ For example, NERA shows that the PBM fundamentally errs in its efforts to measure the price

³⁶ Attachment B, p. 4. See also Attachment C, Affidavit of Dr. Vander Weide, p. 5: “despite its ‘new’ appearance, AT&T’s Performance-Based Productivity Model is actually a dressed up version of their Historical Revenue Method,” and p. 6: “the Respondents’ proposals are thinly veiled attempts to reimpose rate of return regulation.”

³⁷ See also NYNEX 24-25.

³⁸ Attachment B, p. 3.

of capital, i.e., the PBM approach “bears no resemblance to conventional economic theory and renders the results of the PBM useless as a measure of TFP.”³⁹ NERA shows that the appropriate price of capital includes the firm’s opportunity cost, depreciation, the effect of economic revaluation of plant and equipment, and the effect of taxes. The PBM method fails to incorporate these aspects into the price of capital. In contrast, the PBM utilizes a method which focuses on the actual financial performance of the LECs and defines the price of capital as a function of LEC accounting returns, depreciation and book value of plant. This is an unsound approach. As illustrated in the NERA Attachment, there is no relation between these accounting concepts and the economic measure of the price of capital. In addition, NERA indicates that a close inspection of the calculations used to construct the PBM reveals that it depends on flawed economic reasoning and contains numerous mistakes that appear to be the result of careless analysis.⁴⁰

In the PBM, Dr. Norsworthy also recommends that LEC capital prices be hedonically adjusted, i.e. adjustments to account for the increases in the quality of capital.⁴¹ Both Dr. Christensen and NERA show that the use of so-called “hedonic” adjustments are inappropriate for the long term price cap plan. As indicated by Dr. Christensen, the hedonic adjustments made by Dr. Norsworthy are undocumented and ad hoc. AT&T has provided no information to support such an adjustment.⁴² Additionally, the inclusion of a hedonic adjustment in the LEC capital input measure would lead to a serious asymmetry between measured LEC TFP and U.S. economy TFP.

³⁹ Attachment B, p. 3.

⁴⁰ Attachment B, p. 3.

⁴¹ AT&T, Attachment A (Norsworthy), pp. 49-58, See also Ad Hoc/ETI, p. 36.

⁴² Attachment A, pp. 16-17. See also Attachment B, p. 5, n. 4.

For the aforementioned reasons, the Commission should reject AT&T's proposal that TFP growth be measured by the Performance-Based Model.

B. Historical Revenue Method

GSA recommends that the X-Factor be calculated according to the Historical Revenue Method.⁴³ That method would essentially calculate the X-Factor needed to reprice LEC access services to achieve an 11.25% rate of return for the LEC industry as a whole under price caps. That method is contrary to the Commission's X-Factor criteria and should be rejected.⁴⁴

GSA concedes that the Historical Revenue Method does not actually measure improvements in LEC productivity.⁴⁵ Accordingly, that method is inferior to the TFP method which directly measures LEC productivity, and therefore is economically meaningful and meets the FCC's first X-Factor criterion.⁴⁶ Contrary to GSA's claims,⁴⁷ its recommended method is not simple, but might require revisitation of the authorized rate of return and would resurrect aspects of rate of return regulation.⁴⁸ Moreover, the Historical Revenue Method would thwart efficiency incentives by increasing the X-Factor when LEC earnings increase from productivity improvements.⁴⁹

⁴³ See also TRA.

⁴⁴ NYNEX 24-25.

⁴⁵ GSA 3-4.

⁴⁶ See Price Cap Review Order at ¶ 157.

⁴⁷ GSA 4.

⁴⁸ See Price Cap Review Order at ¶ 163.

⁴⁹ See also X-Factor NPRM at ¶ 81. Finally, Frontier in a footnote (p. 3 n. 3) supports the use of a historical price-historical revenue hybrid model. This model is also defective and should be rejected. See NYNEX 26. Frontier asserts that this model would produce a reasonable estimate of productivity gains achievable in the near term and ensure that real efficiency gains are returned to ratepayers. However, this model suffers from the same fundamental problems as the Historical Revenue Model: it would not measure LEC productivity, and it would seriously dampen LEC efficiency incentives.

The Commission should not adopt any methodologies which focus on the reported financial performance of the LECs and use measures such as reported interstate rate of return for establishing a productivity offset. As shown throughout this proceeding, earnings are not a reasonable basis for developing an appropriate X-Factor. Reported interstate earnings are the result of noneconomic accounting and regulatory rules and are not representative of the actual economic performance of an operating entity.

For example, for financial reporting purposes, in 1995 NYNEX instituted provisions of SFAS-101, discontinued SFAS-71 accounting and made a depreciation reserve adjustment of \$3.6 billion to reflect the amount which had not been fully recovered under the current depreciation rates.⁵⁰ If NYNEX for regulatory purposes had been able to amortize this amount over the five year period under price caps, the reported interstate rate of return would have been reduced by an average of approximately 1.27% per year. This would have reduced NYNEX's average interstate rate of return, as reported on the FCC 492A Reports from 1991 to 1995, from an average of 11.70% to an average of approximately 10.43%.⁵¹ This illustrates the extent to which regulatory rules governing areas such as depreciation can impact reported earnings.

Additionally, this example illustrates the flexibility which will be required by the LECs in order to effectively operate in the intensifying competitive environment. Competitive firms that are not governed by regulatory rules such as mandated depreciation schedules are able to depreciate capital investment based on the actual economic life of the investment.⁵² As such, their earnings would reflect these economic decisions. Looking

⁵⁰ Attachment D, TFI, pp. 6-7.

⁵¹ Estimated 1995 NYNEX Interstate Rate of Return for Year End 1995 FCC 492A Report.

