

Before the
Federal Communications Commission
Washington, D.C. 20554

CC Docket No. 87-313

In the Matter of

Policy and Rules Concerning Rates
for Dominant Carriers

SECOND REPORT AND ORDER

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By the Commission: Commissioner Duggan concurring
in part and dissenting in part and issuing a separate
statement.

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I. INTRODUCTION AND BACKGROUND

A. Statement of purpose

1. This Report and Order adopts a new system of regulating the interstate common carrier services of the Nation's largest local exchange carriers (LECs). These companies, in providing the critical telecommunications link between a customer's premises and the interexchange networks, have until now been regulated under a "cost-plus" system of regulation, in which rates the LECs can charge for services are based on costs plus a return on invested capital. By our action today, the "cost-plus" system of regulation will be replaced for the largest of the LECs on January 1, 1991, with an incentive-based system of regulation similar to the system we now use to regulate AT&T. Incentive regulation will reward companies that become more productive and efficient, while ensuring that productivity and efficiency gains are shared with ratepayers.

2. In designing an incentive-based system of regulation for the largest LECs, our objective, as with our price caps system for AT&T, is to harness the profit-making incentives common to all businesses to produce a set of outcomes that advance the public interest goals of just, reasonable, and nondiscriminatory rates, as well as a communications system that offers innovative, high quality services. To accomplish this objective, the plan we adopt for LECs modifies the tariff review process to set a ceiling, or cap, on the prices LECs can charge for their interstate offerings. The price cap is subject to an annual adjustment that ensures prices will drop in real, inflation-adjusted terms. LECs that can outperform the productivity level embedded in the annual adjustment mechanism are rewarded with the ability to retain reasonably higher earnings than would be available under the former regulatory system. Depending upon their achieved returns, their ratepayers share in those earnings. Those LECs able to decrease prices beyond the required level can retain an even greater amount of earnings.

3. Price cap regulation of LECs, as we have designed it, is intended to produce rates within a zone of reasonableness. Higher earnings will be shared with, or returned to, ratepayers. The checks and balances built into the system ensure that, with periodic review and adjustment, price cap regulation can serve as a long term mode of regulation for the LECs subject to it. In this respect, we view price cap regulation no differently than many of the state governments and foreign administrations that have adopted incentive-based regulation for LECs' intrastate operations or their foreign equivalents, as a permanent method of regulation.

4. While the price cap system we adopt for LECs is similar in many respects to the one that we use to regulate AT&T, the differences in the markets involved, the difficulties in designing a single regulatory structure to apply to multiple companies, and a desire to safeguard regulatory programs promoting universal service, have required us at this initial stage to adopt an even more cautious and careful approach to the redesign of our regulatory processes than we did with AT&T.¹ As with the AT&T plan, the LEC price cap system essentially operates through the tariff review process to ensure rates are within the parameters our price cap rules require. However, the LEC system also contains additional safeguards, such as sharing of profits, that represent both a limited depar-

ture and logical outgrowth from the AT&T plan. Since the release of the *Notice* in this proceeding in August, 1987, the Commission has collected over 11,000 pages of pleadings in response to three subsequent Notices of Proposed Rule Making.² At each stage in the proceeding, the plan for LEC price caps has evolved in important ways. In this Report and Order, we again modify the plan to respond directly to concerns raised in the record.

B. Summary of the plan

5. The *Second Further Notice* proposed an interstate access price cap mechanism composed of three elements -- a measure of inflation, a productivity offset, and exogenous costs. We retain that basic adjustment mechanism, including the measure of inflation the Commission proposed³ and a specific list of exogenous cost changes that are generally beyond the control of the companies involved and the product of regulatory decisions. Also as proposed, we decide not to employ the basic cap mechanism for non-traffic sensitive common line services. The mechanism we adopt for common line service embraces the philosophy that local exchange carriers should split the benefits in growth in minutes per line for common line service with their ratepayers. This philosophy balances demand-inducing incentives to improve and diversify network offerings, with the recognition that under rate of return, carriers have had somewhat limited incentives to influence growth in demand. We modify the prior proposal in response to concerns expressed by commenters that the specific equations used to determine carrier common line rates produced an unintended windfall to carriers. The equations have been revised to ensure that half the benefits of demand growth are reflected in the resulting reductions in carrier common line charges. In addition to removing the unintended windfall created by the prior common line formula, we conclude that the previously proposed 3 percent productivity offset, which included a Consumer Productivity Dividend (CPD) of .5 percent, is too low given the recent performance of the largest LECs in the provision of interstate access. Therefore, for the interstate access activities of the LECs subject to price cap regulation, we will mandate a price cap that requires a higher 3.3 percent productivity gain each year including the CPD, or if a LEC chooses, a 4.3 percent productivity gain including the CPD. Selection of a higher productivity offset, *i.e.*, lowering prices beyond the mandated level, will permit the LEC to retain a larger share of its earnings.

6. We respond in two ways to concerns about the validity of the productivity offset as to the industry as a whole and as to individual LECs. First, we will limit mandatory application of the price cap system to the eight largest LECs -- the seven Regional Bell Operating Companies (RBOCs)⁴ and General Telephone and Telegraph Company (GTOC). The data we have collected as a basis for our selection of a 3.3 percent productivity offset is directly applicable to these largest carriers. For mid-sized and smaller LECs, price cap regulation will be optional. This decision addresses the concern that mid-sized carriers, those just below the largest eight in size, might not be able to generate productivity gains of the same magnitude as the largest LECs.

7. Our second response to concerns about the validity of applying a single productivity offset to a number of LECs is the adoption of sharing and adjustment devices. The mechanisms we adopt here ensure that ratepayers

share further in the benefits a price cap system can produce. If a LEC whose rates are at or below the price cap can outperform the 3.3 percent productivity offset embedded in the price cap, thereby earning a higher profit, the LEC will be entitled to retain all of its earnings up to 100 basis points (or 1 percent) above the 11.25 percent unitary rate of return established for rate of return carriers. When using a 3.3 percent productivity offset to establish prices, LECs must share with their customers 50 percent of their earnings between 100 and 500 basis points (1 to 5 percent) above the 11.25 percent level, and share (or credit their customers with) 100 percent of their earnings above 16.25 percent, or 500 basis points above 11.25 percent. Based on the 11.25 percent rate of return we select in the companion item we adopt today,⁵ this mechanism allows LECs whose productivity performance exceeds the 3.3 percent productivity offset to potentially earn up to an effective equivalent of a maximum 14.25 percent rate of return.⁶

8. If a LEC decides to lower its set prices further by using a higher productivity offset of 4.3 percent, the LEC can retain more of its earnings if it subsequently is able to earn higher profits through improved efficiency. In this case, the LEC can retain all of its earnings up to 200 basis points (or 2 percent) above 11.25 percent. LECs would share with their customers 50 percent of their earnings between 200 and 600 basis points (2 to 6 percent) above 11.25 percent, and share 100 percent of their earnings above 17.25 percent, or 600 basis points above 11.25 percent. In electing to lower prices further to a level reflecting a higher 4.3 percent productivity offset, a LEC thus enables itself to reach an effective equivalent of a maximum 15.25 percent rate of return.⁷

9. This sharing mechanism for carriers whose rates are at or below the price cap provides strong financial incentives for carriers to improve productivity to the maximum extent possible, while providing ratepayers with additional upfront benefits of productivity gains in the form of price decreases. If a carrier manages to produce significantly higher returns, those are returned to ratepayers in the form of prospective downward adjustments in the price cap. This plan eliminates certain disincentives posed by the previous plan for an automatic stabilizer device that was proposed to control high earnings of LECs under price caps. Such a stabilizer would have created permanent downward adjustments to the cap each time earnings rose above a specified level. As such, it would have created some of the same disincentives as our present rate of return system -- cost padding -- in order to avoid triggering the stabilizer.

10. We retain a lower end adjustment mechanism with modifications, in order to ensure that the plan automatically corrects itself should our selection of a productivity factor for the industry turn out to be too high for a given company. Should a LEC's earnings drop below the lower end figure established, that LEC is entitled to a prospective automatic upward adjustment to its cap. The lower trigger point will be located 100 basis points (1 percent) below 11.25 percent.

11. The price cap forms the cornerstone of the new regulatory system, at once protecting ratepayers as a group from high prices and providing carriers with the incentive to increase productivity. However, since a cap on aggregate prices can result in some offerings being priced relatively high, while others are priced relatively low, we adopt further ratepayer protections in the form of baskets,

service categories, and pricing bands. Baskets are broad groupings of LEC services, each subject to its own cap. Service categories are subdivisions of baskets. Pricing bands permit prices for service categories to move on a streamlined basis no more than plus or minus 5 percent per year, adjusted for the change in the price cap.

12. Together, the cap and pricing bands form a "no-suspension" zone, within which rates for LEC access services can be changed on a "streamlined" basis, *i.e.*, on 14 days' notice, with a presumption of lawfulness. If filed rates are at a level above or below the pricing bands, or above the cap, more burdensome tariff review requirements are used to evaluate the LECs' rates, and longer notice periods apply.

13. While the baskets continue to be defined by the interstate access structure contained in our Part 69 rules, we have decided to expand the number of baskets of services from three to four. The first three baskets will be common line services, traffic sensitive services, and special access services. The fourth basket is created for those LECs that offer interexchange services. As previously proposed, these offerings would have been included in the basket containing special access offerings. Inclusion of these very different services into one basket raised issues concerning the flow-through of exogenous costs that can be solved by separating the interexchange activity from interstate access. Furthermore, since these services compete with the offerings of interexchange carriers, we have decided to apply the productivity factor we use for AT&T: 3 percent. Since our short term productivity study did not include a separate evaluation of the productivity of these services, we believe it would be ill-advised to apply a higher productivity requirement to the LECs' interexchange offerings than we apply to AT&T.

14. Service categories are used in two of the four baskets to limit streamlined price movements.⁸ In the traffic sensitive basket, we create three service categories: (1) local switching; (2) local transport; and (3) information. In the special access basket, we have decided to modify the service category proposal, reducing the number of categories from nine to four. Our decision is based on consideration of the small, and in some cases, shrinking amount of certain special access services offered by LECs. By grouping similar services together, we believe we have effectively prevented opportunities for the LECs to engage in pricing discrimination or anticompetitive practices. The four categories we adopt are: (1) voice grade/WATS/metallic/telegraph; (2) audio/video; (3) high capacity/Digital Data Service; and (4) wideband data/wideband analog.

15. In response to concerns about recent strategic pricing of high capacity offerings,⁹ we will further limit a LEC's ability to move prices of its DS1 and DS3 services.¹⁰ Prices for each of these offerings, which represent a large and rapidly growing portion of the LECs' special access business, will be allowed to move on a streamlined basis no more than plus or minus 5 percent per year, adjusted for changes in the cap. By creating individual subindexes for these services, while placing voice grade services in a separate category, rapid and dramatic movements in the prices for these services are held in check.

16. As proposed, a few LEC services will be excluded from price cap regulation. These are services offered on a one-time or contract basis that do not lend themselves to an ongoing incentive-based regulatory system. For example, services such as those provided to the Federal Gov-

ernment in response to Requests for Proposal, individual case basis offerings, and special construction are excluded from price cap regulation.

17. Also as proposed, LECs subject to price cap regulation will use July 1, 1990 rates as a basis for their first price cap filing. Those rates were subject to scrutiny as part of the annual access filing and review process, and have thus recently been retargeted to earn the authorized rate of return. In the companion item we adopt today, we lower the authorized return. Price cap LECs will be required to flow through the effects of that adjustment to their price cap levels and rates as part of their initial filing.

18. Companies that are required to enter price caps, or that volunteer for price caps, are required to do so on an "all or nothing" basis; all affiliates, except average schedule affiliates, must enter the price cap system. Our "all or nothing" rule is intended to prevent cost shifting to affiliates that are regulated under rate of return from affiliates that are subject to price caps. In addition, price cap "volunteers" and their affiliates that currently participate in National Exchange Carrier Association pooling arrangements must remove themselves from the pools before entering price caps. To accommodate this requirement, we have slightly modified the exit rules for depooling carriers. We also decide to permit voluntary elections into caps on an annual basis.

19. The tariff review standards we adopt are the same as those we now use for AT&T. Tariff transmittals containing only price changes that are within the cap and pricing bands are filed on short notice. Only those transmittals that contain within-cap and within-band price changes to existing services are presumed lawful for tariff review purposes. Any filings that include rate changes below the bands must be accompanied by an average variable cost showing and are filed on 45 days' notice. Any filings proposing above-band rates are filed on 90 days' notice and must be accompanied by a showing that substantial cause exists to justify an above-band rate. Any above-cap filings are also filed on 90 days' notice and must be accompanied by a detailed cost showing that will enable the Commission to determine compliance with statutory requirements of just and reasonable rates that are not unjustly discriminatory. These latter two types of filings carry with them a heavy burden of justification and a strong likelihood of suspension. New services, defined as those that expand a ratepayer's range of choices, are filed on 45 days' notice and must be accompanied by a showing demonstrating that the new service will generate net revenues for the LEC over a specified period of time. Restructured services, those that simply redefine existing offerings, are also subject to 45-day notice requirements, and are not presumed lawful. We have decided that Open Network Architecture services, and other services that require fundamental changes in the structure of our access charge rules, raise pricing issues that can best be resolved in other proceedings.

20. To enhance our ability to evaluate the price cap system and to ensure that the incentives created in the plan operate in the public interest, we are retaining our existing monitoring and expanding our collection of service quality information. By doing so, we can measure the success of our regulatory program and ensure continued high quality service to ratepayers. Furthermore, we find that periodic reviews of our regulatory system are essential to keep it on track. We therefore adopt, as part of the

price cap package, the proposal to undertake a comprehensive performance review of the system after the end of the third year. The review, to be completed during the fourth year of the plan, will evaluate all aspects of LEC performance, and make any adjustments to the plan that are warranted.

C. Rationale for adoption of incentive regulation

21. In the *Second Further Notice*, the Commission articulated a policy judgment that incentive-based regulation is superior to rate of return for the regulation of certain dominant carriers, including local exchange carriers.¹¹ That policy judgment was based on a comparison of the existing rate of return system with an incentive-based system. In this Report and Order, we reaffirm the basic policy judgment that a properly-designed system of incentive regulation will be an improved form of regulation, generating greater consumer benefits, and we refine and further clarify the analysis yielding that conclusion.

22. As stated in the *Second Further Notice*, incentive regulation relies in the first instance on regulating prices. By establishing limits on prices carriers can charge for their services, and placing downward pressure on those limits or "caps," we create a regulatory environment that requires carriers to become more productive. Carriers that can substantially increase their productivity can earn and retain profits at reasonable levels above those we allow for rate of return carriers, although earnings above a certain level are shared or returned. If carriers fail to become more productive, they risk seeing their earnings erode. Rate of return regulation lacks incentives for carriers to become more productive. Under rate of return, carriers are allowed to set their rates based on the costs -- investment and expense -- of providing a service. Carriers are given fairly wide latitude in the costs they can claim as the basis for their rates.¹² As the Commission stated in the *Further Notice*, in this respect rate of return is akin to a "cost-plus" contract.¹³

23. Rate of return regulation in its present form has been with us for some time.¹⁴ As reported in previous orders in this docket, initial efforts to limit carrier profits, and to discover rates that would yield no more than the profit limit, met with mixed success. While proceedings to establish just and reasonable earnings levels were completed, early attempts to adopt a rational basis for allocating costs between services were unsuccessful.¹⁵ These initial attempts to apply a rate of return system to the pre-divestiture AT&T make clear that the process of championing consumer interests under a rate of return system is not a simple matter.

24. Of course, in the intervening years, the Commission has continually modified and upgraded its regulatory tools, and, in the process, solved many of the problems that confronted it in 1965. For example, our current system encompasses a set of rules for the routine retargeting of earnings limitations.¹⁶ In addition, extensive attention is placed on carrier costs. Costs enter the accounting system pursuant to our Part 32 Uniform System of Accounts, and are separated into regulated and nonregulated components in processes dictated under our Part 64 rules.¹⁷ Regulated costs are then separated into their interstate and intrastate components according to the Part 36 rules we jointly devise with state regulators. For LECs, interstate regulated costs are then allocated among the access elements we have prescribed in our Part 69

rules.¹⁸ Thus, when LECs file their annual tariff updates refining their access rates, a major part of the cost allocation process is dictated by our regulatory requirements.¹⁹

25. Efforts to improve our rate of return regulatory system continue. Our rules are continually being revised in an effort to produce a set of regulations that maximizes our ability to administer the rate of return system in the public interest.²⁰ Our lengthy, substantial, and ongoing efforts to improve our rate of return methods, however, cannot create the positive incentives that are embodied in incentive-based regulation.

26. The basic rate of return mechanisms that form the foundation of our current system of regulation were originally designed for the regulation of public utilities decades ago. When rate of return was applied by the Commission to interstate telephone operations in the 1960s, the regulatory environment in which it was introduced was vastly different from today. In 1965, rate of return needed to be applied only to one telephone services provider -- AT&T.²¹ One company essentially provided most local service, intrastate and interstate toll service, international service, virtually all research and development for the industry, as well as the manufacture of equipment through its Western Electric subsidiary.²²

27. Today, we operate in a much more complex environment. The divestiture of the seven RBOCs from AT&T not only brought into being eight entities where formerly there was one, but also compelled the establishment of a uniform, tariffed system of charging interexchange carriers for access to the local networks for the origination and termination of messages. For the first time, the Commission had to apply its rate of return mechanisms directly to 1400 providers of access -- the independent LECs and the RBOCs. Moreover, as the *Second Further Notice* discussed, the once-sharp boundaries between communications and data processing became blurred.²³ Advances in transmission technology, geometric advances in microchip technology, and an improved ability to manage and utilize the spectrum, caused previously unrelated industries to come into competitive interaction.²⁴ As domestic markets evolved, so did markets at the international level. LECs today are involved in a broad range of international activities, a movement that will surely continue given the movement toward the liberalization of world markets.²⁵ At the same time, international entities are actively involved in U.S. markets, particularly in the provision of telecommunications equipment.²⁶ Finally, our own pro-competitive policies provide an environment for increased competition for a wide variety of telecommunications goods and services.²⁷

28. In sum, the telecommunications environment LECs face has changed radically since the mid-1960s. And while we have made improvements in our ability to administer rate of return rules, the basic, underlying regulatory structure lying at the heart of our rules remains unchanged. We are also concerned that, particularly for the largest LECs, the system of regulation we currently employ does not serve to sharpen the competitiveness of this important segment of the industry at a time when markets for telecommunications goods and services are becoming increasingly competitive, both nationally and internationally. We are aware of the extensive debate currently in progress over the relative competitiveness of U.S. industries in comparison to those of Western Europe and the Far East.²⁸ We do not intend to ignore an opportunity to reshape our regulatory system in a manner that benefits

us in the international marketplace while also improving the productivity of the LEC industry and benefiting ratepayers.

29. In making the judgment that incentive regulation is superior to rate of return, we do not find that rate of return is necessarily a bankrupt regulatory practice, but only that it is not the best. Previous orders in this docket have contained lengthy discussions of the tendency of rate of return regulation to produce inefficiencies, as documented by various scholars.²⁹ Commenters in this proceeding have extensively debated whether the inefficiencies attributed to rate of return in the form of rate base padding or the padding of expenses actually occur in practice.³⁰ Our own experience with administering a rate of return system convinces us that carriers in fact attribute unnecessary costs to their operations in an effort to generate more revenue. Our experience also reveals, however, that rate of return oversight is a responsible, functional method of correcting for these tendencies.³¹

30. Unfortunately, a regulatory system that simply corrects for a tendency to pad investments or expenses is not a system that can also drive LECs to become more efficient and productive. But incentive regulation, by limiting the amount carriers can charge for their services and continually exerting downward pressure on those price ceilings, can.³² The downward pressure on price ceilings requires LECs to share the benefits of increased productivity with ratepayers in the form of lower rates. Both carriers and customers will be better off.

31. Opportunities presented by incentive regulation for enhancing efficiency in the LEC industry include the opportunity to provide better incentives for innovation. Innovation is not a term we define narrowly, as several parties do, to mean technological breakthroughs that lead to new services or offerings.³³ Our definition of innovation is far broader. Our definition incorporates innovation in management systems, administration, and in the multitude of what economists term "inputs" that are used to produce a firm's "output." In our view, innovation in how a company produces its output is one of the chief ways a company becomes more productive and efficient.

32. We do not subscribe to the view, attributed to this Commission by several parties on the basis of statements made in earlier orders in this proceeding, that our rate of return system necessarily discourages innovation.³⁴ Our view is that rate of return does not provide sufficient incentives for broad innovations in the way firms do business. Incentive regulation, by creating incentives for carriers to become more productive, generates powerful motives to innovate, and is a better way of regulating.³⁵

33. Arguments that the provision of interstate access is not a competitive activity, and therefore as a policy matter we should not pursue incentive regulation of interstate access, ignore the benefits price cap regulation can provide to ratepayers.³⁶ The companies we seek to regulate under an incentive-based system are large, publicly-traded firms, that compete daily for sales of nonregulated products and services, in the financial markets, and in the labor markets. If we can design a regulatory system for these carriers' access business that mirrors the efficiency incentives found in competitive markets, we will have put in place a system that will go a long way toward making the LECs stronger, more productive competitors for all of the markets in which they must operate. The result will be an even healthier, more vital sector of the U.S. economy, and lower rates for consumers. Moreover, in their

interstate access activities, the LECs continue to operate with substantial monopoly power and therefore with little incentive to become more productive. Applying incentive regulation to LECs is arguably a more significant regulatory reform in terms of its ability to generate consumer benefits than applying incentive regulation to a carrier or industry that faces substantial competition.³⁷

34. Another important reason for exploring incentive regulation for LECs concerns cost allocations and pricing. Previous orders in this docket have articulated the pressures that a rate of return system places on cost allocation systems.³⁸ In response to these pressures, the Commission has over time built up a complex system of cost allocation rules that track costs from their inception in the corporate books of account through their allocation to the various telecommunications services LECs provide. Indeed, given the incentives rate of return creates for companies to misallocate costs, thereby threatening our policy of ensuring that rates are based on their fully distributed costs, we spend a great deal of our regulatory resources policing our cost allocation systems.³⁹ Under incentive regulation, prices would no longer be set by reference to a set of fully distributed costs, but would be set by reference to a formula that tracks aggregate industry costs. Incentive regulation, by in large measure removing the incentive to misallocate costs between services, may mitigate misallocation as a regulatory concern.⁴⁰

35. While this is an important issue for us in terms of managing regulatory resources, which are scarce in comparison to the industry we regulate,⁴¹ we find there are also economic benefits to be obtained from moving away from a system in which regulators dictate prices on the basis of fully distributed costing principles, toward a system of limited pricing flexibility. It is more desirable to permit LECs to migrate their rates toward a set of prices that enhances efficiency. As we discuss *infra*, permitting flexibility in price-setting generates economic efficiencies that benefit ratepayers through lower rates. Since it is no longer required that every service cover its fully distributed cost of overheads, LECs also have the incentive to provide more services, to the benefit of ratepayers. Furthermore, with additional services, LECs can take advantage of economies of scope, also to the benefit of ratepayers.

36. Some parties have sought to equate pricing flexibility with the ability to engage in predation against the newly formed alternative access industry, or to engage in cross-subsidization to the detriment of particular classes of customers.⁴² We believe that the limited amount of pricing flexibility available to LECs under our incentive regulation plan will not grant a license to LECs to engage in predation or cross-subsidization. Indeed, our decision not to streamline price cuts below a certain level, and to require more detailed cost information for those price cuts, is testimony to our commitment to police any LEC attempts to engage in predation or cross-subsidization. Moreover, segregating LEC access services into four baskets defeats any LEC attempts to finance a predatory rate level by contemporaneously increasing rates for other services. And, since aggregate prices in these baskets cannot rise above the price cap ceiling, it should be difficult for LECs to engage in the classic predation scenario of lowering prices to predatory levels today in an effort to raise them to monopoly levels once competition is defeated.⁴³ Our Section 208 complaint process remains

available as a further check against possible predation. Thus, we remain committed to ensuring that rates are just, reasonable and nondiscriminatory.

37. Another, albeit less significant, reason for finding incentive regulation superior to rate of return lies in the effect the two systems have on the administration of the tariff review process. Incentive regulation provides a simple mechanism for creating a demarcation line between those tariffs that represent minor deviations from existing tariffs, and those representing more major changes. Moreover, incentive regulation provides a streamlined approach to cost support for those filings that do not substantially deviate from existing tariffs. Instead of requiring Section 61.38 cost data,⁴⁴ incentive regulation would simply require LECs to file indexes that show whether prices are within the cap limitations and are within the limits on annual movement in prices we establish. The process enables carriers to effect limited rate changes without regulatory intervention. And, as we have noted in previous orders in this docket, in the long run it substantially mitigates the administrative burdens carriers face in preparing and filing tariffs. At the same time, this approach allows regulators to focus additional scrutiny, and resources, in other areas.

