

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

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| In the Matter of |) | | |
| |) | | |
| 1997 Annual Access Tariff Filings |) | | CC Docket No. 97-149 |
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| |) | | |

MEMORANDUM OPINION AND ORDER

Adopted: December 1, 1997

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By the Commission:

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I. INTRODUCTION

1. On June 16, 1997, incumbent local exchange carriers (LECs) filed their 1997 annual access tariffs, scheduled to take effect on July 1, 1997.¹ On June 27, 1997, the Common Carrier Bureau (Bureau) released an Order finding that many of those tariff filings raised substantial questions of lawfulness, and accordingly suspended those tariffs for one day, initiated an investigation, and imposed on the LECs an accounting order.² Subsequently, the Bureau designated four sets of issues for investigation.³

2. Two of the areas designated for investigation relate to key changes to the Commission's access rules adopted by the Commission in the *Access Charge Reform Order*⁴ and a third covers tariff revision implementation changes to our separations rules adopted in the *Other Billing and Collection Order*.⁵ The Access Charge Reform Order significantly shifts the recovery of common line revenue between per-minute and flat charges, and between IXC and end-users. This caused the Bureau to closely scrutinize the methods LECs used to develop their new common line rates. The *Access Charge Reform Order* also directed price cap LECs to adjust their price caps to reflect the completion of the amortization of equal access network reconfiguration costs. Recent changes to our separations rules required price cap LECs to make exogenous changes to their price caps to reflect changes in their treatment of their Other Billing and Collection (OB&C) costs. The Bureau also was concerned by the proposed cash working capital requirements of several LECs subject to rate-of-return regulation. The Bureau designated for investigation the LECs' proposed annual access tariff revisions relating to these areas.

3. Fifteen price cap LECs and four rate-of-return LECs filed direct cases responding to one or more sets of designated issues. Two parties filed oppositions, to which the LECs filed rebuttals. These parties, and the abbreviations by which we refer to them in this Order, are listed

¹ For background on the Commission's access charge rules, see *Access Charge Reform*, CC Docket No. 96-262, *Price Cap Performance Review for Local Exchange Carriers*, CC Docket No. 94-1, *Transport Rate Structure and Pricing*, CC Docket No. 91-213, *Usage of the Public Switched Network by Information Service and Internet Access Providers*, CC Docket No. 96-263, *Notice of Proposed Rulemaking, Third Report and Order and Notice of Inquiry*, FCC 96-488 at ¶¶ 21-31 (rel. December 24, 1996).

² *1997 Annual Access Tariff Filings, National Exchange Carrier Association Universal Service Fund and Lifeline Assistance Rates*, CC Docket No. 97-149, *Memorandum Opinion and Order*, DA 97-1350 (Com. Car. Bur., released June 27, 1997) (*1997 Suspension Order*).

³ *1997 Annual Access Tariff Filings*, CC Docket No. 97-149, *Memorandum Opinion and Order*, DA 97-1609 (Com. Car. Bur., released July 28, 1997) (*1997 Designation Order*).

⁴ *Access Charge Reform*, CC Docket No. 96-262, *First Report and Order*, FCC 97-158 (rel. May 15, 1997).

⁵ *Amendment of Part 36 of the Commission's Rules and Establishment of a Joint Board, Report and Order*, 12 FCC Rcd 2679 (1997) (*OB&C Order*).

in Appendix A.

4. We have reviewed the direct cases, comments, and replies filed in response to the *1997 Designation Order*. Based on our examination of the LECs' tariffs, and the direct cases, comments, and replies, we find that certain of the price cap LECs' 1997 annual access rates are unreasonable. Specifically, we determine that U S WEST, Southwestern Bell, Bell Atlantic, NYNEX, Sprint, and GTE have unreasonably underestimated their BFP revenue requirements. Furthermore, we conclude that the BOCs, SNET, Frontier, GTE, and Rochester have unreasonably calculated the exogenous cost decrease necessary to reflect the completion of the amortization of equal access network reconfiguration costs, as required by the *Access Reform First Report and Order*.⁶ In addition, we determine that GTE, Pacific Bell, and US West have unreasonably calculated the exogenous cost adjustments required by the revision of our other billing and collection (OB&C) cost allocation rules adopted in the *OB&C Order*. We also find that four rate-of-return LECs' rate bases include cash working capital amounts that were not calculated in compliance with the Commission's Rules.⁷ The result of these LECs' unreasonable practices is tariff charges that are higher than is justified, in violation of section 201(b) of the Communications Act of 1934, as amended (the Act). Below, we discuss all these issues in detail, prescribe just and reasonable solutions to correct the ratemaking practices found to be unlawful, and we require LECs to revise and refile their tariffs and issue refunds. Refiled tariffs that do not comply with our prescriptions are unlawful and subject to rejection.

II. PRICE CAP CARRIERS

A. Common Line Issues

5. In its May, 1997, *Access Charge Reform Order*,⁸ the Commission modified the common line rate elements in two important ways. First, the *Access Charge Reform Order* increased the end user common line (EUCL) cap applicable to multiline business (MLB) lines from \$6.00 to \$9.00 monthly.⁹ Second, effective January 1, 1998, the *Access Charge Reform Order* requires recovery of common line costs from IXCs first through flat-rated primary interexchange carrier charges (PICCs), up to a designated cap, before permitting the LECs to

⁶ See *Access Charge Reform*, CC Docket No. 96-262, First Report and Order, FCC 97-158 (released May 16, 1997) (*Access Reform First Report and Order*) at paras. 301-14.

⁷ Section 65.820(d) of the Commission's Rules, 47 C.F.R. § 65.820(d).

⁸ *Access Charge Reform*, CC Docket No. 96-262, First Report and Order, FCC 97-158 (rel. May 15, 1997).

⁹ See *1997 Designation Order* at ¶ 5.

charge interexchange carriers a per-minute carrier common line charge.¹⁰ Because these two changes to the Commission's rules significantly shifted incumbent LEC recovery of common line revenues from IXCs to certain end users and from per-minute to flat-rated charges, and because the LEC tariff filings had not adequately demonstrated their compliance with all relevant Commission rules, the Common Carrier Bureau suspended the common line provisions of the price cap LECs' 1997 annual access tariff revisions for one day, imposed an accounting order, and set these provisions for investigation.

6. Below we describe how LECs that underestimate their per-line base factor portion (BFP) revenue requirement can thereby earn more common line revenues than our price cap rules would otherwise permit if the BFP revenue requirement had been properly forecast. Accordingly, we first look to determine whether the price cap LECs have consistently underestimated their per line BFP revenue requirement. To do this, analyze the difference between the forecasts and the reported actual per-line BFP revenue requirements for each LEC between the tariff years 1991/92 and 1996/97 using graphs to determine if the deficiencies appear to represent a downward bias in the proposed forecasts. Finally, we use a sign test to determine how likely it is that chance could explain the frequency with which LECs have employed forecasts that were less than the actual revenue requirements reported later, and a statistical test to determine if the mean of the six years of forecasts is significantly below the mean of the actual revenue requirements.¹¹ Based on this analysis, we conclude that six LECs have employed forecasts that reflect a consistent downward bias. For five of these LECs we further determine that their forecasts for the tariff year 1997/98 are likely to have the same bias and therefore we prescribe forecasts for per-line revenue requirement. For the sixth LEC, Bell Atlantic, we order the LEC to revise its BFP revenue requirement forecast using its existing forecasting method corrected for a flaw identified by AT&T. We require all these carriers to use their revised forecasts to recalculate their common lines rates for the period January 1, 1998 through June 30, 1998, and to calculate refunds for the period July 1, 1997 through December 31, 1997.

1. Background

7. Common line is one of the baskets of services in our price cap rules and contains all the interstate access charges associated with the use of the local loop between the end-user and the local switch.¹² The traffic sensitive and trunking baskets contain charges for use of the switch serving the loop and for transporting calls between that switch and the interexchange

¹⁰ 47 C.F.R. § 61.46(d)(2).

¹¹ The sign test is the equivalent of calculating the probability that a someone using a fair coin would obtain six heads in six flips of the coin, or five heads in six flips, etc. The higher the number of heads (in excess of three) obtained in six flips, the less confidence one has that the coin is not tail-heavy.

¹² 47 C.F.R. § 61.42(d)(1).

carrier's (IXC) local point of presence.¹³ The remaining basket contains the non-access, interexchange services LECs are permitted to provide. Each year the price indices (PCIs) for the basket are adjusted upward for inflation and downward by a factor to reflect increases in LEC productivity. The Commission may also permit PCI adjustments for changes in the cost of providing service that are beyond the LEC's control and not otherwise reflected in the PCIs (i.e. exogenous cost changes). For price cap LECs, the revenue-weighted average price of the services in each basket may not exceed the basket PCI. The common line basket differs from the other baskets in having a separate formula to determine the maximum rate for the per-minute charge within the common line basket and in using LEC forecasts of their per-line local loop revenue requirements to determine the maximum end-user per-line charge.

8. The common line revenues permitted by our price cap rules for LECs are recovered through a per-line charge to end-users (the end user common line charge, or EUCL¹⁴) and a per-minute charge to IXCs (the carrier common line charge, or CCL charge). A portion of permitted common line revenues are specifically designated to be recovered through per-minute charges.¹⁵ The undesignated remaining portion of permitted common line revenues is known as the base factor portion (BFP).¹⁶ For establishing rates for the next tariff period, the projected BFP revenue requirement directly affects the ceiling on the per-line EUCL charge.¹⁷ Under our

¹³ This general description of the structure of access charges does have exceptions, especially after implementation on January 1, 1998, of the rate structure changes in the *Access Charge Reform Order*. For example, under our *Access Charge Reform Order* the port on the switch that is dedicated to serving the end-user's loop will become a common line charge levied on end-users.

¹⁴ The EUCL charge is also referred to as the subscriber line charge (SLC).

¹⁵ Costs assigned directly to the CCL element and, therefore, recovered solely from IXCs, are those attributable to customer premises equipment (CPE), surrogate CPE, and customer premises wiring included in information origination-termination equipment accounts. 47 C.F.R. §§ 69.2(r), 69.501(b)-(c). The Commission recently revised section 69.501 to include the costs of public telephone loops in the BFP revenue requirement. *See* Implementation of the Pay Telephone Reclassification and Compensation Provisions of the Telecommunications Act of 1996, CC Docket No. 96-128, Report and Order, 11 FCC Rcd 2054 (1996); Implementation of the Pay Telephone Reclassification and Compensation Provisions of the Telecommunications Act of 1996, Order on Reconsideration, 11 FCC Rcd 21233 (1996) (*Payphone Reconsideration Order*); *aff'd in part and rev'd in part sub nom. Illinois Pub. Telecommunications Ass'n v. FCC*, No. 96-1394, *et. al.* (D.C. Cir. rel. July 1, 1997).

¹⁶ The BFP revenue requirement is defined in Part 69 as that portion of an incumbent LEC's common line revenue requirement that remains after the assignment of the specific common line investment and expenses identified in the previous footnote exclusively to the CCL element. 47 C.F.R. §§ 69.501(e). Section 69.502 also provides that special access surcharge revenues shall be deducted from the BFP. 47 C.F.R. § 69.502.

¹⁷ After January 1, 1998, incumbent LECs will also use their projected BFP revenue requirement in developing the residual presubscribed interexchange carrier charge (PICC). *See* Access Charge Reform, CC Docket No. 96-262, First Report and Order, FCC 97-158 at ¶¶ 94-104 (rel. May 16, 1997) (*Access Charge Reform*

price cap rules, a LEC may set per-line end user charges at the lesser of: (1) its forecast per-line BFP revenue requirement, or (2) the applicable cap on per-line end user charges (\$3.50 for residential and single line business,¹⁸ \$9.00 for multiline business¹⁹).²⁰ For example, if a LEC reported a per-line BFP revenue requirement projection of \$5.18, residential and single-line business EUCLs would be set equal to \$3.50 -- the EUCL cap for these classes of customers -- but would equal \$5.18 for multi-line business customers. Because the caps limit per-line charges, some portion of permitted common line revenues has been recovered in the per-minute CCL charges in each of the past price cap tariff periods (1991-1997) and in the current tariff period (1997/98).

9. A price cap LEC's maximum CCL charge is set not as a function of a projected revenue requirement under Part 69, but pursuant to a special price cap formula. Under this formula, in effect, the maximum CCL charge is derived from the last calendar year's (base-period) total common line revenue, reduced by a special common line PCI, minus the total revenue from the proposed EUCL charges times the base-period's number of lines. This difference is then converted into a per-minute charge by dividing by base-period minutes, increased by one-half of the growth in base-period minutes of use per-line. Thus, holding everything else constant, a decrease in proposed EUCL charges will result in higher CCL charges.

10. The special common line PCI, along with the adjustment for growth in minutes-of-use per-line, implement the Commission's decision to adopt a "balanced 50-50" formula for common line revenue recovery when it initiated price cap regulation. The formula allows price cap LECs to enjoy half the increase in revenues resulting from growth in minutes of use per-line.²¹

11. One of the implications of this special formula, is that LECs often should not be

Order).

¹⁸ 47 C.F.R. § 69.152(d)(1). Effective January 1, 1998, the EUCL charge cap on non-primary residential lines will increase to \$5.00. 47 C.F.R. § 69.152(d)(2).

¹⁹ 47 C.F.R. § 69.152(b)(3). Effective January 1, 1998, price cap LECs will recover the costs of ports on the line-side of the local switch through the common line rate elements, instead of through per-minute local switching charges. Also effective January 1, 1998, price cap LECs may recover marketing expenses through EUCL charges assessed on MLB and non-primary residential lines, subject to the EUCL cap. 47 C.F.R. § 69.156.

²⁰ If none of the caps is binding and the CCL charge is zero, there is no longer a common line revenue requirement and a price cap LEC's EUCL may be set at no more than its per-line permitted price cap common line revenues under price cap regulation.

²¹ Policy and Rules Concerning Rates for Dominant Carriers, Second Report and Order, 5 FCC Rcd 6786, 6793-95 (1990). See 47 C.F.R. § 61.46(d)(1).

indifferent about the allocation of common line revenue recovery between per-minute and per-line charges. Under this formula, where projected per-line BFP revenue requirement falls between \$3.50 and \$9.00, a dollar decrease in revenue recovered per-line increases revenues recovered per-minute by more than a dollar except in the special circumstance when next year's growth in minutes per line exactly equals the factor used to reduce the per-minute charge. In practice, next year's growth in minutes per line is almost always greater than the factor used to reduce next year's per-minute charges ($g/2$ or last year's growth in minutes per line divided by two), so increasing the allocation of permitted revenue recovery to per-minute charges will increase total LEC common line revenues. Reducing the allocation to per-line charges does not completely offset the revenue gain since minutes of use can be depended upon to increase faster than lines. LECs with BFP revenue requirements less than the \$9 MLB EUCL cap can recover common line revenues from per-line to per-minute charges, as opposed to per-line charges by introducing downward bias in their forecasts of per-line BFP revenue requirements. An inappropriately low forecast of per-line BFP revenue reduces the LEC's per-line MLB EUCL charge and raises the per-minute CCL charge that it can justify. This shift allows the LEC to earn higher common line revenues than our price cap rules would otherwise permit.²²

12. Accurate per-line BFP revenue requirement projections are, therefore, vital to proper ratemaking. They are necessary to enable the LEC to set proper interstate EUCL charges, CCL charges, and, after January 1, 1998, the residual presubscribed interexchange carrier charge (PICC). In the *1997 Suspension Order*, the Bureau suspended the portions of the price cap LECs' tariffs relating to the BFP revenue requirement and end-user demand forecasts for one day and set these tariff provisions for investigation, because the price cap LECs failed to offer an adequate explanation of the bases for their BFP revenue requirement projections and in light of the wide variation between these projections and alternate projections offered by AT&T.²³

2. The 1997 Designation Order

13. The *1997 Designation Order* required the price cap LECs to submit extensive information regarding their BFP revenue requirement and end-user demand projections and per-line EUCL charge calculations since 1991. These information requirements are summarized below. The *1997 Designation Order* also afforded carriers the opportunity to submit any other

²² For example, assume a 6% growth in minutes per-line, the number of lines is constant and, thus, a $g/2$ factor of 3%. Total common line permitted revenue is \$200 and an unbiased forecast of BFP revenue requirement is \$100. Ignoring the X-factor and inflation, the LEC would receive common line revenues of \$203: \$100 in per-line charges and \$103 in per-minute charges (\$100 base period revenue is reduced by 3%, then grows by 6%). Using an inappropriately low forecast of \$50 for BFP revenue requirement, the LEC would receive \$204: \$50 in per-line charges and \$154 in per-minute charges. (All calculations are rounded.) An inappropriately low forecast will increase total common line revenue as long as minute growth exceeds line growth.

²³ *1997 Suspension Order* at ¶ 22.

information justifying their BFP revenue requirements that they deemed appropriate.²⁴

a. BFP Revenue Requirements

14. In their 1997 annual access tariff revisions, the price cap carriers, in general, provided only cursory information as to the preparation of their BFP revenue requirement forecasts. Some indicated that they had used a "bottom-up" approach, whereby individual component budget figures affecting the BFP revenue requirement were projected for the upcoming year, or used a cost model.²⁵ Other carriers indicated that they had used a trend methodology, whereby recent growth trends were extrapolated to the future. These carriers then adjusted their revenue requirement forecasts to account for changes in various Commission rules, income tax adjustments, and other exogenous cost factors.

15. The *1997 Designation Order* required each price cap LEC to submit: (1) actual BFP revenue requirements, computed using ARMIS data, if available, for each calendar year between 1991 and 1996, and associated tariff years between 1991/92 and 1996/97, as well as BFP revenue requirements filed in each year's TRP for the same period;²⁶ (2) a list of any changes in its BFP revenue requirements over this period caused by changes to the Commission's rules, including an itemized quantification of these changes; and (3) documentation that explains the methodology used to compute its BFP revenue requirement for 1997/98, including information on any changes to the LEC's forecasting methodology.²⁷

16. In addition, the *1997 Designation Order* required the price cap LECs to explain any significant differences (10% or more) between the projected year-to-year percentage change in the BFP revenue requirement filed in support of their proposed tariffs and the actual results reported later.²⁸ The *1997 Designation Order* required the price cap LECs to explain fully any pattern of significant and consistent over- or under-estimation of their BFP revenue requirements that emerged from this analysis.²⁹

b. End-User Demand

²⁴ E.g., *1997 Designation Order* at ¶¶ 15, 18.

²⁵ *1997 Designation Order* at ¶ 29.

²⁶ ARMIS, columns k and m.

²⁷ *1997 Designation Order* at ¶ 16.

²⁸ *Id.* at ¶ 17.

²⁹ *Id.*

17. Most price cap LECs indicated that they evaluated various factors, such as general economic performance and demographic characteristics, to project end-user demand levels. The *1997 Designation Order* required each price cap LEC that experienced a significant difference between its projected and actual end-user demand in a given year to: (1) identify separately for each such year the variables used to project end-user demand and the weight given to each; (2) provide information concerning at least the two most significant variables that did not change as expected; and (3) state whether the unexpected changes were the product of one-time events, or whether they represented changes in the underlying trend of end-user demand.³⁰ In addition, it required the price cap LECs either to demonstrate that their 1997/98 end-user demand projections were consistent with the historical trend, or to state specifically the underlying factor(s) that they expected will change, and the projected effects of the change(s).³¹ The price cap LECs were also required to submit trend analyses using both actual numbers of lines, and natural logarithms of the actual numbers of lines.³²

c. Per-Line BFP Revenue Requirements

18. The *1997 Designation Order* also required the price cap LECs to submit their actual and projected per-line BFP revenue requirements for each tariff year between 1991/92 and 1996/97, calculated by dividing the actual and projected BFP revenue requirements by total billable lines. With respect to the per-line BFP revenue requirement, the Bureau required the LECs to provide information "to explain any differences between the[] actual per-line BFP revenue requirements and the[] per-line BFP revenue requirements projected . . . for each year."³³

3. Discussion

a. Introduction and Summary

19. The *1997 Designation Order's* stated intent was to use the LECs' actual and projected BFP revenue requirements to "establish the historical pattern of the LECs' BFP

³⁰ *1997 Designation Order* at ¶ 32.

³¹ *Id.* at ¶ 33.

³² *Id.* Logarithms are used to transform an exponentially increasing series into one that increases in a linear manner. The logarithm is the exponent to which a certain base number must be raised to yield a given member of the original series. Natural logarithms use e as a base, an irrational number with an approximate numerical value of 2.718

³³ *1997 Designation Order* at ¶ 34.

revenue requirements and the accuracy of their past projections."³⁴ In this Order, we first perform tests to identify the LECs that have consistently reported forecasts that were significantly below their actual per-line BFP revenue requirements. Our tests use LEC data that had been adjusted for differences between the forecast and actual per-line BFP that could be attributed to unforeseeable factors. Our tests include a graphical analysis of the differences between the forecasted and actual per-line BFP revenue requirement, a sign test to determine whether chance could explain why such a large portion of the BFP revenue requirement forecasts was less than the actual figures, and a test of the statistical significance of the difference in the mean forecasted and actual per-line BFP revenue requirements of each price cap LEC. For those LECs with mean forecasts significantly below their mean actual per-line BFP revenue requirements, we developed forecasts for the tariff year 1997/98 using actual per-line BFP revenue requirement data. The forecasts are adjusted for FCC actions regarding the treatment of payphones and OB&C that will affect 1997/98 actuals. As discussed more fully below, we conclude that these projections are likely to be reasonable forecasts of these LECs' per-line BFP revenue requirements for tariff year 1997/98.

20. We find that by developing reasonably unbiased and accurate forecasts, no matter what their forecasting technique, many LECs have met this standard. With respect to U S WEST, Southwestern Bell, NYNEX, Sprint, and GTE, however, the results of the sign test and the difference in the means test, combined with the absence of any adequate justification submitted by these LECs, support our conclusion, with a high degree of confidence, that these LECs' tariff year 1997/98 forecasts are not just or reasonable. In addition, using data submitted in its rebuttal to AT&T's opposition, Bell Atlantic fails the difference of the means test.³⁵ After examining the reasons offered by these LECs for their forecasting errors, and their descriptions of methodologies used to develop their tariff year 1997/98 forecasts, we conclude that there is a consistent and significant downward bias in the forecasts of the per-line BFP revenue requirement developed by U S WEST, Southwestern Bell, NYNEX, Sprint, and GTE.

21. These unreasonable forecast results directly affect the lawfulness of the LECs' tariff changes. In this case, the resulting per-minute CCL charges are unjustifiably high, in violation of section 201(b).³⁶ We therefore conclude that the BFP revenue requirement forecasts filed in the 1997 annual access tariff revisions of U S WEST, Southwestern Bell, NYNEX, Sprint, and GTE, and the charges they produce, are unjust, unreasonable, and, therefore,

³⁴ 1997 Designation Order at ¶ 17.

³⁵ As discussed below, Bell Atlantic (South) has fully explained the source of the downward bias in its forecasting technique and is directed to use its corrected forecasting technique as the basis for refunds and refiled rates for common line.

³⁶ 47 U.S.C. § 201(b).

unlawful.³⁷ The per-line BFP revenue requirement forecasts filed by U S WEST, Southwestern Bell, and NYNEX in their 1997 annual access tariff revisions are unjust and unreasonable because they are based on forecasting methodologies that have consistently produced downwardly biased results in the past, and because none of these LECs has taken any steps to correct for factors that have contributed to repeated and substantial past errors.³⁸ Although it has changed forecasting methodologies this year, GTE has developed a forecast for tariff year 1997/98 that differs significantly from the historical growth pattern such that we conclude it is not a reasonable forecast of its tariff year 1997/98 per-line BFP revenue requirement. Similarly, Sprint's historical substantial forecasting errors lead us to conclude that its tariff year 1997/98 forecast is likely also to be downwardly biased.

b. Importance of Per-Line BFP Revenue Requirement Projections

22. A LEC's projected BFP revenue requirement has an impact on the relative levels of interstate EUCL and CCL charges and, after January 1, 1998, on the residual PICC. For the tariff year 1997/98 the recent increase in the cap on the MLB EUCL charge increased the impact that per-line BFP revenue requirement projections have on EUCL and maximum CCL charges.³⁹ When a price cap carrier's per-line BFP revenue requirement projection is less than the \$9.00 MLB EUCL cap, that projection directly affects the relative proportions of its common line revenue recovered from end users, via EUCL charges, and from interexchange carriers, via CCL charges and PICCs.⁴⁰ As explained above, a LEC that inappropriately lowers its forecast of per-line BFP revenue requirement, will be able to establish a lower MLB EUCL charge and a higher CCL charge than it would otherwise be able to justify. Assuming the growth in minutes

³⁷ 47 U.S.C. § 201(b) ("All charges, practices, classifications, and regulations for and in connection with [interstate or foreign] communication service, shall be just and reasonable, and any such charge, practice, classification, or regulation that is unjust or unreasonable is hereby declared to be unlawful").

³⁸ SBC states that Southwestern Bell has used the same methodology to develop its BFP revenue requirement forecasts each year since 1991. SBC Direct Case at 23. By SBC's own calculations, its tariff year 1997/98 BFP revenue requirement forecast is approximately \$83 million below the historical trend, "very likely due to the same reasons as those related to the historical data." SBC Direct Case at 24. Similarly, U S WEST states in its Direct Case that it used the same methods to develop its tariff 1997/98 forecast that it used to develop its past, flawed forecasts, U S WEST Direct Case at 18, and candidly admits that the resulting forecast is "inconsistent with the historical pattern," *id.* at 15. Bell Atlantic states that NYNEX, despite consistent understatement of its BFP revenue requirement forecasts, has used the same forecasting methodology since tariff year 1992/93. Bell Atlantic Direct Case, Detailed Responses at 19.

³⁹ 1997 *Suspension Order* at ¶ 5.

⁴⁰ As discussed above, if the per-line BFP revenue requirement exceeded the cap on MLB EUCL charges, EUCL charges would be set at that cap. In such a case, changes to the per-line BFP revenue requirement would not affect EUCL charge levels, or anticipated total common line revenues, until the per-line BFP revenue requirement fell below the MLB EUCL cap.

per line does not drop below one-half the base period growth in minutes per line ($g/2$),⁴¹ the LEC's aggregate common line revenues will be greater than our price cap rules would otherwise permit. Thus, we disagree with those price cap LECs that argue that, because the allocation of revenues between EUCL charges and CCL charges is a "zero-sum game," they have little or no incentive to underestimate their BFP revenue requirements.

c. Adjustment of Per-Line BFP Revenue Requirement Forecasts

23. In this section we consider the sources of forecasting error LECs have identified. We accept arguments that three rule changes could not have been foreseen at the time LEC forecasts were made, and we adjust LEC data before making our comparisons of forecast and actual per-line BFP revenue requirements. We reject LEC arguments that we should adjust for acts of nature, changes in business plans and the impact of demand-related factors. We agree to adjust GTE's data for sold exchanges and to remove GTE's Universal Service Fund support from its actual BFP revenue requirements. We also agree to adjust NYNEX's data to allow for a tax surcharge that is reported in its actual BFP revenue requirement, but not included in its forecast of BFP revenue requirement for ratemaking purposes.

24. Some LECs allege that certain Commission rule changes reduce the apparent accuracy of their forecasts. The graphical and statistical analyses used in this proceeding are not intended to evaluate the accuracy of the absolute level of the price cap LECs' forecasts. Rather, our analyses are intended to identify LECs whose forecast errors are due to significant and systematic downward bias in the per-line BFP revenue requirement. A LEC that makes even large over- and under-estimation errors may nevertheless pass our tests for downward bias. We agree, however, that LEC forecasts should be adjusted for rule changes that were announced after the LECs had prepared their forecasts, but that took effect during the tariff year being forecast. As discussed below and detailed in the statistical appendix to this order, we made allowances for several such rule changes.

25. The LECs have identified three such changes. The *Payphone Order*⁴² and *Payphone Reconsideration Order*,⁴³ which also deregulated LEC payphone equipment, required LECs to assess MLB EUCL charges on LEC payphone loops and modified the Commission's BFP revenue requirement rule to include the costs of payphone loops in the BFP revenue

⁴¹ Growth in minutes per line (g) is equal to the percentage change in total minutes divided by the percentage change in lines. Therefore, a positive g means that minutes grew faster than lines.

⁴² 11 FCC Rcd 20541, 20605-36.

⁴³ 11 FCC Rcd 21233, 21321.

requirement.⁴⁴ The Commission released the *Payphone Order* on September 20, 1996, and released the *Payphone Reconsideration Order* on November 8, 1996. These rule changes took effect April 15, 1997.⁴⁵ Because these rule changes affected the BFP revenue requirement for the last two and one-half months of tariff year 1996/97, but were not in effect when the price cap LECs developed their BFP revenue requirement forecasts in early 1996, we will adjust the LECs' tariff year 1996/97 BFP revenue requirement forecasts to account for these changes.⁴⁶

26. Similarly, early this year, the Commission revised the process the LECs use to separate Other Billing and Collection (OB&C) costs between the state and interstate jurisdictions, replacing a complicated allocation procedure relying on user and message counts with a simple allocation procedure based on a fixed allocator of 33 percent or 5 percent, depending on whether the price cap LEC performs any end-user billing for IXCs.⁴⁷ The Commission released the *OB&C Order* on February 3, 1997, and these rule changes took effect on May 1, 1997. For their June filings, the LECs computed exogenous adjustments to reflect this change to the Commission's rules. Because this rule change affected the BFP revenue requirement for the last two months of tariff year 1996/97, but was not in effect when the price cap LECs developed their BFP revenue requirement forecasts in early 1996, we will adjust the LECs' tariff year 1996/97 BFP revenue requirement forecasts to account for these changes.

27. Some LECs cite the effects of Commission-approved revisions to their depreciation rates on their BFP revenue requirement as one source of discrepancies between the actual and forecasted BFP revenue requirements. The effects of the revised depreciation rates cited were relatively small.⁴⁸ Nevertheless, because depreciation re-prescriptions are often released late in the calendar year, but allow LECs to revise their depreciation expense retroactively to reflect the new rates from the beginning of the year, we make these adjustments to LEC BFP revenue requirements for purposes of the statistical analysis below.

28. The statistical appendix shows the dollar amount of all adjustments we have made

⁴⁴ The recent decision of the United States Court of Appeals for the D.C. Circuit in *Illinois Pub. Telecommunications Ass'n v. FCC*, No. 96-1394, *et. al.*, did not address the application of the rules adopted in the *Payphone Order* or *Payphone Reconsideration Order* with respect to the issue involved here.

⁴⁵ *Payphone Order*, 11 FCC Rcd at 20634.

⁴⁶ The 1996 Act clearly required the Commission to take these actions, although the method to be used to remove payphone equipment from the rate base, and the timing of such removal, remained uncertain until the Commission's *Payphone Order* and *Payphone Reconsideration Order* were released. 47 U.S.C. § 276.

⁴⁷ Amendment of Part 36 of the Commission's Rules and Establishment of a Joint Board, Report and Order, 12 FCC Rcd 2679 (1997) (*OB&C Order*).

⁴⁸ For example, for tariff year 1994/95, U S WEST calculates that revised depreciation rates explain \$3 million of its \$70 million error in forecasting its BFP revenue requirement. U S WEST Direct Case at 8.

for rule changes that the Commission announced after the LECs had prepared their BFP revenue requirement forecasts for a given tariff year, but that took effect before the beginning of the following tariff year, including these depreciation-rate adjustments.

29. With respect to the BFP revenue requirement, these are the only rule changes we have been able to identify that the Commission announced after the LECs' developed their BFP revenue requirement forecasts, but that took effect before the beginning of the following tariff year. No LEC has identified any other such changes in the record. The Commission had announced all of the other rule changes affecting the BFP revenue requirement before the LECs were required to develop their BFP revenue requirement forecast for the years in which the rule changes took effect.⁴⁹ As such, the LECs' forecasts should already have accounted for the anticipated impact of these changes.

30. In addition to rule changes, the LECs allege that, in developing their BFP revenue requirement forecasts, they failed to foresee additional expenses they incurred as a result of the impact of certain natural phenomena, such as snow storms or floods. Among the natural phenomena cited, SBC states that the costs associated with flooding in 1993 and 1997 caused unanticipated increases in the BFP revenue requirements of Southwestern Bell and Nevada Bell, respectively. SNET identifies storms (1994/95),⁵⁰ and GTE cites nonspecific "acts of nature."⁵¹ We conclude that no adjustment to the LEC data is necessary to correct for these expenses. Although unfavorable natural phenomena may have some immediate impact on LEC costs, a portion of the cost of recovery is capitalized and incorporated in future year projections of BFP revenue requirements. To the extent natural phenomena have an unforeseen affect on actual BFP revenue requirements, we note that both favorable and unfavorable phenomena would have to be taken into account and that natural phenomena are famous as examples of randomness. We conclude that natural phenomena are not the type of unforeseeable events that would require us to make an adjustment before we attempt to detect any systematic downward bias in LEC forecasts.

31. In any event, the record before us indicates that expenses associated with recovery from damage caused by natural phenomena likely constitute a relatively small portion of the LEC errors, and do not explain any significant portion of the LECs' errors in underestimating their BFP revenue requirement. In their direct cases, the LECs have provided little information on the dollar impact of particular natural events, making it impossible in any case to adjust for these events. This lack of information supports our conclusion that these

⁴⁹ The Commission announced all rule changes incorporated in the LECs adjusted series 1 and series 2 BFP revenue requirement data before the LECs developed their forecasts for the years in which those rule changes took effect. For a list of these rule changes, see *1997 Designation Order* at ¶ 22.

⁵⁰ SNET Direct Case at Workpaper BFP-3.

⁵¹ GTE Direct Case at 5.

impacts are likely minor. SBC, for example, provides explanations unrelated to any natural phenomena for more than half of its \$76 million error in tariff year 1992/93, and cites the 1993 midwestern flood as the last of three additional reasons that may explain some of the remaining error. SBC provides no information as to the specific dollar impact of the flood, however.⁵² This lack of information is representative of GTE's and SNET's submissions as well, supporting our conclusion that natural phenomena have only a minor effect on the annual BFP revenue requirement and are unlikely to explain repeated, substantial, or systematic underestimation.

32. Several LECs cite a wide variety of business decisions and expenses, such as those associated with early retirement incentives, overtime, workforce expansion, mergers, or restructuring, that they allege caused their BFP revenue requirement forecasts to fall below actual levels. Similarly, the LECs cite a variety of business restructurings⁵³ that have affected line counts. We conclude that these business decisions are not the type of unforeseeable event for which we should adjust any LEC's BFP revenue requirement forecasts when conducting statistical tests. Rather, these decisions are within the control of the LEC both at the time it develops its BFP revenue requirement forecast and throughout the balance of the tariff year. A LEC is not justified in repeatedly basing its BFP revenue requirement forecasts on unreasonably optimistic assessments of its likely costs of doing business in the upcoming year, but should make a realistic estimate of these costs at the outset, based in part on past experience. A LEC that forecasts its BFP revenue requirement based on such realistic assessments should experience high and low forecasting errors in an essentially random manner. Therefore, for a LEC that is using reasonable assessments of its business costs in the upcoming year, ordinary business decisions and expenses should not have any systematic effect on the BFP revenue requirement. Furthermore, we have no reason to believe that all business decisions drive up revenue requirement. To adjust for only those business decisions that resulted in an unfavorable change in revenue requirement would introduce rather than remove a bias from our analysis. We have no reason to suggest that business decisions are not, like natural phenomena, random in their impact on revenue requirement. We conclude that no adjustment to the LEC BFP revenue requirement forecasts is required to account for the effects of the business decisions described by the LECs.

33. Some LECs indicate that their forecasting errors resulted from the failure of their forecasting techniques to anticipate the impact of a variety of demand-related factors in the upcoming tariff year. U S WEST's forecasting techniques, for example, apparently failed to anticipate significant increases in loop plant investment in tariff years 1994/95, 1995/96, and

⁵² SBC Direct Case at 6.

⁵³ *E.g.*, BellSouth Direct Case at Appendix D, Exhibit 3, p. 1. (citing unanticipated divestiture of Bell Coin marketing unit that affected the multiline business category in June, 1997); Ameritech Direct Case at Exhibit 7, p. 1. (citing restructure of business units to market to various segments of local market, stimulating line growth).

1996/97.⁵⁴ Similarly, SBC states that Southwestern Bell has underestimated its BFP revenue requirement every tariff year between 1992/93 and 1996/97 by \$22 million to \$40 million because of the effects of subsequent cost studies that allocate certain costs to the local loop.⁵⁵ With respect to line counts, several LECs cite their failure to anticipate changes in economic conditions,⁵⁶ end-user demand trends,⁵⁷ or overly conservative forecasts⁵⁸ to explain differences between actual and forecasted line counts. We conclude that no adjustment is warranted for such failures. As with the effects of business decisions, discussed above, we conclude that unanticipated changes in demand are random phenomena that should not affect our analysis of systematic downward biases.

34. GTE explains in its Direct Case that it has sold a number of exchanges since 1991. To permit meaningful year-to-year comparisons, GTE provided data adjusted to include only the exchanges that it held throughout this entire period of time. We agree with GTE that these adjusted data will permit meaningful year-to-year comparisons, and accept GTE's submission of adjusted data. We make one additional adjustment for GTE. The 1997 *Designation Order* required the price cap LECs, where possible, to calculate their actual BFP revenue requirement using ARMIS data and a particular formula. This formula incorporated data from line 1185 of ARMIS 43-01. For its companies, GTE files ARMIS reports that include support amounts that GTE receives from the current Universal Service Fund in line 1185. Because its BFP revenue requirement forecasts do not include the Universal Service Fund support GTE receives, GTE provided a separate calculation deducting this support from its actual BFP revenue requirements calculated as directed in Appendix B. We accept GTE's adjusted data.⁵⁹

35. We also make one additional adjustment to the actual BFP revenue requirement data Bell Atlantic provides for NYNEX. In its direct case, Bell Atlantic indicates that, although the New York State Gross Income Tax (GIT) is included in NYNEX's actual BFP revenue requirement figures, NYNEX "does not include [the GIT] in EUCL rate development."⁶⁰

⁵⁴ U S WEST Direct Case at 8.

⁵⁵ SBC Direct Case at 5-7.

⁵⁶ *E.g.*, U S WEST Direct Case at 19-20; SBC Direct Case at 31-32.

⁵⁷ *E.g.*, SBC Direct Case at 17.

⁵⁸ U S WEST Direct Case at 19-20.

⁵⁹ No other recipient of high-cost support from the universal service fund has indicated that it reports this support on ARMIS line 1185, and our independent examination of ARMIS data has not revealed evidence indicating such reporting, except by GTE.

⁶⁰ Bell Atlantic Direct Case, Detailed Responses at 7-8.

According to Bell Atlantic, "[t]he GIT is recovered as a surcharge on rates. This tax does not impact reported net income; the Company is merely acting as an agent on behalf of the state of New York (*i.e.*, the tax impacts expenses and revenues equally)."⁶¹ Based on Bell Atlantic's representations, the GIT is included in NYNEX's actual BFP revenue requirement figures, calculated from ARMIS 43-01, but it is neither recovered from ratepayers through EUCLs nor included in NYNEX's BFP revenue requirement forecast. Accordingly, in performing our statistical analysis and developing our prescriptive forecast for NYNEX, below, we have adjusted NYNEX's actual BFP revenue requirement figures to account for the effects of the GIT.

d. Analysis of Per-Line BFP Revenue Requirement Forecasts

(1) The Ten Percent Standard

36. Several price cap carriers contend that the ten percent standard used by the Bureau in the *1997 Designation Order* to identify a significant difference between each annual BFP revenue requirement forecast and the actual annual BFP revenue requirement is too strict.⁶² The ten percent standard required LECs to provide explanatory information regarding a wide variety of factors that affected their forecasts. Therefore, this standard proved extremely useful as an information-gathering device, prompting explanatory statements regarding a large number of potentially significant forecasting errors. We agree that errors in the BFP revenue requirement or end-user demand forecasts individually do not necessarily lead to errors in the *per-line* BFP revenue requirement forecast. A LEC that does not meet the ten percent standard with respect to its BFP revenue requirement or end-user demand forecasts, therefore, may nevertheless show no statistically significant bias toward understatement of its *per-line* BFP revenue requirement.

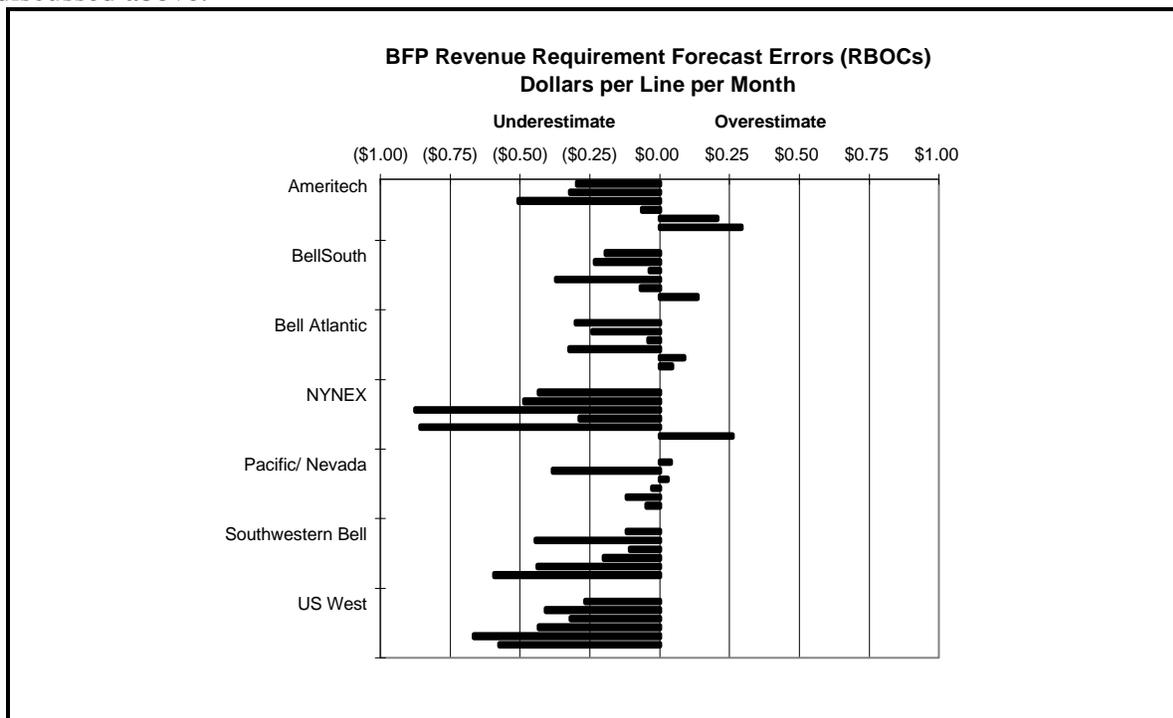
37. To determine whether the LECs have consistently underestimated their *per-line* BFP revenue requirement, we use a three-step analysis, consisting of increasingly more robust statistical testing techniques described below and in the Statistical Appendix. Initially, we graph the magnitude and direction of the differences between actual and forecasted *per-line* BFP revenue requirement for each year since 1991 to confirm that underestimation errors significantly outnumber overestimation errors. Secondly, we conduct a nonparametric sign test to determine whether chance alone could explain the frequency with which the forecasts were below actual *per-line* BFP revenue requirements. Finally, we determine for each LEC whether the mean of its 1991/92-1996/97 forecasts is so significantly below the mean of its 1991/92-1996/97 actuals as to warrant our prescription of a reasonable *per-line* BFP revenue requirement forecast for the 1997/98 tariff year.

⁶¹ *Id.*

⁶² *E.g.*, Aliant Direct Case at 2; Bell Atlantic Direct Case at 4.

(2) Graphical Analysis

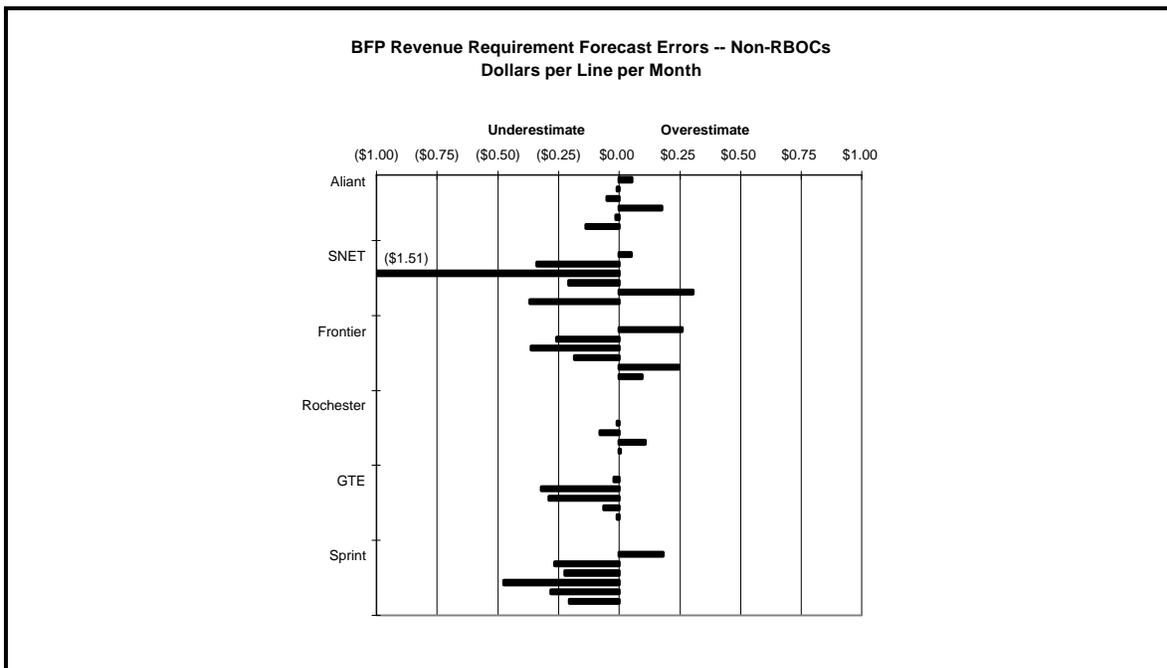
38. AT&T and MCI assert in this proceeding that the price cap LECs have consistently understated their BFP revenue requirement forecasts since 1991. Most of the price cap LECs submitted actual and forecasted per-line BFP revenue requirement data for each tariff year between 1991/92 and 1996/97, giving us a total of 75 observations.⁶³ These yearly data show that, the vast majority of the time, these price cap LECs, in the aggregate, underestimate their per-line BFP revenue requirement, with underestimates occurring in 58 of these 75 observations. We have reproduced below (in Figures 1 and 2) graphical analyses of the price cap carriers errors using actual and projected per-line BFP revenue requirement data, adjusted as discussed above.



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⁶³ Seven BOCs and four of the independent price cap LECs each provided six years of data, for a total of 66 observations. Frontier provided only four years of data for Rochester Telephone because data from 1991 and 1992 no longer exist for that company. GTE provided only five years of data for its companies. Thus, the total is 75.

39. The BOCs, collectively, have underestimated their per-line BFP revenue requirement in 34 of the 42 observations reflected in the record before us, and the remaining price cap carriers have underestimated their per-line BFP revenue requirement in 23 of the remaining 33 observations. Because the data show that the price cap LECs, in general, and the BOCs, in particular, have underestimated their per-line BFP revenue requirement much more often than they have overestimated it, we conclude that we should proceed with further analysis to determine the magnitude of this potential problem.



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(3) The Sign Test

40. We would expect that in any one year a LEC's forecast, based on unbiased forecasting techniques and accounting for all reasonably knowable factors, will differ from the actual per-line BFP revenue requirement due to the occurrence or absence of purely chance events, such as weather phenomena, other natural or man-made disasters, equipment failures, and other similar occurrences. In addition, some of the yearly error may be attributable to the limitations inherent in the LEC's forecasting techniques. By definition, however, an unbiased forecasting technique will show no propensity either to underestimate or to overestimate the per-line BFP revenue requirement. We conclude that these chance events are equally likely to create an error of a given magnitude in either direction, positive or negative, from the actual per-line BFP revenue requirement. In conducting the sign test, we assume that the probability that a LEC would underestimate its per-line BFP revenue requirement in any given year is .50 (fifty percent). Therefore, the probability that a LEC would overestimate its per-line BFP revenue requirement in any given year is also .50 (assuming that the probability that the LEC's forecast will be precisely correct is negligible). Using these reasonable assumptions and the sign test, we can calculate the probability that a LEC using unbiased forecasting techniques,⁶⁴ would

⁶⁴ In this section, we use the word "bias" in its statistical sense. A biased estimate results from the use of a forecasting method that itself creates distortions in the value of the estimate. An unbiased estimation process is

experience the actual pattern of under- and overestimates that we observe over these six years.⁶⁵

41. As illustrated in the statistical appendix, U S WEST, Southwestern Bell, GTE, NYNEX, Sprint, and BellSouth all have underestimated their per-line BFP revenue requirement in at least five of the last six tariff years. Under the assumptions described above, the probability that a LEC using unbiased forecasting techniques would underestimate its per-line BFP revenue requirement for six consecutive years is less than two percent.⁶⁶ The probability that a LEC would underestimate its per-line BFP revenue requirement in five out of the six years we are reviewing in this investigation is less than ten percent.⁶⁷

42. Aliant, SNET, Bell Atlantic, Ameritech, and PacTel underestimated their per-line BFP revenue requirement in four out of six years. The probability that a LEC, using unbiased forecasting techniques would underestimate its per-line BFP revenue requirement in four of the past six years is approximately 23 percent.⁶⁸ The remaining LEC's (Frontier) forecasting errors fall evenly over and under its actual per-line BFP revenue requirements.⁶⁹

43. Because the results of the sign test indicate that virtually all of the price cap LECs

considered desirable because, if repeated many times, an unbiased estimation process will generate estimates the mean of which will approach the mean of the actual population being estimated. We do not indicate with the term "bias" an intent on the part of any LEC deliberately to create understated per-line BFP revenue requirement forecasts beyond the LEC's intent to use the forecasting techniques in question.