⁵² See Attachment D, TFI, pp. 7-11. TFI provides comparisons to show how LECs are disadvantaged with respect to competitors based on differences in depreciation.

ahead to a very competitive environment, accelerated by the legislative reform of the Telecommunications Act of 1996, price cap LECs will require the same freedoms which are enjoyed by the competitors. Therefore, any regulation still required as the industry transitions to a fully competitive environment must eliminate regulatory rules based on noneconomic principles.

IV. OPPOSING COMMENTORS PROVIDE NO BASIS FOR THE FCC TO HESITATE TO CARRY THROUGH ON ITS GOALS TO ELIMINATE SHARING AND RATE OF RETURN ELEMENTS

A. Sharing Mechanism

Many opposing parties argue for the retention of a sharing mechanism in the LEC price cap plan.⁵³ However, sharing has no place in a long term price cap plan and should be eliminated.

AT&T asserts that sharing is needed to encourage LECs to pick a higher X-Factor, and AT&T seeks to discount any blunting of efficiency incentives by sharing.⁵⁴ However, the Commission has already firmly concluded that sharing blunts LEC efficiency incentives, and the Commission has established a long-term goal of eliminating sharing.⁵⁵

Other commentors wrongly believe that sharing is needed to ensure that LEC efficiency gains are flowed to ratepayers in cases where, for example, the industry X-Factor differs from an individual LEC's productivity.⁵⁶ The moving average TFP alleviates any such concerns, and sharing would only defeat an individual LEC's incentive to improve productivity in an effort to beat the industry average and improve earnings.

⁵³ AT&T 36, Ad Hoc 8/ETI 53-65, API 9, Frontier 5, GSA 7, ICA 2, MCI 19, TRA 7-8, Time Warner 3-5.

⁵⁴ AT&T 36-38. See also Ad Hoc 7 (referring to "disenchantment of at least some with sharing").

⁵⁵ X-Factor NPRM at ¶ 114; LEC Price Cap Review Order ¶¶ 187-89. See also id. at ¶¶ 18, 184, 191, 197.

⁵⁶ See Frontier 5, MCI 20-21, TRA 7.

Certain other commentators take the position that the existing state of competition does not warrant elimination of sharing.⁵⁷ This position is meritless. Competition is thriving, especially in NYNEX's operating territory with respect to interstate access services (e.g., special access), intraLATA toll and increasingly in local exchange markets. Further, tying a higher or "superaggressive"⁵⁸ X-Factor to the elimination of sharing could very well encourage LECs to resist competition, since a high productivity offset cannot be sustained as outputs are rapidly eroded by competitors during the transition to a competitive market.⁵⁹ As discussed, infra, NYNEX has advanced a multiple X-Factor proposal involving strong incentives for LECs to further open up markets for increased competition. The NYNEX proposal was presented in anticipation of requirements of the Telecommunications Act of 1996.

Furthermore, with respect to the Commission's efforts to foster competition, the sharing mechanism makes it much more difficult to allow increasing pricing flexibility, and removal of services from price caps, as competition increases.⁶⁰ For example, with sharing retained, arcane cost allocation rules must be applied to calculate earnings subject to sharing when services are removed from price caps.

Finally, Ad Hoc argues that the Commission cannot eliminate sharing because it must continue earnings-based regulation under the Communications Act.⁶¹ This argument

⁵⁷ API, Time Warner.

⁵⁸ See API 9.

⁵⁹ The level of LEC outputs is even more uncertain given the changes associated with the enactment of the Telecommunications Act of 1996; consider, e.g., AT&T Chairman Robert E. Allen's announcement: "we think we can win at least one third of that market in the next five to ten years." Associated Press Newswire, "AT&T Describes Plans to Return to Local Phone Service," February 8, 1996.

⁶⁰ NYNEX 10; SWBT 25.

⁶¹ Ad Hoc 7-8. See also ICA 7 (claiming that "[c]learly. ... price caps are not 'better' than earnings regulation per se....")

is mistaken. The Communications Act requires rates, not earnings, to be “just and reasonable.”⁶² Earnings limitations have been the product of FCC rules and orders, not Communications Act mandates.⁶³ Those rules and orders can be, and have been properly changed in promulgating price cap regulations. Indeed, AT&T has operated under a pure price cap regulatory system (i.e., no sharing) for a number of years.⁶⁴ Moreover, in National Rural Telecom Association v. FCC, the U.S. Court of Appeals for the D.C. Circuit rejected an attack by MCI on the FCC’s decision to eliminate from the LEC price cap plan certain restraints provided by rate of regulation.⁶⁵

Lastly, as the Commission has already observed, a “pure price cap plan, without earnings sharing, may encourage infrastructure development and the deployment of advanced equipment and technology.”⁶⁶ The Telecommunications Act of 1996 (Section 706) specifically identifies price cap regulation as a way for regulatory bodies to provide incentives to telecommunications services providers to encourage the deployment of advanced telecommunications capabilities. The elimination of sharing is a key component to the success of this Congressional objective.

In conclusion, sharing should be eliminated from the long-term price cap plan.

⁶² Section 201 of the Communications Act, 47 U.S.C. Section 201. Ad Hoc acknowledges (at p. 8) that “the Commission surely has flexibility in selecting the methods it will use to assure that the LECs’ rates are just and reasonable....”

⁶³ See New England Tel. and Tel Co. v. FCC, 826 F.2d 1101 (D.C. Cir. 1987), cert. denied, 440 U.S. 1039 (1989).

⁶⁴ See AT&T Price Cap Order, 4 FCC Rcd. 2873 (1989).

⁶⁵ 988 F.2d 174 (1993).

⁶⁶ LEC Price Cap Review Order at ¶ 189.