D. Regulatory alternatives

38. In the course of debating the relative merits of price cap and rate of return regulation, a number of parties have asked the Commission to consider alternatives to price cap regulation.⁴⁵ Several parties ask that we instead focus on ways of improving rate of return regulation.⁴⁶ Some commenters unite behind the proposition that regulatory lag is a better alternative than incentive regulation.⁴⁷

39. Although improvement in rate of return methods is one possible course to follow in reforming current regulatory practices, it is not the best approach. We recognize that a number of state regulatory commissions have opted to improve rate of return regulation in redesigning their regulatory structures. Nevertheless, only a few states now continue to regulate intrastate LEC activities pursuant to traditional rate of return practices.⁴⁸ The majority of states have authorized significant reforms to their regulatory systems, as part of an effort to improve efficiency incentives, increase flexibility, reduce administrative burdens, and benefit consumers.⁴⁹

40. We believe that, where an incentive-based system can be designed to benefit both carriers and their customers, incentive-based regulation will produce greater benefits than adjustments to rate of return. We therefore disagree with those who advocate rate of return with a period of "regulatory lag" as a means of inducing carriers to become more productive. These parties argue that by delaying or "lagging" the repricing of earnings, carriers will have incentives similar to those offered by price cap regulation to become more efficient.⁵⁰ Regulatory lag produces none of the rate decreases that the proposed incentive system provides through the operation of our overall incentive-based plan, including the Consumer Productivity Dividend. Furthermore, the reality of the legal framework within which we must operate is that we could not hold carriers to a given set of prices during the period of the "lag," and we could not guarantee that carriers would be able to retain any profits above the

prescribed maximum. As the LECs argue, regulatory lag is unworkable given the existing requirements of the Communications Act.⁵¹

41. A growing number of state regulatory agencies appear to agree with our conclusion that shifting the regulatory focus toward prices that ratepayers pay, and de-emphasizing traditional rate of return principles, creates incentives for productive behavior. While not all incentive-based plans operating in states today have an indexed cap such as the one we propose for interstate access, the plans share a common goal of providing earnings incentives for carriers to become more productive, while benefiting ratepayers through stable or lower rates.⁵² These plans are often scheduled as limited-time trials.⁵³

42. California, New York and Michigan have incentive-based plans similar to the one we adopt for interstate activities. California's plan is most like ours, with a formula for annual adjustments based on GNP-PI, a productivity offset, and exogenous costs. California also uses a sharing mechanism. California's plan differs from ours in its inclusion of a network investment component, and its intention to perform a complete review after two years. New York has separate regulatory plans for New York Telephone (NYT) and Rochester Telephone. The NYT plan includes a price floor based on incremental cost, and sharing with customers of NYT earnings over an allowed level. The Rochester plan includes an annual adjustment formula based on inflation with a productivity offset of 3.25 percent and exogenous costs; it also includes a sharing mechanism that operates above a certain earnings level. The Michigan plan also includes an interim (2-year) review as well as a final review.

43. Incentive regulation may take other forms as well. The Vermont commission and New England Telephone (NET) have agreed upon a Negotiated Social Contract, effective 1988-92. Under this contract, NET's local service rates are frozen; its toll, WATS, and Centrex rates are capped. NET's new services and digital data services are deregulated. In addition, many states are seriously considering, and are considered likely to implement, specific incentive regulation proposals, while others have undertaken a general study of various regulatory reforms.⁵⁴

44. Despite the strong and growing presence of incentive-based regulation as a means of regulating LECs, a number of parties argue that a price cap plan along the lines advanced in the *Second Further Notice* and in the *Supplemental Notice* should not be adopted.⁵⁵ We disagree. In reviewing the arguments concerning specific aspects of the proposed plan, we have made several substantial modifications. With these changes, we believe that the LEC price cap system will operate in the public interest. We therefore decline the invitation of some parties to extend even further the extensive record before us and to renew our study of the issues.⁵⁶ In this Order we adopt a set of final rules to begin price cap regulation of LEC interstate access services effective January 1, 1991.

E. Summary of the Order

45. The Order is divided into the following substantive sections. The first section discusses the operative portions of a price cap regulatory system. We begin with a discussion of the capping mechanism, including the sharing and adjustment device. Next, we discuss the services that price cap regulation will apply to. In the baskets and bands discussion, we review necessary limits to LEC pricing flexibility. We then discuss our use of actual rates as a

basis for launching price cap regulation. The next sections discuss eligibility requirements, tariff review standards, and issues relating to small companies that will continue to be regulated under rate of return.

46. The Order next reviews the monitoring requirements we will impose. We discuss expanded service quality requirements, our current monitoring efforts, as well as the performance review that we will undertake after the third year of price cap regulation. We also briefly discuss how the price cap system affects other existing regulatory programs. We conclude with a discussion of our legal authority to adopt price cap regulation for LECs.

II. THE PRICE CAP PLAN

A. The Price Cap Index

47. The Price Cap Index (PCI) is designed to limit the prices carriers charge for service. By employing a regulatory system that shifts our focus to prices while permitting retention of some reasonably higher earnings, we provide carriers an incentive to become more productive, and to offer new services. To provide a quantitatively achievable incentive for the LECs, the price cap mechanism includes components that reflect historical LEC productivity, and then requires them to out-perform historical trends. These factors are the productivity offset and the Consumer Productivity Dividend. The establishment of an objective productivity hurdle that applies to prices in each year of the plan provides the LECs an incentive to be more productive, since an improved productivity performance above the amount required by the formula permits them to generate and retain higher earnings.

48. The PCI contains three components. The first two, a measure of inflation less a productivity offset, represent the amount by which carrier productivity has historically exceeded productivity in the economy generally. The value attached to the PCI is further permitted to move up or down in response to specific exogenous cost changes. Exogenous cost changes are generally outside the carrier's managerial control and are often the product of this Commission's own regulatory actions.

49. In broad terms, the PCI is the first test of whether a carrier's tariff filings qualify for streamlined review. By setting price limits that are defined by changes in input costs, the formula controls aggregate rates charged by carriers from fluctuating beyond a "zone of reasonableness". The component parts of the formula — the measure of inflation, the productivity offset (including the Consumer Productivity Dividend), and the specific exogenous factors — are discussed below.⁵⁷

1. GNP-PI

50. As the Commission found in adopting price cap regulation for AT&T, we believe that the Gross National Product Price Index (GNP-PI), regularly calculated by the U.S. Department of Commerce, is the best inflation adjuster available for use in the price cap index. In proposing the GNP-PI, the Commission sought an index that would reflect changes in costs that carriers face and that would not exhibit volatility attributed to inflationary pressures in one or two sectors of the economy. The Commission also sought an index that the LECs could not influence or manipulate. While we acknowledge that no

existing index perfectly serves these purposes, we find that a broad-based index best matches the criteria we seek in an indicator that measures changes in the cost of factors of production. After considering various other indicators, including the Consumer Price Index (CPI), the Producer Price Index (PPI), and the Gross National Product deflator (GNP deflator), we are persuaded that the GNP-PI is the best option available. While we adopted the 75-day GNP-PI estimate for AT&T, we find that different considerations are determinative here, and that the 45-day estimate is more appropriate for LEC use. As the LECs noted in earlier pleadings,⁵⁸ the use of the 75-day estimate would leave them inadequate time to incorporate the GNP-PI for their annual tariff filing in April. Accordingly, we are adopting the 45-day GNP-PI estimate for use by price cap LECs.

51. In adopting price caps for AT&T, the Commission determined that the CPI and PPI reflect fewer sectors of economic activity than does the GNP-PI, and thus are more volatile and are less likely to reflect the costs faced by carriers.⁵⁹ The Commission suggested that the broad-based GNP-PI is superior to indexes that reflect only consumer prices or the prices faced by manufacturers. Further, the Commission rejected the use of a current-weight index like the GNP deflator, since such an index cannot be used to compare the present cost of an item with its cost in a previous period.

52. The GNP-PI, like the CPI, is a fixed weight index, and allows period-to-period comparison based on an historical base period.⁶⁰ While the CPI summarizes price changes that occur in goods and services that consumers purchase, the GNP-PI summarizes price changes that occur in all sectors of the economy, not just consumer items. The expenditure categories and the weights within CPI, based on consumer items, cover only about 65 percent of the changes considered by the GNP-PI. This is because the CPI includes nothing but final sales to consumers, while most of the LECs' purchases are of intermediate and capital goods. While the GNP-PI does not mirror the LECs' expenditures exactly, it does encompass investment goods as well as consumption expenditures.⁶¹ Over the last thirty years, the CPI and GNP-PI have been highly correlated, with the CPI's movements generally matched by GNP-PI movements about 80 percent as large. The CPI is far more volatile, due in part to its emphasis on categories that have larger weights in consumers' budgets than their importance in the economy as a whole, such as large increases for energy and medical care. LEC commenters support the use of the GNP-PI.⁶²

53. With regard to the GNP deflator, the Commission stated that it was not convinced that the correlation between the GNP deflator and the AT&T pre-divestiture index, the major assertion made by commenters supporting use of the GNP deflator, overcomes the difficulties of adopting a current year weight mechanism for use as a price index.⁶³ The use of a current year weight means that the index cannot be used to measure price changes on a period-to-period basis, since changes in the quarterly composition of GNP can affect the GNP deflator even if there were no changes in prices.⁶⁴ As the Commission stated in adopting price caps for AT&T, the Commerce Department itself advises against using the GNP deflator as a price index.⁶⁵

54. In the *AT&T Price Cap Order* the Commission also discussed, and rejected after careful consideration, the suggestion of some commenters that it develop an in-

dustry-specific cost index. The Commission stated that such an index would be too vulnerable to manipulation by individual LECs or groups of LECs. Further, it stated, the development of such an index would be difficult and time-consuming, and once developed, the index would require some lengthy period of trial and adjustment.⁶⁶ In this proceeding Indiana has renewed the argument in favor of an industry-specific index, but has provided neither information regarding how this could be effected, nor any persuasive argument that the potential for manipulation is smaller, or the difficulty less, than the *Second Further Notice* indicated.⁶⁷ We accordingly conclude that formation of an industry-specific cost index for use in a LEC price cap system should be rejected.

2. Measuring LEC productivity

a. Common Line formula adjustment

55. The basic concept of a price cap plan, as the name indicates, is to focus regulation not primarily on a component of price such as earnings, but more on the actual prices the customer sees on the bill. Thus, the AT&T price cap formulas and those we are adopting for most LEC access rates are based on a relatively straightforward limitation on the rates as charged. For these services, increased productivity is directly reflected in reduced unit cost and thus in the reasonable rate for each unit the customer buys.⁶⁸

56. Common line (CL) rates, however, present a unique problem, because of the important social goals and programs that have been embedded in those rates. Common lines are local subscriber loops linking the customer's phone to the local exchange office. The actual costs of these loops are non-traffic sensitive. That is, the cost of a loop is the same regardless of how much or how little the loop is used, or whether the calls are local, intrastate toll, or interstate toll. However, CL costs are recovered in part through rates that do reflect traffic.

57. As part of past programs to balance goals of more economically efficient and rational prices with universal service, the Commission, in cooperation with state commissions, has developed a calibrated program to recover CL costs. First, a flat 25 percent of those costs is allocated to the interstate jurisdiction, regardless of usage. Second, a portion of those costs is recovered by flat, per line monthly rates charged to local end users. These end user or subscriber line charges are capped at \$3.50 for residential and single-line business customers and \$6.00 for multiline businesses. Third, a special access surcharge of \$25 per line is charged to interstate special access lines that are switched to interconnect with local common lines. Fourth, the remaining CL costs are recovered by per minute carrier common line (CCL) charges, which are assessed, per minute of use, on interexchange carriers and customers using interexchange, interstate services such as foreign exchange. And fifth, to promote universal service and nationwide-averaged rates for the small town and rural subscribers served by the hundreds of LECs in the National Exchange Carrier Association (NECA) pool, the NECA CCL rate is maintained at the industry average CCL rate by means of support payments contributed by other, non-pooled LECs.⁶⁹

58. This Commission's consideration of regulatory reform under price caps in no way indicates any retreat from its goals of economic efficiency balanced with universal service and affordable rates. In particular, we have

not adopted any change in the rules setting a maximum limit on subscriber line charges. We also retain the \$25 special access surcharge, which recovers a share of local exchange costs from large users. At the same time, we do wish to provide incentives for greater productivity in the provision of common lines as well as for other access elements. To accomplish this has required a special formula to mesh the residual CCL rates into the price cap plan.

59. We have considered three separate formulas in earlier Notices. One formula would cap a total CL rate per minute, computed as if none of the total amount were recovered by end user charges. The CCL rate would then be computed as the difference between the CL price per minute and the end user price per minute. This formula would have the effect of treating any increase in demand per line as an improvement in productivity. It was supported by the LECs.⁷⁰ We also requested comments on use of a per line formula, under which all growth in minutes per line in one year would be applied to reduce the maximum CCL rate in the next year. LECs would benefit from any productivity gains derived from reducing average costs per line, but not from any increase in usage per line. The per line formula was favored by other commenters, such as AT&T.⁷¹

60. Third, we considered and proposed in the *Second Further Notice* a formula that combined both of these methods. This formula was a simple average of the per minute and per line formulas advocated by the various contending commenters. We referred to it as the "50-50" formula. Essentially, it represented a compromise that recognized that demand growth over common lines is, in substantial part, outside the LECs' influence and control, because usage largely depends upon the services and rates offered by the interexchange carriers. But we also judged that the LECs do have the ability to encourage CCL growth as well as to reduce costs. A subsequent Public Notice by the Chief, Common Carrier Bureau explained the mathematics of this proposal, giving examples of how the 50-50 formula would be used to calculate the allowable CCL rate under price caps.⁷²

61. In the comments received since the *Second Further Notice*, the LECs continue to prefer a per minute CL formula. BellSouth contends, for example, that growth in usage per line is a source of scale economies embodied in the historical productivity studies, and is necessary for the LECs to meet the Commission's aggressive productivity factor.⁷³ The effect of a per line formula, and its failure to treat demand growth as productivity growth, is said to create an especially difficult hurdle for small and mid-size LECs.⁷⁴ A per line approach is also said to penalize LECs who plan to bring service into previously unserved areas with higher costs.⁷⁵

62. The LECs do generally agree that a 50-50 plan is a better alternative than a per line plan. SWB states, for example, that the proposal strikes a reasonable balance between competing interests.⁷⁶ NYNEX describes it as a workable alternative.⁷⁷ There are, however, three major objections to the 50-50 formula in the record. AT&T and other commenters contend first that the LECs have little ability to influence growth in usage per line, and that the per line formula accurately recognizes this, while 50-50 does not.⁷⁸

63. Second, AT&T and other commenters also contend that the mechanics of the 50-50 formula produce what they claim is an anomalous result. Under current rate of

return regulation, an increase in CCL usage produces lower rates, in part because CL costs do not vary in relation to usage. Under the 50-50 formula as clarified in the Public Notice, an increase in CCL usage could result in an increase in the allowable CCL rate. This result is said to create a windfall for the LECs, who are allowed to increase prices without any corresponding increase in costs.⁷⁹

64. Third, commenters also contend that the choice of a formula is related to the level of the productivity offset factor, and that the proposed 3 percent factor combined with the 50-50 formula would allow unreasonably high rates. Ad Hoc contends, for example, that the effect of the formula is to reduce the productivity offset for the CCL basket to zero.⁸⁰ AT&T and MCI argue that the historical productivity studies do not necessarily measure output only in minutes, and there is no logical basis to claim that those numbers fully reflect productivity associated with demand growth on per minute CL costs.⁸¹ The productivity studies on which the proposed factor was based are said to use lines -- not minutes of use -- as the output variable.⁸²

65. The fundamental principle of price cap regulation is that increased efficiency is most surely generated by profit incentives; where the LECs have the ability to spur higher productivity, they should be given a fair incentive to do so. An increase in average usage per common line could represent an increase in productivity, and we continue to believe that the LECs have opportunities to affect this particular form of productivity gain, despite some commenters' claim to the contrary. The LECs directly provide some services that generate interstate CCL minutes of use, such as foreign exchange and interexchange long distance. The rates, service features, and marketing of those services can be expected to influence CCL demand. Moreover, installation of new technologies such as SS7 signalling can increase the vitality of competition in areas such as 800 service, helping generate lower rates and increased demand. Improvements in network facilities and operations that improve set up times, call completion ratios, and transmission quality should also encourage usage over common lines instead of private lines and bypass facilities. Expanding features available with toll services, such as call waiting and call forwarding, and developing entirely new common line-based services such as ISDN, would increase the value of common lines to customers, and thus the usage per line. LEC advertising to encourage calling and to highlight the benefits of telephone service generally is likely to spur interstate as well as local and intrastate toll traffic. The LECs frequently provide the billing and collection services associated with services using the CCL rate elements, and their improvements in the utility of the information contained in the bills, the reduction of uncollectibles, and the lowering of the price can all be expected to stimulate CCL-based services in preference to private line or bypass.

66. Of course, interexchange carriers also influence growth in usage. Most interexchange services are provided to retail customers by the interexchange carriers, who establish the specific service offerings such as ordinary long distance, WATS, 800, and more specialized services. Improvements in the price, quality, and features of these services will directly encourage increased usage of access service and facilities, including common lines. Increases

in usage as a result of interexchange carriers' efforts and decisions are also an important source of productivity gains.

67. Under rate of return regulation, increases in CCL minutes per line were almost entirely flowed through to rates, so it is difficult to predict the extent to which LECs will be able to spur additional increases under price caps. It is correspondingly difficult to weigh this potential productivity gain against gains that result from independent actions taken by the interexchange carriers. If any productivity incentive is to be created for LECs to increase CCL minutes per line, some initial judgment is necessary on how the benefits are to be shared.

68. Within the overall formula of the price cap plan, we continue to believe that an approximately equal, 50-50 division strikes the best balance, at least in the initial four year period of price cap regulation. In the past, increased minutes per line were largely spurred by the subscriber line charge program, which lowered CCL rates substantially and stimulated long distance calling. Those productivity gains are already built into the existing rates that provide the starting point for price caps.

69. In the future, productivity gains will depend more directly upon the operational performance of both the LECs and the interexchange carriers. There is no determinative evidence in the record to establish whether future productivity from demand increases will originate more from LEC or interexchange carrier efforts. However, we conclude that future growth can be maximized only if both are encouraged to search out ways to become more productive, and both are rewarded for their success. A per line formula would give 100 percent of the benefits to the interexchange carriers and other interexchange customers, and a per minute formula 100 percent to the LECs. While a 50-50 sharing of the benefits may not be a precise reflection of LECs' ability to influence usage, it has the very substantial merit of recognizing the roles of both LECs and interexchange carriers in a way that neither of the 100 percent-type formulas can. We are very reluctant, especially at the beginning of the program, to include in the plan a feature that would actively discourage potential sources of increased productivity. In principle, we remain of the view that a CCL formula that provides approximately half the benefit of demand growth to LECs and half to interexchange carriers is the most reasonable approach to ensuring that both will have the opportunity for CCL demand productivity improvements, and the incentives to exploit them, in light of the special programs for common line rates.

70. We recognize that, in isolation, consumers may seem better off under a per line formula if demand per common line increases. In the long run and in the overall operation of the price cap program, however, consumers should be better off under the Balanced 50-50 formula. For example, we described the per line formula as giving all the benefits of demand growth to customers, but it also gives them all the risks of a decline in growth per line. There is no guarantee that demand per line will increase, especially in an economic downturn. The Balanced 50-50 formula shares both gains and losses in usage per line between LECs and customers, so that customers enjoy lower rates when demand growth slumps than they would under a per line formula. In addition, as the added incentive of the Balanced 50-50 formula encourages LECs to upgrade their networks in ways that stimulate growth in demand, consumers should benefit from improved ser-

vices. They will also benefit from a half share of productivity gains that might never have occurred at all if LECs had not been given the incentive to generate them. Within the structure of the price cap plan, including the increased productivity offset and the sharing requirements, the Balanced 50-50 formula should help to create benefits for both consumers and LECs. We will, in addition, monitor demand growth and, if necessary, adjust the formula during our fourth year performance review.⁸³

b. Mathematics of the Common Line formula

71. We do find merit in contentions that the specific 50-50 formula calculations we had proposed do not in fact always result in a sharing of the benefits of demand growth in accordance with the policy determination outlined above. In some circumstances, it appears that the formulas as proposed could have the anomalous result not of sharing these benefits, but of actually allowing CCL rates to increase as minutes increase. This was not our intent, and it is thus necessary to correct the formula to ensure both that a reasonable growth incentive is created and that rates will continue to decline as demand increases. Recognizing the problem, some parties proposed new CCL formulas.⁸⁴ The Commission's proposed 50-50 formula had two parts: first it computed a price cap index on the overall CL basket, then it set a specific maximum CCL rate. AT&T's formula would retain the PCI part of this formula, but replace the CCL calculation with the same API method used in other baskets, computing weights for the SLC and CCL components of the CL basket. We have found, on examination, that this approach creates another per line formula, with virtually all benefits of demand growth flowing through to interexchange carriers.

72. Similarly, USTA responded by proposing its own so-called Index formula. In practical effect, the USTA formula gives virtually all benefits of demand growth to the LECs. As demand increases, CCL rates would be virtually unchanged. The USTA formula is thus also unacceptable.

73. Upon closer examination of our proposal and of the comments filed in this proceeding, we find that none of the new formulas, nor the specific calculations within the previously proposed 50/50 formula, reasonably accomplish the balanced goals we seek: strong growth incentives and lower rates. To address this problem we have therefore developed a modification of the original 50-50 formula that does accomplish both goals. The modification, which we are calling the "Balanced 50-50" formula, is described in detail in Appendix E. Basically, the revised formula replaces the factor for growth in minutes per line ("g" in the original formula) with use of half of the growth, or $g/2$, in both parts of the calculation, the overall basket PCI and the CCL calculation. Conceptually, in place of the average of the per line and per minute approaches in the old 50-50 formula, this more balanced 50-50 formula reduces the PCI by a percentage representing half the growth in demand per line in the prior year. The formula, as revised, will accomplish the intended balance of goals. As demand increases, the CCL rate will be pressed down, though not by as much as in a per line formula. The difference should provide a substantial incentive for LECs to undertake programs and activities to stimulate CCL usage.

c. Productivity offset

74. In prior Notices in this proceeding, the Commission explained that the mechanism used to cap LEC rates must include both a measure of inflation and a measure of the amount by which LEC productivity exceeded that of the economy as a whole.⁸⁵ The inflation measure embodies economy-wide productivity gains and price changes, while the "productivity offset" subtracts the amount by which LECs can be expected to outperform economy-wide productivity gains. As we did in the selection of AT&T's productivity offset, we consider both short term and long term measures of historical productivity to provide guidance in selecting an equitable productivity factor. We also take into account that historical studies can provide only limited guidance in setting a productivity offset that will be reasonable in an unknown future, not a known past. Based upon our review of the methods and results of historical productivity analyses, and of their application to the future, as well as of the comments filed in this proceeding, we conclude that the offset previously proposed in this proceeding is insufficient. We are therefore increasing the proposed 3.0 percent productivity offset for LEC interstate access services (including a 0.5 percent CPD to ensure direct benefits to ratepayers) to either 3.3 or 4.3 percent, depending upon the level of sharing a LEC chooses. This increase in the productivity offset is in addition to the increased productivity challenge generated by our adoption of the Balanced 50-50 common line cap. The result is an increase in the overall challenge of the price cap plan to the LECs, and substantially increased benefits to customers.

1) Purpose of the productivity offset

75. Setting a reasonable target and requirement for LEC productivity is one of the critical tasks in ensuring that the price cap plan will work as intended. As we have discussed in the various Notices in this proceeding, there is a substantial body of evidence indicating that the telecommunications industry has historically been more productive than the American economy as a whole.⁸⁶ As a result, the productivity growth embedded in the GNP-PI data has not fully reflected changes in the costs of factors of production for LECs or the changes in their prices; the higher than average growth in LEC productivity has resulted in lower than average telephone prices, relative to inflation. To reflect this fact in the price cap plan, a productivity factor offset must therefore be included in the price cap formula, to ensure that rates continue to decline relative to our measure of inflation, GNP-PI.

76. Our approach to establishing a reasonable offset has been in two stages. First, we have examined evidence and studies on historical telecommunications productivity, to establish an accurate productivity baseline, a level that LECs would be expected to achieve without regulatory reform. Second, we have proposed to add an additional productivity obligation, the Consumer Productivity Dividend or CPD, to assign the first price cap productivity gains to customers in the form of lower rates. This combined productivity offset factor, in combination with the additional rate reduction incentives and requirements in the backstop mechanism, is intended to balance fairly the interests of customers and LEC shareholders, while fostering their joint interest in a more efficient telephone industry.