⁶⁵ The sign test is discussed in greater detail in the Statistical Appendix. For an additional description, *see* JOHN E. FREUND ET. AL., *ELEMENTARY BUSINESS STATISTICS: THE MODERN APPROACH*, 564-68 (6th ed. 1993).

⁶⁶ There are two outcomes (overestimate or underestimate) possible each year over the course of six years. Therefore, there are 64 possible permutations of these outcomes (2^6). Thus, the probability that the LEC would underestimate its BFP revenue requirement every year for six years, assuming that both outcomes are equally likely each year, is 1 out of 64, or approximately 1.56 percent.

⁶⁷ The probability is 6 out of 64, or approximately 9.38 percent. Thus, the probability that a LEC would underestimate its per-line BFP revenue requirement in at least five of the past six years is 7 out of 64, or approximately 10.94 percent.

⁶⁸ The probability of zero, one, two, or three out of six forecasts being above the actual level is 42/64, or approximately 65.63 percent. Similarly, the probability that a LEC would understate its per-line BFP revenue requirement forecast in four out of six cases is 15 out of 64, or approximately 23.43 percent.

⁶⁹ Although its data are unavailable for tariff years 1991/92 and 1992/93, the record indicates that Rochester Telephone has underestimated its per-line BFP revenue requirement twice and overestimated it twice since tariff year 1993/94. In addition, Bell Atlantic's Direct Case showed that it had underestimated its per-line BFP revenue requirement for three of the last six years. In response to AT&T's Opposition, Bell Atlantic corrected its actual (but not its forecasted) BFP revenue requirements as suggested by AT&T. These corrections changed the sign of one of Bell Atlantic's errors.

have underestimated their per-line BFP revenue requirement far more often than they have overestimated it, we conclude that, as a group, the price cap LECs forecasts may exhibit a systematic downward bias. We recognize that the sign test may have some limitations. For example, by failing to take into account the magnitude of any errors, even relatively accurate forecasts could fare poorly against the sign test, if they fell consistently to one side of the actual level by even a minimal amount. So, although the sign test provides a reliable preliminary indicator that the forecasts of the price cap LECs, as a group, likely show a downward bias, we will supplement it with another common statistical testing method -- the difference in the means test.

(4) The Difference in the Means Test

44. We recognize that the development of per-line BFP revenue requirement forecasts is an inexact process. Whether the LEC uses a "bottom-up" approach by forecasting the performance of individual factors that affect the per-line BFP revenue requirement, or a trend-based approach, using past growth to indicate likely future performance, we could not reasonably expect the LECs' forecasts to correspond precisely to the actual per-line BFP revenue requirements eventually revealed by the historical data. As discussed above, however, we reasonably would expect a LEC making unbiased forecasts of its per-line BFP revenue requirement to err in such a manner that its forecasts may sometimes be less than the actual per-line BFP revenue requirement, and sometimes be greater than the per-line BFP revenue requirement. If the LECs' projections were unbiased estimators of the actual per-line BFP revenue requirement, the LEC's forecasts should tend to center around the actual per-line BFP revenue requirements, with the errors balancing each other out. In other words, over time, we conclude that the mean per-line BFP revenue requirement, forecasted using unbiased estimators, should approach the mean actual per-line BFP revenue requirement.

45. The statistical appendix shows each price cap LEC's forecasted, and adjusted, actual per-line BFP revenue requirement for tariff years 1991/92 through 1996/97, and the difference between the two figures.⁷⁰ Qualitatively, some of the LECs' estimates, particularly those that sometimes overestimate the per-line BFP revenue requirement and sometimes underestimate the per-line BFP revenue requirement, appear consistent with our conclusion that the mean forecasting error, over time, should approach zero. To measure whether the difference between the mean forecast and mean actual per-line BFP revenue requirement is statistically significant, or whether the difference may instead be attributed merely to chance, we will test these data using a difference in the means test. The test methodology is described more fully in the statistical appendix.

46. Because we have a relatively small data sample, we assume a *t* distribution. The *t*

⁷⁰ In conducting the difference in the means test, we have used the same adjusted data we used for the sign test, above.

distribution is similar to the bell-shaped curve of a normal distribution, but is somewhat flatter, reflecting the lower degree of confidence associated with small samples. As discussed above, we conclude that a LEC, using unbiased forecasting techniques and accounting for all knowable factors affecting its per-line BFP revenue requirement in the coming year, is equally likely to create an error of a given magnitude in either direction, positive or negative, from the actual per-line BFP revenue requirement. The t distribution reflects this fact.

47. The difference in the means test we apply here is a one-tailed test using a 90 percent confidence interval (permitting us to reach conclusions concerning the difference in the means at the .10 level of significance).⁷¹ Determining a reasonable confidence interval can be a difficult judgment. Given the limited number of data points we have here, however, we conclude that this confidence interval is reasonable. Although this is the Commission's first analysis of the price cap LECs' per-line BFP revenue requirements using techniques of statistical analysis, the Common Carrier Bureau has evaluated other LEC forecasts in the context of annual access tariff investigations using a 90 percent confidence interval.⁷² Because this investigation represents our first statistical evaluation of the price cap LECs per-line BFP revenue requirement forecasts under price cap regulation, we are conservative in our evaluation of the reasonableness of these LECs' forecasts, consistent with the fact that the burden of proof rests with the price cap LECs in this investigation. Thus, in our judgment, a 90 percent confidence interval reasonably assures that, if a LEC fails this test, the failing result will not be due to chance. This confidence interval, therefore, provides a high degree of confidence that the LECs failing this test show a statistically significant downward bias in their per-line BFP revenue requirement forecasts, while not requiring such a high level of confidence that we would be unlikely to capture genuine downward bias. Therefore, a 90 percent confidence interval permits the LECs a reasonable margin for error, but protects ratepayers and IXCs from the danger that a higher confidence interval would fail to detect actual bias in the LECs' forecasting practices, which ultimately affect rate levels. In future years, if further investigation of the LECs' forecasts becomes necessary, we will have a greater amount of data, and may find it appropriate to revise the size of this confidence interval.

48. The difference in the means test indicates, at the .10 level of significance, that the forecasting errors of U S WEST, Southwestern Bell, NYNEX, Bell Atlantic (South), Sprint, and GTE have not arisen by chance, but are the result of some bias present in the forecasting techniques of these LECs.⁷³

⁷¹ We use a one-tailed test because we only want to test whether the mean of forecasts is significantly below the mean of actuals.

⁷² See, e.g., Annual 1988 Access Tariff Filings, Memorandum Opinion and Order, 3 FCC Rcd 1281, 1305 (Com. Car. Bur. 1987).

⁷³ In applying the difference in the means test to determine at .10 level of significance whether the difference in the means is statistically significant, we used the t distribution, which is appropriate for data samples

(5) Explanations and Forecasts Offered by Individual LECs

49. Because the forecasts filed by U S WEST, Southwestern Bell, GTE, NYNEX, Bell Atlantic (South), and Sprint have failed both the sign test and the difference in the means test, we conclude that their forecasting techniques underestimate the per-line BFP revenue requirement in a statistically significant manner. As such, we conclude that these LECs' tariff year 1997/98 forecasts are likely to be the product of biased forecasting techniques. Nevertheless, we conclude that we should not automatically reject as unreasonable the provisions relating to the BFP revenue requirement forecast contained in the tariff filings of these LECs. Instead, we will again examine the reasons offered by those LECs for their forecasting errors to determine whether these LECs have offered any explanation that would tend to negate our conclusion that biased forecasting techniques have resulted in a statistically significant pattern of underestimating of the per-line BFP revenue requirement. We will use this information, coupled with our independent evaluations of the LECs' likely per-line BFP revenue requirement for tariff year 1997/98, to determine whether the tariff year 1997/98 forecasts appear reasonable.

i. U S WEST

50. U S WEST attributes its forecasting errors, in general, to faulty budget estimates. For example, for tariff years 1992/93 and 1993/94, U S WEST states its BFP revenue requirement forecast error was primarily the result of its understated budget projections. Similarly, for tariff years 1994/95 through 1996/97, U S WEST cites significant increases in its investment in loop plant installed to serve customers.⁷⁴

51. We find U S WEST's explanations unpersuasive in judging whether a downward bias likely exists in its tariff year 1997/98 forecast. While budgeting errors and increased investment in loop plant may in fact have caused U S WEST's repeated underestimating of its BFP revenue requirement, U S WEST has provided no indication that its current forecast is likely to be less biased than its past forecasts. Although U S WEST attributes its error in part to the fact that it "has been even more successful than it budgeted in reducing expenses,"⁷⁵ we conclude that the effect of this success, if any, would have caused U S WEST's actual per-line BFP revenue requirement to be closer to its understated forecasts, thereby mitigating, not

of less than 30. With six observations (five degrees of freedom), the critical t is 1.476, indicating that, in repeated, random sampling, we would expect the mean forecast to be less than the mean actual per-line BFP revenue requirement by less than 1.476 standard deviations 90 percent of the time. If the calculated t for a particular LEC is less than the critical t , this difference is statistically significant at the .10 level., *i.e.*, not attributable to chance. The testing methodology and results are set forth in greater detail in the statistical appendix.

⁷⁴ U S WEST Direct Case at 7-8.

⁷⁵ U S WEST Direct Case at 8.

amplifying, other errors. While U S WEST repeatedly cites unprecedented growth in loop plant, cable and wire, and circuit investment over the past several years, it nevertheless developed its tariff year 1997/98 BFP revenue requirement forecast based on the unsupported assumption that "growth [will] return to historical levels."⁷⁶ Similarly, although U S WEST attributes part of its error since 1994 to its sales of certain exchanges, which have taken longer than expected to complete,⁷⁷ U S WEST gives no indication that it has used this information to adjust its tariff year 1997/98 forecast. Under such circumstances, and in light of U S WEST's history of repeatedly, significantly underestimating its BFP revenue requirement, we conclude that U S WEST's tariff year 1997/98 forecast is unreasonable.

52. U S WEST indicates in its direct case that, until 1993, it developed its BFP revenue requirement forecast by processing its budget forecasts through its Part 36 Model and Part 69 Model.⁷⁸ In 1994, U S WEST states that it changed its budget forecasting process to prepare budgets at a higher level of detail, necessitating certain changes in its BFP revenue requirement forecasting methodology. Instead of forecasting directly from the models, U S WEST instead used the Part 36 Model and the Part 69 Model to develop preliminary actual BFP revenue requirement data for the immediately preceding calendar year. It then applied a forecasted growth rate, developed using its new budget forecasting process, to the model data. U S WEST states in its Direct Case that "[t]he change in methodology in 1994 was driven by a change in business practices and was not intended as an attempt to change BFP forecasting methods. It is not apparent at this time that the 1994 change in BFP forecasting methodology altered 1997 tariff year projections in any way."⁷⁹ Our examination of U S WEST's per-line BFP revenue requirement forecasts shows no significant change in the performance of its per-line BFP revenue requirement forecasting methods, and we accept U S WEST's representations to this effect.

ii. Southwestern Bell

53. In its direct case, SBC offered explanations for the persistent underestimation of the per-line BFP revenue requirements of Southwestern Bell. SBC states that Southwestern Bell performs a Cable and Wire Study and a Circuit Equipment Study to categorize facility investment between loop-related and trunk-related costs, and to identify private-line-related and special-access-related costs.⁸⁰ The percentage of costs these studies allocate to the loop has a

⁷⁶ *Id.*

⁷⁷ *Id.*

⁷⁸ U S WEST Direct Case at 16.

⁷⁹ *Id.*

⁸⁰ SBC Direct Case at 5.

significant impact on the interstate BFP revenue requirement.⁸¹ These studies currently are updated on a monthly basis although, prior to August, 1993, Southwestern Bell updated the Cable and Wire Study only biannually.⁸² SBC concedes that Southwestern Bell underestimated the loop-related costs these studies ultimately allocated to the BFP revenue requirement by between \$22 million and \$40 million for each tariff year between 1992/93 and 1996/97, inclusive.⁸³ This error alone accounted for between one-third (1996/97) and virtually all (1993/94 and 1994/95) of Southwestern Bell's BFP forecasting error in these tariff years. Nevertheless, Southwestern Bell's tariff year 1997/98 BFP revenue requirement forecast was developed using the same methodology that SBC admits has consistently understated the per-line BFP revenue requirement in the past.⁸⁴

54. In preparing its BFP revenue requirement forecasts, a carrier may reasonably rely on Cable and Wire and Circuit Equipment studies that have forecast loop costs accurately in the past. SBC concedes, however, that it has generated forecasts using these studies that have consistently understated these items for the past five tariff years. Similarly, while we recognize that Southwestern Bell's BFP revenue requirement forecasts are based in part on budgeting decisions that have not been finalized for the second half of the tariff year at the time of filing, we find that it is not reasonable for SBC to continue to rely on consistently understated budget estimates that repeatedly generate low BFP revenue requirement forecasts. Therefore, we find that SBC's continued reliance on these studies in developing Southwestern Bell's forecasts is unjustified. Accordingly, we conclude that Southwestern Bell's BFP revenue requirement forecast for tariff year 1997/98, is unreasonable in that it is likely to show a downward bias in the same manner as its previous forecasts.

55. SBC's reliance on other sources of Southwestern Bell's errors for individual tariff years does not provide a basis for altering this conclusion. For instance, in tariff year 1991/92, Southwestern Bell's BFP revenue requirement forecast was low allegedly because of "larger investments associated with facility upgrades than projected."⁸⁵ For tariff year 1992/93, Southwestern Bell states that its forecast did not include actual costs of "right-to-use fees associated with the advancement of network interconnection requirements" and "corporate relocation costs."⁸⁶ For tariff year 1995/96, Southwestern Bell cites "an accumulation of items

⁸¹ *Id.*

⁸² *Id.*

⁸³ *Id.* at 6-7.

⁸⁴ *Id.* at 23.

⁸⁵ *Id.* at 6.

⁸⁶ *Id.*

that resulted in operating expenses higher than amounts reflected in the forecast."⁸⁷ SBC does not assert that any of these costs were unforeseeable, and we are therefore skeptical that they could not have been included in the BFP revenue requirement forecast. Similarly, SBC and PacTel were beginning the merger process early in 1996, well before the BFP revenue requirement forecasts needed to be finalized.⁸⁸ The probable effects of a successful merger on Southwestern Bell's BFP revenue requirement could have been anticipated in the tariff year 1996/97 filing. Similarly, the probability of a flood should have been incorporated into Southwestern Bell's BFP revenue requirement forecasts throughout this period.⁸⁹ The effects of both of these events on the BFP revenue requirement, however, appear to have been relatively small.⁹⁰

iii. GTE

56. GTE indicates that, because of changes to its budgeting process for tariff year 1997/98, it has changed from a budget-oriented, bottom-up forecast methodology to a "two-year trend," calculated by study area.⁹¹ GTE concedes that its forecast is not consistent with the historical trend, because GTE recognized a decrease in its BFP revenue requirement of 5.3 percent overall between 1995 and 1996. GTE developed its 1997/98 forecast by projecting continued decline at that rate.

57. The *1997 Designation Order* required each price cap LEC to "calculate its actual interstate BFP revenue requirement for calendar years 1991-1996 and associated tariff years (beginning with the 1991-1992 tariff year)."⁹² Each price cap LEC did so, with the exception of GTE. GTE reports in its direct case, without explanation, that information concerning its tariff

⁸⁷ *Id.* at 7.

⁸⁸ *See, e.g.*, News Release, "SBC Communications Inc. and Pacific Telesis Group Announce Merger Agreement; Creates Nation's Second Largest Telecommunications Company" (San Francisco, Apr. 1, 1996).

⁸⁹ SBC provides no information on the precise dollar impact of the 1993 midwestern flood. The flood, however, affected only a small portion of Southwestern Bells' service area and, based on information provided in the record, explains significantly less than half of Southwestern Bell's tariff year 1992/93 error. SBC Direct Case at 6. Accordingly, even if we were to make an adjustment for this flood, Southwestern Bell would nevertheless continue to fail our statistical tests. While the information in the record is insufficient for us to determine whether Southwestern Bell's forecasts incorporate the probabilities of floods or any other natural phenomena, we observe that Southwestern Bell's per-line BFP revenue requirement forecasts substantially understated the per-line BFP revenue requirement even in years without floods.

⁹⁰ *Id.* at 6, 8.

⁹¹ GTE Direct Case at 13.

⁹² *1997 Designation Order* at ¶ 17.

year 1996/97 actual BFP revenue requirement is "not available."⁹³ Since filing its direct case, GTE has provided the Commission with no additional explanation or information concerning its tariff year 1996/97 per-line BFP revenue requirement, either in its rebuttal, or on an *ex parte* basis. Given GTE's disregard of the information requirements set forth in the *1997 Designation Order*, for purposes of this Order, we tested the performance of GTE's forecasting methods using only the five data points (tariff years 1991/92 through 1995/96) that GTE provided. Even after adjusting the critical *t* statistic for this smaller data sample, GTE's forecasts fall outside of the 90 percent confidence interval.

58. GTE offers sparse explanation of its consistently low BFP revenue requirement forecasts, stating only that "[d]uring the period of 1991-1996, GTE used forecasted budget data in the preparation of its projected interstate BFP revenue requirements. With the wide geographic area GTE serves and the changes in economic conditions and/or acts of nature, there were variances between the budget data and the actual interstate BFP revenue requirement results."⁹⁴ While we agree that diverse conditions in GTE's large number of study areas could make GTE's BFP revenue requirement, and its forecasts, more volatile, we cannot agree that such conditions explain the consistent and substantial understatement observed since 1991. While volatility could contribute to the large magnitude of GTE's forecasting errors, it does not explain the fact that GTE's forecasts are consistently low.

59. We have indicated in this and other proceedings our belief that it is difficult to forecast accurately the BFP revenue requirement based on only two years of data.⁹⁵ We find such a forecasting technique to be particularly suspect when used by a LEC to extrapolate a year-to-year change in the BFP revenue requirement that is relatively "large" compared to the magnitude of the changes experienced by that LEC in other years and by other LECs. Especially in light of the fact that none of the LECs under investigation here have recorded such a large decline two years in a row since 1991, and in light of GTE's history of repeated, substantial understatement of its BFP revenue requirement, we find that GTE's per-line BFP revenue requirement forecast for tariff year 1997/98 is likely again to show a downward bias, despite its revisions to its forecasting methodology. In addition, as discussed below, our forecast of GTE's tariff year 1997/98 monthly per-line BFP revenue requirement differs substantially from GTE's forecast.

iv. Bell Atlantic - North (NYNEX)

⁹³ GTE Direct Case at Exhibit A-8, p. 2.

⁹⁴ GTE Direct Case at 5.

⁹⁵ 1997 Annual Access Tariff Filings, CC Docket No. 97-149, Memorandum Opinion and Order, DA 97-1350 (Com. Car. Bur., rel. June 27, 1997), at ¶ 21 (*1997 Suspension Order*); 1996 Annual Access Tariff Filings, Memorandum Opinion and Order, 11 FCC Rcd 7564, 7594 (Com. Car. Bur. 1996).

60. Our analysis of the data indicates that NYNEX's per-line BFP revenue requirement forecasts have understated its actual per-line BFP revenue requirement in a statistically significant manner since 1991. In explaining this error, Bell Atlantic asserts that in tariff years 1992/93, 1993/94, 1994/95, and 1995/96 NYNEX underestimated "expenses and other taxes."⁹⁶ Bell Atlantic explains that "[a] major contributing factor to the under[estimates] was significant increases in actual operating expenses due to force reduction and service improvement initiatives."⁹⁷ According to Bell Atlantic, NYNEX's work force plans were either not available, or preliminary, in February of each of these years, when NYNEX developed its BFP revenue requirement forecasts, causing "more potential variability around meeting the actual expense target in the projected tariff period."⁹⁸

61. We agree that the preliminary nature of NYNEX's plans in February could make forecasting the BFP revenue requirement more difficult. We conclude, however, that, while the preliminary nature of NYNEX's plans could increase the standard error of NYNEX's forecasts by increasing the uncertainty of its forecasts, this fact cannot explain the repeated, statistically significant understatement of NYNEX's per-line BFP revenue requirement we observe here. Instead, we conclude that NYNEX's consistent understatement of its per-line BFP revenue requirement over this period indicates the use of biased forecasting techniques.

62. For example, in tariff year 1993/94, Bell Atlantic states that NYNEX forecasted its BFP revenue requirement using a two-year growth rate that failed to capture a special pension enhancement booked in the second quarter of 1994, and that caused "an under[estimate] in expenses and other taxes."⁹⁹ For tariff year 1994/95, Bell Atlantic states that \$83 million of NYNEX's \$99 million error occurred because this special pension enhancement offer (already underway in the second quarter of 1994) *continued into tariff year 1994/95*, which "increased expenses."¹⁰⁰ Bell Atlantic offers no explanation for NYNEX's inability to account for expenses attributable to a pension enhancement offer that had already been implemented.

63. On behalf of NYNEX, Bell Atlantic also cites, for tariff year 1991/92, adjustments to its revenue requirement forecast for the anticipated effects of exogenous adjustments, such as the completion of inside wire amortizations in Massachusetts and Rhode

⁹⁶ Bell Atlantic Direct Case, Detailed Responses at 7-8.

⁹⁷ *Id.* at 10.

⁹⁸ *Id.*

⁹⁹ *Id.* at 8.

¹⁰⁰ *Id.*

Island.¹⁰¹ This explanation fails to persuade us either that NYNEX's BFP revenue requirement forecasting techniques are reasonable, or that they do not exhibit a downward bias. In developing its BFP revenue requirement, NYNEX could have chosen to account for this factor and probably could have developed highly accurate estimates of the actual impact.

64. NYNEX's tariff year 1996/97 per-line BFP revenue requirement forecast came closer than any other forecast during this period to its actual per-line BFP revenue requirement, overstating the actual figure by a small amount. In explanation, however, Bell Atlantic indicates that, for 1996/97, NYNEX developed its forecast based on a small change in its rate base from 1994 to 1995. Bell Atlantic explains that "this resulted in a small forecasted decrease in rate base which did not fully reflect the much larger change in rate base that occurred from 1995 to 1996."¹⁰² Bell Atlantic does not indicate the reasons for this decline, that it expects NYNEX's rate base to continue to decline, or that the decline was attributable to factors that it could not have incorporated into its BFP revenue requirement forecasts.

65. In its direct case, Bell Atlantic indicates that, for tariff year 1991/92, NYNEX forecasted its BFP revenue requirement by applying a normalized 1990/1991 growth rate to its 1991 budget to forecast the 1992 budget. It then added forecasted budget data from the second half of 1991 and the first half of 1992 to generate a test period budget, which it then processed according to the Part 36 and 69 rules. Since tariff year 1992/93, NYNEX has used a methodology similar to Bell Atlantic-South's, that forecasts the BFP revenue requirement by extrapolating the growth experienced in the past two years.¹⁰³

66. Bell Atlantic does not indicate that NYNEX changed forecasting methodologies in order to increase the accuracy of its forecasts, or to correct for any inherent bias, and our examination of its per-line BFP revenue requirement data reveals no observable improvement in NYNEX forecasts after 1991. Instead, because NYNEX's past forecasts show a statistically significant bias toward understatement of the per-line BFP revenue requirement, we find that NYNEX's per-line BFP revenue requirement forecast for tariff year 1997/98 is likely again to show a downward bias. Therefore, we prescribe a per-line BFP revenue requirement forecast for NYNEX that is reasonable in light of the past performance of its per-line BFP revenue requirement since 1991.

v. Bell Atlantic - South (Bell Atlantic)

67. Our analysis indicates that Bell Atlantic has understated its per-line BFP revenue

¹⁰¹ Bell Atlantic Direct Case, Detailed Responses at 7.

¹⁰² *Id.* at 8.

¹⁰³ Bell Atlantic Direct Case, Detailed Responses at 19.

requirement forecast in a statistically significant manner. Based upon the actual and projected monthly per-line BFP revenue requirements filed in its direct case, Bell Atlantic appeared to have an accurate and unbiased forecasting method. In its opposition, however, AT&T charged that Bell Atlantic had been incorrectly calculating its Total Other Taxes figure.¹⁰⁴ Correcting this Total Other Taxes calculation, AT&T asserts that Bell Atlantic's actual BFP revenue requirement should be approximately \$11 million to \$33 million higher for each tariff year.¹⁰⁵

68. In rebuttal, Bell Atlantic provides corrected BFP revenue requirement data, which significantly increase the disparity between its forecasted and actual per-line BFP revenue requirements.¹⁰⁶ While Bell Atlantic asserts that its forecasts remain reasonable after calculating Total Other Taxes correctly, our test of the difference between its mean actual and mean forecasted per-line BFP revenue requirement shows a significant downward bias in the forecasts.

69. We conclude that Bell Atlantic's forecasts show a downward bias because Bell Atlantic has developed its forecasts since 1991 using substantially understated estimates of Total Other Taxes. Because it has corrected for this error, and because Bell Atlantic's past forecasts have generated reasonably unbiased forecasts, except for the effects of this error, we conclude that Bell Atlantic's forecasting methodology is likely to generate a reasonable projection of its actual per-line BFP revenue requirement for tariff year 1997/98. We therefore direct Bell Atlantic, in conjunction with its January 1, 1998, access tariff filing, to recompute its tariff year 1997/98 per-line BFP forecast, and issue any necessary refunds, using its existing methodology and the corrected BFP revenue requirement data contained in its rebuttal.

vi. Sprint

70. In its direct case, Sprint offers no explanation for its consistent understatement of its per-line BFP revenue requirement since tariff year 1992/93.¹⁰⁷ Instead, Sprint states that it "does not have at its disposal the level of resources and time required [to] gather the detailed information necessary" to explain its BFP revenue requirement forecasting errors.¹⁰⁸ Instead, Sprint states that it considers the Commission's information requirement to be "unnecessarily stringent."¹⁰⁹

¹⁰⁴ AT&T Opposition at Appendix B, p. 1.

¹⁰⁵ *Id.* at Appendix B, p. 3.

¹⁰⁶ Bell Atlantic Rebuttal at Appendix B.

¹⁰⁷ Only in tariff year 1991/92 did Sprint's forecast exceed its actual per-line BFP revenue requirement.

¹⁰⁸ Sprint Direct Case at Exhibit 3.

¹⁰⁹ *Id.*

71. Sprint alleges that, despite its consistent understatement of its per-line BFP revenue, it has allocated appropriate amounts of the BFP revenue requirement to the CCL charge, because it exceeded the \$6.00 MLB monthly EUCL cap each year since 1991. While this cap has limited Sprint's ability to inflate improperly its common line revenues over this period, the MLB EUCL cap does not serve to ensure that Sprint's forecasting methods are unbiased. In addition, while Sprint's per-line BFP revenue requirement exceeds the former \$6.00 cap, it does not exceed the current \$9.00 cap. Therefore, as with the other price cap LECs, any bias present in Sprint's per-line BFP revenue requirement forecasting techniques is now of increased importance.

72. Sprint indicates that, through tariff year 1995/96, it used a bottom-up forecasting methodology identical to that used before it elected price cap regulation. Specifically, it states that it subjected test year budget data to its "Part 36 and 69 systems" to produce a budgeted BFP revenue requirement.¹¹⁰ After 1995, Sprint changed its budgeting process, so that it no longer generated monthly budget data used for this process. For tariff years 1996/97 and 1997/98, Sprint states that it has used a two-year trend-based forecasting methodology.¹¹¹ Sprint states, however, that "since the process was performed at the individual Sprint level, some companies chose to trend pervious years' actual data, while others chose to trend previous years' filing data."¹¹²

73. Sprint does not indicate that it changed forecasting methodologies in order to increase the accuracy of its forecasts, or to eliminate any downward bias, and our examination of its per-line BFP revenue requirement data reveals no observable improvement in Sprint's tariff year 1996/97 forecast. Because Sprint's past forecasts, including its tariff year 1996/97 forecast, show a statistically significant bias toward understatement of the per-line BFP revenue requirement, we find that Sprint's per-line BFP revenue requirement forecast for tariff year 1997/98 is likely again to show a downward bias, despite its revisions to its forecasting methodology. Accordingly, we reject Sprint's per-line BFP revenue requirement forecast for tariff year 1997/98, and prescribe a forecast that is reasonable, in light of the performance of Sprint's actual, per-line BFP revenue requirement since 1991.

e. Prescription of BFP Revenue Requirement Forecasts

(1) Use of Autoregressive Analysis to Develop Prescriptions

74. In the past, the Commission has not prescribed any particular methodology for

¹¹⁰ Sprint Direct Case at Exhibit 7.

¹¹¹ *Id.*

¹¹² *Id.*

the LECs to use in developing their per-line BFP revenue requirement forecasts because it has recognized that the LECs might reasonably employ a variety of methods to develop these forecasts. Indeed, in this proceeding the LECs were given ample opportunity to provide information to justify their forecasting methodologies. The Communications Act requires that the LECs' charges, including those based on the BFP revenue requirement and end-user demand forecasts, be "just and reasonable."¹¹³

75. The Communications Act empowers us, in such a case, "to determine and prescribe what will be the just and reasonable charge, or the maximum or minimum, or maximum and minimum, charge or charges" these LECs are permitted to impose.¹¹⁴ We therefore prescribe, below, the per-line BFP revenue requirement to be used by these five LECs in calculating their EUCL charges, CCL charges, and PICCs for the 1997/98 tariff year. The use of these prescribed per-line BFP revenue requirements will produce just and reasonable charges.

76. In light of our analysis above, we conclude that the use of a prescriptive remedy with respect to the per-line BFP revenue requirement calculations of these five LECs is necessary and appropriate in this case, even though the Commission has not, in the past, prescribed in advance any particular methodology for use by the LECs' in preparing their BFP revenue requirement forecasts.¹¹⁵ We continue to believe that there are many different methods that could produce reasonable forecasts for individual LECs, and that it would be counterproductive for us to prescribe the use of any particular methodology. In fact, the LECs whose forecasts we accept in this proceeding have used a wide variety of forecasting techniques, as was permitted by the *1997 TRP*.¹¹⁶

77. We conclude, however, that we must prescribe forecasts of the per-line BFP revenue requirement for the tariff year 1997/98 for the LECs that have consistently made significant underestimates of their per-line BFP revenue requirement in previous tariff periods and have given us no satisfactory explanation why their estimates for the 1997/98 tariff year do not also underestimate their per-line BFP revenue requirement. For four of the LECs that fall into this category, we apply an autoregressive method to develop the forecasts upon which we base our prescription for the tariff year 1997/98. Because GTE failed to supply adequate data to apply this autoregressive method, we combine simple arithmetic and geometric averages of its past per-line BFP revenue requirements to develop a forecast for the tariff year 1997/98.

¹¹³ 47 U.S.C. § 201(b).

¹¹⁴ 47 U.S.C. § 205(a).

¹¹⁵ 1997 Annual Access Tariff Filings, CC Docket No. 97-149, Memorandum Opinion and Order, DA 97-1350 (Com. Car. Bur., rel. June 27, 1997), at ¶ 21.

¹¹⁶ Material to be Filed in Support of 1997 Annual Access Tariff Filings, Tariff Review Plans, DA 97-593 (rel. Mar. 21, 1997), ¶ 8.

Although Bell Atlantic's past forecasts have consistently underestimated its BFP revenue requirement, the source of its past underestimates has been identified and we order Bell Atlantic to calculate and file a forecast for the tariff year 1997/98 based on a corrected version of its forecasting methodology. These prescribed forecasts will serve as the basis for calculating refund liability for the period July 1, 1997 through December 31, 1997. LECs are permitted to adjust these prescribed forecasts for the period January 1, 1998 through June 30, 1998 to allow for any January 1, 1998 reductions in the number of EUCL charges actually levied on customers with ISDN lines. Finally, we agree with parties contending that, in addition to the impact an inappropriately low forecast of per-line BFP revenue requirement has on permitted common line revenues in any given tariff year, a consistent, significant underestimation of the per-line BFP revenue requirement increases common line revenues for all future years above what our price cap rules would otherwise permit. These parties have failed to provide, however, a reasonable quantification of this secondary effect and we decline to prescribe a reduction in LEC PCIs in this Order.

78. We conclude that we should use autoregressive forecasting. Autoregressive forecasting is used commonly to forecast future values of a variable, when the value of that variable depends, not on time, but on past values of the same variable. When applied to data that exhibit such a correlation over time, autoregressive analysis will forecast the next value in the series based on that correlation. Conversely, when applied to data that show only random fluctuations, the results of an autoregressive analysis closely approximate the arithmetic mean of the data. For data that exhibit random fluctuations, we find that a forecast that approximates the arithmetic mean is the most reasonable forecast available for the next member of the series. Accordingly, we conclude that autoregression provides a forecasting tool that accounts for intertemporal correction present in the data and, in cases where random fluctuations are present, provides an unbiased estimate of the central tendency of the per-line BFP revenue requirement series.

79. The forecasting methods we use in developing our prescriptions produce reasonable per-line BFP revenue requirement forecasts for these LECs, consistent with Section 201(b) of the Communications Act¹¹⁷ and, therefore, reasonable charges as well. Therefore, we require U S WEST, Southwestern Bell, NYNEX, Sprint, and GTE to adjust their per-line BFP revenue requirement forecasts in accordance with the prescriptions below, so that just and reasonable charges can be put in place.

80. ***Southwestern Bell, U S WEST, NYNEX, and Sprint.*** In prescribing the per-line BFP revenue requirement for use by U S WEST, Southwestern Bell, NYNEX, and Sprint, we seek to employ the forecasting method that is most likely to produce reasonable results for tariff year 1997/98. To this end, we rely primarily on a simple autoregressive forecasting technique, where each year's per-line BFP revenue requirement is a function of the previous year's value.

¹¹⁷ 47 U.S.C. § 201(b).

81. Providing a reasonable forecast based on six points of data is, at best, a difficult task that is made more difficult by our lack of access to data regarding future LEC business and construction plans. Examination of LECs' per-line BFP revenue requirements shows that some LECs' revenue requirements exhibit a positive correlation between successive values, while others appear to fluctuate randomly over time. For those LECs whose per-line BFP revenue requirement has followed an upward trend, we intend to prescribe a per-line BFP revenue requirement that approximates the upward movement over time. To the extent that a LEC's per-line BFP revenue requirements appear to fluctuate randomly, we conclude that a prescription based on some measure of per-line BFP revenue requirement's central tendency is likely to result in unbiased forecast. As discussed more fully below, we rely primarily on a simple autoregressive forecasting technique, where each year's per-line BFP revenue requirement is a function of the previous year's value. In addition, we include forecasts based on a variety of other techniques to check the validity of our prescription.

82. In our forecasting, we rely on the adjusted, "series 2" actual calendar-year BFP revenue requirement data submitted by the price cap LECs, further adjusted for certain additional one-time expenses detailed in the statistical appendix (such as depreciation revisions for U S WEST), and calendar year line counts, to compute adjusted actual per-line BFP revenue requirement data on a calendar year basis. To prescribe per-line BFP revenue requirement forecasts for tariff year 1997/98 for U S WEST, Southwestern Bell, NYNEX, and Sprint, we subject these data to autoregressive analysis.

83. Our forecasts based on the autoregressive method are shown in the table below. The LEC forecasts are shown at the bottom of the table. To support the reasonableness of our forecasts, we include in the table an estimate of the per-line BFP revenue requirement for tariff year 1997/98 based on a simple linear extrapolation of any trend in each LEC's past actual per-line BFP revenue requirement, and the arithmetic mean of the same data. As discussed above, a forecast based on an autoregressive model should approximate a linear extrapolation of any trend that exists, and in the absence of a trend should approximate the arithmetic mean. The simple linear trend regressions show that adjusted per-line BFP revenue requirements for Southwestern Bell and U S WEST exhibited statistically significant trends.¹¹⁸ For these LECs the forecast produced by the autoregressive technique are lower than those produced using a simple linear trend, but are well above the arithmetic mean. In contrast, the autoregressive model produced forecasts for NYNEX and Sprint that are nearly equal to the arithmetic mean. Visual inspection of the actual per-line BFP revenue requirements of these LECs, as adjusted for changes in our rules, reveals no real pattern or trend.¹¹⁹ We conclude that the autoregressive method, using available data, provides reasonable forecasts of per-line BFP revenue requirement for the tariff year 1997/98 for U S WEST, Southwestern Bell, NYNEX, and Sprint.

¹¹⁸ For additional discussion, see the statistical appendix.

¹¹⁹ Graphical representations of all of these companies' data are included in the statistical appendix.

| | Nynex | GTE* | Sprint | Southwestern | US West |
|--|---------------|-----------|---------------|---------------|---------------|
| FCC Autoregression (prescription) | \$6.48 | na | \$6.56 | \$6.53 | \$7.38 |
| FCC Trend Forecast | \$6.72 | na | \$6.58 | \$6.72 | \$7.24 |
| FCC Calendar Year Arithmetic | \$6.39 | na | \$6.55 | \$5.96 | \$6.10 |
| LEC Forecast | \$5.92 | \$6.21 | \$6.41 | \$5.75 | \$6.56 |

84. Accordingly, we direct US WEST, Southwestern Bell, NYNEX, and Sprint to recalculate their EUCL charges, CCL charges, and PICCs for tariff year 1997/98, using the forecasts shown on the first line of the table above. For LECs subject to our prescription that tariff EUCL charges on a study-area basis, we direct them to recalculate their EUCL charges, CCL charges, and PICCs, by increasing each study area's forecasted per-line BFP revenue requirement by the ratio of our company-wide prescription, shown above, to the LEC's filed 1997/98 forecast, shown on the last line of the table above. These LECs must then issue a refund, including interest, to each IXC operating in its region, computed by multiplying the difference in the CCL rate by the number of minutes each IXC originated from or terminated to that LEC between July 1 and December 31, 1997. Refunds shall be computed on the basis of daily compounded interest using interest rates specified by the United States Internal Revenue Service.

85. **Prescription for GTE.** The 1997 Designation Order required each price cap LEC to demonstrate that its projection of tariff year 1997/98 end-user demand was reasonable by providing trend analyses using actual numbers of lines and the natural logarithm of the number of lines, as reported in ARMIS, if available. That order required the LECs to develop these trends using calendar year line-count data from 1991-1996.¹²⁰ All of the price cap LECs provided us with calendar year end-user demand data, except GTE. Without explanation, GTE disregarded this requirement of the 1997 Designation Order and failed in its direct case to provide the required calendar year line counts.

86. The autoregressive forecasting technique that we used to develop per-line BFP revenue requirement prescriptions for U S WEST, Southwestern Bell, NYNEX, and Sprint relies on the use of calendar year per-line BFP revenue requirement data that have been adjusted for the effects of Commission rule changes on the BFP revenue requirement since 1991. Because GTE did not file calendar year line count data in its direct case, we have been unable to compute

¹²⁰ 1997 Designation Order at ¶ 33.

such calendar year per-line BFP revenue requirement data for GTE.¹²¹ As discussed, GTE's per-line BFP revenue requirement forecasts have evidenced a downward bias, and we have therefore rejected GTE's tariff year 1997/98 forecast. Accordingly, we must select an alternative method of prescribing a forecast for GTE. In doing so, we will use a method that represents the most reasonable forecast available based on this record.

87. As discussed more fully in the statistical appendix, because GTE has prevented us from determining its adjusted, calendar-year per-line BFP revenue requirements, we rely instead on the three tariff-year per-line BFP revenue requirement values contained in the record for which the Commission's rules remained constant. During these three tariff years, GTE's actual per-line BFP revenue requirement decreased slightly.¹²² With only three data points, however, we are unable to determine whether the slight decrease over this period represents a slight downward trend that may continue, or whether the series is relatively stable, showing no trend, with the slight downward slope occurring by chance. If this downward slope continued as a trend, a prescription based on the geometric average growth rate would represent a reasonable estimate of the tariff year 1997/98 value. If, on the other hand, the series shows no trend, the arithmetic mean would represent a reasonable estimate of the value of the next member of the series.

88. We have computed projections based on both the geometric average growth rate and the arithmetic mean of this series and adjusted for changes to the Commission's treatment of payphone and OB&C expenses. Because we cannot determine from only three data points whether GTE's per-line BFP revenue requirements show a trend, however, we cannot conclusively reject either forecast. In this case, therefore, we conclude that a reasonable estimate of GTE's per-line BFP revenue requirement for tariff year 1997/98 is the average of these two forecasts. We have computed this average and we direct GTE to use the resulting \$7.26 per-line BFP revenue requirement forecast for tariff year 1997/98.

89. We direct GTE to recalculate its EUCL charges, CCL charges, and PICCs for tariff year 1997/98, using this Commission-prescribed forecast. To do so, we direct GTE to recalculate its EUCL charges, CCL charges, and PICCs, by increasing each study area's forecasted per-line BFP revenue requirement by the ratio of its company-wide prescription to its filed 1997/98 forecast. GTE must then issue a refund, including interest, to each IXC operating

¹²¹ In response to a staff request, GTE filed, *ex parte*, calendar-year line count data. See Letter from F.G. Maxson, Director - Regulatory Affairs, to William F. Caton, Acting Secretary, Federal Communications Commission, (filed Nov. 21, 1997). We reject these calendar-year data, however, as unreliable. As discussed more fully in the statistical appendix, in many cases, the line count for a particular tariff year (*e.g.*, 1994/95), filed in GTE's direct case, is greater than the line counts filed *ex parte* for both surrounding calendar years (*e.g.*, 1994 and 1995). We consider this result to be highly unlikely, especially when repeated several times in the series.

¹²² The actual per-line BFP revenue requirements for tariff years 1993/94, 1994/95 and 1995/96 are \$7.57, \$7.44, and \$7.18, respectively.

in its region, computed by multiplying the difference in the CCL rate by the number of minutes each IXC originated from or terminated to that LEC between July 1 and December 31, 1997. Refunds shall be computed on the basis of daily compounded interest using interest rates specified by the United States Internal Revenue Service.

90. **ISDN Lines.** The *Access Charge Reform Order* revised the Commission's treatment of integrated services digital network (ISDN) lines, reducing the number of EUCL charges assessed on these derived channel services.¹²³ Specifically, the *Access Charge Reform Order* reduced the number of EUCL charges assessed on primary rate interface (PRI) ISDN lines from twenty-four to five, and reduced the number of EUCL charges assessed on basic rate interface (BRI) ISDN lines from two to one.¹²⁴ With these changes taking effect on January 1, 1998, we have not adjusted our prescriptive per-line BFP revenue requirement forecasts to account for this change. Such an adjustment, if made to rates applied in the period July 1, 1997 through December 31, 1997, would overstate the proper per-line BFP revenue requirement, and is not required to compute these LECs' refund liability for that period.

91. For the period January 1, 1998, through June 30, 1998, our review of the record indicates that the impact on the per-line BFP revenue requirement of this change to the treatment of ISDN lines will be relatively small. Bell Atlantic, for example, indicates that this change affects NYNEX's per-line BFP revenue requirement by approximately two cents.¹²⁵ This two-cent adjustment appears to be one of the greatest impacts reflected in the record. U S WEST, for example, indicates that this change to the treatment of ISDN lines requires an adjustment of only 4500 lines, out of millions in its region.¹²⁶ Nevertheless, if the carriers for which we prescribe per-line BFP revenue requirement levels in this proceeding have not already adjusted their end-user demand forecasts to account for the effects of the changes to the treatment of ISDN lines to reflect a tariff-year average demand level, and if adjustments to end-user demand levels are needed,¹²⁷ we permit these LECs to make an adjustment to our prescriptions to reflect, on a going-forward basis, effective January 1, 1998, the revised treatment of ISDN lines.

(2) Rejection of Other Proposals

92. Some of the LECs challenge the assumption that the BFP revenue requirement

¹²³ *Access Charge Reform Order* at ¶¶ 111-22.

¹²⁴ 47 C.F.R. § 69.152(l).

¹²⁵ Bell Atlantic Direct Case, Detailed Responses at 27.

¹²⁶ U S WEST Direct Case at 22.

¹²⁷ Bell Atlantic indicates that Bell Atlantic - South has never reported PRI ISDN lines on a voice-grade equivalency basis and, therefore, requires no change to its end user demand forecast. *Id.*

and EUCL demand are variables that can be forecast more accurately once historical data are modified to eliminate the impacts of past rule changes and other variables. We disagree. As discussed in the statistical appendix, for some LECs, the adjusted series 2 BFP revenue requirement data show a strong trend. In any case, the autoregressive analysis we use in this order does not depend on the presence of a trend in the data to provide reasonable results. Nevertheless, autoregression permits us to account for, and take advantage of, any trend present in the data in developing our prescriptions.

93. The price cap LECs have indicated that they have used in the past some form of either trend forecasting, or "bottom-up" forecasting.¹²⁸ In developing our prescriptive BFP revenue requirement forecasts for tariff year 1997/98, we decide not to rely on a "bottom-up" approach. The record before us contains insufficient data to permit us to develop and test such a forecasting method, because a "bottom-up" forecasting method relies on individual LEC budget forecasts, details of company business plans, service models, and other highly specific data that the Commission is ill-equipped to assess. Moreover, even if we were to require the LECs to submit sufficient data, such an approach still depends upon the reliability of the LECs' budgeting and other forecasts on an individual-component basis. Southwestern Bell and U S WEST used a bottom-up forecasting method to develop their estimates, and both have cited errors stemming from the fact that their financial information for the upcoming year is not well-enough developed to permit unbiased forecasting when the BFP revenue requirement forecasts are prepared for the upcoming year. While GTE this year has switched to a forecast based on the two-year BFP revenue requirement trend, it developed all of its prior BFP revenue requirement forecasts using a bottom-up forecasting methodology with poor results.

94. We conclude that the shortcomings of Southwestern Bell's, U S WEST's, and GTE's forecasts likely stem from these LECs' use of these poorly-developed budget data, and that we would be unlikely to develop more accurate forecasts using these data than did the LECs themselves. We are now several months into the current tariff year, and these LECs may now possess budget information that is more accurate and well-developed than that upon which they based their June forecasts. We will base our prescriptions, however, on the LECs' per-line BFP revenue requirement on information that was available to the LECs at the time they developed their June forecasts, and we will not to make use of any updated budget data that may exist.¹²⁹ To do otherwise would confer an advantage on the very LECs that we have found to have proposed forecasts that are consistently and inappropriately low. Furthermore, the limited time available to us to complete tariff investigations does not allow us to extend the process of gathering and adjusting data.

¹²⁸ For a further discussion of these forecasting techniques, see *1997 Designation Order* at ¶¶ 28-29.

¹²⁹ In any event, the record in this proceeding is now closed. Although *ex parte* presentations are permitted, *1997 Designation Order* at ¶ 82, no LEC has submitted any additional data that may exist.

95. The Commission has concluded in the past with respect to trend-based forecasting that it is difficult to develop an accurate forecast based only on two years of data.¹³⁰ LECs using such a forecasting method, in general, extrapolate to the tariff year ahead the percentage change in the BFP revenue requirement experienced in the last two periods for which actual data are available. The record indicates that some LECs have produced relatively unbiased forecasts using this method, and we do not here prohibit its use.¹³¹ Nevertheless, this method remains vulnerable to significant error if unexpected or one-time events were to cause a large change in the most recent year-to-year change in the BFP revenue requirement. In such a case, the LEC's extrapolation would be based on a growth rate not representative of that to be expected in the future. GTE's tariff year 1997/98 forecast, based on its extrapolation of a large drop in its BFP revenue requirement between 1995 to 1996, provides such an example, in that its resulting tariff year 1997/98 forecast departs substantially from historical growth rates. Because of our concerns with the reliability of this method, we decline to base our prescriptions in this order on a two-year trend-based forecast.

96. Several parties suggest that we modify our rules to permit the use of past-year actual BFP revenue requirement and end-user demand data in computing the per-line BFP revenue requirement.¹³² These parties argue that such a method would remove the uncertainty and controversy associated with forecasting from the calculation of the per-line BFP revenue requirement, and would streamline the calculation process. The Price Cap Performance Review, Fourth Report and Order, recently considered this issue and rejected the use of historical data in developing EUCL and CCL rates, deciding instead to continue to rely on forecasted data.¹³³ We will consider this issue further, if at all, on reconsideration in that proceeding.

97. We also decline to adopt AT&T's proposal to require the LECs to forecast the BFP revenue requirement and end-user demand levels based on a trend-line of past calendar year data.¹³⁴ While such a method may produce reasonable results, we conclude, as discussed above, that there are many reasonable methods of forecasting the per-line BFP revenue requirement. We also decline to require the LECs to include an "error correction" adjustment to their forecasts

¹³⁰ 1996 Annual Access Tariff Filings, Memorandum Opinion and Order, 11 FCC Rcd 7564, 7594 (Com. Car. Bur. 1996).

¹³¹ *E.g.*, Aliant Direct Case at 5.

¹³² *E.g.*, Ameritech Direct Case at 4; Bell Atlantic Direct Case at 6; Sprint Direct Case at 4.