77. In the earlier Notices, the Commission analyzed the economic literature on telephone company productivity, including available published studies as well as additional

studies performed by the parties for this proceeding. Many of these studies were useful, but none fully and conclusively addressed or answered the specific question of the proper baseline productivity for LECs subject to price caps. In general, though, the studies fairly consistently supported a historical productivity offset ranging between 2 and 3 percent over the last 40 years, with slightly lower values in the earlier years. Based upon this record, the Commission adopted a productivity offset of 3 percent for AT&T (a baseline of 2.5 percent and a 0.5 percent CPD). The Commission proposed to apply the same productivity offset to the LECs, but also recognized the substantial additional issues and problems in establishing a reasonable figure for the LECs, who vary substantially in size and geography. Previous Notices requested additional studies from the parties,⁸⁷ and also requested comment on two new studies performed by Commission staff members: a short term study of productivity for interstate switched access since the Bell System divestiture and a long term study of the total telephone industry between 1928 and 1989.⁸⁸

78. We have once again thoroughly examined the evidence and studies of record. This analysis involves extremely complex and technical issues of data accuracy, assumptions, necessary adjustments, and statistical methodology.⁸⁹ We have found that long term measures tend to result in a lower productivity offset, while short term measures result in a higher productivity offset. As the *Supplemental Notice* suggested, therefore, the selection of an offset requires us to exercise our judgment to resolve this disparity in the historical record. Even if the historical record were clear, the future is not. The historical studies cannot assure that the future, in which the price cap plan will be applied, will not differ from the past.

79. We need not repeat at length our discussion in the previous Notices and in the Appendices to this Order the many technical issues raised by these studies. In this section of the Order, we discuss the technical issues germane to the various studies only to the extent necessary to explain the rationale for our decision to adopt a substantially higher productivity factor than the Commission had originally proposed.

80. AT&T's "simple" plan. In its Supplemental Comments, AT&T proposes that we replace the previously proposed price cap formula of GNP-PI less a productivity offset of 3.0 percent by a "simple" plan that would freeze prices for the next four years, regardless of inflation, but with adjustments to reflect exogenous cost changes.⁹⁰ AT&T projects that inflation will average 4.1 percent per year during this period. AT&T also proposes to cap individual rates, and argues that no stabilizer or sharing would be necessary under this plan.

81. AT&T's estimate of inflation is, of course, only a prediction. If AT&T is correct, the rates under its plan would imply a 4.1 percent productivity offset. If inflation differs, actual results would also differ. But we do not believe it reasonable or prudent to try to predict inflation so far into the future. AT&T's plan would require annual adjustments in the PCI to reflect exogenous changes in any event. A simple additional adjustment to reflect actual GNP-PI should be a more accurate, less speculative means of reflecting inflation.

82. Moreover, AT&T's "simple" plan assumes that all LECs will price at the full rate permitted by the PCI formula, and argues that the end result would be reasonable even without a backstop plan. The backstop plan we

are adopting encourages LECs to set a higher productivity target for themselves, and thus lower rates further. It also requires rate reductions at specified earnings levels. Overall, these additional mechanisms should significantly increase the benefits of the plan to customers and produce rates lower than those likely to occur under this AT&T proposal.

83. *Short term historical productivity studies.* Alternatively, AT&T and its analysts, supported by other large customers and their analysts, argue that the productivity offset should be set based solely upon short term, post-divestiture productivity, but ignoring the first year after divestiture, 1984.⁹¹ The data from this year are claimed to be out of trend statistically, as well as inaccurate, due to post-divestiture turmoil. These commenters also argue that the access rates that took effect after adjustment by the Common Carrier Bureau on July 1, 1990 are consistent with and thus confirm the validity of the 1985-89 productivity trends as a predictor of the future under rate of return regulation.⁹² LEC commenters argue that there is no valid basis for discarding the 1984 data, and contend that the Bureau's adjustments to the July 1, 1990 rates amounted to a premature upfront price cap rate cut.⁹³

84. We have examined the claims raised concerning both the 1984 and 1990 data points. Based upon this examination, we believe that both provide important information regarding post-divestiture productivity. While there were some errors in the 1984 data supplied by the industry and used in the staff's short term study, we have identified and corrected those errors in the revised study, as detailed in Appendix C. We have also included data using the rates scheduled to be in effect under rate of return regulation from July 1, 1990 through June 30, 1991, rates that were the result of the LECs' own access rate reductions and the analysis of Commission staff, based on the record in that access proceeding. Taken together, the 1984 through 1990 data, adjusted for numerous exogenous factors and events, represents the best single view of post-divestiture productivity growth, adjusted for inflation, for the services we are considering -- interstate switched access. The study contained in Appendix C indicates that the productivity offset necessary to replicate switched access prices would have been approximately 3.5 percent from June 1984 through June 1991, using a Balanced 50-50 price cap formula.⁹⁴

85. *Short term prospective studies.* The staff's short term study is historical. It calculates a productivity offset to match 1984 through 1990 costs, demand, and revenues but does not attempt to evaluate how representative that period was or will be for the future, except by attempting to remove exogenous factors. The main analysis supporting claims that rates could be higher under price caps than under projections of the continued application of current rate of return regulation was submitted by AT&T. AT&T extracts data from the staff's short term, post-divestiture study to perform two prospective analyses of rates.

86. AT&T claims its first study computes the differences between the revenues the LECs would be allowed, under the original 50-50 formula, if a price cap plan using a 3.0 percent productivity factor is adopted, rather than the 3.8 percent or 5.63 percent factors calculated in the original short term study,⁹⁵ or the 5.63 percent or 6.9 percent factors computed by AT&T consultants.⁹⁶ The difference between the 3.8 percent factor in the short term study and

the higher factors primarily relates to the inclusion of 1984 data. As we have discussed above, we agree that the 1984 data should be corrected, but we cannot agree that it should be ignored, as AT&T proposes in computing its higher factor. That data is part of the historical record and experience under rate of return regulation, and an analysis that ignores it distorts how rate of return has worked in practice. A short term post-divestiture study also necessarily has a limited number of data points for analysis. To suggest total reliance on a short term study, but to exclude a significant part of the available data, is an inconsistent and unreliable approach.

87. AT&T's second study is based upon a computer model developed by AT&T to forecast future price cap and rate of return results for switched access rates.⁹⁷ As inputs to the model, AT&T assumes the values for several parameters, principally demand growth, growth in total non-traffic sensitive (NTS) costs, and growth in traffic sensitive (TS) costs per minute. Based upon what AT&T asserts is a reasonable range of values for each of these parameters in the next four years, AT&T then computes a range of what it presents as the likely rates that would occur under both continued rate of return regulation and price caps, using the previously proposed 50-50 price cap formula and a productivity factor of 3.0 percent. AT&T concludes, based upon these assumed parameters and the operation of its computer model, that the Commission's proposal will permit LECs to charge customers approximately \$5 billion more over the next four years under price caps than under continued rate of return regulation. It also calculates that the baseline productivity factor should be more than doubled from the Commission's previous proposal and set at 5.90 percent to limit LEC revenues to those AT&T argues would be permitted under rate of return regulation.

88. As with any model, AT&T's results depend upon the reasonableness of both the input parameters and the equations in the model itself. Both have been criticized,⁹⁸ and our own review indicates that several of these criticisms are valid and undercut the study's conclusions. For example, this study also discards 1984 data in setting the parameters for likely TS per minute rate changes under rate of return regulation. This single decision has a major effect on AT&T's results. AT&T assumes that TS cost per minute will most likely decline by 1.5 percent per year, based upon 1985-1989 data. But AT&T admits that inclusion of the 1984 data implies a TS cost *increase* of 1.2 percent per year. In comparison with this more complete data set, AT&T's study thus understates likely rates under rate of return regulation by from \$1.4 billion to \$3.1 billion.⁹⁹

89. AT&T also assumes historically high levels of growth in switched access demand, from 8 to 12 percent with a most likely figure of 10 percent. Although switched access growth has been robust during the post-divestiture period, this growth has been strongly stimulated by the Commission's implementation of subscriber line charges and the resulting rapid decline in the carrier common line rates paid by AT&T and other interexchange carriers. Long distance rates declined by an unprecedented 40 percent during this period even without adjustment for inflation. Other exogenous changes also helped reduce rates (e.g., the removal of inside wire costs), and the economy was consistently growing throughout this period. While AT&T does include some adjustment for these factors, it appears likely that its

growth parameter is still overstated. AT&T itself used a lower range of growth projections in comments filed only last year, and there is no apparent basis for increased demand growth now.¹⁰⁰ In fact, the recent slowing of the national economy suggests that demand growth is likely to be more sluggish in the next few years, and will more likely be in the range of 6 to 10 percent claimed by USTA. Overall, we do not believe AT&T's prospective studies provide a sufficiently reliable foundation for its projections of likely future rates under rate of return regulation.

90. *Long term historical studies.* The 3.0 percent productivity offset proposed in the earlier Notices was largely based on long term historical studies of pre-divestiture Bell System productivity growth. To explore the validity of these studies, Commission staff performed an additional long term study, measuring productivity indirectly between 1928 and 1989. That study indicated that the telephone industry had exceeded total industry productivity growth by 1.7 to 2.0 percent during this period. It also concluded that high or rising inflation was associated with relative prices that fall below the average trend line.¹⁰¹

91. We have examined the comments filed regarding the long term study and revised the study to reflect valid suggestions and criticisms. The revised long term study is included in this Order as Appendix D.

92. There are two major revisions. First, the 1.7 to 2.0 percent productivity figure reported in the initial study applied to all telephone services, not to the interstate access and interexchange services that will be subject to price caps. The revised study examines intrastate and interstate usage patterns and concludes that the more rapid growth in interstate usage results in higher apparent interstate productivity growth. The study concludes that the historical productivity target should be raised by about 0.3 percent to account for the estimated historical interstate growth trend of 6.4 percent. The estimated long term interstate productivity offset would thus rise from the initial 1.7 to 2.0 percent, up to 2.1 to 2.6 percent. Our best estimate is 2.25 percent.¹⁰²

93. Second, the revised study calculates the first step of revisions necessary to express this productivity offset in conformance with the formula for common line. As we discussed above, the correct productivity offset is directly related to the chosen formula. In Appendix D, we compute the long term historical productivity offset in terms of the per line formula, simply to establish a benchmark that is consistent with rate of return regulation as we applied it in the past, and adjust it for differences in demand growth.

94. To obtain a per line productivity offset, the long term historical productivity offset (between 2.1 and 2.6) would be reduced by about 0.67 percent, giving a final per line best estimate of 1.68 percent.¹⁰³

95. With this information we can compute the range for the productivity offset implied by the long term study, using the Balanced 50-50 formula. Because the Balanced 50-50 formula gives part of the benefit of demand growth to LECs, while the per line formula does not, it requires a productivity offset that is about 0.51 percent higher than per line based upon the calculations in the short term study.¹⁰⁴ The best estimate of the productivity offset is thus about 2.1 percent.

96. In the *Supplemental Notice*, we observed that the short term and long term productivity studies appeared to yield significantly different baseline productivity offsets.¹⁰⁵ We requested comment on whether the two numbers could in fact be reconciled. Despite the numerous corrections and refinements we have made to both studies, a significant gap remains. Using a Balanced 50-50 formula to cap common line, the best estimate of a unitary offset in the short term study is a 3.5 percent factor, and the best estimate in the long term study is a 2.1 percent factor. Had we decided to remain with the previous common line formula proposal, the offsets associated with each study would have been higher.¹⁰⁶

97. In the Notice, we had relied on long term studies to select the proposed productivity offset. On further reflection and examination of the record, we now believe it is reasonable to give substantial weight to the two staff studies of LEC productivity. Each has its strengths and its limitations. The strengths of the short term study include the fact that it is the only study that adjusts for exogenous effects of both cost and demand changes. It represents the most recent and thus potentially the most relevant period for assessing trends in the next four years. It focuses directly on interstate switched access prices and demand. Its limitations include the fact that it is based upon a limited set of data points and a single, prosperous economic period, during which no recession occurred. It does not include special access productivity. Its outcome is quite sensitive to the inclusion or exclusion of a single year and depend upon highly complex adjustments to the raw data to adjust for the many important and substantial exogenous factors and events since divestiture.

98. The strengths of the long term study, by contrast, are that it encompasses a longer series of data from a range of economic conditions. It provides more stable results, less subject to economic variations and short term events. It is consistent with other telephone productivity studies in the record, and includes effects of special access. On the other hand, this study also requires assumptions and estimation, for example, to derive interstate productivity from the total industry numbers. It does not adjust for exogenous cost changes since divestiture, or for changes in profits over time. It in effect weights pre-divestiture Bell System data more heavily than the post-divestiture experience of the RBOCs and other LECs.

99. Overall, we feel compelled to recognize the numbers produced by the two studies as representing not specific numerical results, but as likely outcomes within a range of possible values. We do not believe it would be prudent or reasonable to place exclusive weight on either study, or to ignore the evidence each provides. Thus, in setting the productivity offsets, we have selected a conservative minimum figure within the range between the two studies but subject to a tightened no-sharing zone. In our judgment, a baseline productivity offset of 2.8 percent fairly balances the results of the two studies. We have then adopted a more aggressive baseline productivity factor, 3.8 percent, exceeding the figure produced by the short term study, if a LEC opts to take advantage of a 200 basis point no-sharing zone. We have thus effectively bracketed the results of the short term study, but tempered the minimum required productivity offset (before addition of the CPD) in light of the uncertainty in any short term study and the conservatism suggested by the long term study.

2) Selection of the offset

100. Taken together with the revised common line formula, the minimum required productivity offset figure represents a substantial, 40 percent increase in the plan's productivity hurdle.¹⁰⁷ When the Consumer Productivity Dividend of 0.5 percent is added to assure that the first benefits of price caps flow to customers in the form of reduced rates, the total productivity offset to be applied by the LECs moves to 3.3 percent. When taken together with the added rate reduction incentives and requirements in the backstop mechanism, this productivity factor should produce substantial benefits to ratepayers in the form of lower rates.¹⁰⁸ While it also establishes a more difficult productivity challenge for the LECs, we judge from the record in this proceeding that it remains a challenge they can meet and, given substantial profit incentives, exceed.

101. In setting the factor at this level, we also have taken into account the narrowing of the no sharing zone from 1 percent to 2 percent, unless the LEC sets rates at the higher, 4.3 percent productivity offset. This additional feature of the price cap plan should encourage LECs to set prices at a level even below the factor suggested by the short term study. Over the course of the plan's initial four years, we expect that on an industry-wide basis, the actual productivity offset will be between 3.3 and 4.3 percent for the companies subject to price caps.

102. There is no credible evidence that the productivity of the RBOCs and GTOC has varied so substantially that separate offsets are necessary to ensure that the benefits of lower rates are realized from the productivity offset and Consumer Productivity Dividend.¹⁰⁹ This is particularly true in light of the higher productivity hurdle we adopt in this Order. To the extent any significant variations in historical productivity are carried into the price cap system, customers will be protected by the backstop mechanism to share earnings of individual LECs that experience higher than average productivity growth. This mechanism should assure that ratepayers of each individual LEC will benefit from price caps.

3. Small and mid-size company productivity

103. Throughout this proceeding, the Commission has expressed concern that assigning one productivity factor on a mandatory basis to all the LECs, regardless of size, could prove unduly burdensome for smaller and mid-size telephone companies. In the *Second Further Notice*, for example, the Commission acknowledged that small and mid-size companies may have fewer opportunities than large companies to achieve cost savings and efficiencies.¹¹⁰ Unfortunately, the Commission was hindered by a lack of sufficient evidence from which to determine whether a different productivity factor was appropriate, and if so, how to calculate it and to whom to apply it. For this reason, it proposed to make price caps voluntary for small LECs, and mandatory only for large and mid-size LECs.

104. We believe the productivity factor we have selected, 3.3 percent including the CPD, is a reasonable productivity goal for the RBOCs and GTOC. As we have discussed in the previous section, the 3.3 percent offset is based on our study of Tier 1 carrier productivity, relying mostly on RBOC and GTOC data and adjusted downward to account for long term productivity measures. Nevertheless, the evidence accumulated in this proceeding casts doubt on whether all carriers below the largest eight in size can reasonably attain the productivity goal required by the price cap index.

105. We will not, however, mandate a lower productivity factor for mid-size Tier 1 LECs, or small LECs. Despite the most recent efforts of small and mid-size LECs to demonstrate in various studies that their operations are less productive than the largest LECs, the range of values in these studies, the remaining questions about the studies' reliability, and the diverse characteristics of smaller LECs, lead us to conclude that it is at best premature to mandate either overall or individual productivity factors for them.

106. To accommodate this problem, but maximize the benefits of the price cap plan, we further conclude that price caps should be voluntary for small and mid-size LECs, as LEC representatives generally request.¹¹¹ Making price caps optional for LECs smaller than the big eight largely moots the risk involved in attempting today to determine what an appropriate productivity factor would be for this group of carriers. Moreover, to ensure that all LECs and ratepayers will enjoy the benefits of price cap regulation, we will revisit the issue of determining an appropriate productivity offset for small and midsize LECs.¹¹² In the discussion of eligibility issues, *infra*, we explain our decision to apply price caps on a mandatory basis solely to GTOC and the seven RBOCs. Our discussion in this section focuses on the record concerning small and midsize LEC productivity.

107. Small and midsize LECs requested that price caps either be voluntary for them or that a separate, lower factor be set. Some additional studies were submitted with a range of indicated factors. While these studies are not conclusive as to small and mid-size company productivity, they do provide enough evidence to warrant caution in applying the same high standard to these LECs as to the largest eight. The record on independent LEC productivity includes a variety of long and short term studies that use different methodologies and produce different results. One early long term study, performed by Christensen, covers the 1947-1979 period and compares the total factor productivity (TFP) of the Bell System with that of the independents. The results of this study show an average of 1.3 percent lower productivity between the independents and the Bell System.¹¹³

108. By contrast, other studies performed by independents focus on short term productivity in both the pre-divestiture and post-divestiture period, using TFP or indirect TFP methodologies and show results that differ from the Christensen study. CBT, for example, performed four TFP studies. The first, covering the period from 1972-1979 was a two-factor TFP study¹¹⁴ in which CBT concluded, similar to Christensen, that the productivity differential between the Bell System and its own independent operation was 1.3 percent.¹¹⁵ Performing a three-factor productivity study over the same time period, however, CBT determined that only a 1.1 percent differential existed.¹¹⁶ Later, CBT conducted another study, this time using indirect TFP methodology over the period 1984-1988, and found that a 3 percent differential existed between the productivity of its own operations and that of the RBOCs.¹¹⁷ Finally, CBT performed a TFP study over the years 1984-1987 and found that its own productivity was 1.92 percent, approximately one percent lower than the TFP for the RBOCs.¹¹⁸

109. SNET and Rochester performed similar studies. Covering the period 1972-1979, for example, SNET conducted a two-factor productivity study and found that a differential of 4.4 percent existed between the Bell System

and its own productivity. However, performing a three-factor study over the same period, SNET found that the differential was 1 percent. Rochester also performed a three-factor productivity study over the years 1984-1989 and found that a 1.78 percent differential existed between the Bell System and its own operations.¹¹⁹ Most recently, NERA performed a productivity study over the 1984-1989 period on behalf of USTA, in which it applied certain critical assumptions used in the Frentrup-Uretsky study of post-divestiture LEC productivity. NERA determined that a differential of between 1.65 percent and 2.77 percent existed between independent LEC productivity and the productivity of the rest of the industry.

110. These studies are useful indicators of mid-size LEC productivity. However, even if valid, they provide no clear basis or figure for a single productivity factor for mid-size companies as a group. Some small carriers state that, as a class, they are more volatile than larger LECs, but they do not provide us with data to confirm this observation.¹²⁰ Indeed, we are left to speculate on how the conclusions that we reach in regard to the productivity of other groups of LECs might apply to these companies. We note that some small companies apparently do not have records that are sufficient to compile a reliable productivity history¹²¹, and that, in some instances, productivity records may not exist at all. Accordingly, we have no real guidance that would enable us to set a productivity number for these carriers.

111. Although the studies performed by mid-size carriers such as CBT, SNET, or Rochester, may be valid as "stand-alone" analyses of their separate operations, we cannot comfortably extend their results to describe the performance of other mid-size carriers. We believe that the independents are too diverse in terms of geography, business organization, historical growth rate, customer and resource base, and much else, to assume that the studied capability of CBT or SNET or Rochester, can serve as a model to predict accurately the future productivity of mid-size LECs as a class. This is particularly true of those studies performed by CBT and SNET that do not consider productivity in the post-divestiture period and thus do not take into account the many changes that occurred in the industry at that time that affected mid-size LECs.

112. The USTA study submitted in the most recent round of comments is also questionable as a predictor of the future productivity of mid-size companies. While it is true that the USTA study makes use of certain assumptions that are employed in our own study of post-divestiture productivity of large companies primarily, this alone does not ensure that the results can reliably account for the claimed productivity difference of smaller companies.

113. In our evaluation of baseline productivity for the largest eight LECs, we were unwilling to place exclusive weight on our own short term study, especially in light of the short time period that it covers and the possibly unusual economic conditions that are attendant to it. The same caution applies with even more force to USTA's study. The smaller size and geographical differences between large and smaller companies is likely to result in random differences, especially in a short study, like USTA's. USTA does not claim or perform the relevant calculations to demonstrate that its results are statistically significant and are not simply random, or that the results are relatively consistent for the various individual com-

panies in its study. We further note that the important data point of 1990 that is presently included in the corrected Frentrup-Uretsky study, is not considered in USTA's analysis. In our analysis, we note that we found that the addition of the 1990 data point raised the productivity offset. It seems likely that USTA's results could be similarly affected.

114. The range of possible differentials greater than 1 percent also suggests the difficulty in attempting to establish a mandatory standard for these companies. The record evidence does suggest that, in general, productivity for mid-size and smaller LECs might be either equal to or lower than that for the RBOCs and GTOC.¹²² Thus, LECs for whom price cap regulation is voluntary are not likely to be able to "game" the system by opting in only if they know they are more productive than the productivity offset embedded in the price cap formula. The obvious and inherent difficulties in the present record concerning the quantification of a mid-size LEC productivity factor support our decision to grant mid-size and small companies the option of voluntarily participating in price caps.

115. In addition to the submission of quantitative studies on the subject of mid-size LEC productivity, the alleged lower productivity of these LECs compared to that of larger LECs has been the subject of much qualitative speculation in this record. For example, the reduced capacity of the mid-size and smaller LECs has been accounted for by commenters who say that the problem is that such LECs are more volatile in their business organizations than the RBOCs or GTOC, and that this affects their productive capabilities.¹²³ Others argue that the economies of scale of the smaller LECs are also smaller, and that this fact accounts for their reduced productivities.¹²⁴ Still others cite lower historical growth or geographical limitations that prevent small and midsize companies from achieving higher productivity levels commensurate with those of larger LECs.¹²⁵

116. The points raised by commenters underscore the difficulty of discerning a uniform pattern of small and mid-size LEC productivity from this record. That is, since the foundations of productivity vary from company to company, and since the variation in terms of size, resource base, and geography among independents is so wide, the pitfalls associated with choosing one mandatory productivity number to apply to all such companies are manifest.

117. The study submitted by CBT illustrates our dilemma in attempting to translate the productivity experience of one midsize company to another, let alone to the entire class of small and mid-size LECs. CBT's lower projected productivity relative to the BOCs, for example, could be based on low interstate usage while another mid-size company, say PRTC, might have a lower productivity based on costs associated with providing basic universal service. While both CBT and PRTC may have lower productivity than the larger LECs, the point is that the bases of their lower productivity may be so different that the experience of one cannot reliably be used to justify the productivity "treatment" of the other. That is, since the fundamental forces that will define the productivity of CBT and any other company are so different, the basis for the development of a single productivity factor for all small and mid-size LECs is not obvious from CBT's study. As we stated in the *Supplemental Notice*, the experience of a single mid-size company cannot, under

these circumstances, reasonably form the basis for a policy judgment affecting an entire segment of the industry. However, with so many questions still left unanswered in the record, we believe we are well advised to allow the mid-size and small companies the freedom to choose whether or not to participate in price caps at this time instead of attempting, without a more complete record, to determine one productivity factor for them all.

118. The problem remains how to group the class of small and mid-size LECs meaningfully, in a way that allows development of a particular productivity offset for them that will be reasonably achievable by all members of the group. The parameters of a LEC's productivity, as we discuss above, are quite varied. It may be that one of these parameters has more relevance to a carrier's productivity than another. We add that the option of applying an individual company productivity offset for each mid-size or small company would obviously become an onerous administrative burden that we cannot seriously consider.¹²⁶ Similar to the rate of return process in which we pick a single cost of capital for all classes of LECs, we must limit ourselves to pursuing a course of action that is administratively feasible and at the same time reasonable under the circumstances.