¹³³ *Price Cap Performance Review for Local Exchange Carriers*, CC Docket No. 94-1, Fourth Report and Order in CC Docket No. 94-1 and Second Report and Order in CC Docket No. 96-262, FCC 97-159 (rel. May 21, 1997) at ¶¶ 171-72.

¹³⁴ AT&T Opposition at 14.

to correct for the revenue effects of any error in the prior year.¹³⁵ While the price cap LECs' forecast of the BFP revenue requirement is still based on rate-of-return principles, this calculation is not used directly to determine permitted common line revenues. Instead, common line revenues permitted under price caps are adjusted each year for changes to the PCI. Adjustments to the BFP revenue requirement forecast to account for errors in the prior year, therefore, would not necessarily correct for any resulting impact on common line rates or revenues.

98. Finally, we decline to use the analyses submitted by AT&T and MCI in their oppositions. Both AT&T and MCI analyze the LECs' BFP revenue requirement forecasts, purporting to demonstrate that these forecasts have historically understated the total BFP revenue requirement. MCI and AT&T conclude, based on analyses using regression and average growth rates, that this historical pattern is likely to continue in tariff year 1997/98. We conclude that there are two problems with these analyses. First, as discussed above, it is the per-line BFP revenue requirement forecast, and not the BFP revenue requirement or end-user demand forecasts individually, that affects the determination of EUCL and CCL charges.¹³⁶ Therefore, an analysis of the BFP revenue requirement, separately from an analysis of the LECs' line counts, is of limited value. Second, by using unadjusted data in their analyses, AT&T and MCI have failed to correct for Commission rule changes and other factors that affect the apparent historical growth rate.

(3) Adjustment to Base-Year Common line Revenues

99. In this section we consider some parties' arguments that we reduce LEC PCIs to remove the residual impact of inappropriately low forecasts on total permitted common line revenues in subsequent years. We conclude that, although there is likely to be some impact, the parties have provided no convincing quantification of the permanent upward effect of inappropriately low forecasts on permitted common line revenues, and we decline to order an reduction to LEC PCIs at this time.

100. The record in this proceeding is not sufficient to permit us to calculate the cumulative effects of this understatement on the current per-minute CCL. The maximum CCL charge is determined, in part, by aggregate base-period common line basket revenues.¹³⁷ Thus, any increase in aggregate common line revenues is carried forward into the following year,

¹³⁵ *Id.*

¹³⁶ AT&T does not challenge the LECs' line count forecasts in its opposition. MCI concedes that the LECs' line count forecasts since 1991 have been "relatively accurate." MCI Opposition at 7.

¹³⁷ 47 C.F.R. §§ 61.45(c), 61.46(d).

further increasing future CCL charges and aggregate common line revenues in the future.¹³⁸ As discussed above, a price cap LEC may increase its total common line basket revenue if it submits forecasts of per-line BFP revenue requirements that are biased downward, if the price-cap LEC's EUCL charge is below the EUCL cap, and if it experiences growth in average per-line minutes-of-use that is at least half of the growth experienced the previous year. When used by a price cap LEC that routinely develops unbiased per-line BFP revenue requirement forecasts, the price cap formula adjusts the CCL rate in a manner intended to generate the balance of the common line revenues permitted under price caps not recovered from EUCLs, including the revenue increases associated with growth in average per-line minutes-of-use under the "balanced 50-50" formula.

101. In its opposition, AT&T asserts that, by repeatedly understating their per-line BFP revenue requirements, the LECs have systematically inflated their CCL rates since 1991.¹³⁹ We agree that a LEC that has consistently understated its per-line BFP revenue requirement over the course of several years has also consistently and correspondingly inflated its maximum CCL rate. Each year, the price cap LEC uses its prior year's total common line revenues as the starting point in computing its CCL rate. If the price cap LEC, by understating its per-line BFP revenue requirement, inflates its aggregate common line revenues in a given year, the price cap formula automatically builds this inflation into its CCL rate for the upcoming year. A price cap LEC that repeatedly understates its per-line BFP revenue requirement, therefore, compounds the increase to its aggregate common line revenues every year. As the effects of this overstatement compound each year, the maximum CCL charge becomes increasingly inflated, generating revenues that will exceed the common line revenues intended to be permitted under price caps.

102. U S WEST, Southwestern Bell, GTE, Sprint, NYNEX, and Bell Atlantic all have repeatedly understated their per-line BFP revenue requirement, in a statistically significant manner since the advent of price cap regulation, and the effects of this understatement are now incorporated into the CCL rates of these LECs. AT&T, in its opposition, submits certain calculations of the amount it believes that it has overpaid in CCL charges since 1991 because of the LECs' understatement of their BFP revenue requirements.¹⁴⁰ This calculation, however, does not accurately state the amount by which the LECs' current common line revenues permitted under price caps may be overstated because of any past downward bias in the LECs' per-line BFP revenue requirement forecasts. Contrary to AT&T's assertion, the CCL rate is recalculated each year, according to the formula contained in section 61.46(d)(1) of the Commission's

¹³⁸ The effect discussed here differs from the situation where a LEC reports a per-line BFP revenue requirement that is biased downward. In such a case, increases in CCL charges are offset, in part, by decreases in EUCL rates. In this case, past gains from underestimating per-line BFP revenue requirements are the starting point for calculating CCL charges, and has no effect on EUCL charges.

¹³⁹ AT&T Opposition at 15 n.24.

¹⁴⁰ AT&T Opposition at Appendix E.

rules.¹⁴¹ Any analysis of the cumulative effects of these price cap LECs' understatement of their per-line BFP revenue requirements would need to proceed from this formula, taking into account both any CCL revenue increase, and any EUCL revenue foregone, that is attributable to a downward bias in the LECs' per-line BFP revenue requirement forecasts.

B. Equal Access Exogenous Cost Changes

1. Background

103. In the *1988 Equal Access Cost Reconsideration Order*, the Commission ordered equal access expenses to be capitalized and recovered (amortized) over eight years, instead of being recovered as an operating expense in the year the expense was incurred.¹⁴² This amortization permitted the recovery of the capitalized expense, including an allowance for the cost of capital, in eight equal installments. Under the rate-of-return (ROR) regulatory regime applicable to all LECs in 1988, LECs were allowed to increase their annual permitted regulated revenues by the amount of the annual amortization. Under that rate-of-return regulatory framework, after LECs had been permitted the opportunity to earn this annual fixed amount for eight years (ending on December 31, 1993), allowable annual regulated revenues would have been reduced by the annual amortization amount. When price cap regulation was initiated on January 1, 1991, the annual amortization expense for equal access was incorporated into the total revenues permitted for the traffic sensitive basket. Thus, the revenues LECs were allowed to receive, and the prices they were allowed to charge at the inception of price caps, were higher than they otherwise would have been by the amount of the annual amortization expense for equal access. In the *Access Reform First Report and Order*, the Commission found that the annual revenue effect of the equal access amortization should be removed from LEC rates because the amortization period had long since expired.¹⁴³ The Commission therefore required price cap LECs to make a downward exogenous adjustment to the traffic sensitive basket to account for the completion of the amortization of equal access costs.¹⁴⁴ The Commission stated that such an adjustment would ensure that ratepayers are not paying charges based upon costs

¹⁴¹ 47 C.F.R. § 61.46(d)(1).

¹⁴² *Equal Access Reconsideration Order* at 437 ¶ 25. Equal access expenses are the costs that the LECs incurred in order to provide equal access, *i.e.*, one plus dialing for presubscribed customers of interstate interexchange carriers, as required by the Modification of Final Judgment and the Commission. *See Access Reform First Report and Order*, at n. 409.

¹⁴³ *See Access Reform First Report and Order*, at ¶ 311.

¹⁴⁴ *Access Reform First Report and Order* at ¶ 314. The exogenous adjustments are adjustments to the price cap indices that LECs are required to make for changes to costs in providing access services that are beyond the control of the company and that are not reflected in the annual inflation adjustment. *See* 47 C.F.R. § 61.45.

that have already been fully recovered.¹⁴⁵

104. In their 1997 annual access tariff filings, the majority of price cap LECs determined the exogenous adjustment by first identifying the dollar amount of the equal access amortization that was included in setting the initial price cap index in 1991. They then reduced this amount by the percentage by which the price cap index (PCI) for the traffic sensitive basket had been reduced from the initiation of price cap regulation to June 30, 1997, *i.e.*, an average of 20%. If they had adjusted for both the decline in the PCI and the increase in demand, their downward exogenous adjustment would have been significantly greater, rather than 20% lower, than the original upward exogenous adjustment. Thus, the LECs have made only two-thirds of the downward adjustment needed to remove fully from current rates the impact of the original upward adjustment. The benefit the LECs will receive from the third not removed will continue to grow every year as demand growth exceeds the decline in the price cap indices. Aliant, in contrast, determined the amount of equal access costs to be removed by determining the initial amortization and then increased that amount to account for the change in total revenue for the traffic sensitive basket between the initiation of price caps and the present.

105. In the *1997 Suspension Order*, the Bureau set for investigation the question whether LECs had completely removed these equal access expenses from their rates, as required by the *Access Reform First Report and Order*.¹⁴⁶ The Bureau questioned whether most LECs had removed completely equal access exogenous cost expenses because, after they calculated these expenses, they had reduced this amount by the amount of the PCI change in the traffic sensitive basket between the initiation of price cap regulation and June 30, 1997. The Bureau suggested that LECs may need to adjust the PCI by the percentage change in base period revenue ("R") from the date each LEC made its first annual access price cap filing through June 30, 1997.¹⁴⁷ In addition, the Bureau tentatively concluded that the documentation of the unadjusted equal access expense provided by Ameritech and SNET indicated that they may have improperly implemented the requirements of the *Access Reform First Report and Order*. The Bureau also stated that it was not persuaded that Aliant's exogenous cost adjustment, which appears to have included the "R" adjustment, was correctly calculated or fully supported.

106. In the *1997 Designation Order*, the Bureau tentatively concluded that LECs should make a revenue adjustment to the amortized equal access expenses, as opposed to the LECs' proposed PCI adjustment, in order to remove amortized equal access expenses completely from current rates.¹⁴⁸ The Bureau tentatively found that a revenue adjustment is reasonable in

¹⁴⁵ *Access Reform First Report and Order* at ¶ 302.

¹⁴⁶ *1997 Suspension Order* at ¶ 36.

¹⁴⁷ Base period revenue is revenue earned in the prior calendar year.

¹⁴⁸ *1997 Designation Order* at ¶ 41.

this case because it recognizes that price cap indices are adjusted to reflect the average basket price and a component of that price reflects equal access amortization.¹⁴⁹ The Bureau tentatively concluded that this revenue adjustment also recognizes that as demand has grown over time, the revenue recovered through this equal access amortization component of price has grown correspondingly.¹⁵⁰ Therefore, in order to remove fully the revenues being collected today associated with the amortized equal access costs, the Bureau tentatively concluded that the LECs must account for this demand growth.¹⁵¹

107. The Bureau sought comment on the "R" adjustment used by Aliant and proposed by AT&T, particularly their use of growth rates in LECs' local switching revenue to calculate the exogenous cost adjustment.¹⁵² The Bureau also sought comment on whether removal of equal access costs is similar to reversal of sharing obligations.¹⁵³ In addition, parties were asked to address whether the Commission should prescribe the particular methodology for removing equal access non-capitalized expenses or whether the Commission should allow LECs to use any reasonable method that completely removes the amortized equal access expenses from their rates.¹⁵⁴

108. Finally, the Bureau directed U S WEST, SWBT, Bell Atlantic, NYNEX, GTE, Ameritech, BellSouth, Frontier, Aliant, Nevada Bell, Pacific Bell, Rochester, and SNET to submit data on the local switching revenue of their traffic sensitive basket as reflected in their initial price cap filings.¹⁵⁵ The Bureau concluded that these data would allow the Commission to calculate the revenue change for each of these companies from the dates they made their initial

¹⁴⁹ 1997 Designation Order at ¶ 41.

¹⁵⁰ 1997 Designation Order at ¶ 41.

¹⁵¹ 1997 Designation Order at ¶ 41.

¹⁵² 1997 Designation Order at ¶ 42.

¹⁵³ 1997 Designation Order at ¶ 42. Sharing refers to the requirement that LECs earning greater than specified levels share a portion of those earnings with ratepayers in the next tariff year through reduced rates. Sharing was eliminated by the Commission in the *Price Cap Performance Review for Local Exchange Carriers; Access Charge Reform*, CC Docket Nos. 94-1, 96-262, FCC 97-159 (adopted May 7, 1997; released May 21, 1997) (*X Factor Order*). When LECs have incurred sharing obligations for a tariff year under our prior price cap rules, they first lowered the PCI to implement sharing at the beginning of the tariff year and then raised the PCI at the beginning of the next tariff year to reverse the effect of the sharing obligation. This reversal is accompanied by an exogenous PCI increase.

¹⁵⁴ 1997 Designation Order at ¶ 42.

¹⁵⁵ 1997 Designation Order at ¶ 43.

price cap filings through June 30, 1997.¹⁵⁶

2. Discussion

109. We determine first that removal of equal access amortization from LEC rates will be accomplished by an exogenous adjustment to each LECs' PCI because an exogenous adjustment is the mechanism established in the rules for adjusting the PCI for changes other than inflation and the X-factor.¹⁵⁷ As explained in further detail below, we conclude that this exogenous adjustment should also take into account the growth in revenues that has occurred since 1991.

110. Generally, under price cap regulation, a cap is applied to each unit of traffic so that as demand grows the LECs' revenue also grows by the amount of the capped price multiplied by each additional unit of traffic. Since demand has grown, the increase in the PCI incorporated into price caps in 1991 to permit LECs to recover the amortization expense for equal access now permits the LECs to recover a far greater increase in annual revenue than the annual amortization amount specified in 1988. This is because the portion of the price cap that permitted recovery of the appropriate amount of the equal access amortization in 1991 has been applied to each unit of traffic, and has permitted an increase in revenues as traffic has increased. Therefore, in order to eliminate fully the impact of the equal access amortization, we must reduce the price cap to a level that will remove from current revenues all revenues attributable to the initial increase in the PCI to reflect the equal access amortization expense.¹⁵⁸ In that way, the current price cap will be set at the same level it would have been had the amortization been completed before the initiation of price cap regulation.

111. The general mechanism for removing this level of revenues is to determine the percentage by which revenues were increased on account of the equal access amortization in 1991 and then adjust the PCI to achieve the same percentage reduction of current revenues.¹⁵⁹

¹⁵⁶ 1997 Designation Order at ¶ 43.

¹⁵⁷ The X-factor is the required annual adjustment to price cap indices to reflect targeted changes in productivity. See 47 C.F.R. § 61.45(d).

¹⁵⁸ For example, suppose an exogenous cost increase of \$10 million in a price cap basket occurred in 1991. If revenues for this basket were \$100 million, the percentage change in the PCI because of this exogenous cost change would be 10%. Now, in 1997, if traffic had increased by 500% then basket revenues would be \$500 million and the revenues attributable to the initial exogenous increase would be \$50 million. We note that the per unit price of some services in this basket could fall. Thus, to remove fully the effects of the exogenous cost increase, we should remove 10 percent of \$500 million, which is \$50 million, not the original cost increase of \$10 million.

¹⁵⁹ If the effect of the equal access amortization adjustment was, for example, to increase by 1% the initial level of annual revenues allowed under price caps, then to remove the adjustment now so that future price cap

Accordingly, we will require LECs to adjust their 1997/1998 access rates by this mechanism. This mechanism is what the Bureau has used in other instances to make adjustments to the price cap in a way that will completely eliminate the effect of prior adjustments. For instance, the Bureau has used this mechanism to impose, and subsequently remove, the sharing obligations of LECs subject to sharing under our price cap rules. This mechanism permits LECs to increase their PCIs after the completion of sharing to the levels at which they would have been absent sharing.¹⁶⁰ In the same way, a PCI reduction now that takes into account revenue increase will eliminate completely the impact of the inclusion of equal access amortization expenses in the price cap.

112. We are not persuaded that the LECs' proposals in this tariff filing would have the effect of removing the annual revenue effect of equal access amortization costs in a manner that results in just and reasonable rates. LECs, with the exception of Aliant, would remove the effect of equal access amortization by reducing their PCIs by less than the original dollar amount of the initial amortization adjustment. They obtain this result by multiplying the original dollar amount by their current PCI (which reflects all of the adjustments to average prices for inflation and the X-factor since the beginning of price caps). The current PCI is less than the 1991 PCI, and thus, reduces the dollar amount to be taken out of price caps. They would then reduce their PCIs by the ratio of this amount divided by current revenues.¹⁶¹ We reject this approach. Not only does it fail to account for the growth in demand during this period and, therefore, not remove fully equal access costs, but it actually reduces the PCI by an amount lower than the original amortization. The Figure in Appendix D illustrates the revenue impact of the LECs' proposed

permitted annual revenues are unaffected by the amortization adjustment, permitted annual revenues have to be reduced by the same 1%. Similarly, the average price (PCI) LECs can charge under price caps should be reduced by the same 1%. This is equivalent because revenue is simply price times quantity. Of course, the dollar amount of the annual revenue reduction is greater than the initial annual revenue adjustment, since the revenue from the adjustment grows with demand over time.

¹⁶⁰ For example, assume that a LEC has incurred a sharing obligation of \$5 and that its annual revenues are \$1000. At the beginning of the price cap tariff year, the Bureau requires the LEC to make an exogenous downward adjustment to its average price (PCI) of 5/1000, or 0.5%. The effect of this is to reduce the LEC's annual regulated revenues by \$5 (0.5% of \$1000.) A year later, at the beginning of the next price cap tariff year, the Bureau orders the LEC to make an exogenous upward adjustment to its PCI of 0.5%. The downward and upward adjustments to the PCI and revenues are the same 0.5%, but if the LEC's annual regulated revenues have grown over the last year to \$1100, the dollar amount of the allowed increase is greater than the required decrease (\$5.50 vs. \$5).

¹⁶¹ For instance, suppose original equal access costs totalled \$10 million; the current PCI for the traffic sensitive basket is 80; and the PCI for the traffic sensitive basket in 1991 was 100. The LECs propose to adjust the \$10 million of equal access costs by the change in the PCI from 1991 to 1997 (100 to 80). Their adjustment reduces the equal access costs from \$10 million to \$8 million. In order to remove these costs from price caps, LECs propose to divide the adjusted amount of \$8 million by 1997 revenues in the traffic sensitive basket, as per the rules describing removals of exogenous costs from the price cap index.

mechanism for removing equal access costs and the R adjustment that we require here.

113. We also reject U S WEST's argument that the Commission should permit the adjustment to remove equal access amortization from LEC rates to be reduced by the amount of the PCI reduction since the initiation of price caps, as the LECs proposed in their tariff filings, because of the delay by the Commission in addressing this issue. The impact of the delay has been that U S WEST and other price cap LECs have had the ability to charge higher rates during this delay in excess of the amount of equal access costs entitled to amortization. This excess recovery does not justify reducing the amount of the adjustment to terminate this amortization. To the contrary, LECs have benefitted by this delay and will not be harmed by now setting rates at the correct level. We also reject the LECs' argument that the adjustment should be modified for those LECs that priced below cap. The existence of such headroom does not suggest that demand failed to grow between the inception of price caps and June 30, 1997, such that an "R" value adjustment is not needed. The fact that some LECs may have been priced below cap as a voluntary matter does not justify modifying the exogenous adjustment at issue here.¹⁶²

114. In addition, we reject BellSouth's argument that the equal access adjustment should not reflect growth because the costs subject to the amortization do not change with demand. As explained above, the portion of the LECs' price cap index attributable to the equal access amortization has permitted the LECs to recover increasing amounts as demand has increased. We also reject Bell Atlantic and Ameritech's proposal that the only reasonable starting point for an "R" value adjustment would be the 1993 tariff year, or the date on which LECs set their equal access rates to zero. This proposal does not capture revenue growth in 1991 and 1992, and thus, a portion of the increase in LEC price cap revenues attributable to the initial incorporation of equal access amortization expenses into the PCIs would remain in current rates.

115. In order to make the "R" adjustment, we direct LECs to identify the dollar amount of equal access exogenous costs as filed in their tariffs at the inception of price cap regulation. LECs must then multiply this amount by the ratio of the sum of 1997 traffic sensitive and trunking basket revenues to the sum of 1991 traffic sensitive and transport basket revenues.¹⁶³ The resulting dollar amount represents the exogenous cost change for the equal access amortization of non-capitalized costs. This approach accounts for the restructure of the 1991 traffic sensitive and transport baskets in 1994 into the traffic sensitive and trunking

¹⁶² The existence of "headroom" (*i.e.*, a difference between the cap and the prices charged) would indeed be relevant if we were making the LECs refund the monies they obtained in earlier years as a result of the error we are now correcting. It is to their benefit, not detriment, that we are giving the correction only prospective application.

¹⁶³ $\Delta Z = 1991 \text{ Equal Access Exogenous cost amount} \times \frac{1997 \text{ traffic sensitive} + \text{trunking basket revenues}}{1991 \text{ traffic sensitive} + \text{transport basket revenues}}$

baskets.¹⁶⁴ Thus, the services included in the 1991 traffic sensitive and transport baskets correspond to the services in the 1997 traffic sensitive and trunking baskets. The equal access rate element is included in these composite baskets, and therefore, the percentage that it increased the revenues of the composite basket (*i.e.*, traffic sensitive and transport services) in 1991 is the same as the percentage decrease of revenues (*i.e.*, from traffic sensitive and trunking services) in 1997.

116. We have considered other options, such as the use of local switching revenues in 1991 and 1997 as adjustment factors, and the use of traffic sensitive revenues in a two step procedure establishing revenue growth before and after the completion of the equal access amortization and transport basket restructuring. We reject the first option, however, because local switching revenues were not representative of traffic sensitive basket revenue growth. We reject the second option because it does not reflect accurately the reduction in traffic sensitive basket revenues after the implementation of the *Transport Restructuring Order*. After the restructuring, traffic sensitive basket revenues decreased because some service categories were moved to the new trunking basket. Thus, 1997 traffic sensitive basket revenues were less than they would have been without restructuring.

117. We recognize that the Commission has not required an "R" value adjustment to the PCI to reflect the end of the amortization of some costs. In addition, the Commission has not previously prescribed a specific methodology for price cap LECs to use when adjusting rates in recognition of the completion of a particular amortization. As noted above, in the *Access Reform First Report and Order*, the Commission decided to align its treatment of the expiration of equal access amortizations with the expirations of the depreciation reserve deficiency and inside wiring amortizations.¹⁶⁵ In that Order, the Commission had before it the question whether any exogenous cost reduction should be required to reflect the end of the equal access cost amortization. The Commission decided to order such a reduction, looking to the depreciation reserve deficiency and inside wiring amortizations, where it had directed price cap LECs to make downward exogenous adjustments to their PCIs but had not specified how that reduction would be accomplished.¹⁶⁶ In none of the three orders did the Commission address or analyze the issue of whether price cap LECs should be required to make an "R" adjustment to the PCI to reflect the completion of the amortizations.¹⁶⁷ Price cap LECs simply made an exogenous cost

¹⁶⁴ See *In the Matter of Transport Rate Structure and Pricing*, CC Docket No. 91-213, 7 FCC Rcd 7006 (1994) (*Transport Restructuring Order*).

¹⁶⁵ *Access Reform First Report and Order*, at ¶ 302.

¹⁶⁶ *LEC Price Cap Order*, 5 FCC Rcd at 6808, ¶ 173; *LEC Price Cap Reconsideration Order*, 6 FCC Rcd at 2673-2674, ¶¶ 78-82.

¹⁶⁷ *LEC Price Cap Order*, 5 FCC Rcd at 6808, ¶ 173; *LEC Price Cap Reconsideration Order*, 6 FCC Rcd at 2673-2674, ¶¶ 78-82.

decrease to their PCIs, without making an "R" value adjustment, and the rates were permitted to go into effect without suspension and investigation or specific consideration of this issue. The Commission also did not require an "R" value adjustment for the removal of payphone costs from the CCL charge coincident with the deregulation of LEC payphones in 1996.¹⁶⁸ Like the inside wiring and depreciation reserve deficiency decisions, the Commission did not specifically address the desirability of making an "R" value adjustment to account for the removal of payphone costs from regulated accounts.¹⁶⁹

118. With regard to the completion of the Other Post Employment Benefits (OPEB) amortization, the Bureau was presented with the issue of whether price cap LECs should be required to adjust the reversal of OPEB costs to account for revenue growth.¹⁷⁰ The Bureau concluded that it would not require the LECs to make an "R" adjustment for the removal of OPEB costs in their 1995 annual access tariff filings, because the Commission had not specifically required such an adjustment in the *First Report and Order*.¹⁷¹ We do not view this decision of the Bureau as constituting a determination that carriers should not be required to make "R" adjustments when making exogenous adjustments. Rather, it appears to have been based on the fact that the Commission had not specifically required an "R" adjustment. Further, we do not view prior instances of adjustment to price caps to account for the end of amortizations, or the payphone deregulation decision, as governing our differing decision today. Because these orders do not address directly whether an "R" adjustment is appropriate or inappropriate, we do not view the references in the *Access Reform First Report and Order* to the inside wiring and depreciation reserve amortizations as precluding an "R" adjustment here. We therefore conclude, for the reasons given above, that an "R" adjustment is necessary here to remove completely the effects of the initial inclusion of the equal access cost amortization in the PCI.¹⁷²

119. We also reject arguments that we may not lawfully require LECs to make an "R" adjustment absent a rulemaking. Section 61.45(d) of the Commission's rules expressly anticipated that further guidance in the form of a "rule, rule waiver, or declaratory ruling" would

¹⁶⁸ See *In the Matter of Implementation of the Pay Telephone Reclassification and Compensation of the Telecommunications Act of 1996*, CC Docket No. 96-128, 11 FCC Rcd 21233 (1996).

¹⁶⁹ See *In the Matter of Implementation of the Pay Telephone Reclassification and Compensation of the Telecommunications Act of 1996*, CC Docket No. 96-128, 11 FCC Rcd 21233 (1996).

¹⁷⁰ *In the Matter of 1995 Annual Access Tariff Filings of Price Cap Carriers*, DA 95-1631, 11 FCC Rcd 5461, 5471 (1995) (*1995 Suspension Order*).

¹⁷¹ *1995 Suspension Order*, 11 FCC Rcd at 5471.

¹⁷² See e.g., *Motor Vehicles Mfrs. Ass'n v. State Farm Mutual Automobile Ins. Co.*, 463 U.S. 29, 41-4 (1983) (an agency changing course must supply a reasoned analysis for the change).

be provided by the Commission as discrete exogenous adjustments became necessary. Further, we may lawfully make interpretations of price cap rules and requirements, including Section 61.45(d) pertaining to exogenous adjustments, in the context of declaratory rulings in tariff investigations. Although our determinations here will have precedential effect, we are not required to conduct a rulemaking to determine that carriers must make an "R" adjustment for the 1997-98 access year in order to remove fully their equal access costs from the PCI.¹⁷³

120. Accordingly, we require U S WEST, SWBT, Bell Atlantic, NYNEX, GTE, Ameritech, BellSouth, Frontier, Nevada Bell, Pacific Bell, Rochester, and SNET to revise their rates to reflect the removal of equal access expenses in accordance with the methodology prescribed herein. This prescription will lead to just and reasonable rates. We also require these LECs to issue refunds, computed by multiplying the difference in the LECs' proposed exogenous cost change for equal access amortization and the Commission's determination of this amount by one-half, which represents the period between July 1 and December 31, 1997. Interest shall be computed on the basis of interest rates specified by the United States Internal Revenue Service.

3. SNET's Calculation of the Initial Equal Access Exogenous Cost Revenue Requirement

a. Background

121. In the *1997 Designation Order*, the Bureau found that SNET is the only price cap LEC that included equal access expenses from prior periods, excluding the 1990 period, in calculating its initial equal access exogenous cost revenue requirement.¹⁷⁴ SNET states that it accurately estimated its equal access exogenous cost adjustment because the Commission's instructions for completing the 1990 annual access tariff filings required LECs to include equal access expenses from prior periods, but not from the "current" period, which at that time was the 1990 period. The Bureau directed SNET to identify the specific part of the instructions for completing the 1990 annual access tariff filings that permitted SNET to include equal access expenses from prior periods, but not from the 1990 period.¹⁷⁵ The Bureau also asked SNET and other parties to discuss how SNET's adjustment should be treated in calculating the exogenous cost reduction required in the *Access Reform First Report and Order*.¹⁷⁶

b. Discussion

¹⁷³ See e.g., *SEC v. Chenery*, 332 U.S. 194, 203 (1947) (an agency may proceed by ad hoc litigation or rulemaking).

¹⁷⁴ *1997 Designation Order* at ¶ 44.

¹⁷⁵ *1997 Designation Order* at ¶ 44.

¹⁷⁶ *1997 Designation Order* at ¶ 44.

122. SNET is the only LEC that has continued to charge for equal access costs on a per line basis. Because SNET has removed its equal access costs based on growth in the number of lines, we find that SNET did not understate its equal access exogenous cost adjustment. We therefore conclude that SNET reported the correct amortized non-capitalized equal access costs to be removed from the PCI.¹⁷⁷

4. Ameritech's Equal Access Amortization Revenue Requirement

a. Background

123. In the *1997 Designation Order*, we sought comment on whether Ameritech calculated accurately the equal access amortization revenue requirement associated with the total equal access revenue requirements through the use of internal separations data.¹⁷⁸ The Bureau directed Ameritech to explain how it used its separations information system data to determine the portion of the equal access costs that was amortized, and to document fully the data, assumptions, and methodologies that were used to calculate the equal access costs that were amortized.¹⁷⁹

b. Discussion

124. We determine that, to be consistent with the methodology it used to set its price caps, Ameritech must use projected data to determine the amount of amortized equal access costs included in price cap rates. When Ameritech determined the amount of non-capitalized expenses to establish its initial price cap equal access rate, it used the projected equal access revenue requirement. Thus, rates that are currently in Ameritech's traffic sensitive PCI are based on those projections and not on actual non-capitalized equal access costs. Ameritech now attempts to reduce its traffic sensitive PCI by the amount of actual equal access costs. Because, however, the equal access rates in Ameritech's PCI are based on projected equal access costs, we direct Ameritech to remove projected equal access costs from its traffic sensitive PCI rather than actual equal access costs. This approach will produce more consistent and verifiable results.

C. Other Billing and Collection Exogenous Cost Increases

1. Introduction

¹⁷⁷ Although AT&T initially questioned SNET's computation of its amortized non-capitalized equal access costs, AT&T subsequently stated that SNET in its Direct Case had explained AT&T's initial concerns. See AT&T Opposition to Direct Cases at n. 34.

¹⁷⁸ *1997 Designation Order* at ¶ 45.

¹⁷⁹ *1997 Designation Order* at ¶ 45.

125. Effective May 1, 1997, the Commission changed the separations rules¹⁸⁰ applicable to Other Billing and Collection (OB&C) Expense.¹⁸¹ The *OB&C Order* revised these rules to replace the complicated allocation procedures, which relied on user and message counts, with a simple allocation procedure based on a fixed interstate allocation factor of 33 percent or 5 percent, depending on whether the price cap ILEC performs any end user billing on behalf of IXCs.¹⁸²

126. Section 61.45 of the our rules requires price cap ILECs to file adjustments to the PCI for each basket as part of their annual price cap tariff filing.¹⁸³ Such adjustments shall include exogenous cost changes, including those caused by changes in our separations rules.¹⁸⁴ As part of their annual price cap tariff filings, the price cap ILECs filed exogenous adjustments to reflect the change in our separations rules.

127. In order to determine the level of its exogenous adjustment, each company calculated its interstate OB&C Expense in the base period¹⁸⁵ using the separations rules in place prior to May 1, 1997 ("former rules") and compared that result to the interstate OB&C Expense calculated, for the same period, using the new fixed allocation factor of either 33% or 5% ("new rules"). The difference between these two amounts formed the basis for the exogenous change. Each company then flowed that difference through its Part 36 and Part 69 models¹⁸⁶ to determine the exogenous cost's effect on each of the four price cap baskets (*i.e.*, common line, traffic sensitive switched, trunking, and interexchange, as well as on the billing and collection category).¹⁸⁷ When that process is complete, most of the costs that are shifted to the interstate jurisdiction by the change in our OB&C Expense separations rules are allocated, pursuant to the

¹⁸⁰ See *OB&C Order*, 12 FCC Rcd 2679 (1997). Our jurisdictional separations rules are codified as Part 36 of our rules. Carriers commonly refer to that part as the Separations Manual.

¹⁸¹ OB&C expenses include expenses, such as salary and administrative expenses, associated with the preparation of customer bills, other than carrier access charge bills. Included in this classification are the expenses incurred in the preparation of monthly bills, initial and final bills, the application of service orders to billing records and other miscellaneous items. 47 C.F.R. § 36.380(a).

¹⁸² *Id.* at ¶¶ 13-17.

¹⁸³ 47 C.F.R. § 61.45(a).

¹⁸⁴ 47 C.F.R. § 61.45(d)(iii).

¹⁸⁵ 47 C.F.R. §§ 61.3(e) and 61.45(c).

¹⁸⁶ See *Pacific Bell Direct Case*, Attachment OBC-8; *U S WEST Direct Case*, Exhibit 23; *GTE Direct Case*, Exhibit C-4.

¹⁸⁷ *Detariffing of Billing and Collection Services*, 102 F.C.C.2d 1150, *recon. denied*, 1 FCC Rcd 445 (1986).

Part 69 rules, to the billing and collection category and recovered through detariffed charges for non-regulated activities.¹⁸⁸ The remainder of the cost shift, however, is recovered through access charges. This occurs because the rule changes, together with the allocation procedures prescribed by other separations rules, produce not only a direct increase in interstate OB&C Expense but also an increase in other interstate costs and expenses, termed "secondary or trailing effects." Specifically, because OB&C Expense is part of an allocation factor (*i.e.*, "Big Three Expenses")¹⁸⁹ used in separating certain investment costs and expenses that are recovered through access charges, an increase in interstate OB&C Expense indirectly raises other interstate costs and expenses that are assigned to access elements, resulting in an increase in access charges.

128. In this section of the Order, we compare the interstate assignment under our former rules to the interstate assignment under our new rules in order to calculate the magnitude of the exogenous change. If the interstate assignment is understated under the former rules, the exogenous change is overstated under our new rules and it results in an increase in access charges. The analysis below examines in detail the calculations of the interstate OB&C Expense under both the former rules and the new rules as well as the manner in which the companies flow the exogenous change through our Part 69 rules.

2. Background

129. The *1997 Suspension Order* found that U S WEST's OB&C exogenous adjustment of \$845,145, which U S WEST claimed was necessary in order to recover the two months of OB&C costs between May 1 and July 1, 1997, raises substantial questions of lawfulness.¹⁹⁰ The Bureau also questioned whether other aspects of U S WEST's treatment of OB&C Expense are lawful. In particular, the Bureau noted that U S WEST's ARMIS Report 43-04 shows that its allocation factors (*i.e.*, the relative usage measurements it is required to use as a basis for allocating OB&C Expense among service categories and between the intrastate and interstate jurisdictions) are inconsistent with its allocation of that expense.¹⁹¹

130. In the *1997 Suspension Order*, the Bureau also stated that GTE had not adequately explained why it accounts for more than half of the total OB&C exogenous cost amounts claimed by all ILECs in the April filings. The Bureau found that this anomaly raises

¹⁸⁸ 47 C.F.R. § 69.407(d). There may be a direct effect on the common line basket if a company was allocating less than 5 percent of its total OB&C Expenses prior to the May 1, 1997 effective date of the *OB&C Order*.

¹⁸⁹ 47 C.F.R. § 36.112(a).

¹⁹⁰ *1997 Suspension Order* at ¶¶ 47-48, 51.

¹⁹¹ *1997 Suspension Order* at ¶ 51.

substantial questions of lawfulness.¹⁹²

131. The Bureau also found a disparity between the portion of billing revenues that Pacific Bell had allocated to the interstate jurisdiction and the portion of billed toll messages that it had attributed to interstate services. The Bureau noted that Pacific Bell's data submission shows that the share of these toll messages attributed to interstate calls declined by more than 66 percent between the end of calendar year 1994 and the end of calendar year 1995 even though its corresponding interstate revenues (from billing and collection services provided to IXCs) increased slightly during that same year. The Bureau stated that Pacific Bell had not explained how such a precipitous decline in billed interstate messages could have occurred at a time when the associated revenues were increasing. In addition, the Bureau found that Pacific Bell may have overstated its exogenous cost changes by basing its analysis on calendar year 1995 data instead of calendar year 1996 data.¹⁹³

132. In the *1997 Designation Order*, the Bureau directed GTE, Pacific Bell, and U S WEST to explain the process by which they separate OB&C Expense between the intrastate and interstate jurisdictions. Because calculation of an exogenous change requires a comparison of separations procedures used in 1990 (the base year for initializing price caps) with separations procedures used in 1996 (the base year for the 1997 annual access charge filings), the Bureau required the companies to explain and document this separations process for calendar years 1990 and 1996. Further, the Bureau required them to explain and document this process for the intervening years, 1991 through 1995, to provide a basis for evaluating the reasonableness of their transition from 1990 procedures to 1996 procedures.¹⁹⁴

133. To facilitate its analysis of that process, the Bureau also directed these companies to explain and document the process by which they separate the corresponding revenues, Carrier Billing and Collection Revenues. The Bureau explained that, although the jurisdictional separations of those revenues did not affect the companies' claimed exogenous changes because those revenues are non-regulated, the Bureau intended to use the associated jurisdictional allocation factors, *i.e.*, the message counts used for separating such revenues, as a basis for evaluating the message counts used for separating the message toll portion of OB&C Expense. The Bureau stated that this evaluation procedure seems reasonable given that the companies apparently used message counts as a basis for separating both revenues and expenses.¹⁹⁵

134. With respect to GTE only, the Bureau designated for investigation the issue of

¹⁹² *Id.* at ¶ 52.

¹⁹³ *Id.* at ¶ 53.

¹⁹⁴ *1997 Designation Order* at ¶¶ 50-61.

¹⁹⁵ *Id.* at ¶ 50.

apportionment of customer services expenses among OB&C Expense and other expense categories because GTE's Category 3 expense appear to be anomalously high and its Category 1 expense appear to be anomalously low compared to the other large ILECs. With respect to Pacific Bell, U S WEST, and GTE, the Bureau designated four other basic issues for investigation: (1) the apportionment of OB&C Expense among Message Toll and other service classes; (2) the separation of Message Toll Expense between the intrastate and interstate jurisdictions; (3) the apportionment of interstate OB&C Expense among access charge elements and categories; and (4) the calculation of the exogenous cost change caused by the rule change.¹⁹⁶

3. Apportionment of Customer Services Expenses Among Separations Categories by GTE

135. The separations rules require carriers to segregate most customer services expenses (*i.e.*, all expenses recorded in Account 6620 except those attributed to Telephone Operator Expense and Published Directory Listing) among three expense categories: Category 1, Local Business Office Expense; Category 2, Revenue Accounting Expense; and Category 3, All Other Customer Services Expense.¹⁹⁷ In the *1997 Designation Order*, the Bureau required GTE to explain and document the methodology it used, during the period 1990 through 1996, to distribute customer services expenses among these three categories. In particular, the Bureau required GTE to explain why Category 3, All Other Customer Services Expense, grew rapidly during that period, increasing from 18 percent to 28 percent of total customer services expense.¹⁹⁸ The Bureau also required GTE to explain why Category 1, Local Business Office Expense, declined rapidly during that period, decreasing from 60 percent to 47 percent of total customer services expense.¹⁹⁹ The Bureau observed that these changes suggest that the 1996 Category 3 expense may mistakenly include a portion of Local Business Office Expense that GTE had properly assigned to Category 1 in 1990.

136. An inappropriate assignment of Category 1 expenses to Category 3 would overstate the OB&C exogenous cost change. Specifically, Category 3 is separated on the basis of Category 1 and Category 2 (OB&C) expenses combined.²⁰⁰ Because Category 3 is separated

¹⁹⁶ *1997 Designation Order* at ¶¶ 50-61.

¹⁹⁷ 47 C.F.R. § 36.376.

¹⁹⁸ *1997 Designation Order* at ¶ 53. The Bureau obtained GTE's expense data from the FCC ARMIS 43-04 Report (1990-96), Rows 7300 and 7310, for GTE.

¹⁹⁹ *1997 Designation Order* at ¶ 53. The Bureau obtained GTE's expense data from the FCC ARMIS Report 43-04 (1990-96), Rows 7220 and 7310, for GTE.

²⁰⁰ 47 C.F.R. § 36.382(a).

based on the Category 2 expenses, an overstatement in Category 3 would result in an overstatement of the OB&C exogenous cost change. The direct effect of the separations change is to increase the interstate share of Category 2 expenses. The separations change also has an indirect effect because the larger the level of expenses in Category 3, the larger the total exogenous cost change, including secondary effects, resulting from the OB&C separations change.

a. Discussion

137. In this section of the Order, we require GTE to reassign its Category 1 and Category 3 customer services expense in proportion to the RBOCs' average Category 1 and Category 3 assignments for calendar year 1996. As discussed in more detail below, requiring GTE to reassign its Category 1 and Category 3 customer services expenses and prescribing an RBOC average allocator of GTE's Category 1 and Category 3 customer services expenses is necessary for three reasons. First, GTE fails to support its assertion that the decrease in Category 1 expenses over the same time period is due to a consolidation of customer service operations as well as a new IXC contract removing the cap on uncollectibles. Second, GTE fails to support its assertion that the growth in Category 3 customer services expenses between 1990 and 1996 is due to appropriately assigned expenses and an increase in public telephone commissions. Finally, GTE fails to provide sufficient data to enable us to make a prescription by using GTE-specific data.

(1) Category 1 Expense

138. Although GTE asserts that Category 1 expenses *decreased* as a result of consolidation of customer service centers, this assertion is inconsistent with its statement that this same consolidation substantially *increased* customer service expenses. Moreover, as noted above, GTE improperly assigned those increasing customer service expenses to Category 3 instead of Category 1. Further, GTE fails to provide any documentation to support its assertion that Category 1 expenses declined due to consolidation. GTE does not identify, for example, the magnitude of any of these consolidation-related changes, *i.e.*, the related decrease in Category 1 expense or the related increase in Category 3 expense. It therefore is unclear whether, after all these customer service expenses are properly classified in Category 1, the net effect of the consolidation was to increase or decrease Category 1 expense. Accordingly, GTE's showing is insufficient to establish that this consolidation explains the decline in Category 1 expense.

139. We also are not convinced by GTE's argument that Category 1 expenses declined partly due to the decrease in IXC uncollectibles. GTE does not identify the size of the reduction in uncollectibles. Nor does GTE identify the amount of uncollectibles incurred in 1996. GTE's showing therefore fails to explain why Category 1 expense decreased 23 percent in that calendar

year.²⁰¹ Further, because GTE states that the decrease in uncollectibles began in 1996, this change cannot explain the 9 percent decrease in Category 1 expense that occurred in the prior year.²⁰² GTE thus does not demonstrate that the reduction in uncollectibles is primarily responsible for the decrease in Category 1 expense from 60 percent to 47 percent of total customer services expense between 1990 and 1996.

140. For these reasons, we find that GTE's showing regarding the changes to Category 1 and Category 3 customer services expenses between 1990 and 1996 does not adequately address the concerns raised by the Bureau in the *1997 Designation Order*. As the Bureau noted in the *1997 Designation Order*, GTE's Category 3 assignment in 1996 was unusually large compared to that of the RBOCs.²⁰³ In that year, the share of customer services expense that GTE assigned to Category 3 was more than double the largest Category 3 share assigned by any RBOC. Whereas the Category 3 expenses for individual RBOCs ranged from .03 percent to 13 percent of the total customer services expense, GTE's Category 3 expense was 28 percent of total customer services expenses.²⁰⁴ Further, during the same year, GTE assigned an unusually low share of customer services expense to Category 1. Whereas that share ranged from 70 percent to 82 percent for individual RBOCs, GTE's share was only 47 percent.²⁰⁵ Because GTE's response fails to explain these anomalies, we are not persuaded that GTE properly classified its 1996 Category 1 and Category 3 expenses.

(2) Category 3 Expense

141. Except for public telephone commissions, GTE misassigned customer service administration expenses to Category 3 expense because these expenses are end-user service expenses that must be assigned to Category 1 subcategories: End-User Order Processing, End-User Payment and Collection, and End-User Billing Inquiry.²⁰⁶ These customer service

²⁰¹ FCC ARMIS Report 43-04 (1995-1996) Row 7220, for GTE.

²⁰² FCC ARMIS Report 43-04 (1994-1995) Row 7220, for GTE.

²⁰³ *1997 Designation Order* at ¶ 53.

²⁰⁴ FCC ARMIS Report 43-04 (1996), Rows 7300 and 7310, for Ameritech, Bell Atlantic, BellSouth, NYNEX, Pacific Telesis, Southwestern Bell, U S WEST, and GTE.

²⁰⁵ FCC ARMIS Report 43-04 (1996), Rows 7220 and 7310, for Ameritech, Bell Atlantic, BellSouth, NYNEX, Pacific Telesis, Southwestern Bell, U S WEST, and GTE.

²⁰⁶ 47 C.F.R. § 36.377(a)(1) through (a)(3). Category 1, Local Business Office Expense, also includes four other subcategories: Interexchange Carrier Service Order Processing, Interexchange Carrier Payment and Collection, Interexchange Carrier Billing Inquiry; and Coin Collection and Administration. 47 C.F.R. §§ 36.377(a)(4) through (a)(7).

administration expenses are Category 1 expenses, regardless of whether such services are provided in English or Spanish, because our rules do not distinguish customer services provided in other languages.²⁰⁷ Moreover, these customer service administration expenses are Category 1 expenses, even though the expenses in question are incurred in decentralized "local" offices or, in GTE's case, in consolidated offices serving customers at a regional or national level because the rules applicable to these three types of Category 1 expenses do not limit such expenses to costs incurred in offices located near the customers served.²⁰⁸ The rules applicable to end-user billing inquiry expense, for example, do not distinguish between local and regional service centers. Instead, these rules simply state that this subcategory "includes expenses related to handling end users' inquiries concerning their bills."²⁰⁹

142. Although Category 1 is titled "Local Business Office Expense," this title does not exclude service expenses incurred outside a customer's local calling area. Rather, the title uses the descriptive term "local" because carriers have traditionally provided these customer services in their local business offices. If carriers now perform some of these services outside the local area, their remote facility provides the same customer service function and thus constitutes, for separations purposes, an extension of the local business office functions. We therefore find that GTE should have assigned these expenses to Category 1 instead of Category 3.

143. GTE claims that the increase in Category 3 expense between 1990 and 1996 is due partly to an increase in public telephone commissions, but GTE does not quantify the magnitude of that increase in commissions. GTE does show, however, that the total amount of these commissions at the end of the 1990-1996 period was \$31.5 million,²¹⁰ which is only one-half the size of the \$62 million increase in Category 3 expense that occurred during that same period. GTE thus fails to demonstrate that an increase in these commissions had a significant effect on the level of Category 3 expense.

(3) Prescription

144. We require GTE to reassign its Category 1 and Category 3 customer services expense in proportion to the RBOCs' average Category 1 and Category 3 assignments for calendar year 1996. We are using this approach because, as explained above, GTE fails to justify its assignments and does not provide us with the data necessary to make a prescription with GTE-specific data. The *1997 Designation Order* required GTE to provide detailed

²⁰⁷ *Id.*

²⁰⁸ *Id.*

²⁰⁹ 47 C.F.R. § 36.377(a)(3).

²¹⁰ Letter from W. Scott Randolph, Director-Regulatory Matters, GTE to William F. Caton, FCC, at 11, dated September 26, 1997.

information to support its Category 1 and Category 3 assignments.²¹¹ In addition, after GTE filed its direct case, the Bureau staff requested additional information from GTE on these assignments.²¹² Despite these repeated requests, GTE did not provide sufficient data from which we can make a prescription. Specifically, GTE provided no data that quantify Category 3 expenses associated with consolidation activities.²¹³ In addition, GTE failed to provide data on the increase in public telephone commissions. Further, GTE did not file any data that documents the alleged decrease in Category 1 expenses due to consolidation. Finally, GTE provided no data regarding the decrease in uncollectibles due to the renegotiation of a contract which GTE indicates is also responsible for the decrease in Category 1.

145. Because GTE provided no data regarding the magnitude of these individual decreases and increases in Categories 1 and 3 expenses, it is not possible to quantify the misallocation to its 1996 Category 1 and Category 3 expenses relying solely on GTE's 1996 data. Accordingly, we prescribe for GTE a reassignment of its Category 1 and Category 3 customer services expense in proportion to the RBOCs' average Category 1 and Category 3 assignments for calendar year 1996. It is reasonable to reassign these expenses by using an RBOC average because we would expect that if GTE had appropriately assigned its Category 1 and Category 3 expenses, the relative proportions would be similar to those of the RBOCs. We find this to be case because the RBOCs are similar in operating size to GTE. The RBOCs operating revenues, for example, range from \$8 billion (Pacific Telesis) to \$14 billion (BellSouth) with GTE having almost \$13 billion in operating revenues.²¹⁴ Similarly, the RBOCs have Total Billable Access Lines in the range of 14 million (Southwestern Bell) to almost 22 million (BellSouth) while GTE has approximately 17 million.²¹⁵

146. We find that prescribing expense assignments on the basis of an RBOC average, as we do in this Order, is consistent with our authority under Section 205(a) of the Communications Act. Section 205(a) provides in pertinent part that, whenever "after full opportunity for hearing, . . . the Commission shall be of opinion that any charge . . . of any

²¹¹ 1997 Designation Order at ¶ 53.

²¹² Letter from W. Scott Randolph, Director-Regulatory Matters, GTE to William F. Caton, FCC, at 1, dated September 18, 1997; Letter from W. Scott Randolph, Director-Regulatory Matters, GTE to William F. Caton, FCC, at 2, 9, and 11, dated September 26, 1997.

²¹³ Letter from W. Scott Randolph, Director-Regulatory Matters, GTE to William F. Caton, FCC, at 1, dated September 18, 1997; Letter from W. Scott Randolph, Director-Regulatory Matters, GTE to William F. Caton, FCC, at 11, dated September 26, 1997.

²¹⁴ FCC ARMIS Report 43-01 (1996) Row 1090 for Ameritech, Bell Atlantic, BellSouth, NYNEX, Pacific Telesis, Southwestern Bell, U S WEST, and GTE.

²¹⁵ FCC ARMIS Report 43-01 (1996) Row 2150 for Ameritech, Bell Atlantic, BellSouth, NYNEX, Pacific Telesis, Southwestern Bell, U S WEST, and GTE.

carrier or carriers is or will be in violation of any of the provisions of this Act, the Commission is authorized and empowered to determine and prescribe what will be the just and reasonable charge."²¹⁶ Courts have consistently found in the Act a Congressional intent to grant us broad discretion in "selecting methods . . . to make and oversee rates."²¹⁷ In doing so, we may make any "reasonable selection from the available alternatives."²¹⁸ Rather than insisting upon a single regulatory method for determining whether rates are just and reasonable, courts and other federal agencies with rate authority similar to our own evaluate whether an established regulatory scheme produces rates that fall within a "zone of reasonableness."²¹⁹ For rates to fall within the zone of reasonableness, the agency rate order must constitute a "reasonable balancing" of the "investor interest in maintaining financial integrity and access to capital markets and the consumer interest in being charged non-exploitative rates."²²⁰

147. Our discretionary authority to prescribe rates based on averaging is directly supported by the Supreme Court's decision in the *Permian Basin Area Rate Cases*.²²¹ In that decision, the Court upheld the Federal Power Commission's (FPC) decision to depart from its former practice of determining the reasonableness of natural gas producers' rates by examining the costs of each company on a case-by-case basis.²²² The Court found that the FPC's decision to prescribe maximum area rates for interstate natural gas sales based on composite cost data obtained from published sources and from producers through a series of cost questionnaires, fell

²¹⁶ 47 U.S.C. § 205(a).

²¹⁷ *MCI Telecommunications Corp. v. FCC*, 675 F.2d 408, 413 (D.C. Cir. 1982) (quoting *Aeronautical Radio v. FCC*, 642 F.2d 1221, 1228 (D.C. Cir. 1980), *cert. denied*, 451 U.S. 920 (1981)). *See also Western Union Int'l v. FCC*, 804 F.2d 1280, 1292 (D.C. Cir. 1986) ("The FCC's judgment about the best regulatory tools to employ in a particular situation is . . . entitled to considerable deference from the generalist judiciary."); MTS and WATS Market Structure, CC Docket No. 78-72, Phase I, Third Report and Order, 93 FCC 2d 241, 259 (1983) ("[A] prescribed rate is just and reasonable for purposes of Section 205(a) if it represents the best approximation of a rate that satisfies all statutory requirements that this Commission is capable of devising within a reasonable period of time.").

²¹⁸ *MCI Telecommunications*, 675 F.2d at 413.

²¹⁹ *See, e.g., FERC v. Pennzoil Producing Co.*, 439 U.S. 508, 517 (1979); *AT&T v. FCC*, 836 F.2d 1386, 1390 (D.C. Cir. 1988) (quoting *Jersey Cent. Power & Light v. FERC*, 810 F.2d 1168, 1177 (D.C. Cir. 1987)). *See also Wisconsin v. FPC*, 373 U.S. 294, 309 (1963); *FPC v. Natural Gas Pipeline Co.*, 315 U.S. 575, 585-86 (1942).

²²⁰ *Jersey Cent. Power & Light*, 810 F.2d at 1177-78. *See Pennzoil Producing*, 439 U.S. at 517 (to fall within the zone of reasonableness, rates must be neither "less than compensatory" nor "excessive.").

²²¹ 390 U.S. 747 (1968).

²²² *Id.* at 768-70.

within the "zone of reasonableness" required by the Natural Gas Act.²²³ The Court emphasized that the Natural Gas Act had conferred upon the FPC broad responsibilities to regulate interstate distribution of natural gas and that prescribing rates based on composite industry data was a valid exercise of the FPC's discretionary authority under the Act:

[T]he "legislative discretion implied in the rate making power necessarily extends to the entire legislative process, embracing the method used in reaching the legislative determination as well as that determination itself." It follows that rate-making agencies are not bound to the service of any single regulatory formula; they are permitted, unless their statutory authority otherwise plainly indicates, "to make the pragmatic adjustments which may be called for by particular circumstances."^[224]

148. In light of our broad discretion to select appropriate regulatory tools for ratemaking purposes, we have, on other occasions, made rate prescriptions based in part on an industry-wide average or mean. Our decision in this investigation to make rate prescriptions on the basis of RBOCs average expense assignments is consistent, for example, with the methodologies we used to (1) establish a unitary rate of return for ILECs' interstate access services,²²⁵ (2) create a productivity factor for price cap ILECs,²²⁶ (3) determine the reasonableness of depreciation rates for price cap ILECs;²²⁷ and (4) prescribe direct costs for

²²³ *Id.* at 768-74. The Court noted that Congress had entrusted the regulation of the natural gas industry to the "informed judgment of the Commission," and stated that "a presumption of validity therefore attaches to each exercise of the Commission's expertise." *Id.* at 767.

²²⁴ *Id.* at 776-77 (citations omitted). The Court cited as precedent *Los Angeles Gas Co. v. Railroad Comm'n*, 289 U.S. 287, 304 (1933); *San Diego Land & Town Co. v. Jasper*, 189 U.S. 439, 446 (1903); *FPC v. Natural Gas Pipeline Co.*, 315 U.S. 474, 586 (1942).

²²⁵ *Rate of Return Represcription Order*, 5 FCC Rcd at 7507-508. In prescribing the ILECs' rate of return in the rate of return represcription proceeding, we (1) determined the cost of debt by calculating the average embedded cost of debt among the seven regional holding companies (RHCs) and (2) established the ILECs' capital structure by determining the average embedded capital structure of the RHCs. Furthermore, the discounted cash flow method that we used to calculate the cost of equity established a single estimate of that cost for the entire ILEC industry. *Id.* at 7508.

²²⁶ Policy and Rules Concerning Rates for Dominant Carriers, CC Docket No. 87-313, Second Report and Order, 5 FCC Rcd 6786, Appendix C (1990). The price cap scheme adopted in this Order adjusts the maximum prices that ILECs may charge for their interstate services using a productivity factor ("X-Factor") that is based on data measuring the industry-wide average performance of the ILECs. The validity of this methodology was reaffirmed in our Price Cap Performance Review for Local Exchange Carriers, First Report and Order, CC Docket No. 94-1, 10 FCC Rcd 8961, 9027 (1995).

²²⁷ Simplification of the Depreciation Prescription Process, CC Docket No. 92-296, Report and Order, 8 FCC Rcd 8025, 8050 (1993). In determining whether a ILEC's depreciation rates are presumptively reasonable,

physical collocation service.²²⁸

149. We conclude that the methodology we are using for the purpose of prescribing RBOC average expense assignments ensures that GTE's rates fall within a zone of reasonableness. We adopt this approach after making a "reasonable selection from the available alternatives."²²⁹ We considered reassigning GTE's Category 1 and Category 3 expenses by using, as a surrogate for 1996, GTE's assignment to Categories 1 and 3 as reflected in prior years' ARMIS reports. However, one problem with using company-specific data in this case is that GTE's ARMIS data for prior years reveal that GTE possibly has misallocated Category 1 and Category 3 Expenses for several years. ARMIS data for the period 1990 through 1995 show that the share of customer services expenses assigned to Category 3 exceeded the corresponding average share reported by RBOCs in every year and the percentage by which GTE's Category 3 share exceeded the RBOC average varied greatly. In 1993, GTE's share exceeded the RBOC average by 65 percent, the smallest difference for any year in the period. In 1995, GTE's share exceeded the RBOC average by 186 percent, the largest difference for any year in the period.²³⁰ Hence, although the differences varied greatly, GTE's Category 3 share far exceeded the RBOC average Category 3 share throughout the period. Similarly, ARMIS data show that GTE's Category 1 assignment was below the RBOC average in each year of that period.²³¹

150. Another problem with using company-specific data in this case is that much of the prior years' data are difficult to compare to 1996 ARMIS data. In the earlier half of the 1990-1996 period, GTE did not file ARMIS reports for many smaller study areas because their study area annual revenues were under the ARMIS reporting threshold. Consequently, even if the misassignment of Category 1 and Category 3 expenses had not occurred during one of those earlier years, it would be difficult to rely on that year's data for purposes of making a corrective adjustment to 1996 data.

three factors are considered: the projected life of plant, the future net salvage value of plant, and a survivor curve. The Commission uses an industry average to develop ranges for two of the three factors, the projected life of plant and future net salvage value. These ranges are based on intervals of one standard deviation around the industry-wide mean value of the projected life of plant and future net salvage of plant underlying existing depreciation rates. *Id.* at 8050.

²²⁸ *Local Exchange Carriers' Rates, Terms, and Conditions for Expanded Interconnection Through Physical Collocation for Special Access and Switched Transport*, CC Docket No. 93-162, FCC 97-208, Second Report and Order at paras 124-264, released June 13, 1997.

²²⁹ *MCI Telecommunications*, 675 F.2d at 413.

²³⁰ FCC ARMIS Report 43-04 (1990 through 1995), Rows 7300 and 7310, for Ameritech, Bell Atlantic, BellSouth, NYNEX, Pacific Telesis, Southwestern Bell, U S WEST, and GTE.

²³¹ FCC ARMIS Report 43-04 (1990 through 1995), Rows 7220 and 7310, for Ameritech, Bell Atlantic, BellSouth, NYNEX, Pacific Telesis, Southwestern Bell, U S WEST, GTE.

151. We therefore require GTE to reassign these expenses by calculating the RBOC average Category 1 and Category 3 assignments as a percentage of Category 1 and Category 3 combined, for calendar year 1996. The RBOC average customer service expense that was assigned to Category 1 as a percentage of Category 1 and Category 3 combined in calendar year 1996 was 91 percent.²³² The RBOC average customer service expense that was assigned to Category 3 as a percentage of Category 1 and Category 3 combined in calendar year 1996 was 9 percent.²³³ Accordingly, we require GTE to assign 91 percent of its total Category 1 and Category 3 expenses to Category 1 and 9 percent of its total Category 1 and Category 3 expenses to Category 3. GTE must recalculate its rates to reflect this reassignment and calculate the appropriate refunds.

4. Apportionment of OB&C Expense Among Service Classes

152. After assigning a portion of customer services expenses to Category 2, Revenue Accounting Expense, which includes OB&C Expense, carriers must apportion in the separations process all Category 2 expense among three categories: Message Processing Expense, Carrier Access Charge Billing and Collecting Expense, and Other B&C Expense.²³⁴ Carriers must then allocate the OB&C Expense among five service classes based on the relative number of users of those services. These service classes consist of Message Toll, Exchange, Directory Advertising, Private Line, and TWX.²³⁵ To determine the number of users, carriers are required to count an individual customer once for each of these services that is used.²³⁶ A majority of customers, for example, are counted both as message toll users and as exchange users.

a. Message Toll User Counts

153. Because, under the former separations rules, carriers allocated OB&C Expense among Part 36 service categories based on user counts, the accuracy of these counts affected the accuracy of the separated interstate cost assignment and, in that way, the accuracy of calculated exogenous adjustments. If message toll user counts were understated during the period used to

²³² FCC ARMIS Report 43-04 (1996) Rows 7220 and 7300, for Ameritech, Bell Atlantic, BellSouth, NYNEX, Pacific Telesis, Southwestern Bell, and U S WEST. The percentage was calculated by summing Row 7220 for the RBOCs divided by the sum of Row 7220 and Row 7300 for the RBOCs.

²³³ FCC ARMIS Report 43-04 (1996) Rows 7220 and 7300, for Ameritech, Bell Atlantic, BellSouth, NYNEX, Pacific Telesis, Southwestern Bell, and U S WEST. The percentage was calculated by summing Row 7300 for the RBOCs divided by the sum of Row 7220 and Row 7300 for the RBOCs.

²³⁴ 47 C.F.R. § 36.378(b).

²³⁵ 47 C.F.R. § 36.380(b). Because carriers no longer provide TWX service, they now allocate OB&C Expense among only four of the five prescribed service classes.

²³⁶ *Id.*

calculate the interstate OB&C Expense under our former rules, the resulting exogenous cost change is likely overstated because the results from the new separations rules are not affected by user counts. Specifically, an understatement of message toll users reduces the amounts of OB&C Expense that the companies allocate to message toll billing expense, a substantial portion of which is allocated to the interstate jurisdiction. In addition, the understatement increases the amounts these ILECs allocate to exchange billing expense, none of which is allocated to the interstate jurisdiction. Consequently, if the companies miscount message toll users in this way, their reported interstate assignment under our former rules (*i.e.*, using user counts) is understated. The interstate assignment under our former rules is compared to the interstate assignment under our new rules in order to calculate the magnitude of the exogenous change. If the interstate assignment is understated under the former rules, the exogenous change is overstated.

154. In the *1997 Designation Order*, the Bureau observed that the share of user counts attributed to Message Toll by GTE and U S WEST appeared to vary significantly from the corresponding shares reported by other RBOCs. The Bureau noted that both GTE and U S WEST's message toll user count share decreases exceeded the other RBOCs' decreases for 1996 and 1995 respectively.²³⁷ The Bureau directed GTE, Pacific Bell and U S WEST to provide their user counts for Message Toll and other service classes; to explain how those counts were determined over the period 1990 through 1996; and to explain any discrepancies that exist between those counts and those reported in ARMIS or those used when calculating interstate costs to initialize price cap indices.²³⁸

(1) Discussion

155. The rules require carriers to allocate OB&C Expense to the Message Toll service class based on the relative number of customers using that service.²³⁹ To make this allocation, an ILEC must count *all* customers billed for toll messages. This requirement notwithstanding, the record reveals that GTE, Pacific Bell, and U S WEST do not count all of their message toll customers. Specifically, these ILECs fail to count message toll customers served by IXCs using an ILEC's invoice-ready billing service.

156. The resulting understatement of message toll users reduces the amounts of OB&C Expense that GTE, Pacific Bell and U S WEST allocate to message toll billing expense, a substantial portion of which is allocated to the interstate jurisdiction. In addition, the understatement increases the amounts these ILECs allocate to exchange billing expense, none of

²³⁷ *1997 Designation Order* at ¶¶ 54 and 60.

²³⁸ *1997 Designation Order* at ¶¶ 51(a)-(c), 54 and 60.

²³⁹ 47 C.F.R. § 36.380(b).

which is allocated to the interstate jurisdiction. Consequently, this error understates their reported interstate assignment under our former rules (*i.e.*, using user counts). The interstate assignment under our former rules is compared to the interstate assignment under our new rules in order to calculate the magnitude of the exogenous change. Since the interstate assignment is understated under the former rules, the exogenous change is overstated as well.

157. We require GTE, Pacific Bell, and U S WEST to recalculate their OB&C expense by using the average percentage of message toll users among the RBOCs to determine the message toll portion of OB&C Expense. We make this prescription because, as explained above, GTE, Pacific Bell, and U S WEST understate their message toll user counts between 1990 and 1996 and fail to provide us with the information needed to determine their total message toll user counts. The *1997 Designation Order* required GTE, Pacific Bell, and U S WEST to provide detailed support for their message toll counts between 1990 and 1996. By failing to provide any data on the number of toll customers served by IXCs using a ILEC's invoice-ready billing service, the record does not contain a significant portion of the data necessary to determine interstate OB&C Expense.

158. Because GTE, Pacific Bell, and U S WEST did not provide all the data on the number of message toll customers, it is not possible to quantify the misallocation of their OB&C Expense using data from these companies. We believe that prescribing the RBOC average percentage of message toll users as an allocator of OB&C Expense yields the best estimate of the share of message toll users for GTE, Pacific Bell, and U S WEST. There are several reasons why we would expect that, if these companies had counted all of their message toll customers, the share of message toll users would be similar to the other RBOCs. First, as explained above, these companies are similar in operating size to the RBOCs, both in terms of revenues and number of access lines.²⁴⁰ Second, despite wide variation among the RBOCs regarding the number of originating toll calls per exchange customer,²⁴¹ the share of customers' bills containing at least one toll call is remarkably similar among the RBOCs. The individual RBOC shares of message toll users (excluding Ameritech, Pacific Telesis and U S WEST) are in a narrow range of 43.94 percent (Bell Atlantic) to 45.68 percent (Southwestern Bell) with an average of 44.94 percent in 1996.²⁴² We observe that the average share of message toll user counts for the RBOCs is nearly the same as the industry-wide average of 44.96 percent

²⁴⁰ See *supra* at para. 145.

²⁴¹ The RBOCs range of total originating toll calls (intra and interstate) per exchange customer is 543 to 1047 per year. GTE reports 803 originating toll calls per exchange customer, U S WEST reports 640, and Pacific Bell reports 1254. FCC ARMIS Report 43-04 (1996) Row 7244 for Bell Atlantic, BellSouth, NYNEX, Southwestern, GTE, U S WEST, and Pacific Bell. FCC ARMIS Report 43-08 (1996) col. (ed) plus (eg) for Bell Atlantic, BellSouth, NYNEX, Southwestern, GTE, U S WEST, and Pacific Bell.

²⁴² FCC ARMIS Report 43-04 (1996) Rows 7240 and 7241 for Bell Atlantic, BellSouth, NYNEX, and Southwestern Bell.

(excluding Ameritech, GTE, Pacific Telesis, Puerto Rico, and U S WEST).²⁴³

159. The proximity of the message toll shares to 50 percent indicates that nearly all RBOC exchange customers are making at least one toll call, thereby qualifying as a toll user.²⁴⁴ This implies that additional calls have little effect on the share of message toll users because such calls are most likely made by customers who have already made at least one toll call. Hence, despite the variation in number of originating toll calls per exchange user that is shown in traffic data submitted by GTE, Pacific Bell, and U S WEST, we expect that, if they had counted all users, their message toll user shares would be similar to the other RBOCs.

160. As explained above, we find that making a rate prescription on the basis of an industry average is consistent with our authority under Section 205(a) of the Communications Act because courts have consistently found in the Act a Congressional intent to grant us broad discretion in "selecting methods . . . to make and oversee rates," provided that we make a "reasonable selection of available alternatives" and prescribe rates that fall within a "zone of reasonableness." We find that the methodology we are using for the purpose of prescribing message toll user counts will produce rates that fall within a zone of reasonableness.

161. We make this prescription after making a "reasonable selection of available alternatives." We considered estimating message toll user counts by assuming that the number of toll users equals the number of exchange users. That assumption would result in message toll users being assigned at nearly 50 percent of the OB&C expense for these companies.²⁴⁵ The assumption is unrealistic, however, because some exchange users do not use message toll service.

162. We also considered basing our prescription on the basis of user counts that these carriers reported for prior years. In light of the errors in the 1996 data, however, we will not rely on earlier data that may be based on the same faulty methodologies used in producing the 1996 user counts. It is unclear, for example, to what extent the invoice-ready counting problem existed in prior years because none of these carriers show the user and interstate message counts that were billed through invoice-ready billing in earlier years. Another problem, with regard to GTE, is that many of its smaller study areas did not file data in the first few ARMIS reporting

²⁴³ FCC ARMIS Report 43-04 (1996) Rows 7240 and 7241 for Total Industry. We excluded Ameritech for reasons discussed above. We excluded Puerto Rico because its 1996 user count data are anomalous, showing the number of toll users to exceed the number of exchange users.

²⁴⁴ This occurs because 100 percent counts each user twice -- once for the local exchange and once for the toll.

²⁴⁵ FCC ARMIS Report 43-04 (1996), Rows 7240 through 7247, for GTE, Pacific Bell, and U S WEST.

years, making verification of the accuracy of prior years' data difficult.²⁴⁶

163. Accordingly, as explained above, we find that the most reasonable approach is to use the average RBOC message toll count (after excluding Ameritech, Pacific Telesis, and U S WEST, all of which have anomalous data)²⁴⁷ as a basis for estimating the percentage of total users attributable to message toll users because we do not have firm-specific invoice-ready toll user counts. The RBOC average (excluding Ameritech, Pacific Telesis, and U S WEST) was 44.94 percent in 1996.²⁴⁸ We therefore require GTE, Pacific Bell and U S WEST, in recalculating their exogenous cost changes, to increase the message toll user counts in any study area in which those counts constitute less than 44.94 percent of the study area's total user counts. In such study areas, the number of message toll users shall be determined by the following formula: the number of message toll users equals the total number of non-message-toll users (*i.e.*, total number of users less the original number of message toll users) divided by 1.225.²⁴⁹ Once a revised number of message toll users is determined for a particular study area, GTE, Pacific Bell and U S WEST shall use that number (together with the 1996 user counts for other services) in determining the shares of OB&C expense attributable to the following prescribed

²⁴⁶ See *supra* para. 150.

²⁴⁷ Ameritech's user counts exhibit numerous anomalies during the period 1990-1996. Its reported user counts for Illinois Bell and Ohio Bell, for example, decreased by 98 percent and 91 percent, respectively, between 1995 and 1996. Moreover, Indiana Bell reported that the percentage of users attributable to Message Toll remained constant at 44.04 percent in 1994, 1995, and 1996, an anomaly that indicates Indiana Bell did not update its user counts in 1995 and 1996. The Bureau directed Ameritech to refile its 1994 through 1996 ARMIS 43-04 Reports in order to correct those data or, if that is not feasible, to note that user counts during that period are incorrect. Letters from Fatina Franklin, Chief, Competitive Safeguards Branch, Accounting and Audits Division, Common Carrier Bureau of the FCC, to Roy Nonnenmann of Ameritech, dated July 3 and October 2, 1997. Although these problems in Ameritech's reported user counts seemed to cast doubt on the accuracy of its 1997 tariff filing, we here determine that Ameritech did not overstate its OB&C Expense exogenous cost increase, either because it made offsetting errors elsewhere in its calculations or because it substituted unreported allocation factors for the faulty allocation factors reported in its 1996 ARMIS Report. We therefore find no reason to add Ameritech to this portion of the investigation that addresses OB&C exogenous cost change.

²⁴⁸ FCC ARMIS Report 43-04 (1996), Rows 7240 and 7241, Bell Atlantic, BellSouth, NYNEX, and Southwestern Bell. The percentage is calculated by summing Row 7240 for these companies divided by the sum of Row 7241 for these companies.

²⁴⁹ This simplified formula was derived from the following formula:
Where X equals revised message toll user count,

$$\frac{X - \text{original message toll user count}}{\text{total number of non-message-toll users}} =$$

service categories: message toll, exchange, private line, and directory advertising.²⁵⁰ This requirement mandates that, in study areas where the message toll share is raised to a level of 44.94 percent, the shares reported for the other three service classes must be reduced.

b. Substitution of Direct Assignment for Prescribed Allocation Factor

164. Section 36.1(c) of the rules sets forth the general principle that plant investment must be separated based on direct assignment, rather than an allocation procedure, when possible.²⁵¹ The Commission stated, however, that this general rule was not meant to create a general invitation to use direct assignment at the convenience, and to the benefit, of the filing carrier.²⁵² In the *1997 Designation Order*, the Bureau stated that U S WEST may have incorrectly substituted direct assignment for the prescribed allocation procedure applicable to OB&C Expense. The Bureau noted that U S WEST apparently assigned directly a portion of OB&C Expense to the intrastate jurisdiction prior to categorizing that expense.²⁵³

165. The Commission must determine how U S WEST used direct assignment for purposes of determining its interstate OB&C Expense under both the former and new rules. If the company does not treat direct assignment consistently under the former and new rules, the OB&C exogenous adjustment may be overstated because the majority of the directly assigned expenses are intrastate in nature.

(1) Discussion

166. As noted above, Section 36.2(e) of the rules requires direct assignment of costs associated with services or plant billed to another company. The record indicates that U S WEST used direct assignment under the former rules when it determined the jurisdictional separation of OB&C Expenses incurred by U S WEST for billing services provided by other ILECs. Therefore, for purposes of establishing the interstate assignment under the former rules, we find that U S WEST reasonably used direct assignment. This finding resolves a concern that the Bureau raised regarding an apparent anomaly in U S WEST's ARMIS data.²⁵⁴

²⁵⁰ As noted earlier, ILECs no longer provide TWX service, which is the fifth prescribed service category.

²⁵¹ 47 C.F.R. § 36.1(c).

²⁵² *See Memorandum Opinion and Order*, 8 FCC Rcd at 1563 (1993).

²⁵³ *1997 Designation Order* at ¶ 51(i).

²⁵⁴ In the *1997 Designation Order*, the Bureau noted that U S WEST's OB&C allocation factors, reported on Row 7252 of FCC ARMIS 43-04 Report, does not match its allocation of OB&C Expense, reported on Row 7251 of that report. *See supra* at para. 5. This inequality occurs because U S WEST allocated OB&C Expense, net of

167. We find that U S WEST violates the rules contained in Section 36.2 of our rules, however, by failing to assign directly OB&C Expenses for charges paid to other ILECs for billing services when it determines the interstate assignment under the new rules (effective May 1, 1997). To calculate an exogenous change, it is necessary to compare the separations result obtained from the former allocation procedures with that obtained from the new allocation procedures. In calculating the effect of the new allocation procedures on interstate OB&C Expense, U S WEST does not use direct assignment. Instead, U S WEST allocates to the interstate jurisdiction one-third of all OB&C Expense, including one-third of the billing expenses it had been directly assigning under the former rules. This allocation procedure violates Section 36.2(e) which, as U S WEST concedes, requires carriers to assign directly to a jurisdiction any expense already identified properly, in bills rendered by another carrier, as jurisdictionally correct.

168. U S WEST's inconsistent use of direct assignment results in an overstated exogenous cost increase. This occurred because, whereas U S WEST had directly assigned only 8 percent of the directly assignable expenses to interstate under the former rules,²⁵⁵ it unreasonably allocates 33 percent of those expenses to interstate under the new rules.²⁵⁶ We therefore direct U S WEST to recalculate its exogenous changes based on directly assigning such expenses prior to the application of prescribed allocation procedures to the remaining costs in the base period as well as in the post-separations-change period.

5. Separation of Message Toll Billing Expense

169. The former separations rules required carriers to allocate the Message Toll portion of OB&C Expense between jurisdictions based on the relative number of intrastate and interstate toll messages.²⁵⁷ These counts are important because, if interstate toll messages are understated, interstate OB&C Expense under the former rules will be too small. Because we here calculate the total exogenous change by comparing the interstate assignment under the former rules with the interstate assignment under the new rules, under which the results are not affected by the relative number of toll messages, the lower the interstate assignment under the

the direct assignment amount, based on user counts and then added the direct assignment amount back in to Row 7252 for reporting purposes in its FCC ARMIS 43-04, which does not provide a separate line for reporting such directly assigned amounts.

²⁵⁵ Letter from G. Michael Crumling, Executive Director-Federal Regulatory, U S WEST, to Cindy Schieber, FCC, at 2, dated September 12, 1997.

²⁵⁶ U S WEST must assign costs before applying the 33 percent factor.

²⁵⁷ 47 C.F.R. § 36.380(b)(1). These rules also require, where telegram service is offered, that telegram messages are to be included in the message count and treated as exchange service, which is entirely intrastate in nature. *Id.*

former rules, the higher will be the OB&C exogenous cost change.

170. In the *1997 Designation Order*, the Bureau directed GTE and Pacific Bell to provide toll message counts for calendar years 1990 through 1996 and to explain how they counted these toll messages. The Bureau required them to also provide message counts for any toll messages that were excluded from reported toll message counts.²⁵⁸ They were further required to explain why the interstate share of billed toll messages changed greatly between 1990 and 1996.²⁵⁹ The Bureau stated that it sought this information because, at the end of that period, the interstate shares reported by GTE and Pacific Bell were far below those reported by any other RBOC. Whereas the other RBOCs attributed on average 46.6 percent of billed toll messages to interstate calls for the calendar year 1996, GTE and Pacific Bell attributed only 8.7 percent and 4.4 percent, respectively, to such calls.²⁶⁰

a. Discussion

171. We find that GTE and Pacific Bell incorrectly counted their billed toll messages, choosing to exclude those messages associated with their invoice-ready billing services. As will be explained below, these unjustified omissions resulted in overstated exogenous cost changes. Although both carriers subsequently submitted revised message toll counts, a number of unexplained anomalies and data problems exist that cast doubt on the reliability of those revised counts. We find, for example, that even after they include the missing invoice-ready message counts, these companies' interstate shares of billed toll messages for 1996 remain far below the corresponding interstate shares reported by other RBOCs. Moreover, while GTE and Pacific Bell argue that the IXC's take-back of billing and collection functions is largely responsible for the decrease in their interstate shares of billed toll messages, they do not show that these take-backs had a significant effect on the number of toll messages billed on behalf of IXCs. Further, although Pacific Bell claims that its unusually low interstate share of billed toll messages is partly the result of the unique calling pattern of California, Pacific Bell does not quantify the effect of such a difference on that interstate share. Nor does Pacific Bell explain why the interstate share of completed toll calls originating in California was 35.5 percent, more than double the revised interstate share that it reports for billed toll messages. In addition, GTE and Pacific Bell do not support their claim that, for certain years, it is reasonable that the interstate share of billed toll messages moved in the opposite direction of the interstate share of billing revenues. We find that unusual relationship is largely, if not entirely, explained by their unreasonable practice of omitting the invoice-ready messages. Furthermore, neither GTE nor Pacific Bell adequately explains how and when it updated its message counts for the period 1990

²⁵⁸ *1997 Designation Order* at ¶¶ 51(d)-(f).

²⁵⁹ *Id.* at ¶ 55.

²⁶⁰ FCC ARMIS Report 43-04 (1996), Row 7252, for Ameritech, Bell Atlantic, BellSouth, NYNEX, Pacific Telesis, Southwestern Bell, and U S WEST.

through 1996 even though the Bureau required this explanation in the *1997 Designation Order*.

172. In view of the failure of GTE and Pacific Bell adequately to explain these anomalies and to provide required information, we find that we cannot reasonably rely on their revised 1996 message toll counts as a basis for correcting the separation of message toll billing expense. We therefore prescribe surrogate allocation factors that are derived partly from the data of other comparable ILECs.

(1) Initial Message Toll Counts

173. The former separations rules do not distinguish between toll messages billed through invoice-ready billing service and toll messages billed through message-ready billing service. As explained above, the rules require carriers to allocate the Message Toll portion of OB&C Expense based on the relative number of intrastate and interstate billed toll messages. In order to make this determination, we find that a toll message billed on behalf of an IXC must be counted regardless of how many other billing functions the ILEC is providing to that IXC.

174. We reject the claims of GTE and Pacific Bell that the decreases in their interstate shares of billed toll messages in 1995 and 1996 are attributable primarily to the IXCs' take-back of billing functions. We find that the primary reason for the decreases in their interstate shares of billed toll messages was their practice of selectively counting billed toll messages. GTE and Pacific Bell count IXC toll messages when billed through message-ready billing service but not when billed through invoice-ready billing service. Contrary to the rules, GTE and Pacific Bell exclude those invoice-ready messages despite the fact that they concede that such messages continued to appear on their customers' bills after an IXC had switched to invoice-ready billing. GTE and Pacific Bell therefore fail to show that the IXCs' migration from one billing service to the other caused a reduction in the number of toll messages billed on behalf of IXCs.

175. We also reject the arguments of GTE and Pacific Bell that invoice-ready messages should not be considered when separating Message Toll billing expense because invoice-ready billing does not involve the recording, rating, and accumulation functions and, therefore, has a minimal effect on OB&C Expense. While it is true that such messages have only a minimal effect on billing expense, this is also true for all billed messages including those that GTE and Pacific Bell choose to count.

176. Moreover, in CC Docket 80-286 the Joint Board determined,²⁶¹ and the Commission concurred,²⁶² that OB&C Expense predominantly consists of expenses that have little or no relationship to relative usage measurements, such as the counts of billed messages or

²⁶¹ *Recommended Decision*, 11 FCC Rcd 12543, 12560-12563 (1996).

²⁶² *OB&C Order*, 12 FCC Rcd at 2684-6 (1997).

service users.²⁶³ Indeed, the Commission's decision to replace the former separations rules with fixed allocation factors was based largely on this lack of a cost-causative relationship between billing expense and all feasible measurements of relative usage.²⁶⁴ Consequently, the individual messages associated with message-ready service have only a minimal effect on OB&C Expense. While it is true that this billing service involves message recording, rating, and accumulation, those billing functions are provided by computers. Under the separations rules, the computer costs are assigned to General Support Facilities and the associated expenses are generally assigned to Plant Specific Operations Expenses.²⁶⁵ Accordingly, many if not most of the "billing expenses" incurred by those particular billing functions are not pertinent because the rules exclude them from OB&C Expense.

177. The accuracy of the interstate share of billed toll messages, as determined under the former rules, affects the accuracy of exogenous cost calculations because that interstate share is used to separate a portion of OB&C Expense, as discussed above. When that interstate share is understated, as is the case for both GTE and Pacific Bell, the interstate assignment of OB&C Expense is too low. An understatement of the interstate assignment prior to the rule change unnecessarily raises the exogenous cost effect of replacing that low interstate assignment with the 33 percent interstate assignment prescribed under the new rules. For example, increasing the interstate allocation from 7 percent to 33 percent would cause a greater increase in interstate expenses than a change from 25 percent to 33 percent. Consequently, the errors of GTE and Pacific Bell in counting billed toll messages result in an overstatement of their exogenous cost changes.

(2) Revised Message Toll Counts

178. In order to correct the interstate allocation of message toll billing expense submitted by GTE and Pacific Bell, we must have reasonably accurate counts of 1996 intrastate and interstate toll messages, including those associated with invoice-ready billing. The Bureau directed both carriers to submit these data.²⁶⁶ Pacific Bell submitted new toll message counts for 1996, which raised the interstate share of billed toll messages from the 4 percent share used in its tariff filing to 14 percent. Similarly, GTE submitted revised data that increased its interstate

²⁶³ Further, the Commission found that OB&C expenses largely consists of postage. With regard to Bell Atlantic, for example, the Commission found that the majority of OB&C expense is comprised of postage. (*Order on Reconsideration*, 11 FCC Rcd 4087, 4092 (1996)). Individual billed messages generally have no effect on postage because the weight of customer bills is usually under two ounces, the trigger point for a higher postage rate.

²⁶⁴ *OB&C Order*, 12 FCC Rcd at 2685-86 (1997).

²⁶⁵ *See* 47 C.F.R. §§ 36.111 and 36.310.

²⁶⁶ *1997 Designation Order* at ¶ 51(f).

share of billed toll messages from 9 percent to 22 percent.²⁶⁷ Data submitted by GTE and Pacific Bell for 1990 through 1996, however, exhibit a number of anomalies that cast doubt on the completeness of their revised billed toll message counts.

(a) Comparison of Revised Counts and Counts of Other RBOCs

179. One anomaly is that the interstate shares of these revised counts are far below those reported by all RBOCs, *i.e.*, all other RBOCs except Ameritech which is excluded because its data are seriously deficient.²⁶⁸ Whereas GTE's and Pacific Bell's revised data show their 1996 interstate shares of billed toll messages are 22 percent and 14 percent, respectively, the other RBOCs (with the exception of Ameritech) have interstate shares that are 49 percent on average and, individually, are at least 45 percent.²⁶⁹ Hence, all of these other RBOCs have interstate shares that are double that of GTE and triple that of Pacific Bell.

(b) Impact of California's Unique Calling Pattern

180. The Bureau directed GTE and Pacific Bell to explain why such large differences exist between their interstate shares of billed toll messages and those of the other RBOCs.²⁷⁰ Pacific Bell states that these differences are partly explained by the historically high volumes of intraLATA toll occurring in California, which increases the intrastate share of billed toll

²⁶⁷ Letter from W. Scott Randolph, Director-Regulatory Matter, GTE, to William F. Caton, FCC, at 3, dated September 26, 1997. This figure is partially based on intrastate and interstate invoice-ready message counts provided in the letter. GTE seeks confidential treatment of these message counts.

²⁶⁸ Ameritech's message counts, like its user counts discussed *supra* at note 68, exhibit numerous anomalies during the period 1990-1996. It appears likely that Ameritech's interstate shares of toll messages and billing revenues should be positively related. Ameritech's data shows that these interstate shares were negatively related, however, in 1991, 1994, and 1996. In 1994, for example, its interstate share of toll messages decreased 30 percent while its interstate share of billing revenues increased. Moreover, in 1992, its interstate share of toll messages remained constant (at 35.6 percent) while its interstate share of billing revenues decreased. FCC ARMIS Report 43-04 (1991-1996), Rows 4031 and 7252 for Ameritech. Although these problems in Ameritech's reported message counts seemed to cast doubt on the accuracy of its 1997 tariff filing, we determined that Ameritech did not overstate its OB&C Expense exogenous cost increase, either because it made offsetting errors elsewhere in its calculations or because it substituted unreported allocation factors for the faulty allocation factors reported in its 1996 ARMIS Report. We therefore find no reason to add Ameritech to this part of the investigation addressing exogenous cost changes.

²⁶⁹ FCC ARMIS Report 43-04 (1996) Row 7252, for Bell Atlantic, BellSouth, NYNEX, Southwestern Bell, and U S WEST.

²⁷⁰ We note, however, that the Bureau referred to even larger differences that existed before GTE and Pacific Bell increased their interstate shares of billed toll messages by including the message counts associated with invoice-ready billing. See *Designation Order* at ¶ 55.

messages.²⁷¹ Pacific Bell does not quantify, however, the extent to which these differences can be explained by California's unique toll calling patterns. Nor does GTE quantify such an effect with respect to its own operations in California. We find that such large differences cannot be adequately explained by the relatively high number of intrastate toll calls that GTE and Pacific Bell encounter in their California operations. Traffic data submitted by Pacific Bell show that, in 1996, the interstate share of its completed originating toll calls was 35.5 percent--two and one-half times the 14 percent interstate share calculated using the invoice-ready messages submitted. Similarly, 1996 traffic data submitted by GTE show that the interstate share of its completed originating toll calls (for all study areas including California) is 49 percent--more than twice the 22 percent interstate share calculated using the invoice-ready messages submitted.²⁷²

(c) Impact of IXCs' Take-back

181. GTE and Pacific Bell also suggest that the differences between their interstate shares of billed toll messages are largely due to the IXCs' take-back of all billing functions for their high-volume business and residential customers.²⁷³ GTE and Pacific Bell do not quantify, however, the effect of this development on billed toll messages. In particular, they do not show that such a take-back significantly reduces the number of toll messages appearing on their customer bills. When Pacific Bell's count of billed toll messages for 1996 (including both IXC messages and Pacific Bell messages) is revised to include the missing invoice-ready messages, this toll message count is 10 percent greater than the count that Pacific Bell reported for 1990.²⁷⁴ Similarly, after revising GTE's 1996 billed toll messages to include invoice-ready messages provided for that year, we find that GTE's billed toll messages increases substantially between 1990 and 1996.²⁷⁵ This apparent growth in both Pacific's and GTE's billed toll messages is inconsistent with the results that would be expected if take-backs had greatly reduced billed IXC toll messages. These data suggest that, for the most part, take-backs took the form of a partial resumption of billing functions, which caused IXC toll messages to continue to appear on Pacific

²⁷¹ Pacific Bell Direct Case at 52.

²⁷² FCC ARMIS Report 43-08 (1996), Table IV, columns (ed), (ee), and (eg), for GTE and Pacific Bell. The percentage of interstate originating toll calls completed is calculated as follows from the 43-08. The numerator is column (ee), InterLATA Toll Calls Completed, from Table IV - Telephone Calls. The denominator is column (ed), IntraLATA Toll Calls Completed, plus column (eg), Total InterLATA Toll Calls Completed. Column (ed) may include a small amount of IntraLATA interstate corridor traffic.

²⁷³ Pacific Bell Direct Case at 52; GTE Direct Case at 30.

²⁷⁴ FCC ARMIS Report 43-04 (1990 and 1996), Row 7252, for Pacific Bell; Pacific Bell Direct Case at Attachment OBC-4.

²⁷⁵ FCC ARMIS Report 43-04 (1990 and 1996), Row 7252, for GTE. Letter from W. Scott Randolph, Director-Regulatory Matter, GTE, to William F. Caton, FCC, at 3, dated September 26, 1997.

Bell and GTE bills.

182. Further, the claim that IXC take-backs substantially reduce the interstate shares of billed toll messages is contradicted, at least for certain take-backs occurring in 1995, by Pacific Bell's statement that the take-backs in that year took the form of a migration to invoice-ready billing service. Specifically, in explaining why its interstate share of billed toll messages declined by 66 percent in that year,²⁷⁶ Pacific Bell states that this decline was due to AT&T's migration from message-ready to invoice-ready billing service.²⁷⁷ Because Pacific Bell prints invoice-ready messages on its customer bills,²⁷⁸ that response appears to reveal that the decline was due not to the IXCs' resumption of all billing functions but, rather, to Pacific Bell's decision to exclude invoice-ready messages from message counts.

(d) Comparison of Billed Messages and Billing Revenues

183. If the IXC take-backs had caused substantial reductions in billed toll messages, as is suggested, the take-backs would have greatly reduced interstate billed toll messages, while also reducing interstate billing service revenues. It therefore seems unlikely that these two factors would move in opposite directions, as sometimes occurs in the data of GTE and Pacific Bell for the 1990-1996 period. For this reason, the Bureau required GTE to explain why the interstate share of billed toll messages *declined* by 52 percent in calendar year 1995, while the interstate share of Carrier Billing and Collection Revenues *increased*.²⁷⁹ GTE claims there is no correlation between these billed messages and billing revenues. The decline in the interstate share of billed toll messages, GTE explains, was primarily the result of the IXCs' take-back of billing and collection functions.²⁸⁰ GTE contends that the message counts used in allocating message toll billing expense include "the billable, toll messages that appear on customer bills" and states that no toll message counts were excluded.²⁸¹ In response to further questions from Bureau staff, however, GTE concedes that it excluded invoice-ready messages when separating message toll billing expense, but included those messages when separating the associated

²⁷⁶ 1997 Designation Order at ¶ 56.

²⁷⁷ Pacific Bell Direct Case at 53.

²⁷⁸ Pacific Bell Direct Case at 48; SBC letter filed July 3, 1997, at 2.

²⁷⁹ 1997 Designation Order at ¶ 56. The Bureau obtained these data from FCC ARMIS Report 43-04 (1995), Rows 4031 and 7252, for GTE.

²⁸⁰ GTE Direct Case at 30.

²⁸¹ GTE Direct Case at 23.

revenues.²⁸²

184. We conclude that, excluding these invoice-ready messages from the interstate share of billed toll messages, demonstrates that the absence of a correlation between the interstate share of billed toll messages and the interstate share of billing revenues is partly, if not entirely, explained by the inconsistent methods GTE used in separating billing expenses and revenues. It nonetheless is unclear to what extent its counting error explains the absence of correlation between the interstate share of billed toll messages and the interstate share of billing revenues because GTE does not quantify the shortfall in interstate toll message counts. Although the Bureau directed GTE to identify all excluded message counts such as the invoice-ready messages for 1994 and 1995, GTE's submissions do not contain these data.²⁸³ Absent this information, we cannot determine what portion of the 52 percent decline is explained by the unidentified invoice ready message counts.

185. Similarly, the Bureau required Pacific Bell to explain why its reported interstate share of billed messages declined by 66 percent between calendar years 1994 and 1995, while there was an increase in the share of Carrier Billing and Collection Revenues attributed to the billing of interstate calls.²⁸⁴ As discussed above, Pacific Bell concedes that it excludes invoice-ready messages when separating message toll billing expense, but includes those messages when separating the associated revenues. Pacific Bell submitted interstate and intrastate invoice-ready message counts for 1996, but states that it is unable to determine the jurisdictional nature of invoice-ready message counts for any year during the period 1990-1995.²⁸⁵ Hence, it does not meet the Bureau's requirement that such data also be provided for calendar years 1990-1995.²⁸⁶

186. In addition, the Bureau directed GTE to explain why it attributed only 8.7 percent of the 1996 toll message counts to interstate messages, while attributing 45 percent of Carrier Billing and Collection Revenues to the billing of interstate calls.²⁸⁷ As explained above, the inclusion of missing interstate invoice-ready messages raises the interstate share of GTE's toll

²⁸² Letter from W. Scott Randolph, Director-Regulatory Matter, GTE, to William F. Caton, FCC, at 4, dated September 18, 1997.

²⁸³ *1997 Designation Order* at ¶ 51(f).

²⁸⁴ *Id.* at ¶ 56. The Bureau obtained these data from FCC ARMIS Report 43-04 (1994-1995), Rows 4031 and 7252, for Pacific Bell.

²⁸⁵ Pacific Bell Direct Case at Attachment OBC-4.

²⁸⁶ *1997 Designation Order* at ¶ 51(f).

²⁸⁷ *1997 Designation Order* at ¶ 56. The Bureau obtained these data from FCC ARMIS Report 43-04 (1996), Rows 4031 and 7252, for GTE.

message counts to 22 percent,²⁸⁸ a level that is still far below the 45 percent interstate assignment that GTE reports for billing revenues. Consequently, GTE's revision of its toll message counts still leaves a large gap between these two interstate shares that is not adequately explained. This large remaining difference strongly suggests that the revised interstate message toll count is still understated for 1996. Indeed, GTE's total message toll count (both intrastate and interstate) may be understated for that year. Although GTE claims that the IXCs' take-backs substantially reduced its billed toll messages during the 1990-1996 period, its revised unseparated message toll count for 1996 is well below the corresponding count reported four years earlier for 1992 (1.502 billion).²⁸⁹ Moreover, GTE subsequently revised that 1992 number to 1.454 billion, while cautioning that it excludes some study areas.²⁹⁰

187. Other data problems also cast doubt on the reliability of GTE's revised message counts. It is unclear, for example, whether invoice-ready messages are missing from the 1992 count because GTE does not provide invoice-ready messages counts for calendar years 1990-1995, despite the Bureau's requirement that it provide these data.²⁹¹ Moreover, GTE concedes that its 1993 message counts also are incorrect. Although GTE reports the 1992 and 1993 toll message counts in its ARMIS Report 43-04 as the allocation factors that were used in separating message toll billing expense, GTE states in its direct case that it used constant message counts from a prior year as the basis for separating this expense. GTE does not identify the prior year.²⁹²

(e) Counting Methodologies

188. Although the Bureau directed GTE to explain the assumptions and methodologies that were used to count billed toll messages,²⁹³ GTE fails to provide an adequate explanation. GTE does not describe the methodology that was used to extract this information from its various billing systems. Moreover, GTE does not explain the frequency of message counts or the extent to which they are based on sampling. GTE does not explain, for example, when any of its message counts were performed for calendar years 1990-1994. GTE submits that the message counts for these years were measured in a time period that "was a representative prior

²⁸⁸ Letter from W. Scott Randolph, Director-Regulatory Matter, GTE, to William F. Caton, FCC, at 3, dated September 26, 1997.

²⁸⁹ FCC ARMIS Report 43-04 (1992) Row 7252, for GTE.

²⁹⁰ GTE Direct Case at 22 and Exhibit C-2, pp. 9-10.

²⁹¹ *1997 Designation Order* at ¶ 51(f).

²⁹² GTE Direct Case at 23.

²⁹³ *1997 Designation Order* at ¶ 51(e).

period and differed between study areas and regions of the country."²⁹⁴ GTE fails to define, however, "a representative period." It should be noted that for one study area, the same measurements apparently were used for five years. That is, GTE acknowledges that the 1995 counts for a Michigan study area are based on data "representative of 1991."²⁹⁵ Moreover, in 1996, for all but one study area, GTE fails to measure message counts for its GTE Telephone Operating Companies (GTOC) and instead simply relies on its 1995 figures. For two of its GTE System Telephone Companies (Contel), GTE relies on 1995 figures rather than 1996 message counts. For the remaining Contel companies, GTE states that it updated the counts "to reflect the impact of the IXC take-back."²⁹⁶ It is unclear whether these updates were derived from new message counts or, instead, from the application of various adjustment factors to the counts for prior years.

189. The Bureau directed GTE to explain why its interstate share of billed toll messages increased from approximately 17 percent to 37 percent between calendar years 1990 and 1992.²⁹⁷ GTE asserts that this change was due to an expansion of its EAS areas, which apparently reduced the number of intrastate toll messages, thereby increasing the portion of toll messages attributed to interstate.²⁹⁸ This assertion is unsupported, however, because GTE fails to identify the number of EAS service areas or the location of these areas. Moreover, GTE does not quantify the effect of that change on intrastate toll messages.

190. The Bureau also directed Pacific Bell to explain the assumptions and methodologies that it used in counting billed toll messages during the period 1990-1996.²⁹⁹ As discussed earlier, Pacific Bell acknowledges that its message counts exclude billed toll messages associated with its invoice-ready billing service.³⁰⁰ Pacific Bell submits that it obtained these message counts from its billing systems, which show not only the billed messages but also the jurisdictional nature of those messages.³⁰¹ The billed messages, Pacific Bell states, include toll

²⁹⁴ GTE Direct Case at 22.