119. As we have discussed, there are a number of issues requiring further exploration before we can select a productivity offset tailored to the midsize or smaller companies. In the meantime, to accommodate the known and unknown productivity differences among small and mid-size companies, we take the reasonable course to make price caps mandatory only for the RBOCs and GTOC.¹²⁷

4. Sharing and adjustment mechanisms

a. Summary

120. The challenging productivity factor we have selected is designed to generate lower rates for customers while offering LECs a fair opportunity to earn higher profits. However, we recognize the possibility that, despite the extensive record that has been developed and the careful analysis to which it has been subjected, it is difficult to determine a single, industry-wide productivity offset that will be perfectly accurate for the industry as a whole or for individual LECs or market conditions at a given time. The calculation of historical productivity that underlies the productivity factor for the LEC industry as a whole is complex and contentious. Individual LECs may experience significant variations from the industry productivity norm, not because of their own foresight and efforts but as a result of regional economic booms or recessions, among other factors. These possible sources of errors in the productivity offset support the adoption of a backstop program (at least until we acquire additional experience with LEC price caps), to adjust rates in the event that such unanticipated errors in the price cap formula occur.

121. In fashioning the backstop plan for LEC price caps, we have sought to balance competing goals. On the one hand, the benefits of increased productivity promised by the price cap program depend upon the creation of new profit incentives for the LECs. A backstop mechanism may dampen the LECs' risks and rewards and thus reduce the incentives of a "pure" price cap plan. On the other hand, any price cap plan must be consistent with the goals of the Communications Act, assuring just and reasonable rates and the continued availability of quality

services. A backstop mechanism can help ensure that the plan fairly shares the risks and rewards of future productivity gains between the LECs and customers, even in the unpredictable and varying circumstances of future years. A backstop mechanism can also serve to ensure that application of the formula does not subject any price cap LEC to depressed earnings over an extended period of time that could impair such a LEC's ability to provide quality service to local subscribers.

122. The sharing plan we adopt in this Order is comprised of three components, which together should achieve the proper balance of high efficiency incentives and greater assurance of reasonable rates and quality service. The operation of the sharing plan should also respond to concerns about the validity of applying a single productivity offset to a number of LECs.

123. The first component of the plan is a "no sharing zone" wherein a LEC whose rates are below the PCI will, assuming its rates are not otherwise found to be unlawful, be entitled to retain all of its earnings up to 12.25 percent, 100 basis points above the 11.25 percent rate adopted today in the companion *Represcription Order* in Docket 89-624. This no sharing zone should act as a potent incentive and reward for the LECs to achieve efficiency gains and outperform the 3.3 percent productivity offset embedded in the price cap plan.

124. The second component of the sharing plan is a "50-50 sharing zone" wherein LECs complying with price cap regulation will be required to share with consumers 50 percent of their earnings between 12.25 percent and five percentage points above the 11.25 percent rate of return, or 16.25 percent. This level of sharing will ensure that consumers receive their fair share of productivity gains that occur, just as they would in an industry with keener competition. The customer share plus interest will be returned in the form of a one-time reduction in the PCI for the next rate period, calculated in the same manner as other exogenous changes in the formula.

125. The third component of the plan is a zone wherein LECs are required to return 100 percent of their earnings in the form of lower rates to the extent earnings exceed 5 percentage points above the rate of return. Based on the 11.25 percent rate of return we adopt today in the companion *Represcription Order*, this zone begins at 16.25 percent. When taken together, these three components making up the sharing plan effectively allow a LEC complying with the price cap rules, maximizing its efficiency and productivity efforts, and succeeding in the marketplace, to reach a maximum 14.25 percent rate of return, using a productivity offset of 3.3 percent and setting its prices at or below the PCI.

126. In addition, in order to establish a strong incentive for upfront rate reductions, the price cap plan and sharing plan we adopt today also embody the concept of providing a profit incentive for the LECs to further reduce rates below what the PCI would otherwise require. Such a concept was initially proposed by United in its Reply Comments.¹²⁸ Under our adaptation of the United concept, a LEC that elects to set its PCI and prices using a productivity offset of 4.3 percent, thereby effectively reducing its rates by an additional 1 percent, may retain a larger percentage of its earnings above the 11.25 rate of return than it could with a 3.3 percent productivity offset. With the greater initial price cuts to customers based on the higher productivity offset of 4.3 percent, the no sharing zone is increased to 13.25 percent; the 50-50 sharing

zone is between 13.25 percent and 17.25 percent; and the zone requiring carriers to return all earnings begins at 17.25 percent. As such, in electing to reduce prices to a level reflecting a 4.3 percent productivity offset, a LEC entitles itself to try to reach an effective maximum 15.25 percent rate of return. This potential for increasing earnings that can be retained should provide a substantial financial incentive for LECs to improve productivity further and to reduce rates upfront, thereby providing ratepayers with immediate and permanent benefits of such productivity gains. For LECs electing the higher productivity target, the PCI will be adjusted downward to reflect the higher productivity effect, but only that year. In future years, a LEC electing to take advantage of this alternative by reducing rates 1 percent below its PCI may return to a 3.3 percent productivity offset. In such a case, however, the operation of the sharing plan on earnings levels would also revert to those levels applicable when rates are set at a productivity offset of 3.3 percent.

127. We are also adopting a modified version of our proposed lower stabilizer or low end adjustment mechanism in order to ensure that the application of the price cap plan does not subject any individual LEC to such low earnings over a prolonged period that its opportunity to attract capital and ability to provide service are seriously impaired. If the earnings of a LEC whose rates are below the PCI fall below the lower adjustment mark in a base year period, it is entitled to adjust its rates upward to target earnings to an amount not to exceed the lower mark, using the prior period as the baseline. This limited upward adjustment should ensure that the LEC will remain healthy and able to provide needed services, while retaining substantial incentives to take the action necessary to improve its performance and thereby raise its earnings above this minimal level. While we will not require a specific showing of need or efficiency, we of course retain our authority and responsibility to examine the management of the LECs to ensure that the low earnings do not indicate mismanagement, fraud, or other misbehavior. We will set the lower adjustment mark at 10.25 percent, to be symmetrical with the 12.25 percent top of the no sharing zone.

128. These backstop sharing and adjustment mechanisms are adopted as rules pursuant to Sections 201 through 203, and as a prescription pursuant to 205(a), and 4(i) of the Communications Act. Except as provided below, proposed rate changes that fail to comply with these rules (e.g., rates that fail to incorporate rate reductions mandated by earnings in the 50-50 sharing zone or all sharing zone, or rates that are based upon an improperly calculated PCI or that do not accurately reflect the computed rate reductions) will be subject to rejection or other appropriate corrective action. In addition, to the extent they become effective, rates that fail to comply with these rules will be subject to enforcement action appropriate to correct the violation of a prescription under Section 205(a), including forfeitures, or complaints under Section 208. In light of our prescription of the sharing and adjustment mechanisms, complaints claiming that overall company earnings that comply with the sharing mechanism are excessive in view of costs will not lie. Since our sharing mechanism does not relate to specific rates, however, complaints that particular rates are unjust and unreasonable in light of the relevant costs and profits, or that they are discriminatory, may continue to be filed.

129. In order to provide a reasonable period in which to review the operation of the price cap plan, we anticipate continuing the earnings levels in the backstop at the levels adopted here, for at least the initial four year price cap period, absent a compelling reason to adjust them.

b. Development of the sharing and adjustment mechanisms

130. The backstop mechanisms we adopt here are based on our review of the extensive record developed in the course of this proceeding. The results of that review are, we believe, mechanisms that are superior to those proposed in the earlier stages of this docket.

131. The *Second Further Notice* invited comment on a backstop mechanism which that Notice described as an "automatic stabilizer."¹²⁹ That mechanism would have required an automatic adjustment in a particular LEC's PCI if that LEC achieved a rate of return for an annual price cap period that differed from the target rate of return prescribed for LECs that are not subject to price caps by more than 2 percent.

132. The *Supplemental Notice* invited further comment on the size of the earnings differential that would trigger a PCI adjustment and on the mechanics of a backstop mechanism. That Notice also tentatively concluded that the automatic stabilizer should be supplemented with a requirement that price cap LECs share with customers earnings above a certain level; the amount to be shared increased in proportion to the amount earned.¹³⁰ We did not specify a particular level at which sharing would begin, or the percentage to be shared. We did propose, however, that the final sharing step continue to provide incentives for carriers to become more productive by permitting LECs to retain some percentage of the base year earnings. We sought comment on a set of related issues: whether to establish a step at which ratepayers would receive 100 percent of any additional earnings; any legal issues raised by this plan; whether to integrate the sharing requirement into the price cap index calculation or identify the shared amounts with particular customers; and whether to base adjustments on the LEC's total interstate earnings or on a more subdivided cost allocation system. We requested that comments on the parameters of the earnings level to serve as the prescribed starting point be submitted in the pending rate of return represcription proceeding, CC Docket No. 89-624. These earnings level questions will be discussed in the next section of this Order.

133. In response to these notices and proposals, numerous interested parties submitted a wide range of proposals for backstop concepts and mechanisms, as well as comments debating the need for backstops at all. Some of the LECs contend that no backstop is necessary or desirable, because the record adequately established that the then-pending 2.5 percent (plus the 0.5 percent CPD) requirement was a challenging productivity figure, and there was no need for a stabilizer to protect against error.¹³¹ These contentions are not compelling, and are refuted by the evidence of record.¹³² Long term productivity studies demonstrate year-to-year fluctuations in industry average productivity. Moreover, even if historical productivity did not vary significantly, it is difficult to predict reliably the extent of the productivity gains that a price cap plan may encourage and make possible. A backstop plan provides a practical mechanism to ensure that the benefits of price caps are fairly distributed, in a

way that an *a priori* productivity factor cannot. The backstop is especially useful in the initial stages of price caps to guard against unforeseen occurrences.

134. Many of the LECs also contended that the combination of an upper stabilizer together with the sharing of high earnings is overly complex, unnecessary, and contrary to the purposes of incentive regulation. For example, LECs argued that the permanent effect of the upper automatic stabilizer, based upon a single year's earnings, created perverse incentives; they said that a LEC might seriously hurt itself by having a particularly productive year.¹³³

135. The modifications we have made to the proposed backstop mechanism, including the elimination of a separate upper stabilizer or adjustment mark, have effectively addressed these concerns, to the extent they might have been valid. The mechanism we are adopting is simpler and more flexible than the earlier proposal. For example, the backstop for high earnings levels is a single, integrated mechanism, not the two separate mechanisms we were considering. It also calculates only one adjustment in the following year's PCI, rather than two. The LEC decides for itself whether to lower rates immediately; if it does so, the upfront rate reductions will have much the same effect as the next-year reductions required by the sharing plan, but will more immediately and effectively benefit both the LEC and the public. A LEC electing this option will have an even stronger positive incentive to improve productivity, because the hurdle it must clear to benefit from the higher sharing threshold is also made higher. Its risk will pay off only if it achieves much higher productivity. Nevertheless, it provides the protection to customers of both a stabilizer and sharing. If the LEC chooses not to reduce its rates below the PCI, the ratepayers will enjoy a substantial share of any earnings in the 50-50 sharing zone and "all sharing" zone in the following year.

136. Furthermore, the sharing mechanism operates only as a one-time adjustment to a single year's rates, so a LEC would not risk affecting future earnings, as it would in the case of the stabilizer we had previously considered. The additional profit incentive created for LECs that elect a 4.3 percent productivity incentive will have a permanent effect on the LEC, because the higher factor will be reflected in the LEC's PCI in future years. But the LEC can return in a subsequent year to a 3.3 percent factor, with the stricter sharing limits.

137. This backstop should produce positive, not perverse, incentives. The LEC itself selects whether to reduce its rates upfront to reflect a 4.3 percent factor. It is unlikely that any LEC will be able to achieve productivity gains of a magnitude that would generate earnings above the 50-50 sharing zone within the initial four year price cap period. But in that case, the LEC will experience an even stronger incentive to reduce rates based on a 4.3 percent offset, in order to retain a portion of such profits.

138. At least for the initial period of the plan, we have decided to limit the LECs' choice of a productivity offset to either 3.3 or 4.3 percent. In its proposal, United suggested that LECs could set rates at any level below the PCI, and a corresponding increase in the no sharing zone and in the percent sharing obligation could be computed in the next annual filing.¹³⁴ Implementation of this proposal would be administratively burdensome. We believe our approach provides sufficient flexibility to the LECs.

139. Allowing a simple choice between either a 3.3 percent or 4.3 percent productivity offset avoids these problems. Virtually all of the price cap mechanisms will work in just the same way regardless of the offset level. While the choice of offsets is obviously more restricted, we judge that this limited choice will also be easier to administer and monitor, at least during the initial four year period. The one additional issue we foresee involves occasions when a LEC changes its offset from one year to another. This change would take effect at the beginning of an annual rate period, July 1 each year. However, by the time the next annual rates would be due for filing, the actual earnings results to compile sharing amounts under those rates would not yet be known -- at best, only six or eight months' data would be available. This problem should be manageable, but may require development of averaged or split year reports or sharing. We direct the Chief, Common Carrier Bureau, to develop a reasonable method to address this issue, and delegate him the authority to implement such method.

140. Some LECs contend that, if any sharing or stabilizer plan is judged necessary, the amount of sharing should never be above 50 percent, arguing that higher levels of sharing discourage higher efficiency.¹³⁵ LECs who contend that sharing should never exceed 50 percent cite literature on taxation, arguing that tax rates above 50 percent are deleterious to productive work effort. Others propose tapered sharing beginning with 25 percent refunds and rising to 75 percent.¹³⁶ Virtually all LECs commenting on the issue contend that sharing should always be less than 100 percent to retain efficiency incentives at all earnings levels.¹³⁷ An exception is Lincoln, which urges that the proposed separate sharing and stabilizer mechanisms be replaced by 100 percent sharing above the upper stabilizer mark.¹³⁸

141. Interexchange carriers and other customers, in contrast, frequently support stringent limits on earnings and 100 percent refunds at some level. MCI, for example, proposes 50-50 sharing of earnings up to 0.5 percent above the industry rate of return and a 100 percent refund of any higher earnings.¹³⁹ AT&T proposes either a simple rate freeze with no stabilizer or sharing, or a stabilizer at 0.25 percent above the industry rate of return combined with 50-50 sharing of earnings above that level.¹⁴⁰ Aeronautical Radio, like Lincoln, supports 100 percent sharing of all earnings above the formula adjustment mark.¹⁴¹

142. Other commenters propose forms of "inverted" sharing mechanisms, with customers receiving a higher share of earnings immediately above a benchmark, and a lower share of higher earnings. NASUCA contends, for example, that inverted sharing creates a greater incentive for the LEC to reach the higher point; it proposes that sharing of most or all earnings begin no more than 1 percent above a computed return on equity, and that LECs retain an increasing share of higher earnings, but no more than 50 percent.¹⁴² Under United's plan, inverted sharing would begin at 75 percent for earnings 1 percent above the industry rate of return, but decline by 25 percent for every 1 percent reduction in rates below the year's change in the PCI. Its mechanism would also raise the level at which sharing begins, by 0.4 percent of rate of return for each 1 percent reduction in rate below the change in PCI.¹⁴³

143. The comments also dispute whether a lower formula adjustment mark should be symmetrical with any upper mechanism, but only one commenter questions the usefulness of some backstop at low earnings levels. Some LECs, for example, support a symmetrical lower adjustment as necessary to balance the upper mechanisms,¹⁴⁴ while others request a lower adjustment closer to the prescribed rate of return.¹⁴⁵ California recommends consideration of the lower stabilizer recently included in the California intrastate price cap plan.¹⁴⁶ Executive Agencies also support a symmetrical lower adjustment.¹⁴⁷ NASUCA opposes a lower adjustment. It argues that this "safety net" moves the price cap system away from a market-based system that punishes inefficient firms, and rewards incompetence or profligacy. It also contends that the lower limit provides greater protection to LECs than they receive under rate of return regulation, because the Commission will no longer carefully scrutinize the LECs' rate bases or operating expenses.¹⁴⁸

144. The mechanism we are adopting balances the contrasting concerns expressed by parties, while helping to achieve positive incentives and just and reasonable rates. LECs retain very strong incentives to be more efficient, and can select for themselves a higher productivity commitment that allows them to retain a higher level of earnings. But to do so they must challenge themselves by setting rates even lower than those allowed by the price cap formula. Any gain in either lower rates or higher profits depends upon achieving higher productivity; any such gain (above the no sharing zone) is shared between LECs and their customers.

145. Within the initial four year price cap period, we believe it is unlikely that LECs can achieve earnings above the 50-50 sharing zone. To do so, the LEC must both substantially exceed the productivity factor established by the PCI formula and substantially reduce rates in compliance with the backstop. It is possible, however, that this could occur because of an unusual error in the productivity offset as it applied to a particular LEC. For this reason, we believe that it is a desirable protection for ratepayers to establish a level of earnings beyond which 100 percent is shared with ratepayers in the form of lower rates. We are not persuaded by LEC comments urging that sharing should not rise to 100 percent, or even above 50 percent, in order to preserve incentives. A rise in earnings to levels of 16.25 percent or 17.25 percent within four years, despite the industry-wide productivity factor and sharing, seems more likely to represent an error in the factor or an unusual variation from the industry norm than newly-achieved productivity.

146. We also conclude that a 50-50 sharing plan is preferable to inverted sharing. As NASUCA points out, an inverted sharing plan does provide a greater benefit to customers at earnings levels just above the target,¹⁴⁹ but this benefit is likely to come at a severe price. An inverted sharing plan creates, in effect, a hurdle for LECs, who would see little immediate reward for the risks they must take if they institute programs to improve efficiency. Any inverted sharing program represents a guess and a gamble that the LEC will not be discouraged from even undertaking such programs, but will instead conclude that it has a reasonable chance of achieving productivity gains that are much higher than the industry norm. We are reluctant to adopt such a speculative and seemingly risky assumption as a universal mechanism for the range of LECs who will or may be subject to price cap regulation.

The straightforward trade-off in the plan we are adopting, which guarantees rate reductions to customers while establishing clear, consistent incentives for LECs to strive for all possible efficiency gains, seems to us substantially superior.

147. We also reject arguments that we should never allow adjustments for low earnings. Unusually low earnings may be attributable to an error in the productivity factor, the application of an industry-wide factor to a particular LEC, or unforeseen circumstances in a particular area of the country. Failure to include any adjustment for such circumstances could harm customers as well as stockholders of such a LEC. Unusually low earnings over a prolonged period could threaten the LEC's ability to raise the capital necessary to provide modern, efficient services to customers. Moreover, proper incentives are retained because the lower end adjustment factor takes effect only if the LEC's earnings fall below 10.25 percent. A decline of this magnitude represents a substantial drop in profits for a LEC. And, because the lower end adjustment adjusts the PCI only enough to allow the LEC to earn at the lower end adjustment mark, using the prior period as the baseline, it continues to require that LECs gain in efficiency and productivity if they are to achieve even the average return allowed to them under rate of return regulation. Thus, the lower end adjustment embodies a substantial penalty for LECs who fail to achieve the productivity mark we have set for them.

148. NASUCA, in our judgment, gives too little weight to these objectives when it opposes any lower stabilizer. A LEC with earnings below 10.25 percent is likely to be unable to raise the capital necessary to provide new services that its local customers expect. It may even find it difficult to maintain existing levels of service. Thus, while our lower end adjustment mechanism protects LECs to some extent from errors and misjudgment, it also protects them from events beyond their control that are likely to affect earnings to an extraordinary degree, such as local or regional recessions.

149. More importantly, the lower end adjustment factor protects the goals of universal and quality service in the Communications Act. At the lower adjustment mark, LECs should still be able to operate in a healthy and relatively effective manner, though with small return to shareholders. Because no above-cap rate increases are allowed above this lower bound without a rate case and tariff investigation, any increase in that return should come through improvements in productivity. NASUCA's suggestion that a lower stabilizer provides more protection to LECs than rate of return regulation is also unfounded. The Commission retains the authority to examine LEC operations for mismanagement, fraud, or other misbehavior, though we expect that the incentives embodied in price caps will reduce the need to do so. In practice, though, a close examination of LEC business practices and decisions across the Nation is difficult and likely to second-guess areas of normal business judgment. Under rate of return the result has been that the industry target closely approximates a guaranteed return. Establishment of the lower zone clearly escalates the real risk that LEC earnings will fall below this level, unless LECs achieve at least the productivity objective we have established for them.

150. We believe the backstop mechanism we adopt properly balances LEC concerns that any earnings limitation will dampen or eliminate incentives for productivity,

and customers' concern that they receive a major share of any productivity benefits and lower rates in the short term. The addition of 50-50 sharing to the Consumer Productivity Dividend assures major benefits for customers and still provides LECs with a substantial incentive to achieve greater efficiency. The inclusion of an outer boundary on the sharing zone is not likely to affect efficiency incentives because it is unlikely that any LEC will be able to achieve productivity gains that would generate earnings above the sharing zone within the initial four year price cap period. The alternative adjustment formula will be available to LECs that believe they can achieve greater productivity. The plan as a whole provides very strong efficiency incentives because each LEC can select a productivity goal that determines the level of profits it will be allowed to retain should it succeed in its efforts. To do so, a LEC must challenge itself by setting rates even lower than the rates allowed by the price cap formula.

151. We also conclude that sharing should be based on total interstate earnings. As Ameritech points out, use of a single productivity offset for all baskets is likely to result in varying basket-by-basket returns, because productivity gains by basket will differ.¹⁵⁰ To be consistent with the unitary productivity mechanism, a unitary backstop mechanism is thus appropriate. Calculation of basket-by-basket or service-by-service rates of return and sharing obligations could potentially require sharing even when the LEC has not achieved overall productivity gains that rise above the unitary offset factor, but only higher gains for a single basket or service. The converse problem would arise if the formula adjustment were to be made for individual baskets or services. A LEC could be granted higher rates for that basket even if interstate earnings in other baskets and for the company as a whole were already adequate. Within the initial four year period of the price cap plan, arguments that use of a total company sharing benchmark will allow cross-subsidy¹⁵¹ or that rates will drift away from costs in an economically inefficient manner,¹⁵² are unpersuasive. Any such calculations would be based on current cost allocation methods that are likely to be misleading for price cap LECs, and are unlikely to provide a reliable test for cross-subsidies or economic efficiency.

152. In addition, and from much the same considerations, we conclude that sharing should be implemented by adjustments to the next year's PCI. This approach will assure that shared amounts are accurately computed, tested in the tariff review process, and passed on to end users. It would be virtually impossible to accurately monitor and audit individual LEC refunds to end users paying subscriber line charges and special access rates and foreign exchange charges, interexchange carriers paying switched and other access charges, and to themselves when they provide interexchanges services. Moreover, the shared amounts will be calculated on the basis of total interstate earnings, as discussed above. Any attribution of amounts calculated on this basis to individual customers for specific services would appear to require a cost allocation mechanism to identify the services entitled to refunds, and the amounts to be refunded. We believe that such an approach would be more complex to administer than the PCI adjustment and would not necessarily offer a more equitable result.

153. Arguments raised in support of individual refunds are unpersuasive or erroneous. Allnet argues in favor of a mechanism that directs refunds to individual customers,

based upon "overearnings,"¹⁵³ but it does not suggest an allocation mechanism to identify "overearnings." It also raises the specter that a LEC might intentionally create a subsidy flow between customers who were overcharged and customers who were undercharged.¹⁵⁴ Under the mechanism we are adopting, the PCI will be adjusted for all baskets, preventing any intentional subsidy between baskets. Within baskets, pricing bands will provide the same protections in the case of refunds as for other changes in costs. Because the LECs' interstate access customer base is relatively stable over time, no particular customers should be overly advantaged or disadvantaged by this approach. Customers also, of course, retain the ability to challenge any unjustly discriminatory or unduly preferential rate or practice in a complaint proceeding on grounds other than overall interstate earnings of a carrier whose rates are below the PCI and in compliance with the sharing mechanism.

154. Bell Atlantic also supports direct customer refunds, arguing that they "minimize customer inconvenience and confusion" in comparison with adjustment of current rates.¹⁵⁵ Its own example of how this would work, however, supports just the opposite conclusion. Bell Atlantic suggests that the amounts to be refunded to interexchange carriers first be computed based on total interstate access revenue and directly refunded. It claims that this amount would include over 90 percent of interstate access revenues, a total that apparently excludes subscriber line charges. Bell Atlantic then proposes to reflect the balance in an adjustment to the PCI.¹⁵⁶ We do not understand how this approach can be considered more convenient and less confusing than simply applying the full amount to lower the PCI. Moreover, since the interexchange carriers do pay most access charges, Bell Atlantic's method would seem to give them preferential treatment unless some further, unexplained allocation is to be adopted. If interexchange carriers were to first receive direct refunds based on their total intrastate access revenues and then also benefit from the lower rates produced by a lower PCI, they would receive a double refund at the expense of end users. A single adjustment to the PCI appears simpler and fairer.