²⁹⁵ GTE Direct Case at 22.

²⁹⁶ GTE Direct Case at 22.

²⁹⁷ *1997 Designation Order* at ¶ 56. The Bureau obtained these data from FCC ARMIS Report 43-04 (1990-92), Row 7252, for GTE.

²⁹⁸ GTE Direct Case at 30.

²⁹⁹ *1997 Designation Order* at ¶¶ 55-56.

³⁰⁰ Pacific Bell Direct Case at 48.

³⁰¹ *Id.* at 46-47. Pacific Bell identifies the names of the billing systems used. It states that the message counts for toll messages billed on behalf of IXCs (interLATA messages) are obtained from the Flexible Account

messages together with non-toll messages such as nonrecurring charges, monthly charges, and charges for voice mail, paging, internet, and directory publishing services. Pacific Bell does not explain, however, the methodology that was used in counting the billed toll messages. Presumably, it used a software program to do the counting but it does not describe such a program. It does not explain, for example, how a program distinguished between billed toll messages (which must be included in the prescribed allocation factor) and non-toll messages (which must be excluded from that factor). No explanation is provided as to how a program distinguished between billed toll messages that are associated with its invoice-ready billing service and those that are associated with other billing services.

191. Further, Pacific Bell does not explain whether the message counts in any year were based on a sample and, if so, how that sampling was done. Also unexplained is how frequently the message counts were updated. Pacific Bell seems to imply that message counts were performed at least annually, because it states that these counts vary year to year.³⁰² It does not state, however, whether any of these annual variations is due to annual updatings of message counts for the entire study area or only a portion of the study area. Nor does Pacific Bell state whether any of the annual variations is due not to new measurements but, rather, to the application of adjustment factors (based on various assumptions) to the prior year's message counts. It is unclear whether Pacific Bell made such adjustments in developing the message counts associated with billing services other than invoice-ready service. With regard to the message counts associated with invoice-ready service, however, Pacific Bell acknowledges that "some estimation techniques were used on the message counts" in order to estimate the interstate share of those messages.³⁰³ This was necessary, Pacific Bell claims, because it has no readily available actual detail on the number of invoice-ready messages identified by jurisdiction before 1996.³⁰⁴ Pacific Bell does not explain why that detail is sufficient for 1996 but not for prior years. We therefore find that Pacific Bell, like GTE, does not adequately explain the assumptions and methodologies used in developing interstate and intrastate toll message counts for calendar years 1990-1996.

(3) Prescription of Surrogate Allocation Factors

192. In light of the failure of GTE and Pacific Bell to support their revised message toll counts, we require them to reallocate Message Toll billing expense to the interstate

Billing System, which produces the bills that it sends to IXC's for billing and collection services. Pacific Bell states that it obtained the message counts for its own billed intraLATA toll messages from the Customer Record Information System since 1992 and from the MA9 Report prior to that year. *Id.*

³⁰² *Id.* at 51.

³⁰³ *Id.* at 51.

³⁰⁴ *Id.* at 47.

jurisdiction using surrogate interstate allocation factors that we developed from their reported traffic data and from data submitted by comparable LECs. To estimate the interstate shares of Message Toll billing expense that GTE and Pacific Bell should have under the former separations rules, we adjusted their reported interstate shares of completed originating toll calls using an adjustment factor based on an RBOC average. In particular, we reduced those interstate shares by the average percentage by which the 1996 interstate billed message shares of other RBOCs (excluding Ameritech and Pacific Bell) are below their interstate shares for completed originating toll calls. It is reasonable to require GTE and Pacific Bell to adjust their message toll counts by the RBOC average because we would expect that their interstate share of billed toll messages would have been similar to the other RBOCs had they counted all of their billed toll messages. We find this to be the case because GTE and Pacific Bell are similar in operating size to other RBOCs.³⁰⁵

193. We derived the surrogate allocation factor partly from the 1996 intrastate and interstate completed originating toll calls reported by GTE and Pacific Bell. GTE identified 49.0 percent of these toll calls as interstate and Pacific Bell identified 35.5 percent as interstate.³⁰⁶ We recognize that the completed originating toll calls include calls completed by IXCs, which likely billed some portion of their toll calls on their own. If this were the case, the interstate share of these toll calls likely exceeds the interstate share of such calls that were billed by GTE and Pacific Bell. Consequently, we estimated the interstate shares of toll calls billed by GTE and Pacific Bell by making downward adjustments to their reported interstate shares of completed originating toll calls. Specifically, we reduced the 35.5 percent and 49.0 percent figures by 23.5 percent, the average percentage by which the 1996 interstate billed message shares of other RBOCs (excluding Ameritech and Pacific Telesis) are below their interstate shares for completed originating toll calls.³⁰⁷ We believe that this 23.5 percent downward adjustment is reasonable not only because it is an average for the other RBOCs, but also because the variation in data for those carriers is not unreasonably large.³⁰⁸ This adjustment results in

³⁰⁵ See *supra* at para. 145.

³⁰⁶ FCC ARMIS Report 43-08 (1996), Table IV, columns (ed), (ee), and (eg), for GTE and Pacific Bell. For the specific calculation see *supra* at note 272.

³⁰⁷ To obtain the 23.5 percent average for the five large ILECs, the interstate share of billed toll messages (ARMIS 43-04) for those carriers as a group was divided by the interstate share of completed originating toll calls (ARMIS 43-08), and this result was subtracted from one. FCC ARMIS Report 43-04 (1996), Row 7252 (col. b divided by col. d), for Bell Atlantic, BellSouth, NYNEX, Southwestern Bell, and U S WEST. FCC ARMIS Report 43-08 (1996), Table IV, for Bell Atlantic, BellSouth, NYNEX, Southwestern Bell, and U S WEST.

³⁰⁸ The differences between the interstate share of billed toll messages and the interstate share of completed originating toll calls for the RBOCs ranged between 12 percent (U S WEST) and 33 (NYNEX) percent. To obtain the percent for each company, the interstate share of billed toll messages (ARMIS 43-04) for each company was divided by the interstate share of completed originating toll calls (ARMIS 43-08), and this result was subtracted from one. The range 12 to 33 percent seems reasonably small in comparison to Pacific Bell's differential of 60

interstate allocation factors of 37.5 percent for GTE and 27.2 percent for Pacific Bell. Accordingly, we direct GTE to correct its exogenous cost change by allocating 37.5 percent of the Message Toll portion of OB&C Expense to the interstate jurisdiction. We direct Pacific Bell to correct its exogenous cost change by allocating 27.2 percent of the Message Toll portion of OB&C Expense to the interstate jurisdiction.

194. As explained above, we find that making a rate prescription on the basis of an industry average is consistent with our authority under Section 205(a) of the Communications Act because courts have consistently found in the Act a Congressional intent to grant us broad discretion in "selecting methods . . . to make and oversee rates," provided that we make a "reasonable selection of available alternatives" and prescribe rates that fall within a "zone of reasonableness."

195. We make this prescription after reviewing a "reasonable selection of available alternatives." We considered basing our prescription on the basis of message counts that these carriers reported for prior years. However, as noted above, neither GTE nor Pacific Bell provided data and accompanying support that would permit us to calculate their total billable toll message counts. For example, neither carrier provides the interstate message toll counts that were billed through invoice-ready billing in earlier years. As noted above, another problem, with regard to GTE, is that many of its smaller study areas did not file data in the first few ARMIS reporting years, making verification of the accuracy of prior years' data difficult.³⁰⁹

6. Apportionment of OB&C Expense Among Access Elements

196. Part 69 of the Commission's rules requires that the interstate Revenue Accounting Expense attributable to End User Common Line access billings shall be assigned to the Common Line element. Part 69 further requires that the remaining interstate Revenue Accounting Expenses that are not assigned to other access elements shall be assigned to the Billing and Collection category.³¹⁰ In the *1997 Designation Order*, the Bureau stated that GTE, Pacific Bell, and U S WEST may have miscalculated their proposed exogenous changes by incorrectly apportioning Revenue Accounting Expense among the Part 69 access elements and categories. The Bureau therefore required GTE, Pacific Bell, and U S WEST to provide work papers

percent between its interstate share of billed toll messages (14 percent) and its interstate share of completed originating toll call (35.5 percent). FCC ARMIS Report 43-04 (1996) Row 7252, for Bell Atlantic, BellSouth, NYNEX, Southwestern Bell, and U S WEST. FCC ARMIS Report 43-08 (1996) Table IV, columns (ed), (ee), and (eg), for Bell Atlantic, BellSouth, NYNEX, Southwestern Bell, and U S WEST.

³⁰⁹ See *supra* at para. 150.

³¹⁰ 47 C.F.R. § 69.407.

showing how they determined these expense assignments.³¹¹ These carriers have satisfied this requirement. Based on our analysis of their work papers, we find they have allayed our concern.

7. Calculation of Exogenous Change In Interstate Expenses

197. There are several other factors that effect the magnitude of the companies' OB&C exogenous cost adjustments including: the base period used by the companies to calculate the adjustment; the request for recovery of expenses incurred prior to the adjustment; and the user counts reported for 1990, the year in which price cap indices were initialized. The base period proposed by the companies will affect the magnitude of the exogenous change because the year selected provides the data for the interstate assignment under the former rules. If the interstate assignment of OB&C expenses in the year selected is lower than in other years, the corresponding exogenous change will be higher.³¹² The request for recovery of costs incurred prior to the effective date of the OB&C exogenous cost change will likewise increase the magnitude of the exogenous change. Finally, it is important to determine whether accurate user counts were used to separate OB&C expenses in 1990 and therefore whether the level of interstate OB&C Expense used for purposes of initializing price caps was accurate. If incorrect user counts were used, the interstate OB&C Expense embedded in the rates of price cap ILECs may be incorrect.

a. Base Period Used By GTE

198. In the *1997 Designation Order*, the Bureau required GTE to explain why it used the 12 months ending in June 1996, rather than calendar year 1996, for purposes of calculating the exogenous changes associated with the separations rule change for OB&C Expense. The Bureau also required GTE to calculate the exogenous change using calendar year 1996 data rather than the twelve months ended June 1996.³¹³

(1) Discussion

199. We require GTE to use calendar year 1996 data for the purpose of calculating its OB&C exogenous cost change. GTE's decision to assign both the ARMIS reports and the exogenous cost calculations to the same staff members does not exempt it from our rules, which define the base period as the 12-month period ending six months prior to the effective date of annual price cap tariffs.³¹⁴ For the 1997 tariff period, that would be calendar year 1996.

³¹¹ *1997 Designation Order* at ¶ 52(b).

³¹² See *supra* at para 169.

³¹³ *1997 Designation Order* at ¶¶ 52(b) and 58.

³¹⁴ 47 C.F.R. § 61.3(e).

Accordingly, we order GTE to include in its compliance filing, calculations of its OB&C exogenous cost change using calendar year 1996 data.

b. Base Period Used by Pacific Bell

200. In the *1997 Designation Order*, the Bureau found that Pacific Bell may have overstated its exogenous cost changes by using the wrong base period. The Bureau required Pacific Bell to explain why it used 1995 data rather than 1996 data for purposes of calculating the exogenous changes associated with the separations rule change for OB&C Expense.

(1) Discussion

201. As explained above, Section 61.3(e) defines the base period as the 12-month period ending 6 months prior to the effective date for the annual price cap tariffs. We therefore require Pacific Bell to use calendar year 1996 data, together with the modifications required herein, for purposes of calculating the exogenous change.

c. U S WEST Request for Retroactive Adjustment

202. The Bureau directed U S WEST to explain why it asserts that an OB&C exogenous adjustment of \$845,145 is needed to recover additional interstate expenses incurred during the two-month period between May 1 and July 1, 1997.³¹⁵

(1) Discussion

203. We conclude that U S WEST may not include in its 1997/1998 access rates its OB&C costs for May and June 1997. As a general principle, when a carrier files its annual access tariff with the Commission, it projects the dollar amount of its rates on a prospective basis for the next twelve-month period.³¹⁶ Any exogenous adjustments to the PCI for that 12 month period must be submitted as part of the price cap LEC's annual access tariff filing.³¹⁷ U S WEST's argument that it did not file in May, in contrast to other LECs, in order to spare the agency the administrative burden of its filing does not persuade us that we should take the unusual step of allowing recovery of these past costs. The Commission has recently ruled that LECs cannot recover amounts that they could have charged but failed to do so.³¹⁸ In the *800*

³¹⁵ *1997 Designation Order* at ¶ 60.

³¹⁶ *See* 47 C.F.R. § 61.43.

³¹⁷ *See* 47. C.F.R. § 61.45(a).

³¹⁸ *In re 800 Data Base Access Tariffs and the 800 Service Management System Tariff and Provision of 800 Services*, Order on Reconsideration (rel. April 14, 1997) (*800 Data Base Order*).

Data Base Order, the Commission relied on the Supreme Court decision *FPC v. Tennessee Gas Co.*, which held:

The company having initially filed the rates and either collected an illegal return or failed to collect a sufficient one must, under the theory of the [Natural Gas] Act, shoulder the hazards incident to its actions including not only the refund of any illegal gain but also its losses where its filed rate is found to be inadequate.³¹⁹

204. We believe that U S WEST could have recovered these costs by submitting an earlier tariff filing, as other LECs did. We conclude that it may not now make an exogenous adjustment in its annual access filing to recover 14 months of additional costs during the 1997-1998 tariff year. We, therefore, direct U S WEST to reduce its OB&C exogenous costs by \$845,145.

d. Message Toll User Counts of U S WEST

205. In the *1997 Designation Order*, the Bureau directed U S WEST to provide corrected message toll user counts for calendar year 1990.³²⁰ The Bureau observed that U S WEST's ARMIS figures for that year mistakenly show that message toll users constituted approximately 99 percent of the total number of billed users.³²¹ The Bureau directed U S WEST to explain whether it used these incorrect counts in calculating its interstate OB&C Expenses when initiating price caps.

206. In its direct case, U S WEST explains that, due to a clerical mistake, its 1990 user counts for ARMIS reporting purposes are in error.³²² As a result of the error, the counts represent a total of the user counts for the twelve-month period, rather than a representative average. U S WEST states that this ARMIS clerical mistake and did not flow through to the separations process and was, therefore, not used to assign costs in 1990 when U S WEST converted from cost of service to price cap regulation. We find that U S WEST's explanation is

³¹⁹ *FPC v. Tennessee Gas Co.*, 371 U.S. 145, 152-53 (1962). The Commission also stated that section 4(d) of the Natural Gas Act, 15 U.S.C. § 717(c) is similar to section 203(b) of the Communications Act, and that section 4(e) of the Natural Gas Act, 15 U.S.C. § 717 is similar to section 204(a) the Communications Act. *American Television Relay, Inc.*, 67 FCC.2d 703, 711 n.13 (1978).

³²⁰ *1997 Designation Order* at ¶ 61.

³²¹ FCC ARMIS Report 43-04 (1990), Row 7241, for U S WEST.

³²² U S WEST Direct Case at 30.

reasonable.³²³

8. Refunds

207. GTE, Pacific Bell, and U S WEST shall refund with simple interest, the difference between the rates charged to its customers for Other Billing and Collection and the rates required by this section. Interest shall be computed on the basis of interest rates specified by the United States Internal Revenue Service.

III. CASH WORKING CAPITAL FOR CERTAIN RATE OF RETURN CARRIERS

A. Background

208. We here consider issues relating to the 1997 access tariffs of certain rate-of-return LECs. One of the components of the interstate rate base is an allowance for cash working capital. LECs need this allowance to pay for the operating expenses that are incurred prior to the receipt of sales revenues. Generally, cash working capital is computed by determining the revenue lag and the expense lag and multiplying the difference by the carrier's average daily expenses. Revenue lag is the average number of days between the date a service is provided and the date associated revenues are collected. Expense lag is the average number of days between the date a service is provided and the date the expenses associated with the service are paid. The Commission's rules permit carriers to compute their cash working capital by using either a full lead-lag study, the "Simplified Formula Method," or the "Standard Allowance Method."³²⁴ The Commission has previously recognized a 15-day net lag period as an acceptable standard for calculating cash working capital for Class B carriers.³²⁵ Those carriers seeking to establish a longer net lag period must compute their cash working capital using either a full lead-lag study or the Simplified Formula Method.³²⁶

³²³ The Bureau directed U S WEST to correct the numbers reported in its 1990 FCC ARMIS 43-04. Letter from Fatina Franklin, Chief, Competitive Safeguards Branch, Accounting and Audits Division, Common Carrier Bureau of the FCC, to Mike Crumling of U S WEST, dated October 2, 1997.

³²⁴ See 47 C.F.R. § 65.820(d).

³²⁵ Amendment of Part 65 of The Commission's Rules to Prescribe Components of the Rate Base and Net Income of Dominant Carriers, CC Docket No. 86-497, Order on Reconsideration, 4 FCC Rcd 1697 (1989).

³²⁶ *Id.* at 1698. Using the Standard Allowance Method, a carrier would apply the standard 15-day lead or lag to its cash operating expense to determine its cash working capital. Using the Simplified Formula Method, a carrier first computes its weighted average revenue lag days and weighted average expense lag days using the formula described in Section 65.820(e). Second, the carrier computes the weighted net lag days by deducting the weighted average expense lag days from the weighted average revenue lag days. Third, the carrier computes the percentage of a year represented by the weighted net lag days. Finally, the carrier computes its cash working

209. In the *1997 Suspension Order*, the Bureau suspended and initiated an investigation of the annual access tariffs of PRTC, Concord, and Chillicothe. The Bureau found that these LECs had not provided a sufficient explanation for their cash working capital net lag periods. Specifically, the Bureau found that these LECs either: (1) had not provided a lead-lag study and calculated a net lag period that appeared to exceed 15 days; or (2) had conducted a lead-lag study, but had calculated a net lag period significantly above the industry average.³²⁷ In a separate order, the Bureau suspended and set for investigation the proposed cash working capital requirement of Roseville because it found that its proposed cash working capital calculations resulted in a net lag period that exceeded the industry average.³²⁸

210. In the *1997 Designation Order*, the Bureau found that although PRTC, Concord, and Chillicothe had submitted *ex parte* filings in support of their lead-lag studies, the material was insufficient to explain their proposed net lag periods.³²⁹ The Bureau therefore required PRTC, Concord, Chillicothe, and Roseville to submit the lead-lag studies used to determine their proposed net lag periods.³³⁰

B. Concord

211. We require Concord to use the standard 15-day allowance to calculate its cash working capital, rather than its proposed composite net lag of 46.61 days, because it failed to submit a lead-lag study based on current data or to justify its use of a study based on older data. Lead-lag studies using current data, of course, best justify current cash working capital needs. Use of studies based on older data need further justification. Concord's lead-lag study uses 1993 revenue and expense data for the purpose of calculating its allowance for cash working capital and fails to provide adequate justification for its failure to conduct a study with more recent data. Although lead-lag studies using prior year data can be used in some cases to support current cash working capital needs, Concord merely asserts in conclusory fashion that its study is still

capital by multiplying its interstate cash operating expenses by the percentage of a year represented by the weighted net lag days. See 47 C.F.R. § 65.820(e). In conducting a full lead-lag study, a carrier would look at all of its cash expenses and measure from the time the expenses are incurred to the time the expenses are paid. Similarly a carrier would look at all of its revenues and measure from the time service is provided to the time the revenues are received. The carrier would then net the expense and revenue lags to calculate the net composite revenue lag. To determine its cash working capital needs, the carrier would multiply the net revenue lag by the daily cash expenses.

³²⁷ See *1997 Suspension Order* at ¶ 67.

³²⁸ See 1997 Annual Access Filings, CC Docket No. 97-149, Order, DA 97-1413 (Com. Car. Bur. July 7, 1997).

³²⁹ *1997 Designation Order* at ¶ 29.

³³⁰ *Id.*

accurate because its operating conditions with limited exceptions have not changed since the preparation of its study.³³¹ Carriers must do more, however, than offer unsupported assertions that their operations have not changed. Concord does not provide any assurances, or any support therefor, that any of the key factors that could affect cash working capital have not changed. Thus, while Concord, in fact, states that some aspects of its billing practices have changed since its 1994 study, Concord does not assert, much less support, that other changes have not occurred concerning its billing practices for other common carriers or its vendors. In addition, Concord does not explain whether the period covered by prepaid expenses and accrued liabilities is still the same as it was in 1994. All of these variables could affect its cash working capital determinations. Therefore, the present record does not provide a basis for concluding that it has not experienced changes in its operations that would significantly affect its cash working capital needs. We are therefore unable to verify Concord's claim that these data are representative of its operations covered by its 1997 annual access tariff, and, accordingly, require Concord to utilize the standard 15-day allowance method to calculate its cash working capital.

C. Chillicothe

212. We similarly reject Chillicothe's study because it does not use current data and we are unable to verify that the older data are representative of the company's current operations. Although Chillicothe contends that the 1990 data used in its study are still current and that it has not experienced a dramatic change in revenues or expenses since it last conducted its lead-lag study,³³² Chillicothe does not provide an explanation or any documentation that suggests that a seven year old lead-lag study provides an accurate representation of its current operations.³³³ Despite Chillicothe's assertions that it would be impractical and onerous to conduct a lead-lag study more frequently, Chillicothe has not provided any support for its view that the cost of a new study would be so great that it could affect its financial health. Thus, we are not convinced

³³¹ Concord Direct Case at 1-2. Concord admits that it has changed its special access billing practices to AT&T and the other common carriers since completion of its 1994 lead-lag study. *Id.* at 2. It now bills AT&T in advance rather than arrears and provides AT&T a single bill for both switched and special access. *Id.* Concord asserts that this change has a *de minimis* impact on its overall revenue lag since AT&T special access is only approximately four percent of total interstate revenue. *Id.*

³³² Chillicothe Direct Case at 5.

³³³ Chillicothe cites *Communications Satellite Corporation*, in which the Commission purportedly found reasonable a cash working capital study in use over a decade because it was based on the best information available on the company's cash working capital requirement. *Communications Satellite Corporation*, CC Docket 85-268, Phase II, Memorandum and Order, 3 FCC Rcd 7164 (1988)(*Communications Satellite Corporation*). That Order, however, was the result of an ongoing investigation into Comsat lasting from 1982 through 1988. By 1988, the Commission had a long history of reviewing Comsat's data and was extremely familiar with Comsat's operations and was able to determine that Comsat's data still accurately represented its current operations. *Communications Satellite Corporation*, 3 FCC Rcd 7164-68. Here, the Commission does not have such a history and does not have the past experience to draw upon to determine that Chillicothe's 1990 data are still accurate.

that the administrative cost of doing a new study would be prohibitive. Moreover, Chillicothe's assertion that the 1990 study still represents current needs is unsupported. Chillicothe does not explain whether any changes have occurred either in its billing practices or in the billing practices of its vendors. Nor does Chillicothe explain whether the period covered by prepaid expenses and accrued liabilities is still the same as it was in 1994. All of these variables could affect its cash working capital determinations. Therefore, the present record does not provide a sufficient basis for concluding that Chillicothe has not experienced changes in its operations that could significantly affect its cash working capital needs.

213. In addition, Chillicothe's lead-lag study is flawed because it includes a substantial retroactive adjustment to account for a large payment that it received in its April 1990 NECA settlement to true-up data from the 1989 and 1988 NECA settlement process. Nothing in the record or our experiences suggests that there is any significant correlation between retroactive adjustments, proposed by Chillicothe on account of NECA late payments, and current expenses. We, therefore, conclude that the retroactive adjustments are not a reasonable indicator of the cash working capital currently needed by Chillicothe to finance its day-to-day operations.³³⁴ Accordingly, we find that Chillicothe erred in including the retroactive adjustments in its lead-lag study.

214. We further find that Chillicothe's lead-lag study is flawed because it fails to use the same base period to compute revenue lags for individual revenue categories. Chillicothe uses data for a seven-month period (from April 1990 - October 1990) to compute its operator services revenue lag, data for a three-month period (from July 1990 - September 1990) to compute its Inmate Services revenue lag and its Other Common Carrier (OCC) Traffic Sensitive revenue, and data for the entire year to compute its rent revenue lags. Chillicothe asserts that it is permitted to use representative months in conducting its lead-lag study because the Commission contemplated that carriers that use the Simplified Formula Method may use periods of less than one year as part of their methodology.³³⁵ Although the Commission permits carriers to use the Simplified Formula Method with periods of less than one year, the period used must be consistent throughout the study.³³⁶ We find that, without consistent and representative study periods, we are unable to determine whether Chillicothe's study is valid.

215. Finally, Chillicothe's lead-lag study is inadequate because it fails to explain its

³³⁴ See *1993 Access Tariff*, 12 FCC Rcd at 6308-09 (finding that Roseville erred by including a retroactive NECA adjustment in its lead-lag study to support its 1993 Access Tariff).

³³⁵ Chillicothe Rebuttal at 3. The Commission developed the Simplified Formula Method of calculating cash working capital to reduce the expense and burden on carriers that would otherwise have to complete a full lead-lag study. See note 326, *supra*.

³³⁶ See *In the Matter of 1993 Access Tariff Filings*, CC Docket 93-193, Memorandum Opinion and Order, 12 FCC Rcd 6277, 6308 (1997) (*1993 Access Tariff Order*).

revenue lags for NECA settlement prior period adjustments (PPA), OCC traffic-sensitive revenue, rent receivable, AOS inmate services, and operator services, as required by the *1997 Designation Order*.³³⁷ Chillicothe provides the standard methodology used by all carriers to compute revenue lags in a lead-lag study but does not offer any more explanation as to why its revenue lags are larger than those of other carriers. Accordingly, we have no basis upon which to determine whether or not the revenue lags associated with these categories are reasonable under the circumstances.

216. Without current data, consistent and representative study periods, and explanations of extensive lags, we are unable to conclude that Chillicothe's study is valid. Thus, we require Chillicothe to use the standard 15-day allowance to compute its cash working capital rather than the composite net lag of 46.68 days it proposed.

D. Roseville

217. We reject Roseville's study because it does not use current data and we are unable to verify that the older data are representative of a company's current operations. Although Roseville contends that the 1994 data used in its study are still current and that it has not experienced a dramatic change in revenues or expenses since it last conducted its lead-lag study,³³⁸ Roseville does not provide an explanation or any documentation that suggests that its study provides an accurate representation of its current operations. As with Concord and Chillicothe, Roseville's unsupported assertion that its operations have not changed does not provide sufficient record support to conclude that 1994 data demonstrate its current cash working capital needs. Therefore, we are not assured that it has not experienced changes in its operations that would significantly affect its cash working capital needs.

218. We further find that Roseville's lead-lag study is flawed because it fails to use the same base period to compute revenue lags for individual revenue categories. Roseville uses data from April 1994 through March 1995 to calculate its NECA settlement amount revenue lag and data from calendar year 1994 to calculate its remaining individual revenue lags. As we stated above, the time period used must be consistent throughout the study period.

219. Additionally, Roseville's lead-lag study is flawed because its February 1995 NECA settlement amount includes a retroactive adjustment for unusually large settlement amounts spanning a 13-month period from January 1994 through January 1995.³³⁹ As we stated above,

³³⁷ *1997 Designation Order* at ¶ 66. Chillicothe does not address this issue in its submissions.

³³⁸ Roseville Direct Case at 26.

³³⁹ Roseville did not explain why it chose to use NECA settlement amounts from April 1994 through March 1995 even though Roseville used 1994 data for the remainder of its study. However, its February 1995 settlement amount was uncharacteristically large in comparison to its other settlement amounts. Therefore, it appears that

retroactive adjustments do not correlate with current expenses and they are, therefore, not a reasonable indicator of cash working capital needed by Roseville to finance its current day-to-day operations.

220. Collectively, these observations lead us to conclude that Roseville's lead-lag study cannot be used to compute its cash working capital allowance because the study produces an inaccurate estimate of its revenue requirement. We therefore require Roseville to utilize the standard 15-day allowance method to calculate its cash working capital rather than the composite net lag of 49 days it proposed.³⁴⁰

221. With regard to Roseville's statement that the Commission should accept studies supporting lags that are greater than 15 days, we note that we may accept individual lead-lag studies that yield net lags greater than 15 days, provided that the LEC supplies data that are (1) representative of its current operations; and (2) explain their proposed lag periods. Roseville, however, did not satisfy these requirements in this instance.

E. PRTC

222. PRTC's lead-lag study fails to justify an expense lag in excess of 15 days. PRTC seeks an allowance in its calculation of its cash working capital calculations to account for the time involved in waiting to receive revenues that were delayed as result of Puerto Rico's dispute resolution process. In the *1997 Designation Order*, the Bureau directed PRTC to explain fully the dispute process referenced in its Petition, the number of disputes PRTC handled in the 1994 calendar year, the length of time needed to resolve each dispute that year, the total amount of revenue associated with all disputes in that year, and the percentages of total revenue that this amount reflected in that year.³⁴¹ PRTC, however, does not provide adequate support for its assertion that the delays in receiving revenues due to the dispute resolution process create a long delay in receiving substantial revenues.³⁴² PRTC fails, for example, to respond to the *1997 Designation Order's* requirement that it provide the number of total disputes handled by PRTC.

Roseville chose the study period of April 1994 through March 1995 to include the February 1995 settlement to inflate its revenue lag for its NECA settlement amounts.

³⁴⁰ Because we are requiring Roseville to utilize the standard 15-day allowance, we need not address the issue of the lag days for State and Federal income taxes.

³⁴¹ *1997 Designation Order* at ¶ 65 citing PRTC Petition at 3-4. We requested that PRTC provide this information for the 1994 calendar year because PRTC's lead-lag study references that year.

³⁴² In response to the *Designation Order*, PRTC provided the average length of time needed to resolve disputes, the amount of revenues involved, and the percentage of total revenue that this amount reflects. According to PRTC, the revenue involved in the disputes was \$20,702,942 which is approximately 2.3 percent of PRTC's billed revenue for 1994. PRTC further maintains that, as a result, the dispute process may take anywhere from 90 to 120 days for sums less than \$100 and between 30 and 45 days from sums over \$100.

While PRTC states that it received approximately 12.6 million contacts from end users in 1994, it also states that this figure is based on the number of claims by end users and does not represent the number of total disputes handled by the company. According to PRTC, one contact or call to a customer service representative could involve multiple disputes or claims. Without the number of actual disputes or claims resolved, however, it is impossible for the Commission to verify the reasonableness of the average length of time that PRTC alleges it needs to resolve each case on a per-dispute basis and the amount of cash working capital PRTC alleges is necessary for this purpose. Additionally, under the simplified formula method, which was used by PRTC, carriers do not calculate individual revenue lags. Therefore, there is no indication of how PRTC's dispute process affects its revenue lag calculation.

223. In the *1997 Designation Order*, the Bureau also required PRTC to document and explain the 143-day expense lag for payments in lieu of taxes (PILOT).³⁴³ PRTC does not do so. PRTC fails to state when it pays this expense to the Government of Puerto Rico and without the payment date, we cannot determine the appropriate lag for the PILOT expense. Moreover, we find that it is unreasonable for PRTC to include payment of federal taxes as one of its components of its PILOT expense lag, because PRTC maintains that it does not pay federal tax.

224. Finally, Commission rules require LECs, in conducting lead-lag studies, to separate revenues billed in advance from revenues billed in arrears because the lag times for the two categories are different.³⁴⁴ In its study, PRTC uses the same average accounts receivables amount, which represents the amounts due from all customers, to determine the average revenue lag days for revenues billed in arrears and for revenues billed in advance.³⁴⁵ PRTC's use of average accounts receivable does not provide an indication of which of those accounts receivable were billed in arrears and which were billed in advance. Therefore, we are unable to determine whether the accounts receivable lag days is appropriate.

225. Collectively, these observations lead us to conclude that PRTC's lead-lag study cannot be used to compute its cash working capital allowance because the study produces an inaccurate estimate of its revenue requirement. We therefore require PRTC to utilize the standard 15-day allowance method to calculate its cash working capital rather than the composite net lag of 71.8 days it proposed.

F. Conclusion

³⁴³ Payment in Lieu of Taxes (PILOT) expense refers to a payment made by PRTC to the government of Puerto Rico. PRTC pays two types of PILOT expense. One mimics property taxes paid by non-government owned corporations and the other mimics gross receipts taxes paid by non-government owned corporations.

³⁴⁴ 47 C.F.R. § 65.830(e)(1)(i-ii). There is a possibility that revenues billed in advance will generate a negative revenue lag.

³⁴⁵ PRTC does not address this issue in its submissions.

226. We require PRTC, Chillicothe, Concord, and Roseville to utilize the standard 15-day cash working capital allowance method to calculate their cash working capital for the 1997-1998 Access year. To determine the carrier's working capital allowance under the standard 15-day allowance method, the carrier's total annual cash operating expenses must be divided by 365 days to determine the average daily cash operating expenses. A carrier's average daily cash operating expense must then be multiplied by the standard cash working capital allowance of 15 days to derive its cash working capital allowance. We order PRTC, Chillicothe, Roseville, and Concord to recalculate their cash working capital needs using the standard 15-day allowance and to calculate revised rates and appropriate refunds based on the difference between their initial calculations using their lead-lag studies and their calculations using the standard-15 day allowance.³⁴⁶ Interest shall be computed on the basis of interest rates specified by the United States Internal Revenue Service.

IV. ORDERING CLAUSES

227. Accordingly, IT IS ORDERED, that, pursuant to Sections 4(i), 4(j), 201(b), 202(a), 203(a), 204(a), 205, and 403 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 154(j), 201(b), 202(a), 203(a), 204(b), 205, and 405, Southwestern Bell, GTE, U S WEST, NYNEX, and Sprint SHALL FILE REVISED RATES to be effective January 1, 1998, and SHALL ISSUE REFUNDS, plus interest, for the period from July 1, 1997 through December 31, 1997, reflecting adjustments to their Base Factor Portion revenue requirement forecasts as prescribed in Section II.A of this Memorandum Opinion and Order .

228. IT IS FURTHER ORDERED, that, pursuant to Sections 4(i), 4(j), 201(b), 202(a), 203(a), 204(a), 205, and 403 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 154(j), 201(b), 202(a), 203(a), 204(b), and 205, Ameritech, Bell Atlantic, BellSouth, Frontier, GTE, Nevada Bell, NYNEX, Pacific Bell, Rochester, SNET, Southwestern Bell, and U S WEST, SHALL FILE REVISED RATES to be effective January 1, 1998, and SHALL ISSUE REFUNDS, plus interest, for the period from July 1, 1997 through December 31, 1997, reflecting removal of equal access expenses as prescribed in Section II.B of this Memorandum Opinion and Order.

229. IT IS FURTHER ORDERED, that, pursuant to Sections 4(i), 4(j), 201(b), 202(a), 203(a), 204(a), 205, and 403 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 154(j), 201(b), 202(a), 203(a), 204(b), and 205, that GTE, Pacific Bell, and U S WEST SHALL FILE REVISED RATES to be effective January 1, 1998, and SHALL ISSUE REFUNDS, plus interest, for the period from July 1, 1997 through December 31, 1997,

³⁴⁶ We remind Chillicothe that our decision here in extends to its amended tariff, Transmittal No. 58 filed on November 14, 1997. *See* Chillicothe Telephone Company, Revisions to Tariff F.C.C.No. 1, DA 97-2505 (Com. Car. Bur. Rel. November 26, 1997).

reflecting changes to their treatment of OB&C costs as prescribed in Section II.C of this Memorandum Opinion and Order.

230. IT IS FURTHER ORDERED, that, pursuant to Sections 4(i), 4(j), 201(b), 202(a), 203(a), 204(a), 205, and 403 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 154(j), 201(b), 202(a), 203(a), 204(b), and 205, that Concord, Chillicothe, Roseville, and PRTC, SHALL FILE REVISED RATES to be effective January 1, 1998, and SHALL ISSUE REFUNDS, plus interest, for the period from July 1, 1997 through December 31, 1997, reflecting adjustments to their cash working capital requirements as prescribed in Section III of this Memorandum Opinion and Order.

231. IT IS FURTHER ORDERED, that the investigation and accounting order imposed by the Common Carrier Bureau in CC Docket No. 97-149 with respect to the LECs specified in Appendix A for the designated issues as discussed herein IS TERMINATED as of January 1, 1998.

FEDERAL COMMUNICATIONS COMMISSION

Magalie Roman Salas

Secretary

List of Parties Filing Pleadings--APPENDIX A

Aliant Communications Company (Aliant)
Ameritech
AT&T
Bell Atlantic Corp./NYNEX (Bell Atlantic-North/ Bell Atlantic-South)
BellSouth Telecommunications, Inc. (BellSouth)
Chillicothe Telephone Company (Chillicothe)
Concord Telephone Company (Concord)
Frontier Telephone Companies (Frontier)
GTE
MCI Telecommunications Corp. (MCI)
Nevada Bell Telephone Company (Nevada Bell)
Pacific Bell Telephone Company (Pacific Bell)
Puerto Rico Telephone Company (PRTC)
Rochester Telephone Corp. (Rochester)
Roseville Telephone Company (Roseville)
Southern New England Telephone Company (SNET)
Southwestern Bell Telephone Company (SWBT)
Sprint Local Telephone Companies (Sprint)
U S WEST Communications, Inc. (US WEST)

Statistical Appendix-- APPENDIX B

I. Introduction

An issue in this proceeding is whether price cap LECs have accurately forecast their per-line Base Factor Portion (BFP) revenue requirements (RRs). Underestimates of per-line BFP RR can result in per minute carrier common line (CCL) rates that are too high. This can increase rates for interexchange calls. Under some circumstances, price cap LECs have an incentive to understate per-line BFP RR because this allows them to earn higher common line revenues than our price cap rules would otherwise permit.

This Appendix presents an analysis of whether some LECs have a consistent downward bias in their forecasts of per-line BFP RRs. The analysis is based upon forecast and actual data provided by the price cap LECs for tariff years 1991/92 through 1996/97 and calendar years 1991 through 1996. The LECs also provided their forecasts for 1997/98. Section II describes the data and adjustments to the data. Section III contains analyses of the data, and Section IV presents recommendations concerning prescription for those LECs whose forecast methodology is determined to be biased and to result in charges that are unlawful. Attached to the end of this Appendix are Tables A1-A12.

II. Data

We used two different data series: one for purposes of testing for possible bias in LECs' forecast methods, and the other for purposes of developing Commission forecasts of per-line BFP RRs for those LECs with biased forecast methodologies.

A. *Data Used for Testing for Bias*

We based our tests for bias on tariff year actual and forecast BFP RRs and lines provided by the LECs. The only adjustment made to actual BFP revenues was to exclude amounts collected in New York for the state gross income (receipts) tax, as requested by NYNEX.³⁴⁷ We adjusted the LEC BFP RR forecasts for 1996/97 for the additional revenues resulting from the implementation of the OB&C and Payphone Orders and additional lines resulting from the Payphone Order. Because the OB&C Order was in effect for two months of tariff year 1996/97, we estimated the additional OB&C revenues as 2/12 of each LEC's forecast amount for tariff year 1997/98. Similarly, we estimated 2.5 months' payphone revenues as 2.5/12 of the 1997/98 forecast amount, and added payphone lines using 1996 Armis data weighted by 2.5/12. The only other adjustment to a BFP RR forecast was to increase U S WEST's 1994/95 forecast to reflect a change in depreciation noted in U S WEST's direct case. The amounts of these

³⁴⁷ The amounts of these adjustments are shown in Table A3.

adjustments are shown in Table A3. In the case of GTE, we used tariff year actual BFP RR provided by GTE that excludes universal service support funds.

Some LECs did not supply or did not have data for all years. Rochester did not provide actual company-wide data for 1991/92 or 1992/93. GTE did not provide 1996/97 actual BFP RR data.

B. Data Used for Commission Forecasting for Prescription purposes

The 1997 Designation Order required the LECs to provide actual *calendar* year BFP RR for 1991-96, adjusted to reflect consistently the effects of Commission rules in effect as of December 31, 1996. Table A5 shows these adjusted data, corrected for one-time adjustments by three LECs. The LECs also provided actual lines on a calendar year basis. The only adjustments made to these data was to exclude the New York gross income tax revenues from NYNEX, as discussed in the text of the order.

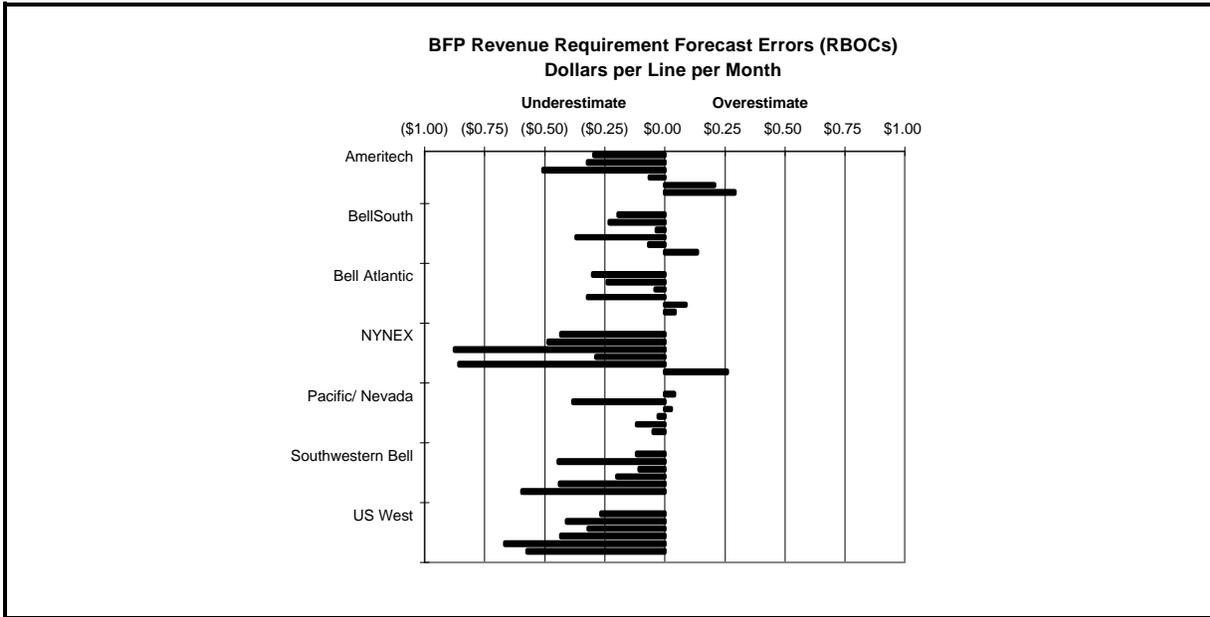
After making prescription forecasts using calendar year per-line BFP RR, we adjusted the amounts to reflect increases in revenues in tariff year 1997/98 resulting from the OB&C, Payphone and OPEB Orders. These revenues were taken from the each LEC's direct case, as shown in Table A3. This adjustment is necessary because our forecasts are based on data which do not include these revenues.

As discussed below, problems with the amount and quality of data submitted by GTE forced us to use a different methodology in their case.

III. Analyses of Data

A. Introduction

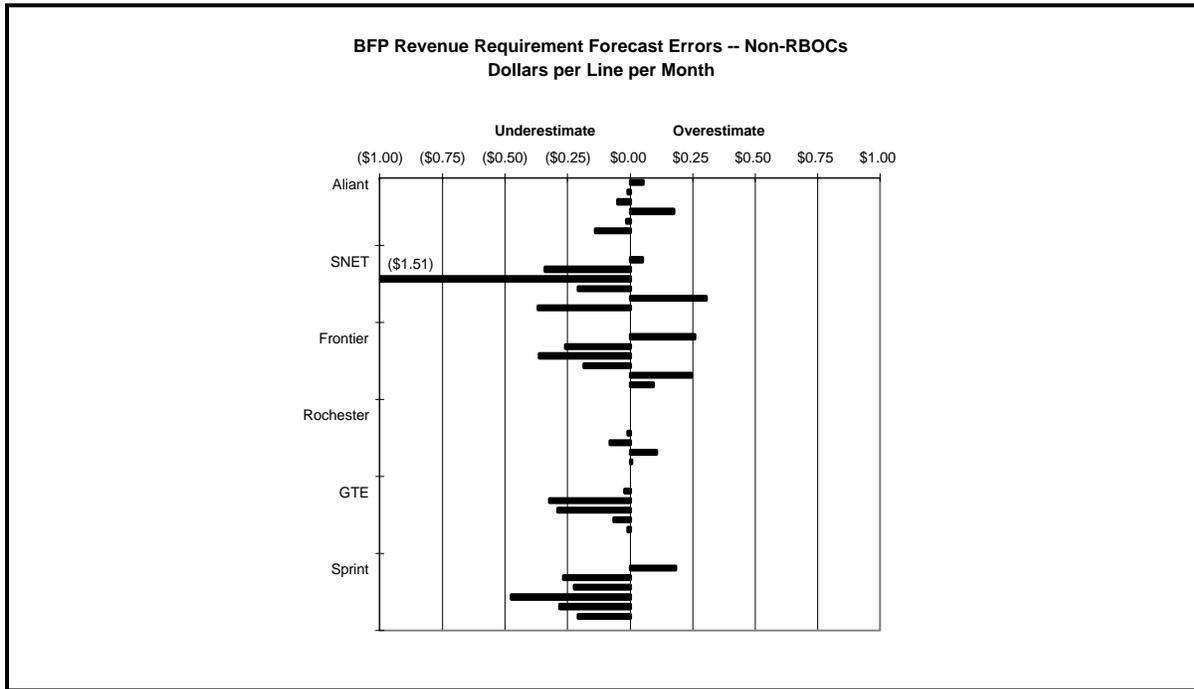
Our study consisted of three analyses. First we graphed the differences between forecast and actual per-line BFP to determine visually whether underforecasting appeared to be so widespread that further testing was needed. Next we employed a sign test to confirm our visual impression that at least some LECs have consistently underforecast per-line BFP RRs. We then applied a more formal statistical test using the means and variances of the forecasting errors to quantify the extent of downward bias. We conclude that several LECs have presented forecasts that are biased downward. We then propose a simpler forecasting methodology to be followed by these LECs in lieu of the biased methods they have been using.



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Figure 1 shows per-line BFP RR forecast errors for RBOCs over the period 1991-96. Figure 2 shows the corresponding forecast errors for other price cap LECs. For evaluation, we combined components of Pacific Telesis (Pacific Bell and Nevada Bell) and of GTE (GSTC and GTOC). We did not combine data for Southwestern Bell and Pacific Telesis or Bell Atlantic and NYNEX because their mergers occurred after the period being examined.

Examination of the data displayed in Figures 1 and 2 shows that some LECs underestimated their per-line BFP RR for every year in which they have been under price cap regulation. Other LECs underestimated for almost all years. Several LECs also had sizable underestimates in particular years. The graphical analyses of BFP RR forecasts show that there



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is probably a downward bias in some LECs' forecasting.

B. Testing the Validity of LECs' Forecasts

Table A1 shows a summary of LECs' actual and projected per-line BFP RRs. The data underlying this table is presented in Tables A8 through A11 at the end of this Appendix. As illustrated in Table A1, GTE, Southwestern and U S West have consistently underforecast their per-line BFP RRs while others have had mixed results. To evaluate the price cap LECs' forecasts, we first computed the percentage differences between forecast and actual changes in per-line BFP RRs for tariff years 1991/92 through 1996/97. Table A2 shows these differences (forecast errors) in percentage terms.

We recognize that the LECs' forecast errors could be due to volatility of BFP costs, or to rule changes ordered by the Commission after the projections were submitted, rather than to downward bias in their forecasting technique. Volatility and post-projection rule changes could

make it difficult for LECs to estimate their BFP revenue requirements correctly. Our t-test, discussed below, accounts for effects of the volatility inherent in the cost components contributing to the BFP RR. The adjustments we made to the data, discussed above and shown in Table A3, should correct for all post-projection rule changes.

Even after the adjustments in Table A3 were made, several of the LECs had what appeared to be sizable underestimates of per-line BFP RR. We tested the validity of the LECs' forecasts, adjusted as shown in Table A3, by using a nonparametric test (a "signs test") to help analyze the likelihood of a LEC making a disproportionate number of underestimates of BFP costs.

C. Explanation of signs test

Over the period 1991-1996, the LECs submitted annual per-line BFP RR projections for the coming year. If the projections were unbiased estimators, we would expect them to exceed the actual levels in some years and be less than the actual levels in other years. *A priori* we would expect the actual per-line BFP RR to exceed (+) the projected level with probability 1/2 and to be less (-) than the projected level with probability 1/2 in any given year. (With per-line BFP RR treated as an almost continuous variable, the probability that the projected level will equal the actual level is negligible).

Assuming the projection errors are not correlated, the probability of projections being less than actual levels several years in a row is then given by the product of the probabilities that the projections are less than the actual levels in each year. Thus the probability of +++ would be one fourth, and the probability of ++++ would be one eighth.

Two LECs, U S West and Southwestern Bell, underforecast their per-line BFP RRs six years in a row. The probability of an unbiased estimator underestimating projected per-line BFP RR for the entire six year period, i.e. + + + + + +, is $(1/2)^6$ or 1/64 (approximately 1.6 percent). With such an outcome, the odds are thus 63 to 1 that this estimator is not unbiased. It is more likely that some downward bias in the forecasting technique led to this consistent underforecasting. GTE submitted data for only five years, but underforecast on a company-wide basis for all five years. The probability of this occurring by chance is $(1/2)^5$, or about 3 percent.