155. As we gain experience with price cap regulation, we may be able to dispense with the low end adjustment factor. In these initial years of the price cap plan, we believe the low end mechanism's relatively small effect on incentives is warranted by the protection it offers both to LECs against errors in the level of productivity improvement they can achieve and to customers in assuring healthy local companies capable of providing necessary services.

c. Rate of return levels for sharing and formula adjustment

156. In the *Supplemental Notice*, we requested that comments concerning the earnings levels for backstop mechanisms be submitted in the pending rate of return represcription proceeding, CC Docket No. 89-624. For convenience in describing the entire backstop program in one document, we are incorporating into this docket comments filed on that issue in CC Docket No. 89-624, and our decision here reflects consideration of those comments. Unless indicated otherwise, references in this section of the Order are to comments and proposed findings in CC Docket No. 89-624.

157. Most LECs oppose the use of a sharing mechanism at all. They propose that, to the extent sharing is adopted, it begin far above the level (1 percent above the unitary rate of return) that we adopt here. USTA, for example, proposes that sharing not begin until 200 basis points above the unitary rate of return, based on a study of the historical year-to-year variability of telephone industry productivity. The LECs also suggest that any sharing plan should taper, with the obligation to begin at 25 percent and, at higher earnings levels, increase to 50 percent.¹⁵⁷ Bell Atlantic and SWB propose that sharing levels be set with reference to the market-weighted average returns on equity achieved by the S&P 400 firms for the years 1985-88.¹⁵⁸

158. AT&T, Ad Hoc, and Consumer Coalition generally characterize the LEC sharing proposals as providing returns for LECs that would be vastly excessive.¹⁵⁹ Their opinions are intertwined with their shared view that the Commission's price caps proposal, set forth in the *Second Further Notice* and the *Supplemental Notice*, would, if adopted, allow LECs to earn unprecedentedly high returns without either increasing productivity or reducing rates. Thus, AT&T states that allowing a LEC to earn 200 basis points above the unitary rate or return would impose on consumers unacceptably large potential costs of \$1.1 billion a year.¹⁶⁰ Ad Hoc argues that the Commission cannot on the one hand establish a rate of return that carefully balances ratepayer and shareholder interests, and on the other hand authorize earnings 200, 300, or 400 basis points higher. Ad Hoc views the rates that would produce such earnings as violations of Section 201 of the Communications Act.¹⁶¹

159. The non-LEC parties also challenge the empirical bases offered by the LECs for their proposals. They all argue that neither the earned returns of the S&P 400 nor the investor-required returns of those companies, upon which the LECs rely, form a rational basis for setting earnings levels for monopoly providers of interstate access service.¹⁶² The sharing proposals of the non-LEC parties are premised on the assumption that the Commission's price cap proposal would, in the absence of a backstop, lead to interstate access rates and revenues substantially higher than those that would have occurred under continued rate of return regulation.¹⁶³ These parties argue for much tighter sharing mechanisms than the LECs propose.¹⁶⁴ Ad Hoc states that selection of the sharing level, and the PCI adjustment mark as well, "will by necessity be somewhat arbitrary."¹⁶⁵

160. The parties devoted relatively little attention to the lower end of the automatic stabilizer proposal that was in the previous Notice, which we have recast as a lower formula adjustment mark. Some LECs insist that the mark cannot legally be set below the lower end of the cost of capital zone of reasonableness, which they generally claim to be 12.3 percent.¹⁶⁶ Other LECs suggest that adjustment marks below a reasonable estimate of the cost of capital would be acceptable in a price caps plan.¹⁶⁷ Non-LEC parties reject the notion that price caps carriers should be allowed to avoid all downside risk by adjusting the PCI whenever they earn below the unitary rate of return.¹⁶⁸ Ad Hoc proposes an adjustment mark at rate of return minus 100 basis points, which is symmetrical with its proposed earnings ceiling.

1) Sharing levels

161. We agree with AT&T and others that the sharing levels proposed by the LECs are higher than necessary to provide incentives for productivity and efficiency. We believe that, notwithstanding the protestations of the LECs, the opportunity to keep 100 basis points of additional earnings will provide an incentive for improving the efficiency of daily operations. However, we find that, contrary to the view of MCI, 100 basis points of additional earnings opportunity alone would not be sufficient to provide incentive for the type of long term, investment-intensive productivity improvements that we hope to see under our incentive regulation plan. As we have discussed above, we conclude that an added incentive to reduce rates, as well as to increase productivity, improves the overall plan.

162. In setting these no-sharing zones, we have concluded that we cannot rely on the USTA study of productivity variability to calibrate sharing levels. First, the study is based only on long term data from the entire telephone industry, that may not be relevant to post-divestiture LEC experience. Second, the logic of using historical variations in productivity to measure the level at which sharing will be required is, in a sense, perverse, since it implies that LECs will be allowed to keep earnings that result from random variations in productivity, but required to return to customers earnings which result from the very kinds of systematic changes in productivity that we are hoping will occur. Similarly, we see no logical nexus between the past variability of LEC earnings under rate of return regulation and the level of earnings that should be allowed in the future under price caps. We also reject the extremely narrow sharing zones proposed by non-LEC parties because to implement these would, as the LECs say, have undermined the notion of having an incentive-based plan at all.

163. In the *Supplemental Notice* we proposed a 200 basis point or 2 percent no sharing zone above the authorized rate of return. In order to improve the benefits of the plan to consumers, while retaining strong incentives, we believe that a LEC should be allowed the full 2 percent no-sharing zone only if it also elects the higher 4.3 productivity factor, thus pressing down rates even further. We conclude that price cap carriers should be allowed to keep 100 basis points of earnings, or up to 12.25 percent, if their rates comply with the price cap rules, including the minimum 3.3 percent productivity offset. Above that, they should be required to share 50 percent of their earnings between 12.25 percent and 16.25 percent with their customers. Earnings above this level are not, in our view, either likely to occur or necessary to provide incentives.¹⁶⁹ Accordingly, we will return all such earnings, beginning at 16.25 percent for LECs who elect a 3.3 percent offset, and at 17.25 percent for LECs who elect a 4.3 percent offset.

2) Lower formula adjustment mark

164. We reject the assertion by some LECs that the price caps plan must allow an upward PCI adjustment whenever a LEC has experienced for one year earnings below the level at which we might reasonably have prescribed the authorized rate of return for non-price caps carriers. In our view, an incentive plan, if it is to truly motivate carriers to break habits formed by "cost plus" regulation, must present more than an opportunity for gain if efficiencies are realized; it must also present the risk of reduced earnings if the carrier fails to control costs

and become more efficient. There would be little such risk if the adjustment mark were set at the prescribed rate of return. Therefore, we will select a level that is below the level of earnings available under traditional rate of return regulation, yet not so low as to cause a confiscatory result in the short term. We also view it as desirable for the formula adjustment mark and the top of the no-sharing zone to be symmetrical, because such symmetry will provide an equal balance of risk and reward over the range of results that we deem likely in the initial period of our LEC price caps plan.

165. We have determined that the no sharing zone should extend to 12.25 percent. If we set the formula adjustment mark symmetrically, it will be 10.25 percent. This level is below the range we have identified for the interstate access cost of capital in the *Rescription Order*, but still within the range of costs of capital for other public utilities. It is also above the marginal cost of long term telephone debt, which is currently just under 10 percent. Such a return is not likely to be confiscatory, because it should still allow most companies to continue to attract capital and maintain service. We therefore conclude that a formula adjustment mark of 10.25 percent will provide the proper balance of incentives and safeguards to our price caps plan. As we have indicated elsewhere, LECs also retain the opportunity to demonstrate on a case-by-case basis that an adjustment in their allowed rate levels will be necessary to prevent a confiscatory outcome.

5. Exogenous costs

166. Exogenous costs are in general those costs that are triggered by administrative, legislative or judicial action beyond the control of the carriers. As stated in the *Second Further Notice*, these are costs that should result in an adjustment to the cap in order to ensure that the price cap formula does not lead to unreasonably high or unreasonably low rates.¹⁷⁰ These costs are created by such events as separations changes; USOA amendments; changes in transitional and long term support; the expiration of amortizations; and the reallocation of regulated and nonregulated costs. Commenting parties sought to add to this list. We discuss below our reasons for treating certain costs as exogenous.

a. Separations changes

167. As with AT&T, we will require an exogenous cost adjustment for changes in interstate costs for LECs that are caused by changes in the Separations Manual. As we explained in the *Second Further Notice*, these changes are imposed by regulators and are outside the control of carriers.¹⁷¹ We disagree with Allnet's comment that separations changes should be viewed as a cost of doing business and should not affect the cap.¹⁷² Regulatory decisions that are designed to produce just and reasonable rates must affect the cap in order to ensure that the system results in rates that are just and reasonable.¹⁷³

b. USOA amendments; GAAP changes

168. Changes in LEC costs that are caused by changes in Part 32 of our Rules, the Uniform System of Accounts (USOA), will be considered exogenous.¹⁷⁴ We make this classification on the basis that such changes are imposed by this Commission and are outside the control of carriers.¹⁷⁵ However, carriers are not authorized to adjust

their price caps automatically to reflect changes in generally accepted accounting principles (GAAP).¹⁷⁶ As explained in the *Second Further Notice*, certain GAAP changes may require amendment to the USOA while others may not. Carriers must notify us of their intention to apply a change in GAAP and we will allow such change if we find it to be compatible with our regulatory accounting needs.¹⁷⁷ No carrier may adjust its price caps to reflect a change in GAAP until we have approved the carrier's proposed change. Furthermore, we wish to clarify that no GAAP change can be given exogenous treatment until the Financial Accounting Standards Board has actually approved the change and it has become effective.¹⁷⁸ The cap mechanism is intended to reflect changes in costs that have occurred, not anticipated cost changes.

c. Transitional and long term support

169. We agree with the telephone companies that argue that changes in pooling support obligations should be treated as exogenous costs. As discussed in the *Second Further Notice*, these obligations, in the form of annual contributions to the Long Term Support Fund and the Transitional Support Fund, were created by the *Pooling Order*¹⁷⁹ and are an essential component of the plan crafted by the Joint Board to permit depooling of the carrier common line access element without endangering the financial viability of small, high-cost telephone companies.¹⁸⁰ Since the Commission has established the obligation to contribute and the formula for determining the level of contribution to be made by a LEC withdrawing from the CCL pool, these contributions are outside the control of carriers and are properly classified as exogenous costs.

170. We grant BellSouth's request for clarification that this rule will apply not only to changes in a carrier's level of contribution but also to changes in amount received under the transitional support phase-down. Changes in the amount contributed and the amount received are direct outcomes of the pooling arrangement approved by the Commission. Since the Commission mandated the arrangement that controls these changes, the changes must be considered as exogenous costs.¹⁸¹ Carriers that claim exogenous treatment for changes in transitional and long term support will be required to demonstrate the quantitative impact in tariff filings.

d. Reallocation of regulated and nonregulated costs

171. We agree with those commenters that argue that exogenous cost treatment of investment reallocated from regulated to nonregulated use is necessary to give effect to the Joint Cost rules¹⁸² in a price cap environment.¹⁸³ These rules require carriers to allocate common plant investment between regulated and nonregulated activities in accordance with a three-year forecast of relative regulated and nonregulated use. The rules are intended to protect ratepayers from the investment risk associated with a carrier's nonregulated businesses by excluding from that carrier's rate base both plant investment currently used for nonregulated purposes and spare capacity intended for future nonregulated use. We note that no party objects to the characterization of these costs as exogenous.

172. As explained in the *Second Further Notice*, under rate of return regulation, these required reallocations translate into reductions in rate base and regulated cost, that in turn produce reductions in regulated rates.¹⁸⁴

However, under the price cap plan, reallocation of regulated investment to nonregulated activities would not impact interstate rates at all. To register the effect of this reallocation in a price cap context, and thus give effect to the Joint Cost rules, we must require an exogenous cost adjustment to be made whenever regulated investment is reallocated to nonregulated activities.

e. Expiration of amortizations

173. We find that expirations of amortizations to correct existing depreciation reserve deficiencies, which under rate of return would create downward pressure on rates at the time the amortizations expire, should be considered exogenous costs under price caps, as some parties argue.¹⁸⁵ As we stated in the *Second Further Notice*, it would be unfair to ratepayers who are now bearing the cost of the amortization program if rates were not adjusted downward at the end of the program.¹⁸⁶

f. Access charges

174. Changes in interstate access rate levels that the LECs impute to themselves in the provision of interstate services will be considered as exogenous cost changes that trigger adjustments to their price caps.¹⁸⁷ This treatment is symmetrical to the exogenous treatment afforded AT&T for access charge changes.

175. As we noted in the *Second Further Notice*, we have required those LECs that provide access for originating or terminating their interstate basic service offerings to charge themselves the same tariffed access rates that they charge independent interexchange carriers.¹⁸⁸ While we agree with SBA that the LECs can control changes in the cost of access, the pass through of LEC access costs will not leave LECs without incentives to make their interexchange operations more efficient.¹⁸⁹ Interexchange operations are subject to a separate cap, under the rules we adopt today, and must achieve productivity growth each year if prices are to generate the same or increased earnings. As in the case of all price capped services, by "beating" the productivity benchmark, the LEC can retain higher earnings. Furthermore, if we did not require identical exogenous treatment for both AT&T and the LECs with regard to changes in access, we would risk the creation of an anomalous situation by disrupting the competitive parity we have sought to ensure by requiring the LECs to charge themselves the same rate for access as that charged to independent interexchange carriers. Accordingly, to account for this cost to the LECs, we must treat changes in access charges paid by them as exogenous costs, exactly as we do for AT&T.¹⁹⁰

g. Tax law changes

176. We find that tax law changes are presumptively endogenous, despite the arguments of a number of LECs that the GNP-PI will not reflect the costs of tax law changes. As explained in the *Second Further Notice*, the GNP-PI is a very broad-based price index that measures changes in all costs --including tax costs -- that affect prices in the economy.¹⁹¹ To grant LECs exogenous treatment of tax changes that are already accounted for in the GNP-PI would be to "double-count" their effect, a result that is inconsistent with the goals of price cap regulation to encourage cost based rates. Indeed, we have tried to

avoid the possibility of such "double-counting" in our treatment of tax law changes for AT&T by presuming such tax changes to be endogenous.

177. Nevertheless, if there are tax law changes imposed at any level of government that uniquely or disproportionately affect LECs (as a class or individually), LECs may request exogenous treatment. We note that a number of parties appear to advocate this treatment.¹⁹² As with AT&T, the LECs that request exogenous treatment for such changes must overcome the presumption that tax law changes are endogenous.

178. LECs argue that tax law changes should be given expedited treatment as exogenous because they are reflected only gradually in the GNP-PI when they should be recognized at the time they change.¹⁹³ The timing and extent to which tax law changes are reflected in the GNP-PI are empirical questions that are unknowable. As stated in the *Second Further Notice*, the flow-through of corporate taxes to prices, and thus to price indexes, has long been a complex and controversial topic in the literature of public finance that cannot, and need not, be resolved as part of this price cap proceeding.¹⁹⁴

179. Finally, we deny BellSouth's request to provide specific recitation of the various Internal Revenue Code sections that are referenced by a statement that we made in the *Second Further Notice* to the effect that nothing in the price cap proceeding is intended to place carriers in violation of the Internal Revenue Code.¹⁹⁵ Listing some code sections might create the mistaken impression that we have somehow selected certain sections of the code that we do not intend to cover. This is not our intention. Rather, our intention is that no section of the Internal Revenue Code, including those specifically noted by BellSouth, be violated by our price cap rules.

h. Equal access costs

180. We will require that costs of converting to equal access be treated as endogenous. We do not agree with PRTC that endogenous treatment of costs associated with equal access conversion is tantamount to changing the rules on carriers in mid-stream.¹⁹⁶ While it is true that under rate of return regulation, the Commission allowed carriers to recover equal access costs, the necessity for this support, at least for the largest LECs, has greatly diminished. For the largest carriers, conversion has been largely completed, and its associated costs are embedded in existing rates. This being the case, there is little need to encourage these LECs to convert to equal access by treating the costs of their conversions as exogenous. Indeed, we believe that the difficulty of assessing equal access costs, and the corresponding risk that these carriers could willfully or inadvertently shift switched access costs into the equal access category, argues against exogenous treatment of these costs.

181. We are concerned, as are a number of parties, that smaller carriers that have not completed (or indeed even begun) their conversions could be unfairly penalized by endogenous treatment of their conversion costs.¹⁹⁷ However, we stress that our decision to allow annual elections into price caps for smaller carriers is responsive to this problem since it allows them to decline participation in price caps.¹⁹⁸

i. Depreciation rates

182. We find that cost changes due to changes in depreciation rates are endogenous. While we agree with those LECs that assert that the Commission prescribes depreciation rates, our prescription of depreciation rates is not a reason for declaring these rates exogenous, because the decision of when to deploy or retire equipment is controlled by the carrier.¹⁹⁹ As stated in earlier orders, we are required by the Communications Act to prescribe depreciation rates.²⁰⁰ To comply with this statutory directive, we have established methods and procedures that provide for full recovery of plant investment on a straight-line basis over the life of the plant.²⁰¹ Under this system, a major determinant of the rate of depreciation is the service life of the plant. We emphasize, however, that while we determine the rate of depreciation, we do not decide for carriers when to deploy new plant and when to retire the old. We believe that such decisions are at the very heart of a carrier's business operation, and we do not seek to disturb it. Accordingly, it is not this Commission, but the carrier, through its decisions on when to deploy and retire equipment, that primarily controls the rate at which plant investment is translated into depreciation expense. Based on this reasoning, we decline to give exogenous treatment to cost changes due to changes in depreciation rates.

183. Our conclusion is consistent with the concept of incentive regulation. As the Commission explained in the *Second Further Notice*, if we were to guarantee recovery of depreciation expense for carriers, we would risk destroying the very incentives that we wish to create with the price cap program. Specifically, the idea behind price caps is to provide carriers with the proper incentives toward efficiency and productivity. Since a carrier's decision about how and when to deploy new plant is fundamental to these objectives, if we were to guarantee depreciation expense, we would distort the carrier's business process.²⁰² That is, we believe that carriers should decide to replace plant when it is economically prudent to do so, and should not base this decision on depreciation accounting. If carriers are required to live with the depreciation rates that result from their investment decisions, we believe that we can reasonably assume that they will make decisions that will enhance productivity in the long run.²⁰³

184. We further reject the contention of some carriers that current depreciation rates do not provide sufficient capital to fund the rapid modernization of the network,²⁰⁴ or that the Commission should adopt an "economic life" as the standard for the calculation of depreciation rates under the Part 32 Rules.²⁰⁵ While it may be true, as some LECs contend, that technological obsolescence due to consumer expectations and demand is reducing the "useful life" of their assets much faster than physical obsolescence, determining the most appropriate standard for calculating depreciation rates is beyond the scope of this proceeding.

185. We note that our decision to view cost changes due to changes in depreciation rates as endogenous is not inconsistent with our decision to require a downward adjustment in the price cap index to reflect expiration of current reserve imbalance amortizations.²⁰⁶ As we observed in the *Second Further Notice*, the need to amortize depreciation reserve deficiencies was created, not by past decisions of the Commission regarding what plant lives should be, but by past methods of calculating depreciation expense. We explained that, formerly, the Commission

used methods that caused reserve imbalances to develop when carriers accelerated the retirement of plant.²⁰⁷ Now that the problem has been corrected through the use of amortizations that represent depreciation expenses that would have been included in rates over many past years if the Commission had been using our current methods all along, it is clear that there is nothing that carriers can do that will have any impact on the progress and expiration of these amortizations. This is in contrast to carriers' role in controlling depreciation expense. Accordingly, we do not believe that treating depreciation expense and reserve amortization differently produces inconsistent regulatory policy.

186. We are also unpersuaded by the argument raised by some LECs that those carriers that have been granted reprisings during 1989 will be at a significant advantage at the beginning of price cap regulation because up-to-date depreciation rates will be included only in existing rates.²⁰⁸ During any time over the three year period in which a particular depreciation rate is in operation, a party may come to this Commission and show reason for a mid-course adjustment in its applied depreciation expense.

187. Nor do we believe that the suggestion of NY PDS to bifurcate the treatment of depreciation rate changes, treating pre-price cap investments exogenously and post-price cap investments endogenously, should be adopted.²⁰⁹ As Pactel notes, requiring different exogenous treatment depending upon when assets were purchased would be an administrative nightmare even if sufficient records existed to accomplish this purpose.²¹⁰ More importantly, for reasons that we have discussed above, the regulatory treatment of costs associated with depreciation rate changes is based on the LECs' control over their depreciation expenses without regard to time period.²¹¹

j. AT&T point of presence migration

188. We do not agree with United and TUECA that point of presence (POP) migration should be treated as an exogenous cost.²¹² More specifically, we are unpersuaded that, as TUECA alleges, such migration is not a "normal part of everyday business" or that, as United argues, exogenous classification merely reflects the cost shifting that occurs with migration when investment classified as non-access must be reclassified as access (and allocated to the access transport element). On the contrary, we believe that the risk of stranded investment is a common business risk that the LECs must plan for and attempt to avoid. Moreover, if we were to allow exogenous treatment of POP migration, we would be removing any incentives that the LECs might have to reduce access costs to levels that would discourage uneconomic bypass.²¹³ This would be contrary to the goals of the price cap program.

k. Other

189. We reject the suggestion of some carriers that we add an exogenous cost factor for uncontrollable "extraordinary" costs that result from natural disasters or for cost changes mandated by this Commission. As stated in the *Second Further Notice*, a carrier's ability to cope with unforeseen events, yet remain competitive, is in part a function of its engineering, investment and operational decisions.²¹⁴ Accordingly, for the same reasons that the Commission denied AT&T's request for exogenous treatment of such costs, *i.e.*, to avoid creating the wrong incentives by reducing the carrier's need to be efficient

and innovative, we must also deny the LECs an automatic flow-through of all extraordinary costs. We reiterate that in the course of regulating rates over the years, we have consciously introduced mechanisms that could dampen carriers' incentives to be efficient or innovative only when we have concluded that there were countervailing public policies or interests. However, we find no such countervailing policies here that would weigh in favor of treating all extraordinary costs as exogenous.

190. Moreover, as we noted when we denied AT&T's request, if we were to allow exogenous treatment of extraordinary costs, we would be setting the stage for an endless succession of arguments focused on whether a particular cost qualifies as "extraordinary."²¹⁵ Nevertheless, consistent with the Constitutional ban on confiscatory rates, we leave open the possibility that, in a truly extraordinary situation, we would approve above-cap rates, even perhaps without suspension and investigation.

B. Application of PCI to LEC services

1. Service exclusions

191. In the *Further Notice*²¹⁶ and *Second Further Notice*,²¹⁷ the Commission proposed to exclude certain LEC services from price cap regulation. Some offerings that currently appear in the LECs' federal tariffs do not lend themselves to incentive-based regulation, or raise significant and controversial issues that should be resolved outside of the price cap arena. In this section, we discuss the LEC offerings that are excluded from price cap regulation and their regulatory treatment.

192. Previous Notices in this proceeding have named two LEC services that should be excluded from price cap regulation -- individual case basis (ICB) offerings and special construction. No parties objected to exclusion of these offerings from price cap regulation. Our review of the LECs' federal tariffs reveals other types of offerings that we will exclude from price cap regulation. We will discuss each of these in turn.

193. ICB offerings are those offered on a contract-type basis. While ICB offerings appear in LEC tariffs, they are not tariffed as generally-available, common carrier services. In some cases, ICB services feature new technology for which little demand exists. As demand for the service grows, the ICB offering can evolve into a generally-available offering, as has been the case with large, digital, fiber optic transmission facilities.²¹⁸ In other applications, ICB offerings are simply unique service arrangements to meet the needs of specific customers²¹⁹ that will never evolve into generally-available offerings. Since ICBs are, by definition, offered on a contract-type basis, we believe that there is no reason to apply an incentive-based regulatory plan, intended and designed for generally-available tariffs, to these offerings. For those ICB offerings that become generally tariffed, we affirm the tentative conclusion of the *Second Further Notice* that the offering should be treated as a new service.²²⁰

194. We will also exclude special construction from price cap regulation. Special construction offerings can be ICB-type special arrangements, or one-time non-recurring charges for construction activity on a customer's premises. In either case, a price cap mechanism to govern prices for these offerings appears to be irrelevant.