The two LECs that underforecast their per-line BFP RRs for five of the six years were NYNEX and Sprint. If the estimator is unbiased, the probability of one overestimate and five underestimates is 6/64 or 9.4 percent. The probability that an unbiased estimator would produce five or more underestimates is therefore 1.6 percent plus 9.4 percent or 11 percent. Thus the odds are roughly 8 to 1 that the estimator is not unbiased.

The results of the signs test strengthens the case that several LECs are using forecasting techniques that are biased downwards. However, the signs test is a nonparametric test that does

not take account of the magnitude of the downward bias. For example, a LEC could have underestimated projected per-line BFP RRs by 1 cent every year and be found to have a downward bias by the signs test.

D. Explanation of the difference of means t-test

To remedy the difficulties in analyzing the downward bias of per-line BFP RR projections by some LECs, we applied a stronger statistical test to the data -- the difference of means t-test. This test standardizes the data by accounting for its variability and also giving weight to the actual amount of the difference between the actual and projected per-line BFP RR.

If LEC projections were unbiased estimators of the actual per-line BFP RR, the difference of the means of the actual and projected per-line BFP RRs should not be significantly different from zero statistically.

The actual and projected per-line BFP RRs form a set of six paired observations from the period 1991-1996. Both actual and projected per-line BFP RRs are assumed to come from the same population. This is reasonable because to assume otherwise would imply that the LECs are choosing their per-line BFP RR projections without trying to relate them to actual costs. The appropriate test for the difference between the two sample means with paired data is to test the hypothesis that the average difference between the paired observations in the population is zero. Let d_i be the i th difference between the actual and projected per-line BFP RR and D the mean difference.

The t-test requires the calculation of the standard deviation of the differences between paired observations, s_d :

$$\tilde{\sigma}_d = \sqrt{\frac{\sum (d_i - \bar{d})^2}{n-1}}$$

The corresponding standard deviation of the mean difference is s_D :

$$\tilde{\sigma}_D = \tilde{\sigma}_d / \sqrt{n}$$

The t statistic with $n-1 = 5$ degrees of freedom is

$$t = \frac{\bar{d}}{\tilde{\sigma}_D}$$

The t-statistic accounts for the variability in the data because the mean difference is divided by the standard deviation of the mean difference, where the standard deviation is a measure of the variability in the data.

This statistic, calculated from the sample of paired observations, is then compared with the t statistic corresponding to a confidence level of 90 percent. The one-tailed t statistic with 5 degrees of freedom at the 90 percent confidence level is 1.476.³⁴⁸ This means that if a LEC has a t statistic -- calculated according to the formula above -- that is greater than this "critical value," it is unlikely to have arisen by chance. In such a case, the more reasonable explanation is that the difference between actual and projected mean per-line BFP RRs reflects a systematic downward bias in the forecasting methodology of the LEC. As shown in Table A4, six LECs had a calculated t statistic greater than the critical value -- Bell Atlantic, GTE, NYNEX, Southwestern Bell, Sprint, and U S West.

Bell Atlantic fails the bias test because its forecasts have substantially understated estimates of Total Other Taxes. The original data Bell Atlantic submitted made the same error in developing both its forecast and actual BFP RRs. When forecast and actual RRs were developed on this consistent (though incorrect) basis, Bell Atlantic's forecasts were highly accurate, and easily pass our t -test. On rebuttal, Bell Atlantic agreed that it had erred in its treatment of these taxes and submitted corrected actual BFP RR data. It is the comparison of the uncorrected forecasts to the corrected actual data that causes Bell Atlantic to fail the t -test. Rather than prescribe a per-line BFP RR for Bell Atlantic, it would be more reasonable to direct the company to recompute its 1997/98 tariff year forecast using its existing methodology and the corrected BFP RR data contained in its rebuttal.

The t -test provides a formal statistical confirmation of the downward bias in some LECs' projected per-line BFP RR. It thus strengthens the graphical analysis of the bias, the tabular evidence of the percentage errors between projected and actual per-line BFP RRs, and the results of the signs test regarding the probability of making a large number of underforecasts.

IV. Prescribed Forecasting Methodologies

Based on our statistical analyses of the LECs' forecasts, we conclude that six LECs (Bell Atlantic, GTE, NYNEX, Sprint, Southwestern Bell and U S West) have failed to produce reasonable forecasts of their monthly per-line BFP RRs. We recognize that having limited observations affects our forecasting capabilities, because formal forecasting techniques, such as sophisticated econometric models, normally require many observations and variables.

As discussed above, we do not make a forecast for Bell Atlantic. The calendar year data supplied by GTE also presents special difficulties which we discuss below. The task of selecting a forecasting methodology for the other LECs is made more difficult by the fact that some LECs' actual per-line BFP revenue requirements show a strong trend, while others do not. For this reason, we selected a forecast based on autoregression. This technique performs a linear

³⁴⁸ Rochester submitted data for only four years, and thus the corresponding one-tailed t statistic is 2.353. GTE submitted data for only five years, and thus the corresponding one-tailed t -statistic is 1.533.

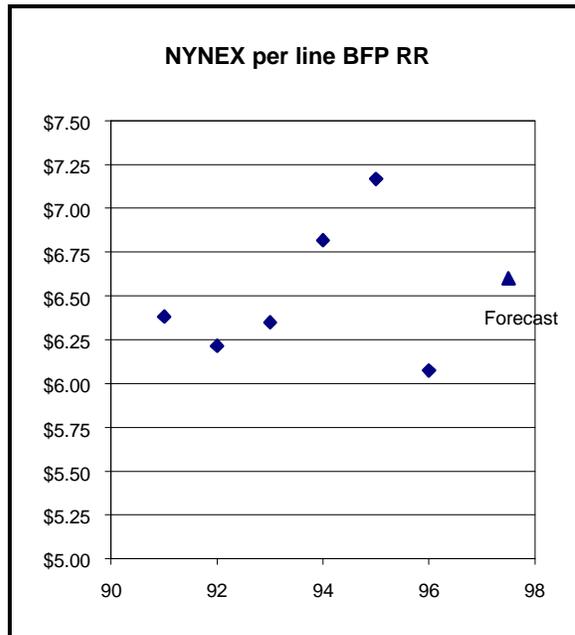
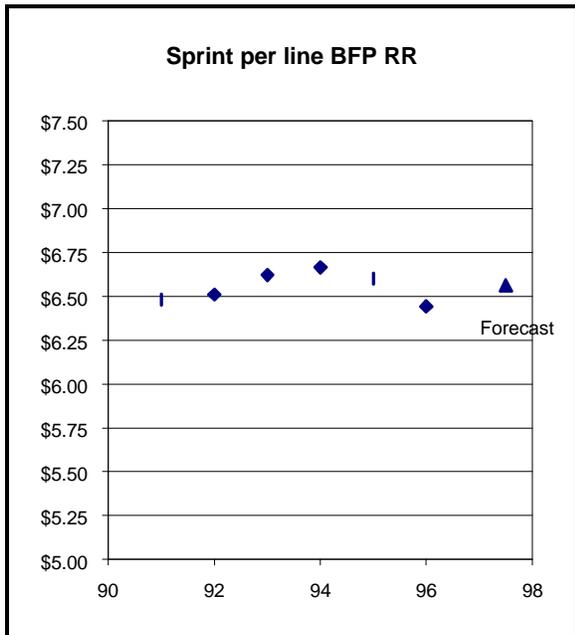
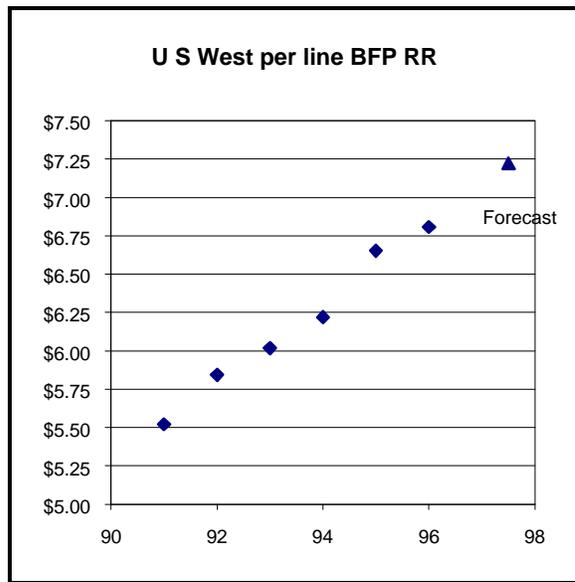
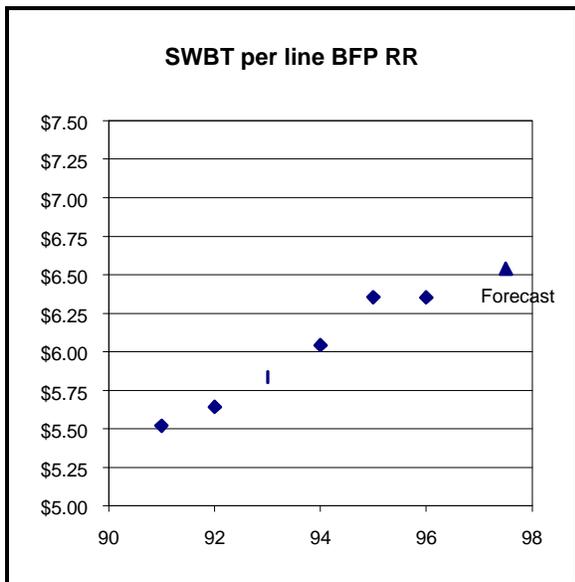
regression to estimate P (the level of per-line BFP RR) as a function of its level in the previous year: $P_t = \alpha + \beta * P_{t-1}$ (where α and β are parameters estimated by the regression). The 1997 forecast is made by applying this equation to the 1996 level. A major advantage of this method is that if there is a significant trend in the data, this method will base the forecast on that trend. If there is no trend, the forecast will approximate the arithmetic mean of the data. This is the most reasonable forecasting methodology we can employ with the data available.

In order to produce a tariff year forecast by this method, we first use the equation described in the previous paragraph to forecast P_{1997} , per-line BFP RR for calendar year 1997. We then use P_{1997} to forecast P_{1998} , using the same equation. We use the average of these two levels as our forecast of $P_{97/98}$, the per-line BFP RR for tariff year 1997/98.

In developing these forecasts, we used adjusted Series II actual BFP revenue requirements for calendar years 1991 through 1996, from Table A5. This series corrects for the effects of the Commission's rule changes over the period, as described above, to produce consistent estimates reflecting the rules as of December 31, 1996. After the per-line BFP RRs were forecast, we added the one-time adjustments to reflect rule changes in 1997 in the Payphone, OB&C, and OPEB Orders. Our resulting forecasts are shown in Table A7.

Figure 3 shows actual calendar year per-line BFP RRs and our forecasts for NYNEX, Southwestern Bell, Sprint and U S West.

Figure 3: Actual Calendar Year Monthly per-line BFP RRs and FCC Forecast for TY 1997/98



As a further check on the reasonableness of our forecasts, we made forecasts using several other methods. For those LECs with a strong trend (indicated by a high R^2 , shown in Table A7), it is appropriate to compare our results with those of various other trend-based forecasting methodologies. We computed forecasts based on a time trend line and on 5-year geometric averages³⁴⁹ (adjusting for 1997 rule changes as above). For LECs without a strong trend (indicated by a low R^2), it is reasonable to compare our forecast with forecasts based on the arithmetic mean of previous observations, or on 3- and 5-year moving averages.

We developed our five year geometric growth rates from the adjusted Series II *calendar* year data. To make a forecast applying these annual calendar year geometric growth rates (g) to tariff years, we multiplied the most recent calendar year data by $(1 + g)^{1.5}$. This shifted the estimate forward by an additional six months to reflect the fact that tariff years begin in July rather than January. The reasons we did not choose this methodology are that it assumes a strong statistical trend in the data (which is not present for all LECs) and that it gives inordinate weight to the final year's data. It does provide, however, a useful check on our methodology for those LECs with strong trends, in that it should produce a similar forecast.

In developing our geometric-average forecast, we next added the one-time adjustments for rule changes resulting from the Payphone, OB&C, and OPEB Orders in 1997/98. We then computed projected monthly per-line BFP revenue requirements. First we divided our annual projected BFP revenue requirements for the five LECs by their projected access lines to get annual BFP per line revenue requirements. We then divided by twelve to get the monthly BFP per line revenue requirements.

We also developed forecasts based on a simple time trend projection and forecasts based

³⁴⁹ A geometric mean is particularly useful in dealing with data that grow over time, because other measures of annual growth operate from a different base each year. See Edward J. Kane, *Economic Statistics and Econometrics: An Introduction to Quantitative Economics* (New York: Harper & Row, 1968), p.69. We calculate the percentage annualized geometric growth rate as follows:

$$\ddot{U}_{Up} = \frac{I_0}{I_U} \frac{1}{a^n} - "$$

Where

g_{cy} = Average Calendar Year Geometric Growth Rate

R_t = Current Adjusted Calendar Year BFP Revenue Requirement

R_i = Base Period Adjusted Calendar Year BFP Revenue Requirement

n = Number of observations

For a five year average geometric growth rate, the current calendar year is 1997, the base period would be 1992, and n would be 5.

on arithmetic means and 3- and 5-year moving averages. In each case, we projected 1997 and 1998 estimates and averaged them to forecast for tariff year 1997/98. We then adjusted each forecast for the 1997 rule changes in the same manner described above.

We used the geometric-average-based forecast and the time trend-based forecast to check the reasonableness of our autoregression forecast for LECs with a time trend. For LECs without a significant trend, we used the forecasts based on arithmetic average and on the moving averages to provide a check of reasonableness. As can be seen in Table A7, our forecasts using autoregression closely match those based on arithmetic means and moving averages (for LECs without a trend) or those based on the trend-based forecasts (for LECs with a significant trend). This autoregression produces good forecasts for LECs with strong trends and also for those without trends. We therefore conclude that the autoregression methodology described above is the best basis for forecasting 1997/98 tariff year per-line BFP RRs for NYNEX, Southwestern Bell, Sprint and U S West.

Because GTE did not provide adequate data to support this methodology, a different methodology must be prescribed. In developing a forecasting methodology for GTE, we faced several obstacles. GTE did not provide its actual number of lines for calendar years 1991-96 in its Direct Case. Also, GTE estimated its tariff year 1996/97 per-line BFP RR using the same forecasting methodology it used to develop its 1997/98 forecast. In response to a Bureau request, GTE faxed its number of lines for calendar years 1991 through 1996 for GSTC and the number of lines for GTOC for calendar years 1992 - 1996. Because GTE did not provide the number of lines for GTOC in 1991, we estimated GTOC's lines in 1991 by taking an average of GTOC lines for tariff years 1991/92 and 1992/93. We then calculated GTE's calendar year per-line BFP revenue requirement using its adjusted actual Series II revenue and the number of lines for calendar years 1991-96.

Upon further examination of GTE's calendar year actual BFP RR and lines data, however, we conclude that we cannot use it to produce a forecast, because it is not consistent with the tariff year data GTE has filed. That is, for every tariff year the BFP RR lies outside the bounds of the adjoining calendar years. Likewise, tariff year lines are above the bounds of the adjoining calendar years in almost every year. This leads us to believe that GTE's calendar year data are flawed. Consequently, any forecast based on such data would produce erroneous results. We also recognize that we cannot use tariff year data for 1991/92 through 1992/93 because they are not adjusted for the Commission rule changes. Thus they are not comparable with later data. As noted above, GTE did not provide actual data for 1996/97. Therefore, we are left with only three data points, those for tariff years 1993/94, 1994/95, and 1995/96.

If GTE had provided its tariff year 1996/97 actual per-line BFP revenue requirement, we could have adjusted for changes to the Commission's treatment of payphones and OB&C costs, as we did for the other LECs, to provide a fourth data point. GTE disregarded the *1997 Designation Order's* requirement that it provide its tariff year 1996/97 actual BFP revenue

requirement. GTE, without explanation, reports that its tariff year 1996/97 figure is "not available."³⁵⁰

With only three data points, we have no reasonable basis for determining whether GTE's data does or does not have a significant trend. In light of this data limitation, we have developed two forecasts. One uses a three year geometric growth rate (calculated as above, with 1995/96 as the final year). We produce a forecast by multiplying the 1995/96 tariff year per-line BFP revenue requirement by our three-year geometric growth rate to obtain the 1996/97 estimate, then multiplying this estimate by the growth rate to obtain the 1997/98 estimate. This forecast would be appropriate if GTE's data does have a significant trend. If there is no trend, a more appropriate forecast would be based on the arithmetic mean of the three data points. We adjusted both 1997/98 forecasts for the rule changes resulting from the Payphone, OB&C, and OPEB Orders.

Because GTE has provided so little reliable data, we believe the most reasonable forecast methodology is to average the results of the two forecasts we have made. These are shown in Table A12. The average of the two forecasts is \$7.26. GTE's actual calendar year monthly per-line BFP RRs and the Commission's TY 1997/98 Forecast are shown in Figure 4.

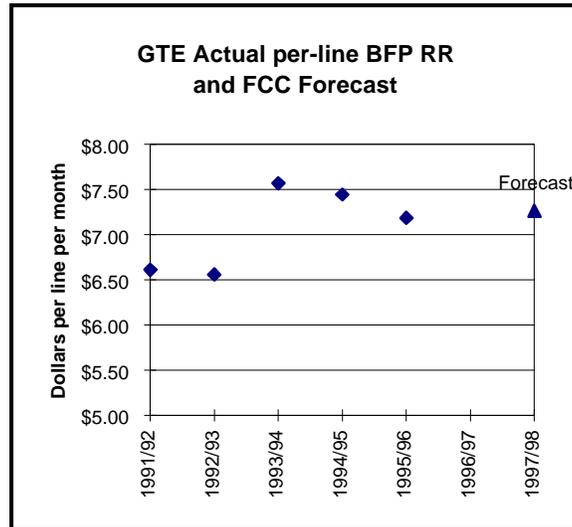


Figure 4

³⁵⁰ GTE Direct Case at Exhibit A-8, p. 2.

Comment Summaries--APPENDIX C**I. Price Cap Carriers****A. Common Line Issues****1. Direct Cases****a. Aliant**

232. In its direct case, Aliant provides its actual BFP revenue requirement data, calculated using ARMIS, for the 1991 through 1996 calendar years. To calculate these data for the 1991/92 through 1996/97 tariff years, Aliant allocated the calendar year figures based on ratios calculated using actual quarterly cost study BFP revenue requirement data.³⁵¹ Aliant also provides its projected BFP revenue requirements, drawn from its tariff filings over the same period. In every case, Aliant's forecasted BFP revenue requirement growth fell outside a ten percent margin of error when compared to its actual BFP revenue requirement growth. In every tariff year except 1994/95, Aliant significantly underestimated its BFP revenue requirement, while in 1994/95, its forecasts significantly overestimated the actual BFP revenue requirement.³⁵² Aliant states that its use of a two-point linear projection to forecast its BFP revenue requirement for the upcoming tariff year will fail the Commission's ten-percent test, set forth in the *1997 Designation Order*, but that the resulting errors are not necessarily significant.³⁵³

233. Aliant also provides BFP revenue requirement series for the calendar years 1991 through 1996, adjusted for changes to the Commission's rules that required: (1) a 25 percent interstate Subscriber Plant Factor (SPF), effective January 1, 1993; (2) changes in Dial Equipment Minutes-of-use (DEM), effective January 1, 1993; (3) the reallocation of General Support Facilities (GSF), effective July 1, 1993; and (4) changes to the treatment of Account 4310 ("Other Long-term Liabilities"), effective January 1, 1993, through December 31, 1995. Aliant states that it has used a constant 5 percent common line allocation for Other Billing and Collection expenses (OB&C) throughout the time period under review in this investigation and that, therefore, no adjustments to the BFP revenue requirement calculations for OB&C expenses

³⁵¹ Aliant Direct Case at 1-2. This process did not allocate precisely 50 percent to each tariff year.

³⁵² Aliant Direct Case at 2 and Exh. RRQ-COMP.

³⁵³ Aliant states that it does not consider the difference between its 1992/93 BFP actual revenue requirement growth (-0.7 percent) and its actual figure (-0.9 percent) to be significant because the dollar amount of the error was only \$15,000.00. Aliant Direct Case at 2.

were necessary.³⁵⁴

234. Aliant states that it has used the same method to project its BFP revenue requirements since its initial price-cap filing in 1993. To perform this calculation, Aliant computes the interstate BFP revenue requirement growth rate between the base period and the previous base period, at an 11.25 percent rate of return, and extrapolates this growth rate to develop the BFP revenue requirement for the upcoming tariff year, including adjustment for the six-month lag time between the calendar-year and tariff-year time lines.³⁵⁵ Aliant states that its only modifications to this process took place in preparing the 1993/94 and 1994/95 tariff filings, in which it adjusted its calculations to remove the effect of the change to a 25 percent interstate SPF allocation factor.³⁵⁶

235. Aliant states that the Commission's *OB&C Order*³⁵⁷ changed its allocation of OB&C expenses to the interstate jurisdiction from 12.33 percent to 33.33 percent for tariff year 1997/98. Aliant, therefore, applied the new allocation to its base period cost studies. By subtracting the actual base period cost study amounts from these revised figures, Aliant determined that the change in its BFP revenue requirement, and corresponding upward exogenous adjustment to its price cap, was \$122,503.00.³⁵⁸ Based on Aliant's projected line count of 268,919 access lines for tariff year 1997/98, this rule change increased the monthly per-line BFP revenue requirement by approximately \$0.04 for the coming tariff year.

236. Similarly, Aliant states that, in response to the *Payphone Reconsideration Order*,³⁵⁹ it calculated the exogenous cost change for pay telephones by dividing the 1995 pay telephone revenue requirement by the sum of the 1995 total common line revenue requirement and the LTS requirement. Aliant then multiplied this resulting exogenous factor by the negative of the common-line R value to arrive at the exogenous cost change.³⁶⁰

237. Aliant forecasts its EUCL using the same method it uses to project its BFP revenue

³⁵⁴ Aliant Direct Case at 3.

³⁵⁵ Aliant Direct Case at 5.

³⁵⁶ Aliant Direct Case at 5.

³⁵⁷ Amendment of Part 36 of the Commission's Rules and Establishment of a Joint Board, Report and Order, 12 FCC Rcd 2679 (1997).

³⁵⁸ Aliant Direct Case at 6-7.

³⁵⁹ Implementation of the Pay Telephone Reclassification and Compensation Provisions of the Telecommunications Act of 1996, Order on Reconsideration, 11 FCC Rcd 21233 (1996).

³⁶⁰ Aliant Direct Case at 7.

requirement. Aliant calculates the EUCL demand growth it experienced in the base period, as compared with the previous base period, and extrapolates to the upcoming tariff year using this growth rate.³⁶¹ Aliant provides a comparison of its actual and projected lines for the past six tariff years, showing that, in the four most recent tariff years, its EUCL demand forecasts understated EUCL demand by more than ten percent of the actual growth.³⁶² As required by the Commission's *Designation Order*, Aliant also performs a historical trend analysis, using the natural log of lines over the 1991/92 through 1996/97 tariff years, to project its 1997/98 line count. The line count growth projection Aliant calculated using the two-year extrapolation method (and filed in its 1997/98 access tariff) is not within ten percent of the line count growth indicated by this longer-term trend.³⁶³

238. Aliant nevertheless contends that the line count filed in its tariff is statistically valid. In support of this argument, Aliant constructed, using the *t* distribution, a 95 percent confidence interval centered around the value predicted by the Commission-mandated historical trend analysis. Because the line count filed in Aliant's 1997/98 access tariff falls within this confidence interval, Aliant argues that its line count prediction, based on a two-year extrapolation, should be accepted, despite the fact that it fails the Commission's ten percent test.³⁶⁴

239. Aliant states that it has 299 semi-public payphones on which it now charges multi-line business EUCL rates, instead of single-line business EUCL rates.³⁶⁵ Aliant states that it does not forecast separately ISDN lines or payphone lines.³⁶⁶

b. Ameritech

240. Ameritech submits BFP data showing that it significantly underestimated its BFP revenue requirement in tariff years 1991/92 through 1994/95, while it significantly

³⁶¹ Aliant Direct Case at 7. Aliant states that it did not develop separate projections for individual classes of lines.

³⁶² Aliant Direct Case at Exh. AVR-ACT. In tariff year 1991/92, Aliant's EUCL demand growth forecasts overestimated actual EUCL demand by more than 10 percent of the actual growth. In tariff year 1992/93, Aliant's estimates were within the 10 percent tolerance established in the *Designation Order*.

³⁶³ Aliant Direct Case at Exh. ACT-COMP.

³⁶⁴ Aliant Direct Case at 8-9.

³⁶⁵ Aliant Direct Case at 10.

³⁶⁶ Aliant Direct Case at 9-10.

overestimated its BFP revenue requirement in tariff years 1995/96 and 1996/97.³⁶⁷ Ameritech significantly overestimated its EUCL demand in the 1991/92 tariff year, and significantly overestimated EUCL demand in tariff years 1993/94, 1994/95, and 1995/96. In the remaining tariff years, Ameritech's forecasts were within the ten percent tolerances established in the *Designation Order*.³⁶⁸

241. To develop its 1997/98 BFP revenue requirement and line count forecasts, Ameritech used a mathematical formula to determine the growth rate experienced between 1991 and 1996, and applied this growth rate to the 1996 data, extrapolating to the 1997/98 tariff year.³⁶⁹ Without focussing on the reasons underlying the differences between its forecast data and actual BFP revenue requirements and line counts, Ameritech argues that the Commission should evaluate not whether its projected growth rate was accurate, but whether the actual BFP revenue requirements and line counts differed significantly from the forecasted amount. Ameritech contends that even statistically insignificant differences between forecasts and actual results could fail the ten percent test set forth in the *1997 Designation Order*.³⁷⁰

242. Ameritech opposes the Commission's proposals to pool all LEC data into a single data set for analysis purposes, arguing that it would be both difficult to account for company-specific situations and burdensome to obtain industry-wide information on a timely basis.³⁷¹ Ameritech suggests the use of historical data, rather than forecasts, to develop the per-line BFP, arguing that such an approach would eliminate the controversy associated with forecasting and would be consistent with the Commission's decision in the *Access Charge Reform Order* to require the EUCL charge to be set at the average per-line common line revenue permitted under the price cap rules (using historical line counts) once the PICC no longer recovers any common line revenue.³⁷²

³⁶⁷ Ameritech Direct Case at Exhibits 1, 3, 6.

³⁶⁸ Ameritech Direct Case at Exh. 7.

³⁶⁹ Ameritech Direct Case at Exh. 5, 6.

³⁷⁰ Ameritech Direct Case at 2-3.

³⁷¹ Ameritech Direct Case at 4.

³⁷² Ameritech Direct Case at 4. The Commission has reconsidered this aspect of the *Access Charge Reform Order*, concluding that a price cap carrier should set its EUCL charge to recover the average per-line common line revenues permitted under the price cap rules once the maximum PICC assessed on primary residential lines, plus the maximum EUCL charge assessed on those lines, recovers the full amount of the price cap LEC's per-line common line price cap revenues. The Commission did not disturb its findings with respect to the use of historical line counts. *Access Charge Reform, et. al.* CC Docket 96-262, *et. al.*, Order on Reconsideration, FCC 97-247 (rel. July 10, 1997) at ¶ 15. The Common Carrier Bureau recently granted a waiver requested by USTA to permit the use of historical line counts in developing the PICC as well. United States Telephone Association Petition for

c. Bell Atlantic

243. Initially, Bell Atlantic notes that the Commission has not prescribed any particular methodology to calculate the BFP revenue requirement. Therefore, Bell Atlantic argues, a number of reasonable projection methods may be consistent with the Commission's rules. According to Bell Atlantic, it relied on the rate of growth from the prior year to predict the growth rate in the coming year.³⁷³ Bell Atlantic also states that it used the same methodology for both its northern and southern affiliates.³⁷⁴ Bell Atlantic contends that its method: (1) avoids complicated calculations that can engender disputes; (2) relies on the most recent data and avoids distortions caused by old data that may no longer be relevant; and (3) has a self-correcting measure, if used consistently.³⁷⁵

244. Bell Atlantic states that it augmented its projections with the trend analysis required by the Commission, and that nothing in those analyses calls into question the reasonableness of Bell Atlantic's methodology. While acknowledging some deviations between the forecasted and the actual results, Bell Atlantic contends that the deviations include both under- and over-forecasts, and that the deviations in recent years have been relatively small.³⁷⁶ Bell Atlantic argues that the Commission should not use a figure of ten percent to define a significant percentage change. Because the definition is on the basis of percentage change, Bell Atlantic argues that a forecast could cross the ten-percent threshold while still being an accurate predictor of actual demand and cost levels. Moreover, Bell Atlantic argues that, even where the difference between the projection and the actual result is large, it does not indicate that the methodology is unreasonable. In support of this argument, Bell Atlantic provides explanations of the cause of every deviation defined as significant by the ten-percent test.³⁷⁷

245. Bell Atlantic states that the Commission should stop requiring forecasts, and instead rely on historical data. If the Commission, however, retains forecasts but modifies the requirements, Bell Atlantic states that the Commission should only require a prospective adjustment. Bell Atlantic contends that its calculations were consistent with the requirements imposed by the Commission at the time of its filing. As a whole, Bell Atlantic claims that its

Waiver of Sections 61.47, 69.153(c)(1), 69.153(d)(1)(i) and 69.153(d)(2)(i) of the Commission's Rules, CCB/CPD No. 97-56, Memorandum Opinion and Order, DA 97-2335 (Com. Car. Bur., rel. Nov. 5, 1997).

³⁷³ Bell Atlantic Direct Case at 3.

³⁷⁴ *Id.*

³⁷⁵ Bell Atlantic Direct Case at 3.

³⁷⁶ Bell Atlantic Direct Case at 3-4.

³⁷⁷ Bell Atlantic Direct Case at 4.

BFP revenue requirement forecast results varied from its actual levels by less than three percent for the most recent year, and that its demand projections varied from the actual levels by less than one percent.³⁷⁸

246. Bell Atlantic-North's 1992-1993 actual BFP revenue requirement was \$1,013 million compared to a projection of \$914 million.³⁷⁹ The difference, according to Bell Atlantic, was caused by under-forecasts in expenses, other taxes, depreciation and net return. Bell Atlantic-North's 1993-1994 actual BFP revenue requirement was \$1,237 million compared to a projection of \$1,038 million.³⁸⁰ The difference, according to Bell Atlantic, was caused by under-forecasts in expenses and other taxes. Bell Atlantic-North's 1994-1995 actual BFP revenue requirement was \$1,273 million compared to a projection of \$1,174 million.³⁸¹ The difference, according to Bell Atlantic, was caused by under-forecasts in expenses and other taxes. Expenses included a special pension enhancement offer initiated in mid-1994. Bell Atlantic-North's tariff year 1995/96 actual BFP revenue requirement was \$1,378 million compared to a projection of \$1,211 million.³⁸² The difference, according to Bell Atlantic, was caused by under-forecasts in expenses and other taxes. Expenses included a special pension enhancement offer initiated in mid-1994. Bell Atlantic-North's tariff year 1996/97 actual BFP revenue requirement was \$1,191 million compared to a projection of \$1,243 million, because of an over-forecast of the company's rate base and net return.³⁸³

247. Bell Atlantic-South's 1992-1993 actual BFP revenue requirement was \$942,392 compared to a projection of \$915,634, because of a one-time retirement incentive offers in the fourth quarter of 1992.³⁸⁴ Bell Atlantic-South's 1993-1994 actual BFP revenue requirement was \$1,111,974 compared to a projection of \$1,135,171, because of lower than forecasted plant in service coupled with higher than anticipated reserves.³⁸⁵ Bell Atlantic-South's 1994-1995 actual BFP revenue requirement was \$1,204,652 compared to a projection of \$1,159,884, because of

³⁷⁸ Bell Atlantic Direct Case at 6.

³⁷⁹ Bell Atlantic Direct Case, Detailed Responses at 7.

³⁸⁰ Bell Atlantic Direct Case, Detailed Responses at 8.

³⁸¹ Bell Atlantic Direct Case, Detailed Responses at 8.

³⁸² Bell Atlantic Direct Case, Detailed Responses at 8.

³⁸³ Bell Atlantic Direct Case, Detailed Responses at 8.

³⁸⁴ Bell Atlantic Direct Case, Detailed Responses at 9.

³⁸⁵ Bell Atlantic Direct Case, Detailed Responses at 9.

higher than forecasted BFP operating expenses and telephone plant in service.³⁸⁶ Bell Atlantic-South's 1995-1996 actual BFP revenue requirement was \$1,235,126 compared to a projection of \$1,259,843, because of an over-forecast of telephone plant and an under-forecast of services.³⁸⁷ Bell Atlantic-South's 1996-1997 actual BFP revenue requirement was \$1,293,245 compared to a projection of \$1,304,709, because of higher BFP reserve levels.³⁸⁸

248. Bell Atlantic-North explains that its pattern of underestimation of the BFP revenue requirement was largely due to overruns in expenses and taxes. Bell Atlantic-South contends that it did not consistently over- or under-project its BFP revenue requirements, and that any differences were due to unexpected events that arose during the particular tariff period.

249. Regarding any large year-to-year changes that emerged in each adjusted series of actual BFP revenue requirements, Bell Atlantic-North states that the increase of 11.4% from \$1,150 million in 1993 to \$1,278 million in 1994, and the decrease of 12.3% from \$1,390 million in 1995 to \$1,216 million in 1996 were due to higher revenue requirements that occurred in 1994 and 1995.³⁸⁹ According to Bell Atlantic-North, 1994 includes \$110,000 in one-time nonrecurring special pension enhancement expenses. The year 1995 includes \$62,000 in one-time special pension enhancement expenses and \$106,000 in expenses and other taxes related to audit statements and contingent liabilities. Bell Atlantic-South states that its growth in adjusted BFP revenue requirement for calendar year 1993 exceeded six percent due to costs associated with the adoption of SFAS 112 in 1993.³⁹⁰

250. Bell Atlantic-North contends that its forecasts are reasonable as shown by the closeness of its projections relative to actuals. If anything, contends Bell Atlantic-North, its 1997/1998 Annual Filing forecast is lower than the historical trend.³⁹¹ Bell Atlantic-South also contends that its BFP revenue requirement forecast included in its 1997 Annual Price Cap tariff is consistent with historical trends.³⁹²

251. Regarding OB&C and Payphone adjustments, Bell Atlantic states that each price

³⁸⁶ Bell Atlantic Direct Case, Detailed Responses at 9.

³⁸⁷ Bell Atlantic Direct Case, Detailed Responses at 9.

³⁸⁸ Bell Atlantic Direct Case, Detailed Responses at 10.

³⁸⁹ Bell Atlantic Direct Case, Detailed Responses at 15.

³⁹⁰ Bell Atlantic Direct Case, Detailed Responses at 15.

³⁹¹ Bell Atlantic Direct Case, Detailed Responses at 18.

³⁹² Bell Atlantic Direct Case, Detailed Responses at 18.

cap LEC demonstrated separately those adjustments in their respective exhibits.³⁹³

252. In explaining the differences between the actual number of lines and its projections, Bell Atlantic-North states that its forecast for 1992/93 did not pick up the recessionary trend that occurred in access line growth.³⁹⁴ In the economic downturn, it overestimated the 1992/93 growth rate and, in the economic recovery, the growth rate was also overestimated. Bell Atlantic-North also contends that multi-line business growth was more robust than expected in every year except the 1995/96 tariff year, but that the difference between actual and projected never exceeded 3.3%.

253. Bell Atlantic-South, in responding to differences in line growth, states that in 1992/93 and 1994 through 1996/97, actual demand growth for residential and single line business lines overran projected growth primarily due to increasingly stronger demand for residential access lines. Additionally, in 1993/94 growth in actual demand underran projections due to a decrease in single line business demand, which was driven by a relatively large migration from single line business demand to multi-line business demand. For multi-line business lines, growth in actual demand overran projections in every year, due primarily to: (1) increasing demand for Centrex services; and (2) in 1993 and 1996, significant migration from single line business demand to multi-line business demand.³⁹⁵

254. The *1997 Designation Order*³⁹⁶ required each LEC either to: (1) demonstrate that the projection for the 1997-1998 tariff year is consistent with the value predicted by the historical trend of end-user demand; or (2) state specifically the underlying factor or factors that they expect will change, and the projected effect(s) of the expected change(s), expressed in a numerical prediction.³⁹⁷ Bell Atlantic-North responded by stating that it compared its end-user demand forecast to forecasts based on: (1) a trend of end-user demand for the period 1991/92 through 1996/97; (2) a trend of the natural logarithm of this demand; and (3) a trend of the annual growth in this demand. According to Bell Atlantic-North, all three trends suggest that its end user demand projection is slightly under-forecasted.³⁹⁸ Bell Atlantic-South did the same comparison, and found that the first trend suggests that its forecast of total billable lines may be

³⁹³ See Bell Atlantic Exhs. 16N-3-A and 16S-3-A.

³⁹⁴ Bell Atlantic Direct Case, Detailed Responses at 22.

³⁹⁵ Bell Atlantic Direct Case, Detailed Responses at 23.

³⁹⁶ *1997 Designation Order* at ¶ 33.

³⁹⁷ *Id.*

³⁹⁸ Bell Atlantic Direct Case, Detailed Responses at 25; Bell Atlantic Exh. 33N-1-B.

overstated by 206,391 lines -- a possible overstatement of only 1.0%.³⁹⁹ The third trend, states Bell Atlantic-South, suggests that its forecast may be understated by 125,538 lines (0.60%), while the second trend suggests that the forecast is correct.

255. The *1997 Designation Order*⁴⁰⁰ also required each price cap LEC to explain any differences between its actual per-line BFP revenue requirements and their per-line BFP revenue requirements projected in their Annual Access Tariff filing.⁴⁰¹ Bell Atlantic-North responded for these tariff periods as follows.

1992-1993

Bell Atlantic-North's 1992/1993 actual BFP revenue requirement per-line overran the forecast because the forecasted revenue requirement was below the actuals and the forecasted number of lines was above the actuals, both of which combined to have a downward effect on the per-line forecast as compared to actuals.⁴⁰²

1993-1994

Bell Atlantic-North's 1993/1994 actual BFP revenue requirement per-line overran the forecast because of downward impact of the under-forecasted revenue requirement was greater than the upward impact on the under-forecasted number of lines.⁴⁰³

1994-1995

Bell Atlantic-North's 1994/1995 actual BFP revenue requirement per-line overran the forecast because of the downward impact of the under-forecasted revenue requirement was greater than the upward impact on the under-forecasted number of lines.⁴⁰⁴

1995-1996

Bell Atlantic-North's 1995/1996 actual BFP revenue requirement per-line overran the forecast because of the downward impact of the under-forecasted revenue

³⁹⁹ Bell Atlantic Direct Case, Detailed Responses at 25; Bell Atlantic Exh. 33S-1-B.

⁴⁰⁰ *1997 Designation Order* at ¶ 34.

⁴⁰¹ *Id.*

⁴⁰² Bell Atlantic Direct Case, Detailed Responses at 28; Bell Atlantic Exh. 34N-1.

⁴⁰³ Bell Atlantic Direct Case, Detailed Responses at 28; Bell Atlantic Exh. 34N-1.

⁴⁰⁴ Bell Atlantic Direct Case, Detailed Responses at 28; Bell Atlantic Exh. 34N-1.

requirement.⁴⁰⁵ Bell Atlantic-North contends that the number of lines was within the Commission's acceptability parameters.

1996-1997

Bell Atlantic-North's 1994/1995 actual BFP revenue requirement per-line overran the forecast because of both the upward impact of the over-forecasted revenue requirement and the upward impact of the under-forecasted number of lines.⁴⁰⁶

Bell Atlantic-South responded for these tariff periods as follows.

1992/1993

Bell Atlantic-South's actual BFP revenue requirement per-line overran the forecast by 1.85% due to an overrun in BFP revenue requirement relative to the company's forecast.⁴⁰⁷

1993/1994

Bell Atlantic-South's actual BFP revenue requirement per-line underran the forecast by 1.89% due to an underrun in BFP revenue requirement.⁴⁰⁸

1994/1995

Bell Atlantic-South's actual BFP revenue requirement per-line overran the forecast by 3.25 % due to an overrun in BFP revenue requirement.⁴⁰⁹

1995/1996

Bell Atlantic-South's actual BFP revenue requirement per-line underran the forecast by 2.57% due to an underrun in BFP revenue requirement coupled with an overrun in end-user demand.⁴¹⁰

1996/1997

Bell Atlantic-South's actual BFP revenue requirement per-line underran the forecast by 1.98% due to a combination of an underrun in BFP revenue requirement and an

⁴⁰⁵ Bell Atlantic Direct Case, Detailed Responses at 28; Bell Atlantic Exh. 34N-1.

⁴⁰⁶ Bell Atlantic Direct Case, Detailed Responses at 28; Bell Atlantic Exh. 34N-1.

⁴⁰⁷ Bell Atlantic Direct Case, Detailed Responses at 28; Bell Atlantic Exh. 34S-1.

⁴⁰⁸ Bell Atlantic Direct Case, Detailed Responses at 28; Bell Atlantic Exh. 34S-1.

⁴⁰⁹ Bell Atlantic Direct Case, Detailed Responses at 28; Bell Atlantic Exh. 34S-1.

⁴¹⁰ Bell Atlantic Direct Case, Detailed Responses at 28; Bell Atlantic Exh. 34S-1.

overrun in end-user demand.⁴¹¹

d. BellSouth

256. BellSouth provides actual and projected BFP revenue requirement data for the 1991 through 1996 calendar and tariff years showing that its projections exceeded the Commission's ten percent tolerances from actual growth on three occasions. For tariff year 1991/92, BellSouth significantly underestimated its BFP revenue requirement.⁴¹² BellSouth states that this difference had three main causes: (1) its total operating expenses subject to separations exceeded its projections; (2) differences between its projected and actual separations factors caused additional costs to be allocated to the interstate jurisdiction; and (3) its federal income taxes exceeded projections.⁴¹³ BellSouth also underestimated its BFP revenue requirement for tariff year 1994/95.⁴¹⁴ BellSouth alleges that this difference resulted from its introduction in March, 1994, and March, 1995, of new basic studies of COE-transmission equipment that resulted in the allocation of significantly higher expenses to the BFP element of the common line and that were not reflected in its April 1, 1994, annual access tariff filing.⁴¹⁵

257. BellSouth's BFP revenue requirement forecast exceeded its actual BFP revenue requirement in tariff year 1996/97.⁴¹⁶ BellSouth attributes this error to lower overall expense levels associated with the continued implementation of its re-engineering and force reduction initiatives. These initiatives resulted in lower overall operating expenses for 1996/97. In addition, BellSouth states that its "Total Other Taxes BFP" was lower than forecast.⁴¹⁷

258. In developing its 1997/98 BFP revenue requirement forecast, BellSouth employed a "bottoms-up" methodology under which it projected expenses and investments by account code, adjusting each for expected growth or reductions in the future period and one-time events experienced in the past year or expected in the future.⁴¹⁸ BellSouth contends that such an approach is preferable to one based on trend analysis. BellSouth states that a trend approach is

⁴¹¹ Bell Atlantic Direct Case, Detailed Responses at 28; Bell Atlantic Exh. 34S-1.

⁴¹² BellSouth Direct Case at Appendix A, Exh. 4.

⁴¹³ BellSouth Direct Case at Appendix A, Exh. 5.

⁴¹⁴ BellSouth Direct Case at Appendix A, Exh. 4.

⁴¹⁵ BellSouth Direct Case at Appendix A, Exh. 5.

⁴¹⁶ BellSouth Direct Case at Appendix A, Exh. 4.

⁴¹⁷ BellSouth Direct Case at Appendix A, Exh. 5.

⁴¹⁸ BellSouth Direct Case at 6.

unreliable in situations where the company's operating environment or cost structure is undergoing rapid and permanent change.⁴¹⁹ BellSouth states that it expects its continuing re-engineering and reorganization efforts to continue to produce a low BFP revenue requirement growth rate in the 1997/98 tariff year and that a BFP revenue requirement projection based on the historical trend will fail to capture the effects of its efforts.⁴²⁰

259. In contrast to the low growth rate of its BFP revenue requirement, BellSouth states that its EUCL demand figures are growing rapidly.⁴²¹ BellSouth provides data showing that its EUCL demand forecasts significantly overestimated EUCL demand growth for the 1991/92 tariff year, but significantly underestimated EUCL demand growth for the 1992/93, 1994/95, and 1995/96 tariff years.⁴²² BellSouth states that, due to company restructuring, since 1992, documentation that could provide additional information on these discrepancies is not readily available, if it exists at all.⁴²³ BellSouth does provide information, however, stating that its 1996/97 EUCL demand forecasts were within the 10 percent tolerances established by the Commission.⁴²⁴ Its 1996/97 single-line business projected growth varied significantly from its forecast, however -- a result BellSouth attributes to the small number of SLB lines and low growth rates of that class of lines.⁴²⁵ BellSouth also argues that, because only the total number of billable access lines is used to determine per-line BFP revenue requirements, only the accuracy of its projections of total billable access lines is relevant, not the underlying components.⁴²⁶

260. Although BellSouth notes that its EUCL demand projection for 1997/98 is consistent with the historical trend, BellSouth states that its own forecasts are more accurate than those produced by a time-trend analysis because its EUCL demand is experiencing rapid growth

⁴¹⁹ BellSouth Direct Case at 5.

⁴²⁰ *Id.*

⁴²¹ BellSouth Direct Case at 6.

⁴²² BellSouth Direct Case at Appendix D, Exh. 2.

⁴²³ *Id.*

⁴²⁴ BellSouth Direct Case at Appendix D, Exh. 3. In preparing its direct case, BellSouth discovered certain errors in its treatment of some coin telephones. BellSouth provides both corrected and uncorrected overall EUCL demand data that satisfy the Commission's 10 percent tolerance test, even though certain components do not.

⁴²⁵ *Id.* BellSouth states that the Commission's test is inappropriate where either the base amount of the actual growth is "small." Under either of these circumstances, BellSouth argues that relatively small absolute errors fail the "percentage error" test established by the Commission. BellSouth Direct Case at 9.

⁴²⁶ BellSouth Direct Case at 8-9.

not captured by the historical pattern.⁴²⁷ BellSouth also provides several trend predictions using historical data, concluding that the results of extrapolation based on a two-year trend, in this case, are more accurate than those produced by the full four, five or six year trend.⁴²⁸

e. Frontier and Rochester Telephone

261. Frontier submits data for Frontier and Rochester Telephone separately, noting that historical revenue data for Tier 2 companies, including Rochester Telephone, are no longer available for 1991 and 1992. Therefore, Frontier is able to supply only four data points for Rochester Telephone.⁴²⁹ Frontier questions the relevance of the data requested by the Commission to the issues under investigation. In particular, Frontier questions the use of *post hoc* judgements as to the accuracy of past forecasts to gauge the accuracy of the 1997/98 BFP revenue requirement and EUCL demand forecasts.⁴³⁰

262. Frontier also questions the assertion by AT&T and MCI that it faces an incentive to understate its BFP revenue requirement because the allocation of common-line revenue between EUCL and CCL charges is a "zero-sum" game.⁴³¹ Frontier also asserts that its data shows that, had projections exactly coincided with its actual figures, the IXCs would have paid more in CCL charges than they actually did.⁴³²

263. Frontier states that, to project EUCL demand levels for Rochester Telephone, it extrapolates the growth rate experienced in the base period, compared to the previous base period, adjusted for changes to the Commission's rules. Thus, to project its tariff year 1997/98 EUCL demand, Frontier computed the growth rate from December, 1995, through December, 1996, applied this growth rate to the December, 1996, data, and adjusted for changes to the treatment of ISDN and payphone lines. Frontier states that this method, also used for tariff years 1995/96 and 1996/97, is reasonable, as evidenced by accurate results. Frontier states that its filed growth rates are within 10 percent of the growth rates generated by the natural logarithm regression analysis of lines from 1991 through 1996.⁴³³

⁴²⁷ BellSouth Direct Case at 7.

⁴²⁸ BellSouth Direct Case at 7.

⁴²⁹ Frontier Direct Case at 2-3.

⁴³⁰ Frontier Direct Case at 1-2.

⁴³¹ Frontier Direct Case at 6-7.

⁴³² *Id.* at 7.

⁴³³ Frontier Direct Case at Attachment A.

264. Frontier, however, submits data showing that it underestimated its projected BFP revenue requirements in tariff years 1993/94 and 1994/95 because it incurred larger than expected GSF expenses as the company increased its computerization.⁴³⁴ In tariff year 1995/96, Frontier states that Rochester Telephone brought these expenses under control, with the result that it overestimated its BFP revenue requirement that year.⁴³⁵ Frontier states that Rochester Telephone's actual BFP revenue requirement for tariff year 1996/97 was within 0.5 percent of its forecast.⁴³⁶

265. Frontier shows that Rochester Telephone's projected per line BFP revenue requirements ranged from -1.57 percent to +2.08 percent error for any given tariff year.⁴³⁷

266. Frontier states that the Frontier BFP revenue requirements were projected for tariff years through 1994/95 using the tariff period's forecasted budget to perform Part 36 and 69 cost studies.⁴³⁸ After that time, Frontier's BFP revenue requirements have been based on "historical trends and miscellaneous assumptions, because the budget numbers are no longer available in time for the filing."⁴³⁹ Frontier submits data showing that its projected BFP revenue requirements for all tariff years between 1991/92 and 1996/97 satisfy the ten percent test.⁴⁴⁰

267. With respect to EUCL demand, Frontier states that its growth projection for the 1991/92 tariff year exceeded actual growth because residential and single-line business lines did not grow at the historical trend. Frontier states that its 1993/94 projection underestimated EUCL demand growth because the forecast was conservative and residential line growth exceeded the historical amount. Frontier also states that its 1996/97 EUCL demand projection underestimated line growth because multi-line business lines grew at a higher rate than historical growth would indicate, partly as a result of changes in the treatment of payphones.⁴⁴¹ Frontier states that, in the other tariff years, EUCL demand projections were within the limits of the ten percent test.

268. As with Rochester Telephone, Frontier states that its per-line BFP revenue

⁴³⁴ Frontier Direct Case at Attachment A.

⁴³⁵ *Id.*

⁴³⁶ *Id.*

⁴³⁷ Frontier Direct Case at Attachment A, Exh. 18.

⁴³⁸ Frontier Direct Case at Attachment B.

⁴³⁹ *Id.*

⁴⁴⁰ Frontier Direct Case at Attachment B, Exh. 5.

⁴⁴¹ Frontier Direct Case at Attachment B and Attachment B, Exh. 9.

requirement projections were within the limits of the ten percent test for all tariff periods between 1991/92 and 1996/97.⁴⁴²

f. GTE

269. GTE contends that it has fully supported its 1997 Annual Access tariff filing, and that it has properly forecasted the interstate BFP revenue requirement within reasonable limits.⁴⁴³ For the tariff periods of 1991-92 through 1995-96, GTE states that the composite difference between the projected and the actual interstate BFP revenue requirement for GTE has been only 1.5 percent. During the period 1991 through 1996, GTE used forecasted budget data in the preparation of its projected interstate BFP revenue requirements. GTE contends that the yearly differences between its budget data and the actual interstate BFP revenue requirement occur because of the wide geographic area GTE serves and because of acts of nature and changes in economic conditions.⁴⁴⁴ While GTE concedes that its yearly errors fail the ten percent test of significant differences, GTE also states its belief that the forecasts are within reasonable limits.

270. GTE states that it calculated the exogenous impacts of the Commission rule changes identified in the *1997 Designation Order*, in accordance with Parts 36 and 69 of the Commission's rules, through the use of base and test case separation studies.⁴⁴⁵ With respect to relatively "large" year-to-year changes, GTE states that two of its calculated year-to-year changes, which were calculated using each adjusted series of actual BFP revenue requirements, appear to be outliers. GTE attributes the first of these apparent outliers, in tariff year 1991-92, to the transition to GTE systems and procedures in connection with its merger with Contel. GTE contends that the second "large" change was the result of process re-engineering activities that took place during the 1995/96 tariff year.

271. In response to the *1997 Designation Order's* request for alternative methods to forecast BFP revenue requirements, GTE favors the use of the previous year's actual interstate BFP revenue requirement rather than projecting interstate BFP revenue requirement on either a historic trend or a bottoms-up approach.⁴⁴⁶ GTE argues that it would be unreasonable to pool all of the LECs' BFP revenue requirements into a single data set. This "one-size-fits all" approach to all price cap LECs does not recognize, according to GTE, the different operating characteristics, areas served, and different technologies specific to each LEC. Further, GTE

⁴⁴² *Id.* at Attachment B, Exh. 10.

⁴⁴³ GTE Direct Case at 1.

⁴⁴⁴ GTE Direct Case at 5.

⁴⁴⁵ GTE Direct Case at 8 and Exhibits A-1 and A-2.

⁴⁴⁶ GTE Direct Case at 9.

states that they should not be required to apply the effect of rule changes on a retroactive basis.

272. GTE states that its 1997/98 projection is not consistent with the historical trend for two primary reasons. First, GTE recognized a decrease in actual BFP revenue requirement in 1996 as compared with 1995, creating a lower projection for the 1997/98 tariff period as compared to the 1996/97 tariff period.⁴⁴⁷ Secondly, GTE states that it changed its projection methodology for interstate BFP revenue requirement for the 1997/98 tariff period.

273. Regarding end user demand, while there were some significant variations among individual categories, GTE contends that its projections of total billable access lines, multi-line business lines, and residential and single-line business lines, was well within acceptable industry parameters, and the forecast error fell within a range of 0.06 percent to 3.06 percent for tariff years 1991 through 1996. GTE contends that it has neither under nor over predicted the values filed, and that there is no consistent pattern in the errors.⁴⁴⁸

g. SBC: Southwestern Bell, Pacific Bell, and Nevada Bell

274. After summarizing the required BFP revenue requirement data for calendar- and tariff-years since 1991, SBC states that the differences between Southwestern Bell's actual and forecast BFP revenue requirements ranged from -3 percent to -10 percent.⁴⁴⁹ SBC cites several business decisions that caused these differences: (1) actual expenses were incurred or realized that were not reflected in the budget data used for SWBT's BFP forecast; and (2) SWBT's BFP forecast did not reflect separations study changes that were implemented subsequent to the preparation of SWBT's forecast.⁴⁵⁰

275. SBC also explains that Southwestern Bell experienced several fluctuations in its tariff period forecasts, as set forth below:

1991-1992: The forecast was \$23 million or 3.3 percent less than actual, attributable primarily to an underestimate of BFP net revenue. The increase in net investment was attributable to larger than projected investments associated with facility upgrades.

1992-1993: The forecast was \$76 million or 10.3 percent less than actual due to three business reasons and a natural disaster: (1) Cable and Wire and Circuit Equipment Studies introduced in 1992 and 1993 were not reflected in the forecast (accounting for

⁴⁴⁷ GTE Direct Case at 12.

⁴⁴⁸ GTE Direct Case at 16.

⁴⁴⁹ SBC Direct Case at Worksheets 1-3.

⁴⁵⁰ SBC Direct Case at 4.

\$40 million of the difference); and (2) actual costs included expenses for: (a) right to use fees associated with the advancement of network interconnection requirements; (b) corporate relocation costs; (c) management incentive payments; and (d) additional costs related to a flood in the Midwest.

1993-1994

The forecast was \$22 million or 2.5 percent less than actual due primarily to Cable and Wire and Circuit Equipment Studies introduced in 1993 and 1994 that were not reflected in the forecast.

1994-1995

The forecast was \$32 million or 3.4 percent less than actual due primarily to Cable and Wire and Circuit Equipment Studies introduced in 1994 and 1995 that were not reflected in the forecast.

1995-1996

The forecast was \$83 million or 8.1 percent less than actual due primarily to: (1) Cable and Wire and Circuit Equipment Studies introduced in 1995 and 1996 that were not reflected in the forecast (accounting for \$36 million of the difference); and (2) actual expenses reflected an accumulation of items that resulted in operating expenses higher than amounts reflected in the forecast.

1996-1997

The forecast was \$111 million or 9.8 percent less than actual due primarily to: (1) Cable and Wire and Circuit Equipment Studies introduced in 1996 and 1997 that were not reflected in the forecast (accounting for \$35 million of the difference); (2) depreciation expenses not reflected in the forecast; and (3) actual restructuring expenses associated with the Pacific Telesis/CBS merger.⁴⁵¹

276. In explaining patterns of over- or under-estimations, SBC states that it underestimated SWBT's actual BFP expense for all tariff periods, primarily because it did not incorporate SWBT's forecasts of separations study impacts for Cable and Wire and Circuit Equipment and, in addition, used budget data that reflected a conservative estimation of expenses.

277. SBC states that Pacific Bell's BFP revenue requirement forecasts generally underestimated the achieved growth rate. SBC attributes these errors to two primary causes: (1) Pacific Bell reduced its forecasted revenue requirement by \$19.87 million in anticipation of RAO 20 reinstatement, but the Commission did not adopt the new rules for Account 4310 until the end of the tariff period; and (2) \$109 million of expense was booked as a result of the merger

⁴⁵¹ SBC Direct Case at 7-8.

with SBC Communications in 1997. SBC states that these two issues account for approximately \$31 million of Pacific Bell's underestimated BFP revenue requirement.⁴⁵² SBC also identifies several one-time or unusual expense bookings for Pacific Bell, including expenses for early retirement offers, for the recent merger between Pacific Telesis and SBC, and for a "restructure reserve," and the impact of those issues on the actual BFP revenue requirement.⁴⁵³

278. SBC also states that Nevada Bell did not meet the Commission's "ten percent" test for any of the tariff years since 1991.⁴⁵⁴ SBC states that, in general, the difference between projected and actual tariff year BFP revenue requirements was due to unexpected expense overruns and the introduction of final separation studies. Additionally, in 1993 Nevada Bell had what it contends was an unanticipated, unbudgeted "Early Retirement Offering" that resulted in approximately \$681,000 additional BFP revenue requirement. In 1996, Nevada Bell contends that it had unbudgeted expenses for asbestos removal, a state rate case, and local competition resulting in approximately \$475,000 additional BFP requirement. In 1997, Nevada Bell experienced a flood that it contends added approximately \$52,000 to the BFP revenue requirement.

279. SBC contends that it used several assumptions and methodologies to compute adjustments to SWBT's BFP revenue requirements. To do so, SBC states that it used the exogenous cost change in its 1992 filing as a base to calculate the impacts on 1991 and 1992. The exogenous cost change calculated the difference between the 1991-92 and 1992-93 tariff year subscriber plant factor (SPF) values and dial equipment minute (DEM) transition values. SBC assumed that the cost change in the 1993 tariff filing was comparable to that experienced in 1991 and 1992. The 1992 revenue requirement was adjusted by an amount equal to the exogenous cost change in the 1993 filing. SBC adjusted the 1991 revenue requirement by an amount two times the exogenous cost change in the 1993 filing, because 1991 was two transition years away from the end of the 1993 transition.⁴⁵⁵ SBC contends that the exogenous cost change for GSF was calculated in accordance with Appendix B of the *1997 Designation Order*. The other postemployment benefit (OPEB) impacts were also developed by SBC.⁴⁵⁶

280. In explaining any large year-to-year changes that emerge in each adjusted series of actual BFP revenue requirements, the percentage changes in SWBT's adjusted BFP revenue

⁴⁵² SBC Direct Case at 9.

⁴⁵³ SBC Direct Case at Attachment PTCA-BFP-10A.

⁴⁵⁴ SBC Direct Case at 9.

⁴⁵⁵ SBC Direct case at 15; SWBT Worksheet 5; Pacific Bell Attachments BFP-4 and BFP-5; Nevada Bell Exhibits NV-BFP-6 and NV-BFP-7.

⁴⁵⁶ See SWBT Worksheet 6; Pacific Bell Attachment BFP-9; Nevada Bell Exhibit NV-BFP-8.

requirement year-to-year show percentage growth values ranging from 3.45 to 9.56 percent.⁴⁵⁷ SWBT identifies its 1994 and 1995 percentage changes of 3.45 percent and 9.56 percent, respectively, as outliers. The percentage growths for the other three years range from 5.37 percent to 6.9 percent. The major reason for the fluctuations are as follows:

1992 versus 1991

After adjustments, the 1992 growth over 1991 was 5.4 percent (approximately \$41 million), due to the introduction of new studies for Cable and Wire and Circuit Equipment in 1992 (which accounted for approximately \$30 million), and costs associated with additional loop-related facilities placed in service.

1993 versus 1992

After adjustments, the 1993 growth over 1992 was 6.9 percent (approximately \$56 million), due to the introduction of new studies for Cable and Wire and Circuit Equipment in 1993 (which accounted for approximately \$22 million), and expenses associated with flooding and restructuring.

1994 versus 1993

After adjustments, the 1994 growth over 1993 was 3.4 percent (approximately \$31 million), due to the introduction of new studies for Cable and Wire and Circuit Equipment in 1994 (which accounted for approximately \$25 million), and costs associated with additional loop-related facilities placed in service.

1995 versus 1994

After adjustments, the 1995 growth over 1994 was 9.56 percent (approximately \$89 million), due to the introduction of new studies for Cable and Wire and Circuit Equipment in 1995 (which accounted for approximately \$21 million), costs associated with additional loop-related facilities placed in service, and the fact that SWBT used higher rates of depreciation in 1995 than those used in 1994. SWBT also alleges that it realized additional expenses in 1995 due to accelerated infrastructure enhancements.

1996 versus 1995

After adjustments, the 1996 growth over 1995 was 5.73 percent (approximately \$58 million), due to the introduction of new studies for Cable and Wire and Circuit Equipment in 1996 (which accounted for approximately \$30 million), costs associated with additional loop-related facilities placed in service, and the fact that SWBT used higher rates of depreciation in 1996 than those used in 1995.

281. For Pacific Bell, SBC states that large changes are attributable to several one-time

⁴⁵⁷ SBC Direct Case at 17.

or unusual bookings made over the past six plus years. These issues include SFAS 88, SFAS 112, restructure reverse bookings and their associated SFAS curtailment loss, an early retirement offer, and merger related bookings.⁴⁵⁸ SBC states that Nevada Bell adjusted its actual 1993 revenue requirement to remove a one-time expense associated with an early retirement offering.⁴⁵⁹

282. SBC supports the use of individual LEC data for setting percentages to apply for BFP forecasts as opposed to a pooling scheme.⁴⁶⁰ SBC states that individual data would more closely reflect a LEC's actual costs, instead of average LEC costs, stating that a LEC may not want to reflect average industry growth, particularly if it worked to lower its costs by amounts greater than the industry averages. SBC also contends that historical trending is a reasonable approach, and would simplify SBC's forecasting process.

283. In its direct case, SBC indicates that all three companies -- SWBT, Pacific Bell, and Nevada Bell -- use some form of "bottoms-up" forecasting methodology to prepare their BFP revenue requirement forecasts.⁴⁶¹ To develop its tariff year 1997/98 BFP revenue requirement, SWBT obtained tariff period budget data for regulated operations and processed it through its Part 36 and 69 cost allocation process. SBC concedes that its resulting forecast is not consistent with the historical trend, and states that "the inconsistency is very likely due to the same reasons as those related to the historical data. Mainly, SWBT will introduce new separations studies that will shift costs to the loop category Additionally, SWBT continues to be conservative in its estimates of costs for budgets."⁴⁶²

284. SBC states that it also developed Pacific Bell's BFP revenue requirement forecast using budget projections based on 1996 subject-to-separations data, adjusted for rule changes (*e.g.*, changes to the treatment of payphone line costs and to the allocation of OB&C expenses), corporate-imposed constraints, planning from business units, and anticipating extraordinary issues.⁴⁶³ Similarly, SBC states that Nevada Bell's projections are based on total company budget data. Because the tariff-year BFP revenue requirement is a split-year figure, Nevada Bell averages the budget data from the two calendar years the tariff year covers, and adjusts for

⁴⁵⁸ SBC Direct Case at 20.

⁴⁵⁹ SBC Direct Case at Exhibit NV-BFP-4 (line 10).

⁴⁶⁰ SBC Direct Case at 21.

⁴⁶¹ SBC Direct Case at 22-27.

⁴⁶² SBC Direct Case at 24.

⁴⁶³ SBC Direct Case at 25-26.

reserve balances held at the end of the first year (the midpoint).⁴⁶⁴ While SBC concedes that Nevada Bell's forecasts have historically been low, it asserts that the tariff year 1997/98 forecast is consistent with its historical growth.⁴⁶⁵

285. With respect to line growth, SBC states that in nearly every instance the ARMIS data show that SWBT's projected line growth deviated significantly from the actual average line growth, the forecasts being nearly always too low. The forecasts, according to SWBT, were developed using field information. The information from the field was then modified based upon observed trends in historical data.⁴⁶⁶ SWBT states that its consistent underestimating is "indicative of a period of accelerating trends, when historical data have yet to evidence the full measure of the acceleration."⁴⁶⁷ Pacific Bell also showed significant deviations, and contends that these are primarily because of the "uncertainty surrounding the convergence in the past several years of market changes that are both secular and cyclical in nature."⁴⁶⁸ Nevada Bell does not explain any deviation, but simply states that Exhibit NV-BFP-11 demonstrates the calculation of the percentage change from actual.

286. For Southwestern Bell, SBC filed a comparison of the linear and log linear projections to its forecasts,⁴⁶⁹ but contends that the forecasts call for more "robust" growth than the trend models due to the accelerating growth profile evidenced in the actual growth rates presented in Exhibit 1SW.⁴⁷⁰ SBC states that closer examination of Southwestern Bell's historical data does not allow it to find justification for judgmental forecasts. For example, SBC states that the growth in Southwestern Bell's total billable lines was 5.47 percent from the third quarter of 1995 to the third quarter of 1996, which indicates not only that the forecasted growth is within the 10 percent range, but also provides part of the basis for judging that total billable line growth will accelerate in the near term. SWBT's 1997/98 forecasts, contained in its tariff filing, also call for greater growth, again due to the accelerating growth profile.⁴⁷¹

⁴⁶⁴ SBC Direct Case at 27.

⁴⁶⁵ SBC Direct Case at 27.

⁴⁶⁶ SBC Direct Case at 31.

⁴⁶⁷ SBC Direct Case at 31.

⁴⁶⁸ SBC Direct Case at 32. Variations in demand over time that are the result of a long-term core trend are termed "secular." In contrast, "cyclical" variations occur as demand fluctuates with the business cycle or other general economic conditions.

⁴⁶⁹ See Exh. 2SW.

⁴⁷⁰ SBC Direct Case at 36.

⁴⁷¹ See SBC Direct Case at Exhibit 1SW.

287. While SBC states that Pacific Bell's 1997/98 tariff year forecast overstates demand when using a six-year historical trend line as a basis for projection, it contends that the forecast is consistent with historical demand trended over four to five years.⁴⁷² According to SBC, discrepancies with the six-year trend line are caused by the inclusion of historical data that it believes is less relevant to, and less predictive of, current market and competitive conditions facing Pacific Bell than are more recent data.

288. SBC states that Nevada Bell's projections for tariff year 1997/98 vary from the Commission's required trend analysis, and that the trend analysis produces a growth rate that is too low.⁴⁷³ SBC explains that Nevada Bell's estimates are based upon annual growth rates of 5.71% and 4.62% for 1997 and 1998, respectively, and that these estimates are based upon input from engineering, sales and field personnel, tempered with the results of the trend analysis. Accordingly, SBC contends that Nevada Bell's end-user demand forecast for tariff year 1997/98 for Total Billable Access Lines is more accurate than the trend analysis, because current growth in the area is included in the former.

289. SBC states that the difference between SWBT's forecasted and actual per-line BFP revenue requirement did not result in a proportional undervaluation of the EUCL rates because, in the past, the actual per-line BFP revenue requirement always exceeded the \$3.50 single-line cap, and sometimes exceeded the \$6.00 multi-line cap.⁴⁷⁴ SBC also argues that the differences in Pacific Bell's forecast versus actual per-line BFP revenue requirements closely parallel the differences noted in the discussion of its forecast versus actual BFP revenue requirements. SBC states that the difference in Pacific Bell's forecasted and actual per line BFP revenue requirement each year is less than ten percent. In contrast, SBC states that Nevada Bell's estimates were consistently below its actual per-line BFP revenue requirement, primarily because actual costs were consistently higher than budget.⁴⁷⁵

h. Southern New England Telephone

290. SNET contends that its projected BFP revenue requirements used in its 1997 Annual Access tariff filing is "fully consistent with the trend of SNET's actual BFP revenue requirements."⁴⁷⁶ According to SNET, its direct case provides: (1) SNET's actual BFP revenue requirements for each calendar and tariff year between the 1991-1992 tariff and calendar years

⁴⁷² SBC Direct Case at 37.

⁴⁷³ SBC Direct Case at 38.

⁴⁷⁴ SBC Direct Case at 39.

⁴⁷⁵ SBC Direct Case at 40.

⁴⁷⁶ SNET Direct Case at 2.

and the 1996-1997 tariff and calendar years;⁴⁷⁷ (2) projected BFP revenue requirements filed in each year's TRP for the same period;⁴⁷⁸ (3) a BFP revenue requirement comparison by tariff year;⁴⁷⁹ (4) a summary of actual calendar year BFP adjusted for FCC rule changes;⁴⁸⁰ and (5) documentation explaining the methodology that SNET used to compute its BFP revenue requirement projection for tariff year 1997-1998.⁴⁸¹

291. SNET maintains that its forecast deviations between each annual BFP revenue requirement projection and SNET's actual annual BFP revenue requirement are not statistically significant.⁴⁸² SNET states that any deviations from actual levels are either insignificant, or are the result of: (1) specific year-by-year factors (such as marketing campaigns); or (2) the introduction of new end-user services, which has increased second lines.⁴⁸³

i. Sprint

292. In its Direct Case, Sprint contends that its 1997 annual access tariff filing forecasts differed from the adjusted BFP and EUCL revenue requirement data by less than one-half of one percent. Sprint contends that this evidences both the accuracy of Sprint's straight-line trending methodology, and supports Sprint's assertion that the forecasts submitted in its 1997 annual access tariff filing are just and reasonable.⁴⁸⁴ Further, according to Sprint, the data submitted in its annual access filings prior to 1997, and recalculated in accordance with the *1997 Designation Order*, reveal minor differences between the BFP and EUCL forecasts filed prior to 1997 and the recalculated forecasts. Sprint contends that any forecasting variances are inconsequential, because the data demonstrate that most years' costs exceeded the \$6.00 cap.⁴⁸⁵ While Sprint agrees that, generally, BFP revenue requirements and EUCL demand forecasts are likely to be

⁴⁷⁷ See SNET Workpapers BFP-1 and BFP-2.

⁴⁷⁸ See SNET Workpaper BFP-3.

⁴⁷⁹ See SNET Workpaper BFP-3.

⁴⁸⁰ See SNET Workpapers BFP-4 and BFP-6.

⁴⁸¹ See SNET Workpaper BFP-7.

⁴⁸² SNET challenges the definition of "significant" contained in the *1997 Designation Order*, stating that the ten percent threshold is inappropriate when applied to small and medium sized price cap LECs, whose base is much smaller than those of the BOCs.

⁴⁸³ SNET Direct Case at 3.

⁴⁸⁴ Sprint Direct Case at 1.

⁴⁸⁵ Sprint Direct Case at 2.

inconsistent with actual data, Sprint maintains that the BFP revenue requirement data in its 1997 annual access filing were accurate, and differed only minimally from the adjusted BFP revenue requirement data that Sprint calculated as ordered pursuant to the *1997 Designation Order*. Sprint suggests that the Commission consider using historical data for future annual access tariff filings.⁴⁸⁶

293. Sprint calculated its actual BFP revenue requirements using, where available, ARMIS data 43-01 for each calendar and tariff year (1991-1996), and projected BFP revenue requirements filed in its 1997 annual filing. It collected non-ARMIS companies' data in an ARMIS-like format.⁴⁸⁷ In developing Sprint's calendar and test year BFP revenue requirements, it adjusted for the effects that changes in Commission rules had on actual BFP revenue requirements. Sprint contends that, based upon the general accuracy of its forecasting methodology, its methodology and results should be accepted, and it should not be required to provide detailed explanations of differences in its projected and actual revenue requirements.⁴⁸⁸

294. In the *1997 Designation Order*, according to Sprint, all price cap LECs were asked to justify inclusion of the highest and lowest percentage changes in BFP revenue requirements. In general, Sprint does not consider the differences in percentage changes shown in its Exhibit 1 to be "particularly large or outside of a consistent trend so as to be characterized as 'outliers' or otherwise unacceptable for trending purposes."⁴⁸⁹ The Sprint operating companies used a straight-line trending methodology based on historical data which, according to Sprint, resulted in a deviation of only 0.4 percent between the recalculated forecast and the forecast included in the 1997 filing.

295. Sprint used the same methodology for calculating its revenue requirements during the 1991-1995 period as that used prior to Sprint's election of price cap regulation.⁴⁹⁰ For its last two tariff filings, Sprint based the BFP revenue requirement on a historical trend of the previous years' data. According to Sprint, at an aggregate level, the 1997 tariff filing forecast is within one-half of one percent of both the straight-line forecast of historical calendar year actuals (-0.46

⁴⁸⁶ Sprint Direct Case at 2.

⁴⁸⁷ Sprint Direct Case at 3.

⁴⁸⁸ Sprint Direct Case at 3.

⁴⁸⁹ Sprint Direct Case at 4. Sprint Exhibits 1 and 2 document the data, assumptions, and methodology used to derive BFP revenue requirement projections contained in its access tariff revisions that became effective July 1, 1997.

⁴⁹⁰ See Sprint Exhibit 7.

percent) and tariff year to tariff year straight-line forecast of 0.40 percent.⁴⁹¹ For tariff year 1997/98, Sprint adjusted its calculations to reflect the recent changes to the allocation of OB&C expenses,⁴⁹² but Sprint contends that no adjustment to its treatment of pay telephones was required because the line costs associated with pay telephones have "historically been included in Sprint's BFP revenue requirement."⁴⁹³

j. U S WEST

296. According to U S WEST, price cap LECs have nothing to gain from over- or under-estimating BFP forecasts. U S WEST argues that, on the contrary, it has a interest in ensuring that its BFP forecasts are as accurate as possible, because the forecasts affect some customers differently from others.⁴⁹⁴ U S WEST warns, however, that "it is impossible to evaluate the accuracy of any given BFP forecast until after the end of the tariff year."⁴⁹⁵ U S WEST contends that the Commission, which had not yet prescribed a methodology for forecasting BFP and access lines, should not do so at this time. U S WEST alleges that, contrary to the *1997 Designation Order*, the BFP revenue requirement and end-user demand are not variables that can be accurately forecast once historical data have been factored in to remove the impacts of past rule changes and changes to other variables which affect the BFP. U S WEST contends that BFP, as a revenue requirement, is closely intertwined with its budgets and future rule changes. It does not use a historical time series to forecast the BFP, nor does U S WEST believe that it is appropriate to do so.⁴⁹⁶

2. Oppositions

a. AT&T

297. AT&T argues that, in performing its own year-over-year trend analysis of BFP revenue requirements using actual BFP revenue requirements as provided by the price cap LECs' ARMIS 43-01 reports for the 1991-96 calendar years, most price cap LECs significantly understated the BFP revenue requirements for tariff year 1997/98, and thus underestimated their

⁴⁹¹ Sprint Direct Case at 5.

⁴⁹² Southwestern Bell Telephone Company Application for Review of Memorandum Opinion and Order Concerning the Proper Treatment of Affiliate Transactions, Order on Review, 12 FCC Rcd 2697 (*OB&C Order*).

⁴⁹³ Sprint Direct Case at 5.

⁴⁹⁴ U S WEST Direct Case at 3.

⁴⁹⁵ U S WEST Direct Case at 3.

⁴⁹⁶ U S WEST Direct Case at 4.

EUCL rates.⁴⁹⁷ If anything, contends AT&T, the LECs' direct cases validates AT&T's analysis and confirms that, as a group, the price cap LECs have improperly inflated their CCL charges to IXCs, by improperly understating their BFP revenue requirement forecasts. Furthermore, no matter which approach a LEC used, AT&T claims that the projections techniques were so deficient that none of the LECs was able to produce relatively accurate results.

298. AT&T advocates, instead, a forecasting technique that would require each LEC to develop forecasts based on using a trend line constructed using its actual, adjusted historical calendar year BFP revenue requirement. This forecast, each year, would be adjusted to account for the difference between the actual and projected BFP revenue requirement and end-user demand from the previous period.⁴⁹⁸ AT&T states that this technique would automatically correct for forecasting inaccuracies in a "simple, straightforward, and verifiable" manner,⁴⁹⁹ ensuring that forecasting errors will no longer become permanently embedded in common-line rates and will instead be removed as soon as possible.⁵⁰⁰

299. AT&T, therefore, requests that the Commission require the LECs, in calculating their tariff year 1997/98 EUCL and CCL rates, to remove the impact of their past forecasting errors. Noting that the LECs, in their direct cases, have already calculated the difference between actual and projected per-line EUCL rates, AT&T requests that they remove the impact on current rates of their past over- or under-forecasting. AT&T explains that, "because CCL rates are not based on the prior period CCL rates, and are not recalculated each year as are EUCL rates, any LEC overstatement of CCL rates [is] carried forward to each successive tariff period, regardless of whether normal price cap changes are made."⁵⁰¹ AT&T has calculated this impact at \$271 million.⁵⁰²

b. MCI

300. MCI contends that, with few exceptions, the price cap LECs' 1997-98 forecasts are inconsistent with historical trends. According to MCI, the aggregate BFP forecast by the price cap LECs is approximately \$487 million less than a BFP forecast computed using the average growth rate for the six years of price cap regulation; \$457 million less than a BFP forecast

⁴⁹⁷ AT&T Opposition at 9-10.

⁴⁹⁸ AT&T Opposition at 13-14.

⁴⁹⁹ AT&T Opposition at 13.

⁵⁰⁰ AT&T Opposition at 14-15.

⁵⁰¹ AT&T Opposition at 15-16 n.24.

⁵⁰² AT&T Opposition at 15.

computed using the average growth rate for the most recent three years; and \$632 million less than a BFP forecast developed from a regression analysis.⁵⁰³

301. MCI analyzes the BOCs' BFP revenue requirement and line count forecasts by computing a weighted average of each BOC's error for the past three years, adapting an analytical technique used by the Common Carrier Bureau in the *1990 Annual Access Order*.⁵⁰⁴ Using this analysis, MCI contends that the weighted average error for the past three years exceeds 1.5 percent for every BOC. In addition, MCI concludes that several of the BOCs, including Ameritech, NYNEX, Nevada Bell, Southwestern Bell, and U S WEST have three-year weighted average forecasting errors exceeding 5 percent.⁵⁰⁵ Given these errors, MCI argues that the Commission should require the revision of any price cap LEC BFP estimates that depart from the historical trend. According to MCI, none of the price cap LECs that forecasted a below trend 1997/98 BFP revenue requirement has presented an explanation sufficient to overcome a presumption that its below-trend forecast is inaccurate.

302. MCI also argues that GTE's forecast is approximately \$120 million below trend because it assumes an unprecedented 5.3 percent decline in its BFP revenue requirement recorded in 1996 will be repeated.⁵⁰⁶ According to MCI, GTE's forecast is unreasonable, because no such LEC ever recorded such a decline for two consecutive years. Moreover, MCI argues that, on an individual study area basis, GTE's methodology leads to BFP revenue requirement forecasts that MCI considers even more implausible, including a decrease of approximately ten percent in California.

3. Rebuttals

303. Ameritech states in its rebuttal that neither AT&T nor MCI provides sufficiently detailed information regarding the development of their proposed methodologies. Because forecasts are mere estimates of future results, Ameritech concludes that there is no reason to believe that either MCI's or AT&T's method would be more accurate than the methods employed by the various LECs. Adapting the "ten percent" threshold described in the *1997 Designation Order*, Ameritech states that, for every BOC, MCI's tariff year 1997/98 forecast differs from AT&T's by more than ten percent of AT&T's forecasted growth.⁵⁰⁷ This fact, Ameritech argues,

⁵⁰³ MCI Opposition at 2-3.

⁵⁰⁴ MCI Opposition at 4 (*citing* Annual 1990 Access Tariff Filings, Memorandum Opinion and Order, 5 FCC Rcd 4177, 4199-4200 (Com. Car. Bur. 1990)).

⁵⁰⁵ MCI Opposition at 4 and Attachment B.

⁵⁰⁶ MCI Opposition at 6.

⁵⁰⁷ Ameritech Rebuttal at 1-2.

highlights the unreliable nature of historical trend analysis. Ameritech also challenges AT&T's allegation that all forecasts prior to the current 1997-98 forecast have been inaccurate, and therefore the LECs should adjust their current CCL and EUCL rates to remove the impact of past forecasting inaccuracies on a going-forward basis. Ameritech argues that: (1) AT&T is incorrect that past forecasting deviations are embedded in current rates; (2) such an adjustment is not contemplated by the Commission's rules; (3) any attempt to obtain adjustments for any alleged past forecast discrepancy is untimely; (4) Ameritech's forecasts show no pattern of consistent underestimating of per-line BFP revenue requirement; and (5) AT&T's proposed adjustment could cause disruption for the LEC's end user customers by raising EUCL charges.⁵⁰⁸ Ameritech also contends that many of these issues could be avoided if forecasting were eliminated altogether in the calculation of the BFP revenue requirement.

304. In its rebuttal, Bell Atlantic contends that its EUCL charges for tariff year 1997/98, which were based upon forecasts of line growth demand during the course of the year and on forecasts of the level of BFP costs, are reasonable. AT&T's proposed multi-year average of historical costs, according to Bell Atlantic, puts too much weight on earlier years and fails to capture the recent reductions in the growth of BFP costs. Bell Atlantic argues that when AT&T's analysis is used to predict the BFP costs for the most recently completed tariff year, the variance from actual costs is almost five times the size of the variance resulting from Bell Atlantic's methodology. Bell Atlantic also states that MCI's three different proposed historical trend methodologies are also less accurate. According to Bell Atlantic, two of MCI's methodologies suffer from the same flaw as AT&T's, while the third overstates recent costs.⁵⁰⁹

305. Bell Atlantic also contends that it should not be required to make a current tariff adjustment to correct any past forecasting errors as proposed by AT&T. First, argues Bell Atlantic, contrary to AT&T's claim, past forecasts have had no impact on current rates. BFP is at issue in this proceeding, states Bell Atlantic, to divide the costs to be recovered in a given year between carrier and end-user charges. In contrast, the total amount of cost that can be recovered through rates in that year is determined by the price cap index for the common line basket. However, once a new tariff year begins, states Bell Atlantic, the common line basket price index is adjusted by the price cap formula -- an adjustment that is not dependent upon BFP calculations. Thus, argues Bell Atlantic, even if there were errors in prior years they would not have any impact on current rates.⁵¹⁰

306. BellSouth contends in its Rebuttal that neither AT&T nor MCI challenged BellSouth's line demand quantities, and thus there is no basis to require BellSouth to make any

⁵⁰⁸ Ameritech Rebuttal at 3-4.

⁵⁰⁹ Bell Atlantic Rebuttal at 3.

⁵¹⁰ Bell Atlantic Rebuttal at 4.

revisions to its 1997-98 line demand forecast. AT&T and MCI both challenge BellSouth's BFP revenue requirement projection, on the basis that the projection is inconsistent with a historical trend analysis.⁵¹¹ BellSouth contends that neither party attempts to refute BellSouth's explanation for its 1997-98 BFP projection, and in fact AT&T wholly ignores BellSouth's discussion of the process it used to develop the projection. Regarding AT&T's proposal for the use of an error correction true-up methodology, BellSouth contends that a change to such a methodology could only be implemented by the Commission through a rulemaking proceeding, and that the Commission should defer consideration of same until that time.⁵¹²

307. In rebuttal, Frontier contends that AT&T's and MCI's primary concern in their oppositions, specifically that certain price cap exchange carriers underestimate their BFP revenue requirements, thereby overstating CCL charges, is not applicable to Frontier. Neither party challenged the validity of Frontier's forecasts, and as such, Frontier contends that there is no basis to require it to recalculate its CCL charges on the basis of forecasting errors.⁵¹³

308. In its rebuttal filing, Sprint reiterates that its 1997 annual access tariff filing forecasts differed from the adjusted BFP and EUCL revenue requirement data, which it contends were calculated in compliance with the *Designation Order*, by less than one-half of one percent.⁵¹⁴ Sprint contends that neither AT&T nor MCI challenged Sprint's calculations. Instead, contends Sprint, the oppositions by AT&T and MCI urge the Commission to require the LECs to adjust their current rate levels and make refunds for the period covered by the investigation.⁵¹⁵

309. Although not directly challenged by AT&T, Sprint argues that there are two significant flaws in the forecasting methodology AT&T uses to contest the BFP requirement forecasts of LECs generally. First, Sprint contends that AT&T's calculations of revenue requirement growth percentages between the tariff filing years fail to adjust for Commission rule changes. Although AT&T's methodology, if applied to Sprint, produces a tariff year 1997/98 BFP revenue requirement forecast that is nearly \$12 million higher than Sprint's filed BFP revenue requirement forecast, Sprint argues that AT&T's methodology is flawed because it fails to account for the revenue impacts of rule changes.⁵¹⁶

⁵¹¹ BellSouth Rebuttal at 2.

⁵¹² BellSouth Rebuttal at 5.

⁵¹³ Frontier Rebuttal at 1.

⁵¹⁴ Sprint Rebuttal at 1.

⁵¹⁵ Sprint Rebuttal at 1-2.

⁵¹⁶ Sprint Rebuttal at 2.

310. Second, according to Sprint, AT&T's methodology for calculating the cumulative impact of CCL under- and over-charges appears to compound tariff year effects throughout a six-year period incorrectly. Sprint argues that the compounding effect should cease once the multi-line business rate equals the price cap of \$6.00.⁵¹⁷ Sprint contends that AT&T incorrectly compounds the effects of the first two tariff years over the entire six-year period.⁵¹⁸ Once the multi-line business rate charge equals the cap, any further increase in the EUCL revenue requirement must be recovered through the CCL charge.

311. SNET states in its rebuttal that neither AT&T nor MCI enumerates any failings by SNET, nor takes issue with the accuracy or reasonableness of its BFP projections.⁵¹⁹ SNET contends that its projected BFP revenue requirements used in its 1997 Annual Access tariff filing is consistent with the trend of SNET's actual BFP revenue requirements. According to SNET, it has fully explained any significant difference between each annual BFP revenue requirement projection and SNET's actual annual BFP revenue requirement. SNET argues that AT&T's statement that the price cap LECs, as a group, have consistently underestimated their BFP is a over-generalization and ignores the facts.⁵²⁰

312. SBC argues that AT&T's purported use of a trend analysis using ARMIS 43-01 data to determine actual tariff period BFP revenue requirements, and then calculating year over year changes to generate a multi-year forecast of BFP requirements, is inaccurate and overstates the BFP requirement.⁵²¹ SBC also argues that MCI's three iterations of a BFP forecast results in a similar overstatement. Further, both AT&T and MCI, according to SBC, have omitted key adjustments for OB&C and Account 4310 rule changes.

313. SBC argues, on behalf of SWBT, that the growth rates used by AT&T and MCI do not reflect the normalized growth rate submitted for SWBT in its direct case because they do not account for the impact of OPEB accounting implementation on expense growth.⁵²² This failure to account for these rule changes, according to SBC, results in improper apparent annual growth rates for SWBT of approximately 6.96 percent (or 10 percent restated on an eighteen-month basis), rather than 6 percent (or 9 percent, similarly restated), filed for SWBT in its direct

⁵¹⁷ Sprint Rebuttal at 2.

⁵¹⁸ Sprint Rebuttal at 3.

⁵¹⁹ SNET Rebuttal at 1-2.

⁵²⁰ SNET Rebuttal at 4.

⁵²¹ SBC Rebuttal at 1-2.

⁵²² SBC Rebuttal at 4.

case.⁵²³

314. SBC also contends that AT&T is incorrect in suggesting that EUCL demand projections should be based on a trend analysis. SBC argues that AT&T provides no reason for replacing the current EUCL demand forecasting methodology, and that line forecasting is particularly ill-suited to estimation by historical trending.⁵²⁴

315. SBC argues that AT&T erroneously claims that an adjustment to current EUCL and CCL rates to remove the impact of past forecasting deviations on a going-forward basis is required to ensure that the CCL rate effect of past forecasting deviations from actual amounts are removed from current rates. The fact that BFP revenue forecasts were not 100 percent accurate in the past should not result, argues SBC, in any required adjustment to current rates. SBC contends that the EUCL and CCL rates that have been in effect for prior years have been deemed reasonable and are not under either an accounting order or rate investigation.⁵²⁵

316. U S WEST contends that the forecasting methodology AT&T advocates is not consistent with the Commission's rules. According to U S WEST, the "error-correction" mechanism AT&T advocates, which would require the LECs to adjust their forecasts each year to account for the revenue difference between the prior year's projected and actual BFP revenue requirement, is not a "forecasting" methodology because it would remove all of the uncertainty inherent in a forecast.⁵²⁶ U S WEST argues that, to adopt AT&T's methodology or any other change to the rules governing BFP revenue requirement forecasting, the Commission would need to conduct a rulemaking proceeding.⁵²⁷ Without the error-correction mechanism, AT&T's proposal becomes a request that the Commission require the LECs to project their BFP revenue requirements using the average BFP growth rate for some number of prior calendar years. U S WEST argues that AT&T has offered no proof that this methodology would necessarily produce a more accurate projection for any particular tariff year than does the LECs' current methodologies. To the contrary, U S WEST calculated the average growth rate for each of the eight BOCs over the past five years, and used this growth rate to forecast the BFP revenue requirement for each tariff year 1992/93 through 1996/97. According to U S WEST, AT&T's method produced a more accurate forecast than that submitted by the BOCs in exactly twenty

⁵²³ *Id.*

⁵²⁴ SBC Rebuttal at 5.

⁵²⁵ SBC Rebuttal at 6.

⁵²⁶ U S WEST Rebuttal at 7.

⁵²⁷ U S WEST Rebuttal at 8.

out of forty cases.⁵²⁸

317. U S WEST contends that the Commission should not order a change in BFP methodologies for price cap LECs for the current tariff year because, on January 1, 1998, rule changes adopted in the *Access Charge Reform*⁵²⁹ proceeding will take effect that require U S WEST to begin recovering line-side port costs and marketing expenses first through the EUCL charge. According to U S WEST, these changes will likely result in MLB EUCL charges that are at or near the \$9.00 cap in all of its states.⁵³⁰ Therefore, any prospective rate change would only be effective, according to U S WEST, for a short period of time.

318. U S WEST also responds to AT&T's argument that it calculated its 1995 and 1996 BFP revenue requirement improperly by ignoring the Commission's RAO Letter 20. U S WEST argues that its BFP revenue requirement calculation properly ignored the directive of RAO Letter 20 because, on review, the Commission rescinded the relevant portion of RAO Letter 20, determining that the Bureau had exceeded its delegated authority in directing certain exclusions from and additions to the affected carriers' rate bases.⁵³¹ Therefore, U S WEST argues that it properly disregarded RAO Letter 20 requirements because the letter had no validity from its inception.⁵³²

319. GTE contends that AT&T and MCI are not correct in their argument that GTE has consistently underestimated its BFP revenue requirement and has consequently imposed improperly inflated CCL charges on IXCs. GTE contends that its variance of 1.5 percent from actual is a reasonable margin of error for projecting interstate BFP revenue requirement.⁵³³ GTE also argues that AT&T's proposal to use actual results instead of projections is irrelevant to this investigation.

B. Equal Access Exogenous Cost Changes

⁵²⁸ U S WEST Rebuttal at 9-11.

⁵²⁹ *Access Charge Reform, et. al.*, CC Docket No. 96-262, *et. al.*, First Report and Order, FCC 97-158 (rel. May 16, 1997).

⁵³⁰ U S WEST Rebuttal at 11.

⁵³¹ U S WEST Rebuttal at 12 (*citing Responsible Accounting Officer Letter 20, Uniform Accounting for Postretirement Benefits Other Than Pensions in Part 32; Amendments to Part 65, Interstate Rate of Return Prescription Procedures and Methodologies, Subpart G, Rate Base*, Memorandum Opinion and Order and Notice of Proposed Rulemaking, 11 FCC Rcd 2957 (1996)).

⁵³² U S WEST Rebuttal at 12-13.

⁵³³ GTE Rebuttal at 3.

1. Contentions of the Parties

320. Bell Atlantic opposes the adoption of the *1997 Designation Order's* tentative conclusion that more than the actual amount of equal access costs should be removed from rates by adjusting the actual amount upward based on growth in demand.⁵³⁴ Bell Atlantic argues that the *Access Charge Reform Order* merely directed LECs to make a downward adjustment to account for the completed amortization of equal access expenses; it did not include any requirement to augment the removal of equal access costs by demand growth.⁵³⁵ If the Commission were to require an adjustment to reflect growth in demand, any such adjustment should be based on total basket revenues, and not just local switching revenues as proposed by AT&T.⁵³⁶

321. U S WEST states that the "R" adjustment proposed by AT&T and used by Aliant is an inappropriate method for the removal of equal access cost recovery from the PCI.⁵³⁷ U S WEST explains that "R" values are base period revenues (previous year's demand multiplied by the current rate) used for spreading exogenous costs to baskets and adjusting the PCI.⁵³⁸ U S WEST states that costs for equal access cost recovery (which do not change with demand) are associated with a particular time period and will be adjusted in the price cap model through an exogenous change.⁵³⁹ According to U S WEST, this exogenous adjustment does not have a direct relationship to "R" values.⁵⁴⁰ U S WEST explains that if a carrier is priced to its cap, then exogenous costs would have some impact on revenues and correspondingly on "R".⁵⁴¹ If a carrier prices below the cap, it states, then the impact of exogenous adjustments on "R" values is uncertain.⁵⁴²

322. According to SBC, the regulatory objective of the removal of non-capitalized equal

⁵³⁴ Bell Atlantic Direct Case at 7; *see also*, Ameritech Direct Case at 6.

⁵³⁵ Bell Atlantic Direct Case at 7.

⁵³⁶ Bell Atlantic Direct Case at 8.

⁵³⁷ U S WEST Direct Case at 23.

⁵³⁸ U S WEST Direct Case at 23.

⁵³⁹ U S WEST Direct Case at 24.

⁵⁴⁰ U S WEST Direct Case at 24.

⁵⁴¹ U S WEST Direct Case at 24.

⁵⁴² U S WEST Direct Case at 24.

access costs is to remove from prices the level of costs reflected in prices.⁵⁴³ Most LECs argue that an "R" adjustment would remove more costs than are actually recovered and would penalize price cap LECs.⁵⁴⁴ Bell Atlantic further states that in the 1993 tariff year, the separate rate element for equal access costs was set at zero, and cost recovery occurred through other elements in the traffic sensitive price cap basket.⁵⁴⁵ If the Commission were to require an "R" value adjustment, Bell Atlantic and Ameritech contend that the only reasonable starting point would be the start of such recovery in 1993, because prior to that date, equal access recovery was only augmented by the growth in lines, which grew at a much slower rate than the growth in the interstate local switching revenues.⁵⁴⁶ Bell Atlantic explains that at the start of price caps, equal access costs were collected as a separate per-line rate element, and growth in local switching revenues had no impact on the total amount collected for that rate element.⁵⁴⁷ Bell Atlantic contends that it would be arbitrary to require that the removal of those costs from rates should reflect a factor for growth in local switching revenues for the period when such growth was irrelevant to the rate element.⁵⁴⁸

323. Many LECs state that a PCI adjustment is a reasonable means by which to ensure the full removal of amortized equal access expenses from current rates.⁵⁴⁹ Ameritech states that, in removing costs from price cap rates or indices, recognition must be given to the fact that the PCI has already operated to, in effect, remove a substantial portion of the costs that were included in price cap rates.⁵⁵⁰ Ameritech contends that the essence of price cap regulation is to substitute the PCI for an annual examination of a carrier's costs and to assume, via the X-factor, that a certain fraction of a carrier's cost will, or should be, eliminated through a carrier's own efficiency enhancing efforts.⁵⁵¹ U S WEST states that past exogenous cost changes simply

⁵⁴³ SBC Companies Direct Case at 42.

⁵⁴⁴ Bell Atlantic Direct Case at 10; SNET Direct Case at 8; SBC Companies Direct Case at 42-43; Ameritech Direct Case at 6; U S WEST Direct Case at 23..

⁵⁴⁵ Bell Atlantic Direct Case at 8-9.

⁵⁴⁶ Bell Atlantic Direct Case at 9; *see also*, Ameritech Direct Case at 7.

⁵⁴⁷ Bell Atlantic Direct Case at 8.

⁵⁴⁸ Bell Atlantic Direct Case at 8.

⁵⁴⁹ BellSouth Direct Case at 10; SNET Direct Case at 7; Ameritech Direct Case at 6-7; U S WEST Direct Case at 23-24.

⁵⁵⁰ Ameritech Direct Case at 6.

⁵⁵¹ Ameritech Direct Case at 6.

adjusted the PCI to reflect the original dollar impact on a going-forward basis when the adjustments were made close to the time when the adjustment should have been made.⁵⁵²

324. Generally, most LECs contend that the removal of amortized equal access expenses from current rates is not similar to the reversal of sharing.⁵⁵³ BellSouth explains that the amount of the excess return is directly related to the amount of revenues achieved over time, and the amount of revenues grow over time with growth in demand.⁵⁵⁴ BellSouth maintains that the amount to be removed in recognition of the completion of the amortization of equal access is a cost which was fixed at the outset of price cap regulation and did not change with demand.⁵⁵⁵ Bell Atlantic explains that in the context of sharing, the "R" adjustment is intended to adjust the sharing amount so that the impact on price caps when sharing is reversed is the same as the impact on the caps when sharing was put into indices a year earlier, thereby assuring that sharing is a one-time adjustment.⁵⁵⁶

325. Several LECs state that the equal access exogenous cost change is analogous to the exogenous change required by the Commission to recognize the completion of the amortization of depreciation reserve deficiencies and inside wiring costs.⁵⁵⁷ BellSouth and Bell Atlantic argue that the exogenous changes for these amortizations were based upon the base period level of costs, and no adjustment was made for the change in demand from the beginning of price caps.⁵⁵⁸ BellSouth asserts that there is no rationale for requiring the exogenous change for the equal access amortization to be treated any differently.⁵⁵⁹ U S WEST argues that the lag in resolution of this issue makes it appropriate to reduce the equal access cost recovery amount by the change of the PCI at the time the liability was incurred.⁵⁶⁰ Several LECs make a similar

⁵⁵² U S WEST Direct Case at 24.