195. We exclude certain other offerings that appear in the tariffs as well. Presubscription charges that LECs assess when an end user decides to change presubscribed interexchange carriers are excluded.²²¹ These charges are very different from the broader system of interstate access offerings that have been studied at length to determine LEC productivity. Like subscriber line charges, they represent a direct charge to end users. We will therefore exclude them from price cap regulation. Cable television services are typically offered on a contract - type basis, and will also be excluded from price cap regulation. Air-ground service and packet-switched service were not subject to scrutiny as part of our investigation of LEC productivity, and should therefore be excluded.²²² We also exclude "string" foreign exchange serving arrangements, currently grandfathered in existing tariffs. These arrangements enable end users who would otherwise be unable to obtain local service from the carrier in their assigned serving area to obtain local service from a LEC in an adjacent area through use of a foreign exchange line. These arrangements are generally found in rural areas where a subscriber's community of interest is located in a different LEC study area.²²³

196. In addition to the exclusions previously named, we will also exclude certain LEC offerings to the Federal Government, including those that LECs provide in combination with interexchange carriers. These offerings are contract-type offerings that are based on the results of competitive bidding, and do not lend themselves to price cap regulation.²²⁴

197. The services we exclude from price cap regulation represent a very small fraction of the LECs' federally-tariffed activities. In response to concerns about our ability to monitor these offerings apart from price cap services, we believe LECs should report non-price cap revenues on an aggregated basis. This requirement, together with our tariff review and complaint processes, will help us monitor excluded services activities.²²⁵ We delegate to the Common Carrier Bureau the authority to make the necessary amendments to existing reporting mechanisms to carry out our directive.²²⁶ We will not expand ARMIS reporting to include non-price capped costs, as previously proposed.²²⁷ As commenters argue, such a change would require us to expand the cost allocation processes this proceeding seeks to avoid.²²⁸ Given the relatively small amount of non-price capped activities excluded from price cap regulation, we believe that to impose such a requirement at this time would be unduly burdensome.

2. Baskets and bands

198. Baskets and bands are methods of restricting the degree of pricing flexibility that carriers would otherwise have if we adopted a theoretically pure price cap system. In a pure price cap system, all services offered by a carrier would be subject to a single price cap, and carriers would have unlimited ability to migrate individual prices up or down so long as aggregate prices remained below the cap. While a pure price cap system may appear attractive based on its potential for economic efficiency gains,²²⁹ there are competing policy concerns that must be addressed in designing a system of price cap regulation for LECs. As proposed in the *Second Further Notice*, we will employ a system of baskets and bands to limit, but not eliminate, LEC pricing flexibility.²³⁰ Our goal is to permit incremental changes in prices that will assist LECs in

achieving the efficiency objectives lying at the heart of this proceeding, without subjecting ratepayers to precipitous changes in the prices for LEC services, and without enabling LECs to disadvantage one class of ratepayers to the benefit of another class.

199. The baskets and bands, together with the price cap we described, *supra*, create a "no suspension" zone within which LECs may move prices on short notice, and with a presumption of lawfulness. If rates depart from that narrowly defined zone, however, LECs will face a more challenging tariff review process.²³¹

a. Summary

200. Baskets are broad groupings of LEC services, each subject to its own price cap.²³² Subdividing LEC services into baskets substantially curbs a carrier's pricing flexibility, as well as its ability to engage in unlawful cost shifting between the broad groups of services. Whenever a set of rates is subject to a price ceiling, carriers have no incentive to shift costs into the basket because the cap does not move in response to endogenous cost changes.

201. To further limit LEC pricing flexibility under our price cap plan, we will modify the Commission's prior proposal to create three baskets of services, and instead create four baskets: (1) common line services; (2) traffic sensitive services; (3) special access services; and (4) interexchange services, for those carriers that offer such services. These baskets track the current Part 69 categories of interstate access services, and separate interexchange service into its own basket for those carriers that offer interexchange service. Separation of special access and interexchange services into separate baskets addresses the concerns of commenters that a combined basket would be difficult to administer, given the very different nature of these services and the exogenous costs that would apply to them.

202. As proposed in the *Second Further Notice*, we will further limit LECs' pricing flexibility through the use of pricing bands in two of the baskets we have established -- traffic sensitive and special access. These baskets are composed of several different types of interstate access service. By limiting the changes in the various types of interstate access, we can ensure that customers and competitors are protected against rapid and substantial changes in the price of access.

203. We have decided that pricing bands should apply to service categories within the traffic sensitive and special access baskets.²³³ Service categories are simply subdivisions of baskets.²³⁴ In the traffic sensitive basket, we create three service categories that track existing rate elements prescribed for all LECs in our Part 69 rules: (1) local switching; (2) local transport; and (3) information. In the special access basket, we have modified our proposed service categories to take into account trends in demand for special access services, or in some cases the use of like technology. Instead of the nine service categories proposed for special access services, we will require four: (1) voice grade/WATS/metallic/telegraph; (2) audio/video; (3) high capacity/Digital Data Service; and (4) wideband data/wideband analog.²³⁵ By grouping similar services together, our revised plan continues to act as a substantial bar on a LEC's ability to engage in anticompetitive practices.

204. We adhere to the proposal in the *Second Further Notice* to allow prices for the service categories to move on a streamlined basis by plus or minus 5 percent per year, adjusted for changes in the price cap index.²³⁶ Price changes that raise the aggregate prices in a service category above or below the 5 percent limits must be justified with reference to various cost based showings that we describe in the tariff standards section, *infra*. We elect to retain the 5 percent boundaries of the "no suspension" zone based on our judgment that LECs require some ability to change prices due to changing market circumstances.

205. We will not impose service category banding requirements in either the common line basket or the interexchange basket. No party has challenged our analysis from the *Second Further Notice* that all but one rate element in the common line basket -- terminating carrier common line charges -- must be priced according to this Commission's rules. Given the LECs' lack of flexibility to offset an increase in this one rate element with a decrease in another rate element, there is no need to impose service category bands in the common line basket.²³⁷ Furthermore, the cap mechanism we impose on the common line basket causes the rate for terminating carrier common line charges to move in accordance with the cap.

206. In the interexchange basket, we also decide not to impose service category banding requirements, but for slightly different reasons. Interexchange services provided by LECs are limited. In the case of the former Bell System companies as well as GTOC, one possible interexchange offering is "corridor" traffic in large metropolitan areas, offered as an exception to consent decree prohibitions on interexchange services. LECs also provide interstate intraLATA service that is federally regulated. Other interexchange services offered by LECs, such as MTS and WATS-like services, are usually offered through a separate corporate entity, and would not be regulated under the price cap system we adopt in this Order.²³⁸ We therefore find that the small amount of interexchange service subject to price cap regulation does not warrant the imposition of additional service categories.

207. Our decision to separate out interexchange service from the special access basket also leads us to another modification from the proposal advanced in the *Second Further Notice*. Because our evaluation of LEC productivity is based in part on the staff's short term study which includes only interstate access activities, application of a higher productivity number to interexchange activities of the LECs is not supported by the record. We believe that application of the AT&T price cap productivity of 3 percent, is a more accurate and equitable measure of the productivity we can expect LECs to achieve in that part of their business that competes with AT&T's services.²³⁹ We therefore apply a 3 percent productivity offset to the fourth, interexchange basket.

208. In addition to creating 5 percent pricing bands on the service categories in the special access basket, we will also adopt special protections for DS1 and DS3 services that have recently been the subject of extensive and controversial Commission proceedings.²⁴⁰ Due to concerns that LECs have engaged in non-cost-based "strategic" pricing of these services under rate of return, we are limiting movements in the prices of these individual services through the use of service-specific pricing bands, or "subindexes."²⁴¹ Under the rule, prices for DS1 service may move only plus or minus 5 percent per year adjusted

for the price cap index to remain within the "no suspension" zone. Prices for DS3 service may move only the same amount. Our decision to permit incremental movements in pricing for these services recognizes that price cap regulation is a departure from rate of return regulation and its fully distributed costing methods that have defined "strategic" pricing. At the same time, we are also interested in protecting ratepayers and competitive providers of these particular services by limiting, but not eliminating, pricing flexibility.

b. Baskets

209. As discussed with respect to AT&T, we believe it is important to minimize the number of baskets, and therefore, the number of price cap indexes, that apply to LEC services. A number of commenters argue that additional baskets are required to protect them from the anticompetitive pricing actions that they allege will occur if only three baskets are established.²⁴² Several LEC commenters, however, argue for use of a single basket.²⁴³

210. We agree with neither group. We believe that each of these positions places undue weight on different, but competing, policy considerations at issue. While it is important to ensure that LECs cannot, for example, exercise their pricing flexibility under price caps to disadvantage switched access customers while benefitting special access customers with low rates, it is also important to ensure that the price cap system we design is internally consistent. The productivity offset we have defined was selected on the basis of total company performance, not the performance of individual "baskets" of services or on a service-specific basis. Each time we create an additional basket of services we increase the risk that for that basket, the company will not be able to achieve the productivity challenge embedded in the price cap index.²⁴⁴ We therefore believe our desire to protect groups of ratepayers must be tempered by our decision to use a company-average productivity offset in each of several baskets. Furthermore, since we are adopting other means to protect ratepayers, *i.e.*, service categories, bands, and subindexes, there is no necessity to create numerous baskets that would duplicate these efforts.²⁴⁵

211. Our decision to create four baskets of services represents a balance of these competing considerations. Three of the baskets, common line, traffic sensitive, and special, reflect broad categories of LEC interstate access service defined and prescribed by our existing Part 69 rules. Interexchange services, too, have also previously been recognized as a separate category in our rules.

212. With respect to the common line basket, additional reasons exist for separating it from the other access services LECs provide. Common line services support a number of programs that promote low-cost telephone service in rural or high cost areas of the Nation. These universal service programs are important to preserve under a price cap system of regulation.²⁴⁶ As the *Second Further Notice* states, by separating common line in its own basket, we can ensure that these universal service programs are unaffected by the implementation of price cap regulation.²⁴⁷

213. With respect to the interexchange basket, we believe separate treatment of interexchange services is necessary to ensure orderly application of imputed access flow throughs.²⁴⁸ As United argues, the proposal contained in the *Second Further Notice* to make interexchange services part of the "all other" basket, while creating a separate

service category for it, created difficult problems with respect to a exogenous cost treatment of access charge changes imputed to a LEC's own interexchange services.²⁴⁹ Application of the full amount of an access charge decrease to a single service, for example, could easily cause a LEC to breach the lower band for the interexchange service category, even after the price cap index was adjusted to reflect the access charge change. Furthermore, interexchange offerings are fundamentally different from the special access services. Placing two very different services, with different sets of customers, in the same basket is a result we have attempted to avoid due to the cross subsidy issues that might arise. While some LECs argue that any increase in the number of baskets is not needed,²⁵⁰ we find that the potential for cross subsidization warrants the addition of a fourth basket.

214. In response to the concerns expressed by several parties, we specify the services to be included in the interexchange basket.²⁵¹ "Corridor" offerings (interstate interLATA),²⁵² international offerings, and any other interexchange offering a carrier may provide will be included in the interexchange basket to the extent a LEC offers them. We disagree with those commenters seeking individual baskets for these services. As previously discussed, application of a productivity offset embedded in the price cap formula to individual services raises serious concerns since the offsets have been formulated on the basis of total company performance.²⁵³

215. The addition of an interexchange basket also responds to concerns raised by Hawaii about the application of price cap regulation to GTE Hawaiian's International Message Telecommunications Service (IMTS) rates.²⁵⁴ GTE Hawaiian's IMTS rates will be part of the interexchange basket for the GTOC companies. We believe that placing this service in the interexchange basket will curtail the possibility that GTE Hawaiian can use its IMTS rates to engage in anticompetitive practices. Furthermore, both Hawaii and GTOC agree that GTE Hawaiian's IMTS offering be placed in a separate basket.²⁵⁵

c. Service categories

216. As in the case of baskets, we have used existing interstate access tariff offerings as our guide in selecting service categories subject to banding. The traffic sensitive basket consists of three categories of service that are defined as Part 69 rate elements within the traffic sensitive category. We have elected not to adopt the suggestions of a few commenters that we create a fourth category for equal access rates.²⁵⁶ Under rate of return, equal access is an optional "subelement" of local switching that carriers may elect to use in recovering the costs of equal access. Particularly for the largest eight carriers, and generally for the other Tier 1 carriers that may elect price cap regulation, the equal access element represents a charge that will be phased out as the carriers finish recovering the costs of converting to equal access. For many of these carriers, the conversion process is substantially complete. We therefore decline to create an additional service category for the optional equal access element.²⁵⁷

217. In addition to the issue of the equal access element, parties raise other concerns about the service categories in the traffic sensitive basket. Some parties argue for the creation of an 800 database service category.²⁵⁸ Others argue for consolidation of the categories as proposed.²⁵⁹ We agree with neither group. Our decision to employ the three service categories proposed is

fashioned after our treatment of these categories under current regulation. While rate movements of subelements are scrutinized, our general focus in the tariff review process is on the traffic sensitive elements contained in Part 69. Similarly, under price caps, substantial subelement price movements that cause a traffic sensitive element to breach its banding limitations will be given more extensive scrutiny. We therefore believe that ratepayers will be adequately protected by the three categories proposed in the *Second Further Notice*: local switching, local transport, and information.

218. A number of parties have responded to our request for comments on the basket and band treatment of future subelements that will be a function of implementing our Open Network Architecture policies.²⁶⁰ As we discuss in the ONA section, *infra*, we believe these issues are best addressed in the context of our pending *ONA Part 69* proceeding.²⁶¹ Similarly, issues relating to other services that require fundamental changes in our Part 69 rules will be addressed in future proceedings as they arise.

219. In the special access basket, we have decided to reduce the number of service categories from the nine specified in our original proposal, to four. Our decision is based on further review of the special access services, their technology, customer base, and demand trends.²⁶² Several special access services that had been proposed for separate category treatment, for example, are declining services. Demand for "metallic" service, once required for alarm systems, is decreasing. Demand for "telegraph" service is similarly decreasing. Furthermore, the kinds of customer requirements that once could only be served by use of these specially-conditioned lines can now be provided by voice grade circuits. Given the interchangeability of these services, and the small amount of metallic and telegraph services that LECs provide, we have decided to merge these categories. To this group, we have also added WATS circuits, which are also voice-grade lines.

220. Similar analyses were made of the other categories. Audio and video services, which are different offerings of analog service, serve a similar customer base. As the cost of digital-based technologies falls, both types of services will eventually migrate to digital offerings. Wideband data and wideband analog, both analog services, pre-date the arrival of digital technologies and will eventually be subject to migration to digital. High capacity offerings and Digital Data Service serve the needs of customers requiring high capacity digital transmission mediums.

221. By placing services with somewhat similar customer bases, demand characteristics, and technology into a single category, we believe we have struck a better balance between the ratepayer protections we seek in this plan and the limited pricing flexibility we seek to create.²⁶³ A number of parties oppose the consolidation of service categories in the special access basket. Some fear that prices for special access services will be "manipulated" to their disadvantage.²⁶⁴ Some argue that the categories we create will yield anticompetitive abuses.²⁶⁵ We find these arguments to be unpersuasive. Under rate of return, there are no Part 69 cost allocations for special access services. The price cap categories, together with the 5 percent pricing bands we establish, represent a substantial advance in our ability to slow rate changes and make their magnitude more predictable. Furthermore, the tariff showings we establish for above-band and below-band filings require LECs to justify large rate changes. Of course, to the extent commenters argue in favor of tradi-

tional rate of return review of special access rate changes,²⁶⁶ their quarrel is fundamentally with price cap regulation.

222. Several parties have renewed their request for rate element banding.²⁶⁷ Instead of applying the pricing bands to service categories, these parties would apply them to individual rate elements that comprise the services. We believe this requirement is unnecessarily burdensome. There are thousands of rate elements, particularly in special access, that would need to be separately banded if we adopted rate element banding. Each time a carrier filed a tariff transmittal, the rate elements affected by the transmittal would have to be accompanied by index information necessary to ensure compliance with the bands. In the case of the annual filing, this would have to be done for approximately 11,000 rate elements. Furthermore, no party has demonstrated that service category banding, in combination with the tariff requirements associated with the no-suspension zone, will cause prices that the average customer pays for service to be unreasonable. The operation of the cap, in conjunction with the operation of the sharing device, protects ratepayers. To the extent parties seeking rate element banding seek to impose strict controls on changes in LEC access rates, that is a guarantee not currently available to them under rate of return regulation, since carriers are always free to submit new rates based on revised costs. Moreover, this result is inconsistent with one of the objectives of price caps -- reducing administrative burdens.

223. Treatment of DS1 and DS3 rates presents special problems. DS1 rates have recently been subject to a lengthy investigation and are currently subject to pricing requirements that establish a relationship between DS1 and voice grade lines. DS3 rates are currently under investigation for similar issues. In recognition of the concerns advanced by commenters that price cap regulation would give to the LECs the ability to undo current pricing relationships,²⁶⁸ we have decided to limit, but not eliminate, pricing flexibility for each of these services. Under the plan we adopt, DS1 and DS3 rates can each move plus or minus 5 percent adjusted for changes in the price cap index. We therefore prospectively replace the cross-over relationships we used as a guideline for DS1 rates under rate of return regulation.²⁶⁹

d. Pricing bands

224. The proposal to set the upper pricing band at 5 percent drew comment from those who believe the amount is acceptable,²⁷⁰ as well as those who believe it is overly generous.²⁷¹ We believe the 5 percent band is a reasonable amount of upward pricing flexibility to associate with the no suspension zone. A 5 percent upper band ensures LECs have some ability to adjust prices to changing market conditions, at the same time protecting ratepayers from substantial changes in service rates. The upper band is also consistent with our decision to move forward with a price cap system that looks, in the first instance, to LEC prices, instead of relying on fully distributed costs.

225. We also disagree with commenters who would set the upper band at some level below 5 percent upward flexibility, or at zero.²⁷² These positions are nothing more than an attempt to freeze relative LEC rates at or close to current levels. Earlier discussions in this proceeding have described the shortcomings of imposing rate freezes on carriers,²⁷³ and we have specifically rejected an AT&T

proposal to engage in a rate freeze for LECs. We also reject proposals to limit upper bands to some amount between 0 and 5 percent. Commenters who argue against 5 percent upper bands apparently construe an upper band as a Commission directive to increase rates to the maximum level allowed.²⁷⁴ The 5 percent limit represents nothing more than a reasonable estimation, based on our post-divestiture experience and our expectations for the future, that rates within the annual limit can be presumed lawful for tariff review purposes.²⁷⁵ Accordingly, we reject these more narrow upper pricing bands.²⁷⁶

226. With respect to the lower bands, which we also set at 5 percent, commenters have argued that we should substantially expand the lower boundary of our no suspension zone or eliminate the lower boundary entirely.²⁷⁷ We disagree. The lower pricing bands are intended as a check on the ability of LECs to engage in predatory pricing. Whenever a LEC pierces a lower band, we require a cost showing to demonstrate that the rate is above the carrier's average variable cost. While LECs are for the most part monopoly providers of access service, they are increasingly subject to competitive pressures from facilities-based alternative access providers. The lower bands also limit the LECs' ability to decrease the price for one service in order to raise the price of another.²⁷⁸ Without a lower band, a substantial decrease in the price for one service could offset increases elsewhere in the basket that might otherwise not occur.²⁷⁹

3. Comparing actual prices to the Price Cap Index (PCI)

227. Price cap regulation requires that, in order to be subject to streamlined tariff review, a carrier's actual prices may not exceed its PCIs. As the Commission described in the *Further Notice*, this is to ensure that a carrier's average prices move in accordance with its underlying cost factors.²⁸⁰ To ascertain compliance with the PCI, carrier rate levels within each basket will be measured through the use of an Actual Price Index (API) that represents the weighted sum of the percentage change in LEC prices.²⁸¹ The API is built up from the smallest price unit -- the rate element -- weighted according to the quantity of that rate element sold in a historical base year. As in the case of AT&T price caps, the historical base year will be the most recently completed calendar year as of the time of the annual filing. Each time a carrier files rate revisions, the API will be employed to measure the incremental change in the aggregate price of each basket of LEC services.

228. As discussed in the previous section, we will limit the LECs' ability to adjust individual prices substantially, even though average prices might remain below the PCI. Pricing bands are designed to limit the range within which a carrier could raise or lower individual prices of service categories each year while continuing to receive streamlined tariff review. In order to implement service bands, we direct the LECs to establish subindexes, within each basket, that measure the movement in the revenue-weighted aggregate price of the group of rate elements that comprise the banded service category. Each such service band index (SBI) will be calculated using the same formula we are adopting for the API. Indeed, an SBI is nothing more than an API limited to the weighted price ratios for a particular service category. Thus, the weighted sum of all SBIs equals the API. Like PCI, the APIs and SBIs will be initiated at a level of 100.²⁸²

229. The API and SBI formulas we adopt are identical to the API and SBI formulas currently used in the AT&T price cap plan. In connection with the PCI, the formulas will provide a "point-in-time" or snapshot view of where LEC prices are relative to the cap. The overall rates proposed by the carriers will be deemed in compliance with the price cap only if the API is less than or equal to the PCI at all times. Both the API and PCI will change over time as actual prices of capped services change and as the underlying cost factors, reflected in our formulas, change.

4. Use of existing rates

230. We conclude that LEC interstate access rates, as they existed on July 1, 1990 and were adjusted by an Erratum,²⁸³ are the most reasonable basis from which to launch a system of price cap regulation. We further find that adjustment of various indexes to reflect the change in the authorized rate of return that we adopt today in a companion item,²⁸⁴ and the completion of any investigations that result in rate changes, will ensure that rates remain reasonable for the limited purpose of creating a starting point for the indexing of rates under a price cap system. Our confidence in July 1, 1990 rates as a starting point for price cap regulation flows from a lengthy, six-year history of regulatory reform to refine our administration of rate of return regulation. Based on those reforms, for example, the Common Carrier Bureau's recent examination of LEC annual access filings concluded with a rate decrease of approximately \$1 billion.²⁸⁵ For the reasons discussed below, we find that July 1, 1990 rates adjusted as described are the best set of rates from which to initiate price cap indexing.

231. Selection of a particular date from which to commence indexing is necessary due to the nature of the indexes themselves. As we have previously discussed, both the price cap index and the actual price index will be initialized at a value of 100, consistent with the economic conventions normally applied to such indexes.²⁸⁶ At issue is the selection of the date on which both the price cap index and the actual price index will be set at 100. In the case of AT&T, the Commission selected a date six months prior to the start of price caps. The selection of an historical date, as opposed to a prospective one, prevented AT&T from engaging in any aggregate price increases in the period leading up to price caps. We decide to do the same for the LECs. We explain in the next section why rates in effect on July 1, 1990 are a reasonable starting point for price cap regulation.

a. Reasonableness of July 1, 1990 rates

232. In order for July 1, 1990 rates to fulfill the role we assign to them, we believe it is necessary that they reflect the reasonable operation of rate of return regulation. We find that they do. The July 1, 1990 rates resulting from the annual 1990 access proceeding represent the culmination of years of developing, refining, and overseeing the Commission's access charge system. The rates resulting from this process, while perhaps not perfect, in general represent the best that rate of return regulation can produce. To the extent that any ongoing investigations of current rates reveal that the July 1, 1990 rates are deficient, mechanisms within the price cap regulatory system will ensure that the deficiencies are remedied.

233. Our conclusion that July 1, 1990 rates are in general the best that rate of return regulation can produce is the result of this Commission's six year long effort at reforming our rate of return methods. Beginning in 1983 with the introduction of a prescribed system of interstate access offerings, the Commission has substantially overhauled its rate of return machinery.²⁸⁷ The Commission has revised its Uniform System of Accounts (USOA) that forms the basis of our ability to track costs.²⁸⁸ The Commission has instituted cost allocation procedures to separate nonregulated costs from the combined regulated and nonregulated costs recorded in USOA accounts.²⁸⁹ Even the process for selecting a reasonable interstate rate of return has been revised.²⁹⁰ Most importantly, the accounting and allocations resulting from our USOA requirements, the separation of nonregulated costs, the separation of the regulated remainder into inter-and intrastate cost pools, and the tracking of those costs through to the resulting interstate access components, must be reported to this Commission on a regular basis to ensure that our requirements are followed.²⁹¹

234. The tariff process, too, has grown increasingly sophisticated. For example, the Common Carrier Bureau each year establishes Tariff Review Plan requirements for summary cost support material the LECs must file to justify their annual access charge revisions. The specific format required by the Tariff Review Plan ensures that the Common Carrier Bureau has usable and reliable cost support data at its disposal. Summary data in support of proposed general access charge revisions were first required for the 1985 annual access tariff filings.²⁹² In each subsequent year, the Common Carrier Bureau modified the Tariff Review Plan based on its continuing experience in analyzing the LECs' interstate access tariffs, evaluating the usefulness of the previous Tariff Review Plan data, and recognizing ongoing rule changes. By carefully laying the ground work for standardized cost support, the Common Carrier Bureau has been able to identify and disallow over \$2.7 billion in LEC access charges since 1985.

235. In the annual 1990 access filing, for example, the LECs submitted tariffs which would have reduced interstate access charges by a total of approximately \$405 million. The Common Carrier Bureau determined, however, that these rates contained erroneous projections of expenses, investments, and demand that would have produced excessive rates. After examining the extensive record developed in the course of the tariff review process, the Bureau adjusted the LECs' rates downward by an additional \$696 million.²⁹³ Such annual review assures that rates developed under rate of regulation are reasonable.

236. Examination of LEC access rates, however, has not been limited to annual access filings. Under our access charge rules, LECs are required to target their access rates to the authorized rate of return. In 1988, the Commission shifted the annual access tariff filings from a January-December to a July-June access year and established two 15-month transitional access periods -- January 1988 to March 1989, and April 1989 to June 1990.²⁹⁴ The Commission recognized that the use of 15-month access periods increased the risk that rates would not comply with the rate of return target. The Commission therefore directed the Common Carrier Bureau to make adjustments to the rates of those LECs that did not voluntarily file midcourse corrections to their rates upon the accumulation of actual data which demonstrated excessive re-

turns. The Bureau directed LECs with excessive earnings to reduce their rates or to show cause why their rates should not be reduced.²⁹⁵ LEC rates have been significantly reduced as a result of this process.

237. Since initiation of the access charge system, the Commission has paid particularly close attention to the LECs' special access rates. Recognizing the diversity of LEC special access offerings, the Commission decided not to prescribe a system of offerings for special access, as it did for switched access.²⁹⁶ In accordance with the requirements of the Communications Act, however, the Commission sought to eliminate the unreasonable discrimination inherent in the then-prevailing system of local private line provisioning, and to replace it with a single, uniform, nondiscriminatory rate structure. When special access rates were first introduced, the LECs made several unsatisfactory attempts to develop a just and reasonable special access rate structure. The Commission found that the first few attempts by the LECs to design special access tariffs resulted for a number of reasons in filings that violated the Communications Act.²⁹⁷

238. While the LECs ultimately filed special access tariffs that in general provided a uniform, nondiscriminatory rate structure,²⁹⁸ in May 1985, the Bureau initiated an investigation in CC Docket No. 85-166 to examine certain rate structure, cost support, and rate level issues raised by the LECs' special access tariffs.²⁹⁹ The Bureau noted in particular that some LECs had adjusted their rates for high capacity and digital data services upward to a level designed not only to recover access costs but also to achieve strategic marketplace objectives, such as discouraging bypass of switched access services or influencing the mix of special access services and facilities used by LEC customers, an observation LECs later admitted was accurate.³⁰⁰

239. During the period that these rates were under investigation, some tariff filings were suspended, some were rejected, while others were made subject to the ongoing investigation.³⁰¹ By 1989, subsequent to the release of the *Strategic Pricing Order*, rates for high capacity "DS1" service and voice grade service were within the 4-to-1 and 8-to-1 cross-over range the Commission had established as one indicator of reasonableness.³⁰² This Commission has recently concluded that there is no further justification for the strategic pricing of DS1 and voice grade special access services.³⁰³ We reasoned that

[t]he uncertainty and dislocation caused by the AT&T divestiture and the implementation of the new access charge regime are now problems of the past . . . the experience that the LECs have gained in dealing with the introduction of new services should leave them better prepared to respond to rapid increases in demand for future new services. The LECs must now look to their own business planning to deal with marketplace changes.³⁰⁴

With regard to the LECs' rates that were in effect from April 1985 to March 1989, we found that certain LECs had violated our strategic pricing policy. We therefore directed these LECs to refund the amounts over-earned.³⁰⁵

240. In the *1989 Access Order* the Bureau rejected two DS1 rates that were not within the crossover range and were not justified.³⁰⁶ Those companies refiled DS1 rates within the range. The Bureau's examination of the LECs'

1990 special access rates also revealed that one carrier had filed a DS1 rate outside the crossover range. Accordingly, the Bureau suspended those rates for the full five-month statutory period and initiated an investigation.³⁰⁷ Thus the tariff review process has served to assure that the rates in effect July 1, 1990 are reasonable.

241. Commenters have also argued that all outstanding rate investigations must be resolved prior to inaugurating price cap regulation.³⁰⁸ We disagree. During the past 12 months, the Commission has resolved approximately 19 tariff investigations concerning a variety of issues. Approximately 8 remain pending. The majority of other outstanding items stem from various LEC appeals of our disallowance orders. Since we are not making a finding that existing rates are just and reasonable, but only that they are a reasonable starting point for price caps, resolution of these proceedings is not necessary before inaugurating price cap regulation. Should we find, at the conclusion of one of these pending matters or of a complaint, that a rate was or is unlawful we will order refunds and/or make adjustments to the price cap indexes, actual price indexes, service band indexes, or all of the above, as required.³⁰⁹ We therefore reject the arguments of some commenters that we must conclude all outstanding investigations before launching price cap regulation. Use of July 1, 1990 rates does not "lock in" any unlawful pricing practices, should they exist, as some commenters suggest.³¹⁰ Corrections can and will be made to relevant indices to reflect any determination that a July 1, 1990 rate was unlawful, whether made in a Section 204 tariff investigation or Section 208 complaint proceeding, even if that proceeding is instituted after adoption of this Order.

242. We also disagree with those commenters that argue that rate of return regulation, due to its inherent inefficiencies, has produced rates that are inflated, and that these rates must be "deflated" by resort to a rate case before price caps can take effect.³¹¹ While we agree that rates produced by a rate of return system can be uneconomically high, it is the ongoing operation of price cap regulation that will produce lower rates, not a pre-price cap rate case. As previously explained in our discussion of the productivity offset, price cap regulation forces carriers to be more productive than they were under rate of return regulation and encourages rate reductions. By forcing prices down in real terms, the price cap index ensures that any inefficiencies embodied in current rate of return rates are eliminated over time, as the LECs are able to improve their productivity.

243. Moreover, it is not clear to us how a rate case, conducted using rate of return principles, could do anything more than derive rates that continue to reflect rate of return and its requirements of fully distributed costing. There is no guarantee that a full general rate case would result in rates that are substantially different from (*i.e.*, lower than) those currently in effect. Given the limited potential utility of such a proceeding and our view that price cap regulation offers ratepayers and carriers significant benefits, we do not believe that the indefinite delays that could result from conducting rate cases for each LEC can be justified. A delay in the implementation of the price cap system means a delay in the introduction of more economically efficient rates. Such a delay is particularly unwarranted given our ability to make adjustments to price cap mechanisms that give full effect to any finding of unlawfulness in specific investigations that are underway.

244. We also reject arguments that a truncated rate case could be undertaken prior to inaugurating price caps and without delaying the benefits that price cap regulation brings. No party has suggested a workable method for a truncated rate case. Commenters suggesting that cost data already filed permits an equitable calculation of "embedded inefficiencies" have not revealed a method for identifying and quantifying such inefficiencies caused by rate of return.³¹² Again, we note that adjustments will be made to reflect any subsequent determinations in a tariff investigation or complaint proceeding that an existing rate is unlawful.

b. Adjustments to July 1, 1990 rates

245. During the period between the July 1, 1990 date from which indexes begin and the January 1, 1991 start date of price cap regulation, LECs remain free to introduce new effective prices justified under existing rate of return cost support requirements. LECs may also restructure or change special access services, consistent with current Part 69 limitations and the requirements of the Communications Act. To the extent LEC transmittals have the effect of increasing prices for services during this six month period, our decision to inaugurate the price cap index (PCI) on July 1, 1990 and to require actual prices to be equal to or below the PCI on January 1, 1991, prevents LECs subject to price caps from engaging in a rapid escalation in prices that would have the effect of raising their price cap base rates. Since the elements of the PCI are outside the control of the carriers, and do not depend on actual prices, the price cap that LECs must adhere to on January 1, 1991 will not increase should a LEC attempt to raise prices in the interim.

246. Moreover, based on decisions made in this Order and in the companion rate of return item, the January 1, 1991 PCI will be less than the July 1, 1990 PCI that we set at a value of 100. There are several reasons why this drop in the PCI will occur. First, as we discuss in Appendix F, the first price cap filing will merely translate existing LEC rates into price cap terms in the middle of a tariff year. Annual price cap filings are scheduled to become effective on July 1 of each year, and the inflationless-productivity component of the PCI formula is included only at the time of the annual filing.

247. In the *Supplemental Notice*, we proposed that the rate of return prescription be treated as an exogenous cost decrease for price cap carriers,³¹³ and we now confirm that proposal. Because the decrease in the allowed rate of return must be removed from the rates of LECs subject to price caps before allowing price caps to become effective, we will treat the rate of return prescription as an exogenous cost adjustment. In the companion item we adopt today, the rate of return prescription is scheduled to become effective January 1, 1991. Unless the prescription is treated as exogenous, LECs entering price cap regulation will be able to use the higher, pre-prescription rates as a base for their price cap rates. In order to ensure that the timing of our rate of return prescription does not disadvantage ratepayers of those LECs entering price cap regulation, we will treat the prescription as an exogenous cost decrease to PCI levels, thereby ensuring that price cap rates decrease.

248. Given our recent rate of return review of LEC access rates that resulted in a rate decrease of approximately \$1 billion, and our decision to treat the prescription as exogenous, we do not agree with the

suggestions of commenters that we need to retarget rates for the various access services to the authorized return prior to launching price caps.³¹⁴ The retargeting process was part and parcel of our decision on July 1, 1990 access rates, and our reprscription decision today further ensures the reasonableness of existing rates as a starting point for price caps.

249. We also see no need to require a *pro rata* adjustment of rates to the rate element level to implement the lower authorized rate of return for price cap carriers. Rate elements number in the thousands, and many per-minute charges are quite small. A *pro rata* decrease by element would be cumbersome and unnecessary. However, we do not believe that in adjusting rates to account for the reprscription, LECs should have the full amount of pricing flexibility they will be allowed under price cap regulation. The rates currently in place are targetted to earn at or near the current prescribed rate of return. Because these rates are based on long experience and were recently revised to the earnings target and reviewed, it is reasonable to accept them as adequately targetted. Because the effect of the rate of return reprscription is simply to reduce the return component of these rates, an equally simple across the board rate reduction should also be a reasonable means of implementing this necessary prelude to price caps. It is also necessary and reasonable for LECs who will remain under rate of return regulation. We therefore will expect LECs, in making adjustments to rates to fulfill the reprscription requirements, to file service rates that, on a percentage basis, are approximately equal. Departures from this practice, or rate element changes that work hardships on particular customers, will need to be justified by a demonstration that the deviation is necessary to retarget rates to the newly prescribed rate of return.

250. Another possible cause for rate reductions on January 1, 1991 is that some investigations may be completed during the six months leading up to price cap regulation. To the extent that an order terminating an investigation directs a LEC to reduce its existing rates, that adjustment must be treated as an exogenous factor to the PCI to ensure that price cap rates are as reasonable as possible.³¹⁵ One or more of the LEC's price cap indexes for the basket containing the service subject to investigation will be adjusted to ensure that rates are reasonable.³¹⁶

c. Upfront rate cuts

251. We agree with those LECs that argue that the reprscription process should not be used as a vehicle for generating an upfront rate cut for price cap carriers. We believe that the reprscription proceeding detailed in the companion item is properly decided on its own merits. However, having made the decision to reduce the authorized return in that item, we believe that price cap carriers should be subject to its cost of capital findings.

252. In view of our decision to require service rates to be retargeted to reflect the reprscription of the cost of capital, and our recent examination of LEC access rates in the July 1, 1990 filing, we do not believe a separate upfront rate cut is warranted. Arguments in favor of such a cut tend to rest on the supposition that the inefficiencies attendant to rate of return regulation must be recaptured for ratepayers upfront, before the productivity-enhancing incentives we have created have a chance to operate.³¹⁷

We cannot agree. Upfront cuts should be limited to ensuring the prices going in to price cap regulation reasonably reflect an adequate rate of return system.

253. As the LECs note, our authority to prescribe rate reductions under Section 205(a) depends upon a finding that current rates are or will be unreasonable. The commenters provide no evidence that existing rates for LECs covered by price cap regulation are generally unreasonable, and we are aware of no such evidence. We do expect that LECs can and will be more productive under a price cap incentive system, but this belief, however well-founded, does not furnish proof that any single LEC has unjust and unreasonable rates now. If customers have such proof, they of course remain free to present it in a complaint proceeding, and, if appropriate, adjustments will be made.

254. Even if we could conclude that we have the authority and the evidence to order upfront rate cuts, we do not believe such cuts are desirable or consistent with the price cap plan. Rate of return is not an unreasonable or unlawful form of regulation. We have merely concluded that another method will produce improved regulation. It would be inconsistent and inequitable to order retrospectively that LECs reduce their rates because the regulatory system was imperfect. The Consumer Productivity Dividend will ensure that downward pressure will be exerted on rates in real, inflation-adjusted terms to produce reasonable rates in the future. Moreover, to the extent that efficiency gains will be achieved under price caps, the backstop mechanisms we are establishing will assure that a fair share of the efficiency gains are used to lower customers' rates.

d. GTE Hawaiian IMTS rates

255. In addition to the general concerns about the use of existing LEC rates as a basis for price cap indexes, Hawaii has argued that GTOC's international MTS (IMTS) rates to and from Hawaii are excessive.³¹⁸ We do not find substantial reason to exclude these rates, which have been subject to challenge and review in the Section 204 process, from the price cap program. We believe that delaying the initiation of price caps in this regard is undesirable, since we expect that these rates will decrease under price caps. Further, we believe the recent entry and continuing presence of strong competitors such as AT&T, MCI, and US Sprint in the Hawaiian IMTS market makes it highly unlikely that GTOC could sustain excessive rates.³¹⁹ Moreover, the proliferation of fiber optic undersea cables in the Pacific Ocean region could attract other viable IMTS competitors.³²⁰ Our decision to place IMTS in a separate, interexchange basket will also act to restrain GTOC's ability to set excessive rate levels. More importantly, if GTOC's IMTS is in the separate interexchange basket, IMTS cannot be either a source or a recipient of unlawful cross-subsidy from GTOC's interstate access rates. By placing IMTS in the separate interexchange basket, we will be able to monitor GTOC's pricing and provision of service very closely. We therefore conclude that GTOC's existing IMTS rates to and from Hawaii provide a suitable starting point for price caps.³²¹

256. We are not insensitive to the view that IMTS rates, in general, are too high. It is our belief that high IMTS rate levels are for the most part attributable to an international accounting rate imbalance. We have been actively reviewing international accounting rate issues in order to prompt renegotiation of these rates.³²² Successful comple-

tion of these negotiations will benefit consumers in Hawaii and across the United States. Since this is an ongoing process that requires the participation of foreign administrations, we do not find it necessary or even desirable to exclude GTOC's IMTS from price caps until all international accounting rates have been reformed.

C. Eligibility

257. In this section, we discuss which LECs are subject to mandatory price cap regulation and which may elect price cap regulation. There are approximately 1400 LECs providing interstate access service, and enormous differences exist among them in the number and concentration of their access lines, the geographic location and dispersion of their affiliates, and the number of states they serve. Beyond these physical differences, LECs providing interstate access exhibit significant financial and operational differences in their assets, revenues, and earnings; the extent of their participation in NECA pools; and their use of average schedules. As previously discussed in the section on selection of a productivity offset and the need for backstop mechanisms, the vast differences among LECs caution against applying a single price cap plan to such a broad spectrum of companies.

258. Among these companies, however, there is a small group of eight very large firms that provide the great bulk of local exchange facilities and services. These are the seven Regional Bell Operating Companies (RBOCs) and the GTE Operating Company (GTOC). Together, these eight companies provide 88 percent of all local telephone lines in the U.S. (Each of the eight provides from 8.4 percent to 12.3 percent of the total number of lines.) Even the smallest of these eight, SWB, is several times larger than any of the other non-RBOC/GTOC local exchange carriers.³²³ These few companies provide virtually all local exchange and access service in virtually all major metropolitan areas.

259. Whether and how the vast majority of ratepayers will benefit from price cap regulation depends largely on the participation of this group of companies in the program. Moreover, we believe the tentative conclusion that price cap regulation should be mandatory for these LECs is correct. Our calculation of the industry productivity offset is largely based on the historical experience of these companies. If these large LECs were permitted to choose the form of regulation they preferred, they might well manipulate the system in a way that would undercut the purposes and incentives of the program, and reduce the benefits to customers, who have no such choice. Significantly, mandatory participation by the eight largest LECs is endorsed by USTA, on behalf of all the LECs, including these eight carriers.

260. We have thus modified the scope of mandatory price cap regulation in one respect. The Commission had proposed to make price caps mandatory for all LECs with sustained regulated interstate revenues of at least \$100 million, a group we have labeled for other purposes as Tier 1 carriers. On the review of the comments and evidence, it appears that the mid-size companies do differ significantly from the eight largest companies in the size and scope of their operations, and may differ in the productivity they can reasonably be expected to achieve. For this reason, we conclude that it is more appropriate to proceed cautiously and to group these companies with the smaller Tier 2 companies for the present and allow them to choose price cap regulation on a voluntary basis.

261. For these and other LECs for whom price caps is voluntary, withdrawal from the NECA pools is a prerequisite for eligibility. LECs that continue to participate in such pools, including so-called "average schedule" companies, will not be eligible to participate. However, a LEC holding company with both cost and "average schedule" affiliates that seeks to participate in price cap regulation, will be required to convert all cost affiliates to price cap regulation, but will not be required to convert its average schedule affiliates.³²⁴ We also amend the prior proposal, which would have allowed only one election date, to provide a once-a-year opportunity for additional LECs to elect price cap regulation. Finally, where a merger or acquisition takes place between a price cap company and a non-price cap company, other than an average schedule company, the non-price cap company will be required to convert to price cap regulation within one year of the transaction.

1. Mandatory price cap regulation

262. In a departure from the *Second Further Notice*, which proposed mandatory participation for all depooled Tier 1 LECs and their cost affiliates, we have decided to limit mandatory participation to the seven RBOCs, GTOC, and their cost affiliates, as suggested by several parties.³²⁵ Others support different approaches to mandatory regulation.³²⁶ Some favor limiting mandatory regulation to the RBOCs and excluding GTOC.³²⁷ However, based on a comparison of GTOC with the RBOCs, we cannot justify excluding GTOC from the mandatory scheme we apply today to the RBOCs. For our purposes in this proceeding, GTOC is far more like the RBOCs than unlike them -- and more like the RBOCs than like the other Tier 1 LECs.³²⁸ Our decision to limit mandatory price cap regulation to the eight largest holding companies and their cost affiliates brings under price cap regulation the vast majority of access lines and geographic area, and therefore extends the benefits of price cap regulation to a broad segment of the population.³²⁹

263. Though the rules we adopt today slightly reduce the extent of mandatory participation proposed in the *Second Further Notice*, we believe the advantages of this approach, combined with our intent to review regulation of smaller and mid-size LECs (and to collect further information on their productivity) outweigh the uncertainties and other disadvantages of making mid-size LECs subject to mandatory price cap regulation. Several considerations support this belief. First, as we noted earlier, the comments and supporting studies of mid-size Tier 1 LECs cast some doubt on their ability to meet the productivity standard we adopt today for the largest LEC holding companies and their affiliates. As the mid-size Tier 1 LECs and others note, we derive those standards from studies that focused on the pre-divestiture AT&T and from post-divestiture studies focusing on the eight largest LECs.³³⁰ Second, we note the considerable diversity among the smaller Tier 1 LECs. For example, several of the mid-size companies, such as CBT and SNET, provide service to a concentrated geographic area, while others, such as Centel, operate on a more broad-based geographic area.

264. Third, the designation of a company as a Tier 1 carrier was initially made as a matter of administrative convenience at the time interstate access tariffs were first implemented.³³¹ At that time, we decided to require Tier 1 carriers to file more extensive, standardized information

in order to simplify the tariff review process. Although the Commission has utilized the Tier 1 designation in other areas to establish different disclosure requirements, status as a Tier 1 carrier should not be determinative of participation in price cap regulation.

265. While we are concerned that, in theory, LECs for whom price cap regulation is optional might avoid price cap efficiency incentives and elect the regulatory scheme that favors them, not their ratepayers,³³² as noted above, the available LEC productivity data suggests that small and mid-size LECs may not be more productive than the RBOCs and GTOC and thus could not "game" the price caps system by electing price cap regulation in order to take advantage of lower productivity factors. In light of this fact, we believe that the diversity of LECs and the incompletely developed record on productivity caution against a broader mandatory application of the price cap system. We can always expand the program at a later date, as other companies prove equally or better able to meet the standards we set today for the largest LEC holding companies and their cost affiliates or as we develop a better record regarding the productivity of smaller and mid-size LECs.

2. Price cap participation and pooling

266. The relationship between pooling and price cap regulation is fundamental to the rules defining LEC eligibility for price cap regulation. We have repeatedly emphasized in this proceeding that price cap regulation will increase carriers' incentives to achieve heightened efficiency, which in turn will lead to lower rates. Participation in pools, by its nature, entails risk-sharing, and thus a weakening of incentives to operate efficiently.³³³ We believe that the reasoning presented in the *Second Further Notice* against extending price cap regulation to NECA pool members remains valid.³³⁴ We have accordingly determined that we must exclude these carriers from our price cap plan.³³⁵

267. To implement this decision, we adopt several new rules and slightly revise our current pooling rules. In order to elect price cap regulation, currently depooled LECs need only file a price cap tariff on or before November 1, 1990, with an effective date of January 1, 1991. Currently pooled LECs that wish to participate will be able to do so, but not until July 1, 1991, at the earliest. Under the rules we adopt today, currently pooled LECs will be permitted to withdraw from the NECA pools by the end of this year solely for the purpose of becoming subject to price cap regulation as of July 1, 1991.³³⁶

268. Many parties, particularly small and mid-size LECs, object to the rules proposed by the Commission that would prevent otherwise eligible LECs from joining price cap regulation on any date other than January 1, 1991. They suggest that such LECs be given one or more additional opportunities to participate in price cap regulation.³³⁷ Apart from the concerns we expressed about multiple entry dates, none of the parties either support the single entry date or oppose the additional dates proposed by commenters. In comparing the benefits of price cap regulation for customers of such LECs with the burdens on this Commission of managing multiple entry dates, we find no reason to deny regular opportunities to elect price cap regulation. Accordingly, under the rules we adopt today, LECs participating in one or more pools will have an annual opportunity to withdraw from these pools for the purpose of entering price cap regulation.

269. A LEC's decision to elect price cap regulation under this new procedure will be irrevocable.³³⁸ While we have determined that more flexibility is warranted on the question of LEC depooling in order to elect price cap regulation, we are still concerned about the possibility of manipulation, were we to allow LECs to alternate readily between rate of return and price cap regulation. In order for the price cap approach to work effectively, and for incentives to develop and influence LEC behavior and earnings, a LEC electing price cap regulation must make a permanent commitment. We accordingly determine that a LEC electing price cap regulation shall not have the option to return to rate of return regulation.

270. In addition, we share the concerns expressed by some commenters that it may be difficult for small and medium-size LECs to move directly from participation in one or more NECA pools to price cap regulation.³³⁹ Accordingly, we delegate to the Chief, Common Carrier Bureau the task of developing and implementing procedures to enable such LECs to more easily develop the rates and related data needed to support their first price cap tariffs. These procedures are intended to reduce the need for costly and burdensome cost studies that are normally required to establish access rates upon leaving NECA pools.

3. "All-or-nothing" rule

271. The all-or-nothing rule provides that a LEC seeking to participate in price cap regulation will be required to convert all its cost affiliates (but not average schedule affiliates) to price cap regulation as well.³⁴⁰ Throughout this proceeding, the Commission has expressed concern that if price cap regulation were to apply to some but not all affiliates of a LEC holding company, that company might be able to shift costs improperly from a price cap affiliate to a rate of return affiliate.³⁴¹ As a result of such shifts, customers of the rate of return affiliate could face excessive rates because costs associated with the price cap affiliate might be allocated to its rate of return affiliate's rate base. The all-or-nothing rule removes the incentives for LECs to engage in this improper cost shifting by eliminating the situation where one affiliate is under price cap regulation and one affiliate is under rate of return regulation. Because, as explained below, this is the best way to prevent cost shifting in the price cap environment, we adopt the all-or-nothing rule.