⁵⁵³ Bell Atlantic Direct Case at 10; SNET Direct Case at 9; SBC Companies Direct Case at 43; BellSouth Direct Case at 11; Frontier Direct Case at 7-8; Ameritech Direct Case at 6; U S WEST Direct Case at 24.

⁵⁵⁴ BellSouth Direct Case at 11.

⁵⁵⁵ BellSouth Direct Case at 11.

⁵⁵⁶ Bell Atlantic Direct Case at 10; *see also*, SNET Direct Case at 8; SBC Companies Direct Case at 42; Ameritech Direct Case at 6; U S WEST Direct Case at 23.

⁵⁵⁷ BellSouth Direct Case at 11; *see also*, Ameritech Direct Case at 7; U S WEST Direct Case at 24; Bell Atlantic Direct Case at 7.

⁵⁵⁸ BellSouth Direct Case at 11; Bell Atlantic Direct Case at 7-8.

⁵⁵⁹ BellSouth Direct Case at 11; *see also*, U S WEST Direct Case at 24; Ameritech Direct Case at 7; Frontier Direct Case at 7-8.

⁵⁶⁰ U S WEST Direct Case at 24.

argument with respect to the amortization of OPEB costs. Specifically, they maintain that the Bureau rejected a revenue growth adjustment to the exogenous removal of OPEB costs stating, "since the Commission did not specifically require the LECs to follow the approach advocated by AT&T and MCI, we will not require the LECs to 'true-up' the reversal of OPEB amounts."⁵⁶¹ SBC argues that there is no basis in the record or any precedent to justify using a different methodology for the removal of equal access costs other than that used for the removal of OPEB costs.⁵⁶²

326. As indicated above, the LECs argue that the Commission may not require price cap LECs to make an R-factor adjustment in connection with the 1997 annual access tariff filings.⁵⁶³ Frontier states that although the Commission expressly reserved the right to require future R-factor adjustments in the *1995 Annual Access Order*, it did not do so in either the *Access Charge Reform* or *Price Cap Reform* orders.⁵⁶⁴ Specifically, in the *1995 Annual Access Order*, the Bureau stated that "the Commission will have the opportunity to review the method for reversing such adjustments in connection with its consideration of the petitions for reconsideration of the *Price Cap Performance Review for Local Exchange Carriers*."⁵⁶⁵ SBC, Frontier, U S WEST, and Bell Atlantic assert that if the Commission wishes to require the use of the R-factor adjustment, it may do so only prospectively and only after conducting a properly noticed rulemaking proceeding.⁵⁶⁶

2. Oppositions

327. MCI argues that the current PCI must be set to ensure that today's rates for traffic sensitive basket services are no higher than if the equal access amortization rate element had not been part of the switched access basket on January 1, 1991.⁵⁶⁷ MCI contends that an "R" value

⁵⁶¹ SBC Companies' Direct Case at 41, *citing* 1995 Annual Access Tariff Filings of Price Cap Carriers, Memorandum Opinion and Order Suspending Rates, 11 FCC Rcd 5461 (1995); *see also*, Bell Atlantic at 7.

⁵⁶² SBC Companies' Direct Case at 41; *see also*, Bell Atlantic Direct Case at 7; .

⁵⁶³ Frontier Direct Case at 7; SNET Direct Case at 8; SBC Companies Direct Case at 41; BellSouth Direct Case at 11.

⁵⁶⁴ Frontier Direct Case at 8.

⁵⁶⁵ *In the Matter of 1995 Annual Access Filings of Price Cap Carriers*, DA 95-1631, 11 FCC Rcd 5461, 5471-72 (1995).

⁵⁶⁶ Frontier Direct Case at 9; Bell Atlantic Direct Case at 41; U S WEST Direct Case at 25; SBC Companies Direct Case at 42.

⁵⁶⁷ MCI Opposition at 10.

adjustment is required to remove fully the amortized equal access expenses from LEC rates.⁵⁶⁸ MCI maintains that mathematically, adjusting the current indices to remove fully the effects of extraordinary costs reflected in the initial price cap indices is the same as a sharing reversal.⁵⁶⁹ MCI further explains that the composition of the traffic sensitive basket differs from the composition of the switched access basket at the inception of price cap regulation; therefore, unadjusted "R" values cannot be used to compute delta-Z or the exogenous cost change.⁵⁷⁰ MCI argues that LECs should be required to compute delta-Z by multiplying the equal access amortization amount included in the initial price cap index by the ratio of 1996 local switching service category revenues to 1991 local switching service category revenues.⁵⁷¹

328. AT&T states that although the LECs (with the exception of Ameritech) properly calculated the amount of non-capitalized equal access costs that entered price caps, they inappropriately reduced these amounts by the PCI change since January 1, 1991 and failed to apply the "R" value true-up.⁵⁷² As a result, AT&T argues that all of the LECs, except one, have substantially understated the exogenous adjustment required to remove equal access costs from their PCIs.

329. AT&T also contends that the LECs' arguments against an "R" value true-up are meritless.⁵⁷³ AT&T provides two such examples: 1) Ameritech states that PCI deflation via the X-factor adjustment means that a substantial portion of equal access costs have been eliminated from the LECs' PCIs through normal operation of the price cap formula; and 2) BellSouth maintains that equal access was a fixed cost that did not grow from year to year.⁵⁷⁴ AT&T asserts that Ameritech's statement is true but irrelevant; it does not obviate the need for the true-up, since whatever equal access revenues have been reduced by the operation of the X-factor have increased due to growth in demand volumes.⁵⁷⁵ As to BellSouth's statement, AT&T also states that whether or not equal access costs have grown, because of increased demand, the LECs have been able to recover more revenues over time stemming solely from the inclusion of the

⁵⁶⁸ MCI Opposition at 10.

⁵⁶⁹ MCI Opposition at 11.

⁵⁷⁰ MCI Opposition at 11.

⁵⁷¹ MCI Opposition at 11.

⁵⁷² AT&T Opposition at 18.

⁵⁷³ AT&T Opposition at 18.

⁵⁷⁴ AT&T Opposition at 19.

⁵⁷⁵ AT&T Opposition at 19.

equal access cost amortization in their PCIs.⁵⁷⁶ Because volume growth is not reflected in the X-factor adjustment, AT&T maintains that the downward exogenous adjustment must reflect current demand, in order to ensure complete removal of those equal access costs still remaining in the LECs' PCIs.⁵⁷⁷

330. AT&T further argues that in accordance with established Commission requirements, the LECs must use a revenue growth adjustment to remove fully the impact of previous periods' costs.⁵⁷⁸ AT&T states that this equal access exogenous cost adjustment is analogous to the removal of previous periods' exogenous cost adjustments for which the Commission has required the LECs to true up the basket revenues to account for basket revenue growth.⁵⁷⁹ AT&T maintains that the current basket revenues include the net impact of PCI changes and volume growth since January 1, 1991 and allow removal of the full amount of equal access costs.⁵⁸⁰

331. In addition, AT&T and MCI state that the LECs' arguments that the imposition of any "R" value true-up would constitute an impermissible retroactive rulemaking, are meritless.⁵⁸¹ AT&T contends that in the *Access Charge Reform Order*, the Commission directed the removal of equal access costs and left implementation details to the Bureau.⁵⁸² Moreover, the *1995 Suspension Order* recognizes that express Commission authority is not needed to require an "R" true-up, especially where the Commission's order requiring the downward exogenous adjustment does not state that the same exact dollar amounts originally included in the PCIs are to be removed.⁵⁸³

332. AT&T and MCI maintain that the LECs' contention that the Commission has not required "R" adjustments for completion of amortizations of depreciation reserve and inside wiring is inapposite, because the completion of those amortizations was reflected in annual downward exogenous adjustments. AT&T states that there have been no such annual adjustments for equal access costs; thus, an "R" value true-up is required to remove the full

⁵⁷⁶ AT&T Opposition at 20.

⁵⁷⁷ AT&T Opposition at 20.

⁵⁷⁸ AT&T Opposition at 20.

⁵⁷⁹ AT&T Opposition at 21.

⁵⁸⁰ AT&T Opposition at 21.

⁵⁸¹ AT&T Opposition at 23; *see also*, MCI Opposition at 12-13.

⁵⁸² AT&T Opposition at 23.

⁵⁸³ AT&T Opposition at 23; *see also*, MCI Opposition at 12-13.

impact of the completion of equal access amortization as an end adjustment. AT&T further states that making the "true-up" adjustment based on the local switching band revenue growth is appropriate because equal access costs remained in the LECs' local switching band since January 1, 1991.⁵⁸⁴ According to AT&T, the true-up adjustment will provide a more accurate adjustment as compared to traffic sensitive basket revenues, because a major portion of the LECs' traffic sensitive basket revenues were moved to the trunking basket, when that basket was created in 1994 as part of the local transport restructure.⁵⁸⁵

333. AT&T also argues that the LECs' PCIs are overstated by \$60.7 million due to their failure to make the "R" true-up and their inappropriate PCI deflation.⁵⁸⁶ AT&T states that the Commission should therefore require the LECs to adjust their January 1, 1991 equal access amortization costs by the percentage their local switching band revenues have grown since January 1, 1991, and then remove those amounts from their current PCIs.⁵⁸⁷

3. Replies

334. U S WEST argues that it correctly calculated the adjustment to remove equal access cost recovery from its access charges.⁵⁸⁸ Specifically, U S WEST states that it determined the non-capitalized portion of the equal access expense as of year-end 1990, which was immediately prior to implementation of the first price cap rates.⁵⁸⁹ It then added to that amount an 11.25% return on the average deferred interstate balance and grossed up that return for taxes.⁵⁹⁰ This sum was then reduced to reflect the reduction in its local switching PCI (approximately \$4.8 million) since the time rates came under price caps.⁵⁹¹

335. U S WEST argues that under the price cap regime, LECs' prices are disconnected from their costs, and making the "R" adjustment would unnecessarily bring the two together

⁵⁸⁴ AT&T Opposition at 23-24.

⁵⁸⁵ AT&T Opposition at 24.

⁵⁸⁶ AT&T Opposition at 24.

⁵⁸⁷ AT&T Opposition at 24.

⁵⁸⁸ U S WEST Rebuttal at 13.

⁵⁸⁹ U S WEST Rebuttal at 13.

⁵⁹⁰ U S WEST Rebuttal at 13.

⁵⁹¹ U S WEST Rebuttal at 13.

again.⁵⁹² U S WEST further contends that attributing revenue growth to costs incurred years before is a meaningless concept with no basis in reality.⁵⁹³ U S WEST states that under price caps, "R" is a function of rates and demand; prices no longer have a direct relationship to costs.⁵⁹⁴ In implementing similar exogenous changes (*e.g.*, inside wire amortization and the depreciation reserve deficiency amortization), U S WEST maintains that price cap LECs have removed the costs at the level that they were initially incurred, without adjusting them for the growth in "R".⁵⁹⁵ U S WEST further argues that when the Commission ordered the removal of the equal access amortization, it specifically stated that it would "accord the expiration of equal access cost amortizations the same exogenous cost treatment given to the amortizations of the depreciation reserve deficiencies and inside wiring costs."⁵⁹⁶

336. U S WEST then contends that adjusting the exogenous change to reflect PCI reductions is necessary to maintain the separation between prices and costs.⁵⁹⁷ It explains that although the costs at issue played some role in the development of the rates in effect when price caps took effect, that connection has become attenuated over time, as PCI reductions brought about reductions in the LECs' rates, without regard to the changes in their costs.⁵⁹⁸ U S WEST claims that there is no way to measure this attenuation with any precision, but the intervening PCI changes provide a reasonable proxy.⁵⁹⁹ U S WEST notes that the Commission accepted the same sort of adjustment in its filing to remove payphone costs from the CCL charge.⁶⁰⁰

337. The LECs maintain that there is a distinct difference between sharing reversals and the removal of costs, with the most relevant precedent being the rejection of an "R" adjustment for the removal of OPEB costs from PCIs.⁶⁰¹ Ameritech explains that since sharing clearly

⁵⁹² U S WEST Rebuttal at 14.

⁵⁹³ U S WEST Rebuttal at 14; *see also*, Bell Atlantic Rebuttal at 5.

⁵⁹⁴ U S WEST Rebuttal at 14.

⁵⁹⁵ U S WEST Rebuttal at 15; *see also*, BellSouth Rebuttal at 6-7; Frontier Rebuttal at 2-3; SBC Companies Rebuttal at 8-9; Bell Atlantic Rebuttal at 5-6.

⁵⁹⁶ U S WEST Rebuttal at 16, *citing Access Charge Reform Order* at ¶ 310; *see also*, BellSouth Rebuttal at 7.

⁵⁹⁷ U S WEST Rebuttal at 16; *see also*, Ameritech Rebuttal at 5-6.

⁵⁹⁸ U S WEST Rebuttal at 16.

⁵⁹⁹ U S WEST Rebuttal at 16; *see also*, Ameritech Rebuttal at 5-6.

⁶⁰⁰ U S WEST Rebuttal at 17.

⁶⁰¹ SBC Companies Rebuttal at 9; *see also*, Bell Atlantic Rebuttal at 5-6; Ameritech Rebuttal at 6.

involves a specific dollar amount of revenue that must be shared with access customers, it is appropriate to make an "R" adjustment when sharing is reversed to make sure that the same amount of revenue is added back to the indices.⁶⁰² Ameritech states that in this case, costs are not directly related to revenues--especially in the price cap regime--therefore, no "R" adjustment is appropriate.⁶⁰³

338. Bell Atlantic states that AT&T continues to claim erroneously that any growth adjustment should be based only on the local switching band, yet elsewhere in its opposition, AT&T acknowledges that its proposed adjustment should be based on basket revenues.⁶⁰⁴ By isolating local switching growth, Bell Atlantic argues that AT&T ignores the slower growing local transport revenues, which were part of the same basket prior to restructure.⁶⁰⁵ If the Commission requires a demand adjustment, Bell Atlantic maintains that it should be based on total basket revenues and not just local switching revenues as AT&T claims.⁶⁰⁶

1. SNET's Calculation of the Initial Equal Access Exogenous Cost Revenue Requirement

a. Contentions of the Parties

339. SNET states that it adjusted its equal access cost by multiplying the equal access revenue requirement by the ratio of the current (*i.e.*, June 30, 1997) traffic sensitive PCI over the initial 1991 traffic sensitive PCI.⁶⁰⁷ According to SNET, this adjustment accounted for the significant reduction in its local switching prices and revenues driven by the application of the Commission's annual productivity offsets ("X-factors").⁶⁰⁸ SNET contends that it should not be required to increase its original equal access exogenous cost requirement by revenue growth without an offsetting adjustment for its PCI reductions since 1991.⁶⁰⁹

⁶⁰² Ameritech Rebuttal at 6.

⁶⁰³ Ameritech Rebuttal at 7.

⁶⁰⁴ Bell Atlantic Rebuttal at 6.

⁶⁰⁵ Bell Atlantic Rebuttal at 6.

⁶⁰⁶ Bell Atlantic Rebuttal at 6.

⁶⁰⁷ SNET Direct Case at 7.

⁶⁰⁸ SNET Direct Case at 7.

⁶⁰⁹ SNET Direct Case at 8; *see also*, U S WEST Direct Case at 23; Ameritech Direct Case at 7.

340. In response to AT&T's allegation that SNET understated its equal access exogenous cost adjustment by approximately \$2.1 million, SNET claims that the discrepancy between SNET's 1990 Cost of Service No. 5 Report (COS-5) and its stated exogenous cost can be explained by its specific circumstances relative to its equal access mandate and the manner in which SNET completed the 1990 report.⁶¹⁰ SNET explains that its initial equal access implementation expenses were limited to the conversion of lines served by then-existing stored program control offices.⁶¹¹ Offices without stored program control lines were not part of this equal access implementation. SNET then states that even though expenses associated with this mandated equal access conversion of stored program control lines were amortized over an eight-year period ending December 31, 1993, expenses were no longer incurred for this initial conversion after 1988.⁶¹² SNET contends that thereafter costs associated with the conversion of non-stored program controlled lines to equal access were expensed in the year in which they were incurred.⁶¹³

341. SNET explains that the calculation of its initial equal access exogenous cost revenue requirement included only equal access expenses from prior periods, because only those costs associated with its initial equal access conversion were amortized at the initiation of price caps, and therefore needed to be taken out of the PCI in accordance with the *Access Charge Reform Order*.⁶¹⁴ The equal access costs associated with its overall modernization program that were expensed in the year in which they were incurred were entered as "current" period in the COS-5.⁶¹⁵ SNET states that it complied with the instructions for completing the COS-5 by reporting the amortized expenses mandated by the Commission for initial equal access conversion of its stored program control offices as well as the directly expensed costs associated with the conversion of its non-stored program control offices on the "current" period line of the COS-5.⁶¹⁶

b. Replies

342. SNET states that its 1997 annual access tariff filing is correct in that all amortized

⁶¹⁰ SNET Direct Case at 4.

⁶¹¹ SNET Direct Case at 5.

⁶¹² SNET Direct Case at 5. SNET notes that 100 percent of its stored program control lines had been converted as of March 31, 1988.

⁶¹³ SNET Direct Case at 6.

⁶¹⁴ SNET Direct Case at 6.

⁶¹⁵ SNET Direct Case at 6.

⁶¹⁶ SNET Direct Case at 6.

non-capitalized expenses associated with its initial equal access conversion, completed in 1988, have been reflected in the calculation of its initial equal access exogenous cost revenue requirement upon the initiation of price cap regulation.⁶¹⁷ SNET contends that the Commission ordered the removal of amortized equal access expenses, not expenses that were directly expensed in the year in which they were incurred and were part of the normal cost of doing business.⁶¹⁸

2. Ameritech's Equal Access Amortization Revenue Requirement

a. Contentions of the Parties

343. In response to the directive to explain and document fully how Ameritech used its separations information system data to determine the portion of equal access costs that were amortized, Ameritech states that the total equal access cost recovery amount included in its pre-price cap rate was based on the total equal access revenue requirement filed as part of its 1990 annual access filing and appearing in the COS-5 report.⁶¹⁹ Since that report did not have detail to determine the non-capitalized portion of those costs, Ameritech claims that it obtained actual data from its separations system.⁶²⁰ The data collected from its separations system shows that the actual non-capitalized portion was 36% of total equal access costs.⁶²¹

b. Oppositions

344. With respect to Ameritech's calculation of its equal access amortization costs, AT&T argues that Ameritech has failed to calculate properly the amounts of equal access amortization costs that were reflected in its baseline equal access rates at the outset of price caps in 1991.⁶²² AT&T states that, in its Direct Case, Ameritech fails to justify its calculation of the revenue requirement associated with the amortized equal access expenses.⁶²³ AT&T maintains that the price cap LECs' initial equal access rates were based on the equal access revenue

⁶¹⁷ SNET Rebuttal at 5.

⁶¹⁸ SNET Rebuttal at 5.

⁶¹⁹ Ameritech Direct Case at 8.

⁶²⁰ Ameritech Direct Case at 8.

⁶²¹ Ameritech Direct Case at Exhibit 10.

⁶²² AT&T Opposition at 25.

⁶²³ AT&T Opposition at 25.

requirements filed as part of the LECs' 1990 annual tariff filings in the COS-5.⁶²⁴ AT&T argues that Ameritech used one data source to calculate its total equal access revenue requirement and a separate source (labeled "Separations Information System (7/90-6/91)") or point in time to calculate its "non-capitalized" revenue requirement.⁶²⁵ AT&T contends that the data values reported from the "Separations Information System" do not appear to agree with the data on the COS-5. AT&T argues that Ameritech does not justify the use of this source and does not dispute that the reported COS-5 data formed the basis for its pre-price cap equal access rates, its initial rates under price caps, and its price cap indices.⁶²⁶

345. AT&T further states that Ameritech divides its actual non-capitalized equal access expenses for the 1990 tariff period by its COS-5 projected total equal access revenue requirement to determine the amount of non-capitalized expenses used to establish its initial price cap equal access rate.⁶²⁷ According to AT&T, Ameritech's use of "actual" data is not a reliable mechanism for computing the non-capitalized equal access expenses which entered Ameritech's price cap rate, because its rate was based on revenue requirement projections made well in advance of the availability of actual results.⁶²⁸ AT&T states that its calculations show that Ameritech has understated its equal access exogenous cost adjustment by approximately \$1 million.⁶²⁹

c. Replies

346. Ameritech maintains that AT&T incorrectly insists that it was improper for it to use actual data to determine the amount of non-capitalized equal access costs included in pre-price cap rates.⁶³⁰ Ameritech states that the total equal access revenue requirement forecast filed as part of its 1990 annual access tariff filing and appearing in the COS-5 Report did not have

⁶²⁴ AT&T Opposition at 25-26.

⁶²⁵ AT&T Opposition at 26.

⁶²⁶ AT&T Opposition at 27.

⁶²⁷ AT&T Opposition at 27.

⁶²⁸ AT&T Opposition at 27.

⁶²⁹ AT&T Opposition at 28. AT&T states that it recalculated Ameritech's net revenue requirement using only COS-5 data and that the equations AT&T used are identical to the formulas used by the majority of the LECs to separate their COS-5 data into its component non-capitalized and capitalized accounts. AT&T Opposition at 28.

⁶³⁰ Ameritech Rebuttal at 7.

sufficient detail to determine the non-capitalized portion of those costs.⁶³¹ Ameritech explains that the actual data obtained from its separation system showed that the actual non-capitalized portion of equal access costs was 35.68% of total equal access costs.⁶³² Ameritech states that that percentage was then applied to the forecast amount to determine the percentage of the forecast amount that represented non-capitalized equal access costs.⁶³³

C. Other Billing and Collection

1. Contentions of GTE Regarding Apportionment of Customer Services Expenses Among Categories

347. GTE states that the rapid growth in its Category 3 expense is primarily due to an increase in customer service administration expense. One reason for this increase, GTE explains, was the centralization of the management of customer "contact care centers" and the consolidation of those centers. GTE states that it opened a national, multilingual, customer service center which assists all GTE customers requiring service in Spanish or an Asian language. According to GTE, another reason for the increase in customer service administration expense, was its increase in company official telecommunication charges. GTE explains that, following the consolidation of its customer care centers, its managers experienced a need for greater internal communications.⁶³⁴ GTE further states that the rapid increase in Category 3 expense is also due to an increase in public telephone commissions.⁶³⁵

348. GTE attributes the rapid decline in its Category 1 expense to two changes. The first change was the consolidation of customer service centers. GTE claims that this consolidation *reduced* customer service expenses such as billing inquiry and service order processing expenses.⁶³⁶

349. The second change, GTE states, was the decision by IXC's to take back certain billing functions that GTE had been performing on their behalf which also caused a decrease in

⁶³¹ Ameritech Rebuttal at 7.

⁶³² Ameritech Rebuttal at 7.

⁶³³ Ameritech Rebuttal at 8.

⁶³⁴ Letter from W. Scott Randolph, Director-Regulatory Matters, GTE to William F. Caton, FCC, at 1, dated September 18, 1997.

⁶³⁵ Letter from W. Scott Randolph, Director-Regulatory Matters, GTE to William F. Caton, FCC, at 1, dated September 18, 1997.

⁶³⁶ GTE Direct Case at 28.

Category 1 expense. GTE claims that this development caused a decrease in IXC payment and collection expense, which is a Category 1 expense.⁶³⁷ In response to additional questions from Bureau staff members, however, GTE states that the IXCs' take back was not the primary cause for this decrease in IXC payment and collection expense.⁶³⁸ Rather, the primary cause was the renegotiation of a contract with a major IXC.⁶³⁹ That new contract, GTE states, removed the cap that had been placed on uncollectibles by the old contract.⁶⁴⁰ According to GTE, this change caused a reduction in IXC uncollectibles beginning in 1996.⁶⁴¹

2. Contentions of the Parties Regarding Apportionment of OB&C Expense Among Service Classes

350. GTE asserts that its message toll user counts decreased relative to the user counts for other services partly as a result of the creation in 1996 of new EAS routes in several states.⁶⁴² GTE further asserts that the decline is attributable in part to the IXCs' "take-back" of billing and collection functions that GTE had been performing on their behalf.⁶⁴³ U S WEST also claims that its message toll user counts decreased due to the IXCs' take-back of billing and collection functions.⁶⁴⁴ Pacific Bell contends that it develops user counts by counting a customer as a user for each class of service shown on the customer's bill.⁶⁴⁵

351. In response to additional questions from Bureau staff members, Pacific Bell, GTE and U S WEST explain that they generally did not count message toll users if the users' toll calls were handled by large IXCs, which primarily purchase "invoice-ready" billing service from Pacific Bell, GTE and U S WEST.⁶⁴⁶ With invoice-ready billing service, the IXCs must perform

⁶³⁷ GTE Direct Case at 28.

⁶³⁸ Letter from W. Scott Randolph, Director-Regulatory Matters, GTE to William F. Caton, FCC, at 2, dated September 26, 1997.

⁶³⁹ *Id.*

⁶⁴⁰ *Id.*

⁶⁴¹ *Id.*

⁶⁴² GTE Direct Case at 29.

⁶⁴³ GTE Direct Case at 29.

⁶⁴⁴ U S WEST Direct Case at 35.

⁶⁴⁵ Pacific Bell Direct Case at 44.

⁶⁴⁶ Letter from B. Jeannie Fry, Director-Federal Regulatory, SBC Communications Inc. to William F. Caton, FCC, at 1, dated October 3, 1997; Letter from W. Scott Randolph, Director-Regulatory Matters, GTE, to William

several billing functions on their own.⁶⁴⁷ They capture the recording information from their own switches, rate the calls, and accumulate this billing information by month.⁶⁴⁸ At the end of each month, the IXCs transfer to Pacific Bell, GTE and U S WEST the completed invoices, which are already pre-formatted and ready for printing. Pacific Bell, GTE and U S WEST then print the invoices and insert them into their end user bills.⁶⁴⁹ The companies acknowledge that IXC toll messages thus appear on the end user bills that are printed and mailed by these companies.⁶⁵⁰ Pacific Bell, U S WEST, and GTE all calculated their message toll user counts by determining the number of toll messages handled on their own interexchange networks, together with the IXC toll messages billed through other billing services such as message-ready billing, wherein they not only print bills but also rate, record, and accumulate the IXC toll messages.⁶⁵¹

3. Contentions of U S WEST Regarding the Substitution of Direct Assignment for Prescribed Allocation Factor

352. U S WEST submits that it directly assigns OB&C Expense that is incurred for billing services provided to U S WEST by other ILECs. U S WEST further submits that this use of direct assignment is required by Section 36.2(e).⁶⁵² U S WEST explains that independent ILECs charge it for performing billing functions associated with various settlement plans. The bills issued to U S WEST designate the jurisdiction for each charge, enabling U S WEST to then book the resulting expenses (*i.e.*, payments for each charge) as wholly interstate or intrastate. These billed charges are associated with traffic between the ILEC and U S WEST's serving territory. U S WEST contends that these expenses fit the criteria established by the Section 36.2(e) because the expenses are directly associated with a jurisdiction already identified by

F. Caton, FCC, at 7, dated September 26, 1997; Letter from BB Nugent, Executive Director-Federal Regulatory, U S WEST, to William F. Caton, FCC, at 2, dated September 25, 1997.

⁶⁴⁷ Letter from W. Scott Randolph, Director-Regulatory Matters, GTE to William F. Caton, FCC, at 5, dated September 26, 1997; Pacific Bell Direct Case at 48.

⁶⁴⁸ *Id.*

⁶⁴⁹ *Id.*

⁶⁵⁰ *Id.*

⁶⁵¹ Letter from W. Scott Randolph, Director-Regulatory Matters, GTE to William F. Caton, FCC, at 5 and 7, dated September 26, 1997; Letter from BB Nugent, Executive Director-Federal Regulatory, U S WEST to William F. Caton, FCC, at 2, dated September 25, 1997; Letter from B. Jeannie Fry, Director-Federal Regulatory, SBC Communications Inc. to William F. Caton, FCC, at 1 dated October 3, 1997.

⁶⁵² U S WEST Direct Case at 26-27. The rule states that "[c]osts associated with services or plant billed to another company which have once been separated under procedures consistent with general principles set forth in this part, and are thus identifiable as entirely interstate or state in nature, shall be directly assigned to the appropriate operation and jurisdiction."

another company that is subject to the separations rules.⁶⁵³

4. Contentions of the Parties Regarding Separation of Message Toll Billing Expense

353. GTE and Pacific Bell claim that the unusually low interstate shares of billed toll messages reported for 1995 and 1996 are attributable primarily to decreasing demand for their billing services. Specifically, they assert that the largest IXCs decided to take-back certain billing and collection functions that these ILECs had been providing to IXCs.⁶⁵⁴ Although GTE does not identify these functions, Pacific Bell explains that the IXCs migrated from a message-ready billing service to an invoice-ready billing service.⁶⁵⁵ Pacific Bell states that the migration by AT&T alone is largely responsible for the 66 percent decline in Pacific Bell's interstate share of billed messages that occurred in 1996.⁶⁵⁶

354. GTE and Pacific Bell submit that these two types of billing services are very different. When providing message-ready billing service, they receive messages from an IXC on a daily or weekly basis and then accumulate the messages, calculate taxes, and format the information for the end user bills.⁶⁵⁷ Pacific Bell argues that large IXCs generally use this type of billing service only for their casual and nonsubscription customers.⁶⁵⁸ For most IXC customers, *i.e.*, the presubscribed residential customers, the large IXCs now use invoice-ready billing, which requires IXCs to perform several billing functions on their own.⁶⁵⁹ They capture recording information from their switches, rate the calls, and accumulate the billing information

⁶⁵³ U S WEST Direct Case at 26-27.

⁶⁵⁴ GTE Direct Case at 30; Pacific Bell Direct Case at 52-53. Pacific Bell notes that, although the *decline* in the interstate share of billed toll messages is primarily attributable to the IXC "take-back," that interstate share was low throughout the 1990-1996 period due to calling patterns within the San Francisco, Los Angeles, Sacramento and San Diego LATAs. Pacific Bell states that intraLATA toll carried end-to-end by Pacific Bell accounted for at least two-thirds of billed messages during that period. Pacific Bell Direct Case at 52.

⁶⁵⁵ GTE indicates only that a take-back occurred. GTE Direct Case at 30. Pacific Bell states that, for certain large business customers, the IXCs took back all billing and collection functions. Pacific Bell Direct Case at 52.

⁶⁵⁶ Pacific Bell Direct Case at 53.

⁶⁵⁷ GTE Rebuttal Case at 6; Pacific Bell Direct Case at 47-48.

⁶⁵⁸ Pacific Bell Direct Case at 47-48.

⁶⁵⁹ Pacific Bell, for example, states that AT&T substituted invoice-ready billing service for message-ready billing service, causing Pacific Bell's interstate share of billed messages (net of the invoice-ready messages) to decrease by 66 percent in 1995. *See*, Pacific Bell Direct Case at 53.

by month.⁶⁶⁰ With that information, the IXC's create pre-formatted invoices, which are transferred electronically, once every billing cycle, to the ILECs and are ready for printing.⁶⁶¹

355. GTE and Pacific Bell state that, when developing allocation factors for message toll billing expense, they exclude some IXC toll messages that appeared on customer bills.⁶⁶² Specifically, they count the IXC toll messages if they were billed through message-ready billing but not if they were billed through invoice-ready billing. The invoice-ready messages should not be considered, they assert, because the cost of invoice-ready billing service is minimally affected by the number of messages appearing on customer bills.⁶⁶³ That cost is most affected, Pacific Bell further asserts, by the number of customer bills mailed out and the number of IXC pages included in the bills.⁶⁶⁴ GTE further argues that invoice-ready billing service does not include the recording, rating, and accumulation functions that message-ready billing service usually involves.⁶⁶⁵

356. AT&T argues that this practice of selectively excluding IXC toll messages from billed message counts is inconsistent with the former separations rules. AT&T argues that there is no provision in those rules that excludes any billed toll messages from the message counts used in separating the Message Toll portion of OB&C Expense.⁶⁶⁶ AT&T observes that, because the interstate share of the excluded toll messages is considerably higher than the interstate share of the included toll messages, this error caused OB&C exogenous costs to be overstated.⁶⁶⁷

5. Contentions of the Parties Regarding the Calculation of Exogenous Change in Interstate Expenses

357. GTE states that it used data for the 12 months ending June 1996 primarily because of its administrative and resource limitations. GTE claims that it was not feasible to wait for the results of calendar year data on a study area basis. GTE argues that it attempted to calculate as

⁶⁶⁰ GTE Rebuttal Case at 6; Pacific Bell Direct Case at 47-48.

⁶⁶¹ *Id.*

⁶⁶² Letter from W. Scott Randolph, Director-Regulatory Matter, GTE, to William F. Caton, FCC, at 4, dated September 18, 1997; Pacific Bell Direct Case at 47-48.

⁶⁶³ GTE Rebuttal Case at 9; Pacific Bell Direct Case at 47-48.

⁶⁶⁴ Pacific Bell Direct Case at 47-48.

⁶⁶⁵ GTE Rebuttal Case at 6.

⁶⁶⁶ AT&T Opposition to Direct Cases at 30.

⁶⁶⁷ *Id.* at 31.

many of the exogenous costs as possible in the fourth quarter of 1996, and that a full calendar year of data was unavailable for that year when GTE made its calculations. GTE contends that this was necessary to calculate its exogenous costs for its April 1, 1997 annual price cap filing in the fourth quarter of 1996, because the same group that develops that data is also directly involved in developing the ARMIS reports, which are due at approximately the same time of the year.⁶⁶⁸

358. Pacific Bell argues that it should be permitted to use 1995 data for purposes of calculating the OB&C exogenous change based on Sections 61.3(e), 61.45(a) and 61.45(c) of the rules. Pacific argues that 61.3(e) defines the base period used in 61.45(c) as the 12-month period ending six months prior to the effective date of annual price cap tariffs. Pacific Bell also argues that Section 61.45(a) requires that it maintain updated PCIs to reflect mid-year exogenous cost changes.⁶⁶⁹ Pacific argues that it is required to use a 1995 base period because it made a mid-year exogenous cost change that took effect between July 1, 1996 and June 30, 1997. Pacific Bell states that it filed a letter updating its price caps but did not file a transmittal letter and cost support at that time because it was not revising rates or regulations in the tariff and because the Bureau indicated it did not want data filed for mid-year exogenous cost changes until such time as the ILEC filed its revised tariff. Pacific filed its tariff including the OB&C adjustment on July 1, 1997.⁶⁷⁰

359. U S WEST reasons that it could have filed the exogenous changes on May 1, the effective date for the new separations rules, and begun collecting the increased interstate assignment at that time. U S WEST claims it did not do so in order to spare the FCC the administrative burden of two separate filings.⁶⁷¹ MCI and AT&T, however, argue that the proposed exogenous increase represents a retroactive rate increase that is prohibited by the filed rate doctrine.⁶⁷² MCI further argues that, "U S WEST made a decision to forego recovering revenues that it was permitted to recover by the Commission's rules, and cannot now recoup these revenues."⁶⁷³ AT&T states that U S WEST is attempting to recover 14 months of increased OB&C costs during a 12 month period.⁶⁷⁴

⁶⁶⁸ GTE Direct case at 32-33.

⁶⁶⁹ Pacific Bell Direct Case at 53-54.

⁶⁷⁰ *Id.*

⁶⁷¹ U S WEST Direct Case at 35-36. U S WEST revised the amount requested to \$1.4 million. *Id.*, Exhibit 22, at 1.

⁶⁷² MCI Opposition to Direct Cases at 14; AT&T Opposition to Direct Cases at 32.

⁶⁷³ MCI Opposition to Direct Cases at 14.

⁶⁷⁴ AT&T Opposition to Direct Cases at 33.

III. Cash Working Capital for Rate-of-Return Carriers

A. Concord

360. Concord asserts that its study is still accurate notwithstanding that it used 1993 data because its operating conditions have not, with limited exceptions, changed substantially since the preparation of the study.⁶⁷⁵ According to AT&T, Concord's lead-lag study is fatally flawed because it was conducted using outdated data.⁶⁷⁶

B. Chillicothe

1. Contentions of the Parties

361. Chillicothe's lead-lag study is based on 1990 calendar year data. Chillicothe analyzes data for the entire 1990 calendar year where it is administratively feasible to conduct such an analysis. Chillicothe uses data from a "representative three month period" in 1990 in cases where Chillicothe asserts the full year analysis would be administratively burdensome.⁶⁷⁷ Chillicothe contends that the 1990 data is still current and that it has not experienced a dramatic change in revenues or expenses since it last conducted its lead-lag study.⁶⁷⁸ In addition, Chillicothe seeks an allowance to account for the time it spends waiting for payment to true-up data from prior NECA settlement processes.⁶⁷⁹ Accordingly, Chillicothe uses a lead-lag study that includes an adjustment for a large late payment from the April 1990 NECA settlement process to true-up prior period data that significantly increases Chillicothe's NECA revenue lag.⁶⁸⁰ To calculate this NECA revenue lag, Chillicothe analyzes data not only from 1990 but

⁶⁷⁵ Concord Direct Case at 1.

⁶⁷⁶ AT&T Opposition at 36.

⁶⁷⁷ Chillicothe Rebuttal at 3.

⁶⁷⁸ Chillicothe Direct Case at 5.

⁶⁷⁹ The NECA pool is designed to benefit small carriers with higher costs. Our rules require the LECs, on a monthly basis, to report to NECA their revenue, expense and investment data. NECA uses this data to compute each LECs monthly pool shares. *See* 47 C.F.R. § 69.605. Because LECs do not have complete data available when they first report to NECA, the LECs initially report estimated data. In the following months, the LECs are required to true-up data by reconciling their estimates with actual results. To ensure the accuracy of the reconciliation process, and because, even the best accounting procedures sometimes fail to prevent errors, NECA procedures allow the LECs twenty-four months to reconcile and correct previously submitted data. Thus, in each monthly "settlement cycle," LECs report estimated data for the current month as well as adjusted data for the preceding twenty-four months.

⁶⁸⁰ To true-up its data, a LEC reconciles its estimated data with actual results.

also analyzes data from the prior two years, 1989 and 1988, to take prior period adjustments into account.⁶⁸¹ Using this analysis, Chillicothe calculates a lag for its NECA allowance of 194 days.

362. According to AT&T, Chillicothe's lead-lag study is unacceptable because it uses outdated data.⁶⁸² AT&T also disputes the 194 days that Chillicothe contends is necessary for the NECA settlement process. Instead, AT&T asserts that the process should take no more than 60 days.⁶⁸³

2. Replies

363. In its rebuttal, Chillicothe contends that AT&T neglects to consider the annual true-up to adjust a carrier's NECA monthly settlement.⁶⁸⁴ Chillicothe further contends that its NECA settlement process is not unique because all participating companies first settle on a preliminary estimate, then true up that data during the year based on actual cost data, and continue to make adjustments as needed to finalize settlement with respect to the service period.⁶⁸⁵ Chillicothe asserts that this annual true-up is a significant factor in determining its NECA allowance lead-lag period.⁶⁸⁶ Chillicothe further contends that the 60-day period that AT&T develops is inaccurate for blanket application to all NECA participants.⁶⁸⁷ With respect to the months used in its lead-lag study, Chillicothe contends that the Commission in creating the simplified formula, contemplates that carriers would use a period of less than one year as part of the simplification process.⁶⁸⁸ With respect to the age of the study, Chillicothe asserts that it would be impractical and onerous for it to conduct the study more frequently.⁶⁸⁹

C. Roseville

1. Contentions of the Parties

⁶⁸¹ Chillicothe Direct Case at 2.

⁶⁸² AT&T Opposition at 36.

⁶⁸³ AT&T Opposition at 38.

⁶⁸⁴ Chillicothe Rebuttal at 6.

⁶⁸⁵ *Id.*

⁶⁸⁶ *Id.*

⁶⁸⁷ *Id.* at 6.

⁶⁸⁸ *Id.* at 3.

⁶⁸⁹ *Id.* at 5.

364. Based on its lead-lag study using primarily 1994 data, Roseville asserts that its composite net lag is 49 days.⁶⁹⁰ With respect to its NECA allowance, Roseville states that it analyzes three time periods: (1) service midpoint to end of service period, which is an average of 30 days; (2) end of service period to deposit which is an additional 30 days; and (3) a review of the two previous calendar years to take into account prior period adjustments.⁶⁹¹ On this basis, Roseville calculates a lag of 82 days. Roseville contends that its settlement process with NECA is not unique because all participating companies first settle on a preliminary estimate, then true that data up during the year based on actual cost data, and continue to make adjustments as needed to finalize settlement with respect to the service period.⁶⁹² Roseville further asserts that a change in cost data for one company has an impact on each NECA pool member's final settlement for any given service month.⁶⁹³ Finally, Roseville states that the Commission should not automatically assume that a study supporting a greater lag than 15 days is invalid and should instead be prepared to accept net lag periods which accurately reflect a company's operating expense but differ from the Commission's standard.⁶⁹⁴

365. Based on its calculations, AT&T asserts that Roseville overstates its cash working capital requirement by \$1,475,195. To calculate this amount, AT&T, calculates a 62.3 composite revenue lag, by developing comparable lag days using only Roseville's Rate of Return Regulated Interstate Access (ROR I/S Access) numbers. AT&T divides Roseville's ROR I/S Access amount by 365 to arrive at its computation of Roseville's daily cash expenses. AT&T then divides Roseville's filed cash working capital allowance by AT&T's calculation of daily cash expenses to arrive at 62.3 comparable lag days. To determine Roseville's alleged excess cash working capital first, AT&T multiplies its computation of daily cash expenses by 15 days to arrive at its calculation of a 15-day cash working capital allowance for Roseville. Then, AT&T subtracts this figure from Roseville's filed cash working capital allowance to arrive at the alleged excess of \$1,475,195.

2. Replies

366. In its response, Roseville contends that it does not overstate its cash working capital needs. Instead, according to Roseville, AT&T miscalculates Roseville's composite revenue lag

⁶⁹⁰ Roseville uses 1994 data to compute all of its individual revenue lags except the individual revenue lag for its NECA settlement amount. For its NECA settlement amount revenue lag, Roseville uses data from April 1994 through March 1995.

⁶⁹¹ Roseville Direct Case at 16-17.

⁶⁹² *Id.* at 17.

⁶⁹³ Roseville Rebuttal at 8.

⁶⁹⁴ *See* Roseville Direct Case at 4.

and corresponding cash working capital needs because AT&T understates Roseville's interstate expenses and daily expenses.⁶⁹⁵ Roseville asserts that its composite net revenue lag should be 49 days and its corresponding total interstate cash working capital needs should be \$1,942,621.

D. PRTC

1. Contentions of the Parties

367. PRTC seeks an allowance in its calculation of its cash working capital calculations to account for the time involved in waiting to receive revenues which were delayed as result of Puerto Rico's dispute resolution process. In the *1997 Designation Order*, the Bureau directed PRTC to explain fully the dispute process referenced in its Petition, the number of disputes PRTC handled in the 1994 calendar year, the length of time needed to resolve each dispute that year, the total amount of revenue associated with all disputes in that year, and the percentages of total revenue that this amount reflected in that year.⁶⁹⁶ In its Direct Case, PRTC describes the procedures mandated by the Puerto Rico Government.⁶⁹⁷ PRTC estimates that it had 1.6 million contacts involving disputes or claims from end users in 1994, but states that each contact could involve multiple disputes or claims. According to PRTC, the revenue involved in the disputes was \$20,702,942 which is approximately 2.3 percent of PRTC's billed revenue for 1994.⁶⁹⁸ PRTC further maintains that, as a result, the dispute process may take anywhere from 90 to 120 days for sums less than \$100 and between 30 and 45 days from sums over \$100.⁶⁹⁹

368. In the *1997 Designation Order*, the Bureau also required PRTC to document and

⁶⁹⁵ See Roseville Rebuttal at 4-5.

⁶⁹⁶ *1997 Designation Order* at ¶ 65 citing PRTC Petition at 3-4. We requested that PRTC provide this information for the 1994 calendar year because PRTC's lead-lag study references that year.

⁶⁹⁷ According to PRTC, in general, a subscriber has 15 days from receipt of a bill to pay or raise objections and request an investigation; once an objection is made PRTC has 60 days to complete an investigation and notify the subscriber of the results. See PRTC Direct Case at 2-4, citing Puerto Rico, Title 27, Chapter 17, § 262 *et seq.* If the outcome is adverse to the subscriber, PRTC has 10 days to return the paid amount or credit the account. *Id.* If the outcome is unfavorable, the customer has 10 days to pay the bill or contest the decision before a regional representative. *Id.* The representative then has 20 days to reach a decision. If the customer objects to the representative's decision, PRTC has 90 days to appoint an outside attorney to act as arbitrator. *Id.* If the dispute is resolved, the customer then has 20 days to pay the debt or work out a payment plan. *Id.* If the customer still has a dispute, he or she may appeal the decision within 20 days to the Superior Court of Puerto Rico. *Id.*

⁶⁹⁸ PRTC Direct Case at 4.

⁶⁹⁹ *Id.* at 3-4.

explain the 143-day expense lag for payments in lieu of taxes (PILOT).⁷⁰⁰ According to PRTC, it calculates the expense lag for PILOT based upon the interstate settlement schedule from NECA and the number of days that a portion of settlement dollars remains in a reserve fund for payments in lieu of taxes to the Puerto Rico government.⁷⁰¹ Specifically, PRTC states that it determines total PILOT lag days based upon the total number of days that PILOT funds remain idle for each month of the year.

369. AT&T alleges that PRTC fails to provide a detailed analysis of the time necessary to resolve disputes and that PRTC made inconsistent statements regarding the length of time needed for dispute resolution.⁷⁰² AT&T notes that PRTC said both: (1) that disputes involving less than \$100 were resolved on average between 90 and 120 days and (2) data was unavailable to determine the length of time required to settle each case on a per dispute basis.⁷⁰³

2. Replies

370. In response to AT&T's claims regarding the paucity of dispute resolution information supplied, PRTC asserts that in light of its detailed description of the dispute handling process mandated by Puerto Rico law, further details regarding the per-dispute time for settlement will not provide meaningful information for additional analysis of PRTC's lead-lag study.⁷⁰⁴

⁷⁰⁰ Payment in Lieu of Taxes "PILOT" expense refers to a payment made by PRTC to the government of Puerto Rico. PRTC pays two types of PILOT expense. One mimics property taxes paid by non-government owned corporations and the other mimics gross receipts taxes paid by non-government owned corporations.

⁷⁰¹ *Id* at 5.

⁷⁰² AT&T Opposition at 36.

⁷⁰³ *Id.*

⁷⁰⁴ PRTC Rebuttal at 2.

APPENDIX D

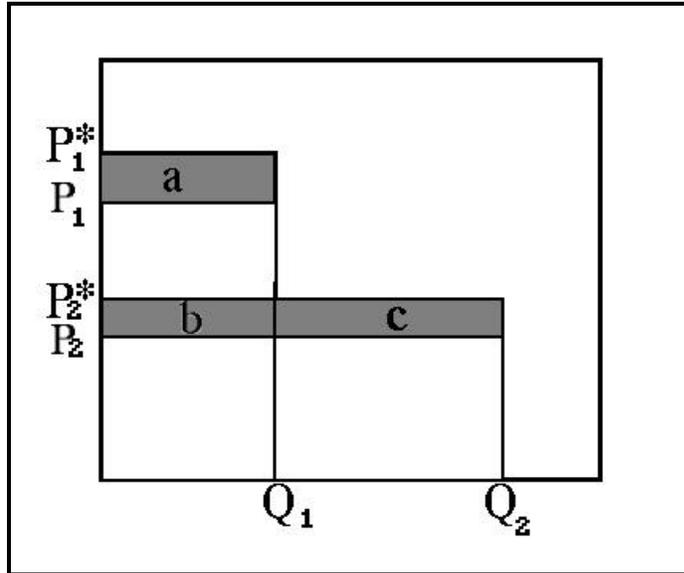


Figure 10: Impact of Price Caps and Growth on Revenues from an Exogenous Adjustment

In the above figure, assume that in 1991 LEC rates were adjusted upward from P_1 to P_1^* . LEC revenues increase by the difference between P_1 and P_1^* multiplied by Q_1 (the 1991 demand for lines and minutes). This is the rectangle labeled "a" in Figure 1. By 1997, price caps has reduced P_1 to P_2 , and the difference between P_2 and P_2^* has shrunk proportionately. Demand has grown more than prices have fallen, however, and the revenue attributable to the difference between P_2 and P_2^* has increased (rectangles "b" and "c"). The LECs opposing the R adjustment advocate reducing revenues by only rectangle "b". The R adjustment mechanism would reduce revenues by the full amount of revenue attributable to the original exogenous adjustment (rectangles "b" and "c").

Table A12: Actual and Forecast per-line BFP RR for GTE

| Tariff Year | GTE's Actual | GTE's Forecast | OB&C/Payphone Adjustments | Geometric Growth Forecast | 3-year Arithmetic Mean Forecast |
|-------------|-----------------|-------------------|------------------------------|---------------------------------|--|
| 1991/92 | \$6.61 | \$6.59 | | | |
| 1992/93 | \$6.56 | \$6.23 | | | |
| 1993/94 | \$7.57 | \$7.28 | | | |
| 1994/95 | \$7.44 | \$7.38 | | | |
| 1995/96 | \$7.18 | \$7.17 | | | |
| 1996/97 | | \$7.35 | | | |
| 1997/98 | | \$6.21 | | \$7.00 | \$7.40 |
| | | | \$0.15 | \$6.97 | \$7.55 |