272. We reject claims that the all-or-nothing rule is not needed to prevent the improper shifting of costs from price cap to non-price cap affiliates. First, we do not agree with those who assert that there is insufficient evidence of actual or potential cost shifting to justify the rule.³⁴² Several parties noted that LECs had strong incentives to shift costs from price cap to non-price cap affiliates,³⁴³ and we agree. The record in this proceeding, like the records developed in other proceedings before the Commission, demonstrates that LEC holding companies have both the means and the motive to shift costs improperly from affiliates under one regulatory system to affiliates under another system, to the detriment of ratepayers. At this time, and out of an abundance of caution, we believe the all-or-nothing rule best guards against improper cost shifting.³⁴⁴

273. Second, we reject assertions that other, allegedly less burdensome, non-structural mechanisms such as were used in the *Third Computer Inquiry* could be employed here in lieu of the all-or-nothing rule to prevent cost

shifting between price cap and rate of return affiliates.³⁴⁵ In the *Computer Inquiry III*, the Commission adopted various methods to enable LECs to offer enhanced services and thereby maximize the efficient and effective use of the public switched network, and to enable other enhanced service providers to gain access to that network on reasonable terms. The non-structural approach adopted there involved, in part, a set of detailed accounting rules for allocating costs jointly shared by RBOC basic services and enhanced service operations, as well as an audit procedure to ensure compliance with the allocation rules. We find that adoption of analogous rules and procedures for price caps is unwarranted at this time. Unlike *Computer III*, where the record indicated that structural safeguards were imposing unnecessary costs and limiting RBOC participation in the provision of enhanced service to the detriment of the public interest, there is little evidence that the all-or-nothing rule will detrimentally affect those LECs subject to price cap regulation. As price cap regulation develops, however, we will monitor the situation carefully to determine if an alternative approach to controlling cost shifting is warranted.³⁴⁶

274. Third, notwithstanding the contentions of some commenters, we are not convinced either that current state regulation by itself is adequate to detect the type of cost shifting targeted by the all-or-nothing rule, or that because of the frequent size disparities between affiliated LECs, any significant cost shifts would be readily detected and disallowed.³⁴⁷ While state regulation may be adequate to detect and prevent improper inter-affiliate and intra-affiliate cost shifts from the interstate category to the intrastate category, it is neither designed nor able to detect such cost shifts within the interstate jurisdiction. Thus, regardless of how effective state commissions may be in regulating the allocation of costs between the interstate and intrastate jurisdictions, there remains a strong need to deter improper inter-affiliate cost shifts within the interstate jurisdiction regardless of the relative size of the affiliates involved in each case. The all-or-nothing rule meets that need exceedingly well.

275. Finally, we reject claims that the all-or-nothing rule unfairly forces many LECs to forego price cap regulation because they are reluctant to depool their high-cost companies.³⁴⁸ Although each LEC holding company (other than the RBOCs and GTOC) has the option to join price cap regulation, none is required to do so. Price cap regulation may be more attractive to one affiliate than another, but our requirement that both or neither join price cap regulation is not unfair in light of the strong need for this rule.³⁴⁹ Accordingly, we reject the contentions of NECA, Alltel, and others that each LEC affiliate should be permitted to decide on a study area basis whether to participate in price cap regulation and whether to participate in NECA pools regardless of the elections made by other affiliates of that LEC.³⁵⁰ Any LEC holding company electing price cap regulation, as well as all LEC holding companies subject to mandatory regulation, must convert all cost affiliates to price cap regulation.

276. While we believe that the all-or-nothing rule is important to the effective implementation of price cap regulation for LECs, we make one narrow exception to this rule to accommodate the needs of small carriers that use average schedules.³⁵¹ We will except average schedule companies from our rule because our concerns of potential cost shifting from a price cap LEC to a non-price cap affiliate do not extend to average schedule companies

affiliated with a price cap carrier. Accordingly, when a LEC converts to price cap regulation, we will not require as a condition of such participation that all its average schedule affiliates convert to price cap regulation.

277. Average schedule companies are compensated for the costs of providing exchange access and transport services on the basis of formulas that are derived from aggregate exchange carrier data.³⁵² The settlements that an average schedule company receives depend upon the demand for the services that it provides rather than upon its costs of providing those services. As a consequence, average schedule companies are already subject to a form of streamlined regulation that creates economic incentives similar to those we seek to foster by adopting price caps for other exchange carriers. Under the average schedule formulas, average schedule companies retain the benefits that accrue from increases in productivity and reductions in expenditures, and therefore, like price cap carriers, have economic incentives to operate as efficiently as possible.

278. In response to our request for comments, only Michigan PSC and several LECs dealt with this issue.³⁵³ The commenting parties other than Michigan PSC agree that average schedule companies should be exempt from the all-or-nothing rule for price cap regulation, as they operate under a form of incentive regulation.³⁵⁴ USTA, representing the largest LECs as well as other LECs, also endorses this approach.³⁵⁵ The all-or-nothing rule exception is designed to enable average schedule companies to maintain that status notwithstanding their affiliations with other LECs that may elect, or be required, to participate in price cap regulation. However, the creation of an average schedule exemption to the all-or-nothing rule requires a change to either the depooling rules or our price cap rules.³⁵⁶ Our determination that average schedule companies may be exempted from the all-or-nothing price cap rule is in conflict with our NECA depooling rules, which require depooling on an all-or-nothing basis.³⁵⁷

279. The *Second Further Notice* suggested that we would carve a narrow exemption to the depooling rules, to allow average schedule companies affiliated with price cap carriers to remain on average schedule and remain in the NECA pool, despite their affiliation with price cap companies. Absent this exemption, the depooling rules would require that average schedule companies depool (*i.e.*, give up their average schedule status) when their affiliates depool, and price cap rules would require that average schedule companies participate in price caps when their affiliates do. The proposed exemption was supported by some commenters, as noted above, and was virtually unopposed. We have determined that it is consistent with our objectives in adopting price caps for other carriers, to permit LECs that are operating under the average schedules to continue to do so, even if one or more of their affiliates becomes subject to price cap regulation. We therefore retain the average schedule exemption from the all-or-nothing rule, and modify the Part 69 depooling rules to create a narrow exemption that allows average schedule companies to remain in the pool if, and only if, their depooling affiliate is depooling for the express purpose of changing from rate of return to price cap regulation.

4. Effect of the Alltel decision

280. We disagree with commenters who argue that the all-or-nothing rule fails to meet *Alltel v. FCC*.³⁵⁸ We believe that the all-or-nothing rule that we adopt today complies fully with those standards. In *Alltel*, the Circuit Court remanded a Commission rule that if a LEC together with its affiliates earned \$40 million or more in annual operating revenues, that LEC and its affiliates must be either all average schedule companies or all cost companies, but could not be a combination of the two. The *Alltel* court did not issue a blanket attack on regulatory distinctions premised on corporate affiliation, but simply concluded, on the record before it, that average schedule eligibility criteria for a single LEC that were based upon the aggregate revenues of that LEC and all its affiliates were not relevant to the stated purpose of those criteria, to avoid imposing unnecessarily burdensome costs on small carriers.

281. Our decision here is readily distinguishable from *Alltel*. Our purpose in requiring all-or-nothing participation in price caps is to minimize the improper shifting of costs from a price cap carrier to a non-price cap affiliate, whose customers would then pay excessive rates. Thus our requirement is directly related to a legitimate regulatory purpose. We adopt the all-or-nothing rule in this proceeding to limit the ability of LEC holding companies to shift costs from price cap affiliates to non-price cap affiliates, not as a means of distinguishing those LECs that can avail themselves of scale economies from those that cannot. Notwithstanding the later arguments of *Alltel* to the contrary,³⁵⁹ we believe that the *Alltel* court rejected the Commission's affiliation rule because the record there did not reveal a relation between the object of the rule and a LEC's affiliate status. In the present case this relationship is clear and direct: the object of our all-or-nothing rule is the prevention of improper cost shifting between affiliates.³⁶⁰

5. Treatment of mergers and acquisitions

282. Future mergers and acquisitions involving LECs subject to price cap regulation must be anticipated. We must therefore address the extent to which LECs involved in such transactions will be permitted to retain their pre-transaction regulatory status. We find that a price cap carrier that acquires a non-price cap carrier (other than an average schedule company) will be required to convert that carrier to price cap regulation within one year after the effective date of the merger or similar transaction.³⁶¹ We believe that this one year "grace period" will enable LECs involved in such transactions to complete the studies and tariffs necessary to begin full participation in price cap regulation.

283. Several parties ask us to allow carriers involved in such transactions to retain their pre-transaction status, contending that any other rule would needlessly interfere with such transactions, and would conflict with the Commission's current policy.³⁶² In CC Docket 89-2, we adopted a rule under which LECs involved in mergers and acquisitions are permitted to retain their pre-transaction pooling status.³⁶³ That rule was adopted in an effort to keep pooling rules neutral with regard to mergers and acquisitions. These parties urge adoption of a similar rule with regard to acquisitions involving price cap carriers.

284. As indicated by the price cap merger and acquisition rule that we adopt today, we do not believe it is necessary that this rule be consistent with the merger and acquisition rule that was previously adopted in the con-

text of depooling.³⁶⁴ We find that the incentives and limitations facing a company that has both price cap and non-price cap affiliates would be very different from those facing a company that has both pooled and non-pooled affiliates. Companies that are allowed to retain both pooled and non-pooled affiliates under the limited exception authorized in our existing merger and acquisition rule are all subject to rate of return regulation. As a result, these companies have little incentive to shift costs between pooled and non-pooled affiliates, since all such companies' earnings are limited to a unitary cost of capital that we impose. By contrast, a company with both price cap and non-price cap affiliates has a significant incentive to shift costs from its price cap to its non-price cap affiliates, since the total dollars these latter companies will earn will be increased as their rate bases increase. We believe that this difference justifies requiring price cap carriers to convert all acquired or merged companies to price cap regulation, as described above.

D. Evaluation of Price Cap Tariffs

285. The price cap tariff filings requirements discussed below are intended to honor the system of price caps and pricing bands we have created in previous sections. Tariff filings that include rate changes in which the rate is below the applicable price cap and within the annual price bands will be granted streamlined treatment -- filings may be made on 14 days' notice and will be presumed lawful. Filings that propose rates outside these defined boundaries will be subject to longer notice periods, will not be presumed lawful, and require different types of cost support.

286. In designing the tariff filings requirements to employ in a price cap system for LECs, we have drawn heavily upon the tariff review requirements we put in place for AT&T's price cap system.³⁶⁵ The LECs are, however, subject to a different version of price cap regulation due to the operation of prescribed "backstop" mechanisms affecting total interstate earnings levels. In the discussion below, we describe how the price cap system we have tailored for LECs will alter our tariff filing requirements.

1. Annual filings

287. Previous notices have stimulated little comment on the issue of the annual filing.³⁶⁶ We believe that a periodic filing is necessary to allow LECs to adjust their indexes as specified herein, and to allow this Commission to review and evaluate those adjustments and the LEC's resulting rates. We therefore adopt the tentative conclusion of the *Second Further Notice*, and direct all LECs participating in our price cap plan to submit an annual filing demonstrating compliance with the price cap rules. As we have done under rate of return, we delegate to the Common Carrier Bureau the task of determining the format and requirements of these filings through the issuance of a Tariff Review Plan.

288. In the annual filing, each LEC will be required to show that it has correctly adjusted the price cap indexes for each basket, based on the GNP-PI and productivity offset as well as any relevant exogenous changes. The LEC's annual filing will also demonstrate that the actual price index for each basket does not exceed the relevant price cap index, and that all rates are within the applicable price cap bands. The LEC filing will also reflect any prospective rate adjustment that arises due to the

operation of the sharing requirements, and any PCI change caused by the operation of the low end adjustment mechanism. Finally, we require the LECs to include a complete rate comparison schedule contrasting existing and new rates. The LECs shall make these filings on 90 days' notice with an effective date of July 1 of each year. Thus, the first annual price cap filing will be due April 2, 1991, with an effective date of July 1, 1991.

289. Consistent with the regulatory scheme already in place for AT&T, we will restrict the LECs' annual price cap filing to changes in rate levels and to the incorporation of previously-introduced "new" services, as described below. We will permit LECs to make changes in discounts or tapers in their annual filings to the extent such changes require only minor modifications to tariff language and do not require recalculation of estimated base period demand in the API and SBI calculations. Although we anticipate that most LEC rate proposals will fall within the no-suspension zone, we will not preclude LECs from including above-band or above-cap rates in their annual filings, accompanied by required showings. Such rates will not, however, be subject to the same presumption of lawfulness that will apply to within-band, within-cap filings.

2. Within-band, within-cap filings

290. We received many comments in response to the proposal in the *Second Further Notice* to streamline LEC tariff filings that change rate levels, as long as the change in service rates produced an Actual Price Index (API) for the basket to which the service was assigned that was no greater than the Price Cap Index (PCI), and the new rates satisfied the pricing band limitations. While some parties support our proposal,³⁶⁷ some object to our allowing such filings to be made on 14 days' notice, based primarily on arguments that LEC monopoly power means that rates will be unjust and unreasonable.³⁶⁸ Other commenters object to the presumption of lawfulness, stating that the LECs face no competition, and that this alone should persuade us not to grant these filings a presumption of lawfulness, and to allow them to be more easily challenged.³⁶⁹ Some commenters suggest that additional restrictions should be included in our review of within-band, within-cap filings -- that we should restrict changes in non-recurring charges,³⁷⁰ cap the price of individual rate elements for the duration of an access year and apply the within-band criteria at that less aggregated level,³⁷¹ or even that we should keep rates tied more directly to individual carrier costs.³⁷²

291. We do not find these pleadings persuasive. The price cap mechanism we adopt has been carefully designed to ensure that ratepayers will benefit from price cap regulation, and to limit objectionable practices by the LECs. The sharing mechanism provides further protection against unreasonable rates. Our decision to separate LEC services into four baskets and to subdivide those baskets into service categories constrains precipitous changes to prices, and reduces LEC ability to shift the cost of one type of services to another class of ratepayers. Finally, we retain the complaint process as an avenue to challenge discriminatory rate increases. These safeguards justify our decision to allow streamlined review of within-band, within-cap filings. Customers of LEC interstate offerings typically purchase a service, not individualized rate elements. Changes in individual rate element prices may or may not affect the price of the service in any substantial way.

Particularly in the special access category, which includes literally thousands of rate elements, we believe the best course is to band at the service category level.³⁷³

292. Several commenters are concerned that the burden to challenge such filings is too high, and that relevant data may not be available to opponents of LEC filings.³⁷⁴ Some of these parties assert that we have failed to provide clear standards for the challenge of such rates.³⁷⁵ Several opposing parties state that our plan will result in a severe lack of availability of cost data and meaningful review thereof.³⁷⁶

293. We do not believe that the burden of challenging these rates is too high, in light of the limited "no-suspension zone" we have created. The presumption of lawfulness applies only to the suspension decision, and does not survive if the tariff is set for investigation or if a complaint is filed.³⁷⁷ We find it unlikely that rates based on existing LEC rates, as constrained by the price cap formula and sharing mechanism, would be unreasonably high. Given our findings, we affirm the presumption of lawfulness of within-band, within-cap rates. Parties seeking suspension of within-band filings must meet the substantial showing set forth in Section 1.773(a)(1)(iv) of our Rules.³⁷⁸

294. The high standard we have set for petitioners seeking suspension of within-band filings is not an indication that we are reluctant to examine such rates changes. Rather, it is a reflection of our belief that the risk of carriers filing within-band rate changes that are nonetheless unreasonable is low. We emphasize, however, that we do not expect petitioners to do the impossible in support of their suspension requests. We will, where warranted, require carriers to come forward with additional rate information.³⁷⁹ Petitioners should also recognize that a showing insufficient to justify suspension of a within-band filing could contain enough evidence to persuade us to investigate, and could serve as a basis for a complaint under Section 208 of the Act.

295. We believe the instant tariff review and filing procedures are consistent with Section 204(a) of the Communications Act.³⁸⁰ Our procedures reasonably reflect the equitable balance between ratepayer and shareholder interests that Congress incorporated into the Section 204 hearing process. The presumption of lawfulness we have attached to these filings does not alter this balance, because the ultimate burden of proof remains with the carrier. Our presumption involves only a preliminary assessment of whether the proposed tariff should go into effect without suspension, not whether the tariff itself is lawful on the merits under the Communications Act. Once we designate a filing for investigation, it is the carrier's responsibility to demonstrate the justness and reasonableness of the rates at issue. Accordingly, we affirm that we will apply streamlined regulatory procedures to LEC tariff filings proposing rate level changes which satisfy our rate band limitations and which produce an API for the relevant basket that is no greater than the PCI. Under this approach, LEC requests for within-band, within-cap rate level changes shall be made on 14 days' notice and shall be accompanied by the supporting information set forth in the new Sections 61.49(a) and (b) of our Rules, 47 C.F.R. §§ 61.49(a) and (b).

3. Above-band, within-cap filings

296. The Commission's proposal to require 90 days' notice for any tariff filing which proposes to raise rates above the 5 percent price band similarly stimulated much comment.³⁸¹ Some LECs contend that the 90 day notice period is excessive,³⁸² or that the whole proposal is burdensome and could result in unconstitutional confiscation.³⁸³ They also assert that the proposal in fact would afford ratepayers ample protection from cross-subsidization and large price increases.³⁸⁴ USTA generally supports our proposal as balancing the needs for limited pricing flexibility and additional customer safeguards.³⁸⁵

297. The Commission's conclusion that such tariffs would face a high probability of suspension and that, to become effective, they would have to be supported by a showing of substantial cause, did not assuage the concerns of some commenters. Some opponents assert that "substantial cause" is too light a burden,³⁸⁶ and that carriers filing such rates should be required to show that they will suffer "unconstitutional confiscation" of their property if their requested above-band rate increase is not allowed to take effect.³⁸⁷ Several other parties attack our proposed above-band standards as too vague or too weak.³⁸⁸

298. We conclude that we will require 90 days' notice for any tariff filing which would raise rates above the 5 percent price band. We have chosen a 90 day notice period because above-band rates raise questions about the distribution of rate increase burdens that require the fullest possible consideration by this Commission. Furthermore, a 90 day period will enable interested parties to conduct the type of analysis necessary to submit meaningful, substantive comments. Above-band, within-cap rate level changes will also face a high probability of suspension.

299. We expect LECs to present a compelling argument that the above-band increase was due to unexpected, unforeseeable, and unusual circumstances. We are satisfied that substantial cause is the proper standard for evaluating these filings. In the *AT & T Price Cap Order* the Commission defined the test and stated how it will be applied.³⁸⁹ The Commission specifically designed the substantial cause test to aid in the evaluation of tariff changes in circumstances in which customers have a legitimate expectation that change will not occur.³⁹⁰ Above-band rate increases fit this mold. Our price cap plan creates in ratepayers the legitimate expectation that no individual rate will rise more than 5 percent each year, adjusted for changes in the price cap. Above-band increases act to undermine this expectation. While LECs may, in their discretion, file above-band rates, we consider it appropriate, as part of our carefully calibrated balance of ratepayer and shareholder interests, to impose the higher burden of substantial cause when carriers choose to exceed our pricing bands.³⁹¹

4. Above-cap filings

300. The *Second Further Notice* suggested a higher standard for tariffs proposing above-cap rates,³⁹² and we adopt that proposal here. In response to the *Second Further Notice* proposal, two LECs argue that the standards for above-cap filings are too strenuous,³⁹³ and a third asserts that this policy violates the doctrine of "carrier-initiated" rates.³⁹⁴ Ad Hoc reasserts its position that the Commission should permit above-cap filings only if the carrier demonstrates that it will suffer unconstitutional confiscation of its property without the above-cap rate increase.³⁹⁵

301. We do not find these arguments persuasive. We believe our standards for above-cap filings are appropriate in light of the overall degree of pricing flexibility we are affording the LECs. We find it unlikely that within the next four years our price cap formula will stray so far from actual costs that the cap will produce unreasonably low rates. We are initializing price caps based on existing rates. We are also allowing rates to move with inflation and changes in other exogenous costs. Thus, we conclude that it is only fair, from a ratepayer perspective, to set high hurdles for above-cap increases.

302. US West claims that we risk violating the doctrine of carrier-initiated rates if we require a LEC subject to mandatory price cap regulation, to meet a high standard for an above-cap rate filing. We understand the doctrine of carrier-initiated rates to limit our ability to bar the filing of tariff revisions by a carrier in such a way as to require that current tariffs be retained without change.³⁹⁶ The regulatory regime we are adopting for LECs does not disturb this doctrine. With our above-cap filing requirement, we impose no bar on tariff filings by LECs subject to mandatory price cap regulation. Instead, we simply clarify, in accordance with our authority to set standards for tariff review and pursuant to our obligation to assure that rates remain just and reasonable, that when above-cap rates are filed, a different and higher review standard will be applied than when the rates filed are within the cap. We are not prescribing any particular rates, nor are we requiring or forbidding any particular tariff revisions -- carriers remain free to decide when tariff revisions are to be filed and the nature and extent of those revisions.³⁹⁷

303. We conclude that we will permit LECs to file tariffs proposing above-cap rate increases on 90 days' notice. Our review of these filings will be thorough and exacting.³⁹⁸ LECs should be prepared to submit extensive support materials in defense of their above-cap rate proposals.³⁹⁹ We have chosen stringent review standards in order to preserve the price cap incentive to reduce costs and keep rates within a zone of reasonableness. In support of an above-cap rate increase, LECs shall include with their proposals: (1) cost support data broken down to the lowest possible level for each relevant basket for each of the most recent four years under price cap regulation; (2) a detailed explanation of the reasons for the prices of all rate elements to which the LEC does not assign costs; (3) a comprehensive explanation of how the carrier allocated costs among rate elements in the relevant basket; and (4) an explanation of the manner in which the LEC has allocated all costs, not just exogenous costs, among all baskets. This last element is particularly important if we are to guard against any cross-subsidy between less- and more-competitive services.

304. Above-cap filings will be found lawful only in the unlikely event that these rules have the effect of denying a LEC the opportunity to attract capital and continue to operate, despite the low end adjustment mechanism and the opportunity provided the LEC to increase its earnings through greater efficiency.⁴⁰⁰ A LEC may request an above-cap rate increase by filing a tariff transmittal that complies with specific rules for such filings, a showing that includes but is not limited to the cost support information normally required in annual access tariff filings for LECs subject to rate of return regulation, and other information sufficient to establish that the increase is needed if the LEC is to have an opportunity to attract capital. We anticipate that any such increase will present

issues requiring a investigation and, as a protection for ratepayers, suspension of the increases until that investigation is completed or for the statutory period of five months.

5. Below-band filings

305. The *Second Further Notice* proposed that tariffs decreasing rates by more than 5 percent adjusted for changes in the PCI would be filed on 45 days' notice, and would be accompanied by a showing that the rates cover the costs of providing service and are otherwise just, reasonable, and nondiscriminatory.⁴⁰¹ The Commission suggested that the average variable cost standard adopted for AT&T should also be used as the standard by which to determine whether LEC proposed rates were predatorily low.⁴⁰² This proposal stimulated much comment, with views ranging from those opposing any restriction on rate decreases to those asserting that additional restrictions are necessary, or that below-band filings should face traditional, rate of return regulation.

306. The LECs are divided in opinion on this proposal. Some offer qualified support.⁴⁰³ LEC opponents of our below-band proposal assert that no restrictions on downward price movements are necessary. They state that if there were an increase in the PCI, our proposed below-band standards would effectively raise the limit of the lower band, thereby driving rates which were previously just inside the lower limit down below it.⁴⁰⁴ Two LECs argue that there should be no lower band restriction at all.⁴⁰⁵

307. Other opponents of the proposed treatment of below-band tariffs state that it is based on the erroneous assumption that keeping prices above average variable cost will eliminate the possibility of predatory pricing.⁴⁰⁶ This may be true in a competitive market, these commenters suggest, but given LEC monopoly power, a more conservative approach is warranted.⁴⁰⁷

308. Other parties assert that the LECs are in effect demanding streamlined review for all rate reductions, regardless of magnitude, for the purpose of engaging in predatory pricing. They believe that the adoption of an average variable cost standard as the basis for permitting below-band rates will remove the last vestige of protection against anticompetitive behavior by the LECs.⁴⁰⁸ One commenter concludes that we should continue to subject below-band rate reductions to traditional tariff review, including the cost support requirements of Section 61.38 of our Rules.⁴⁰⁹

309. We believe that rate reductions are generally beneficial to consumers and, more often than not, are undertaken for competitive reasons. Predatory pricing, though often alleged, is fairly uncommon, and proven cases are rare.⁴¹⁰ Further, our LEC service basket structure lessens the already unlikely occurrence of predation. We are convinced that below-band reductions introduced under our price cap system will be more pro-competitive than predatory; nonetheless, we have decided to err on the side of caution and not accord below-band filings streamlined tariff review. Therefore, we seek a standard which requires suspension only of those rates which are so low that they can be presumed to be anticompetitive.

310. We believe that average variable cost provides just such a standard. While disagreement exists on the point at which prices can be presumed legal, and on the role of intent in finding antitrust violations,⁴¹¹ the question

whether prices are below marginal cost, or its surrogate, average variable cost, is central to the determination of whether prices are predatory. In adopting average variable cost as a tariff review standard, we do not find that all rates which cover average variable cost are necessarily just, reasonable, and non-discriminatory. Petitioners may be able to show that there is reason to investigate a rate decrease which we permit to go into effect after 45 days. Competitors can also file complaints alleging predatory pricing. In either case, it might be possible to show that the resulting rate is above average variable cost but nonetheless predatory using relevant antitrust analysis and precedent.

311. We accordingly direct all LECs seeking to introduce below-band rate reductions to file their transmittals on 45 days' notice. Below-band rate filings must be accompanied by a showing that the rates cover the cost of service and are otherwise just, reasonable, and non-discriminatory. In reviewing these tariffs, we will employ the average variable cost standard to determine whether a below-band reduction should be suspended pending investigation.

6. New and restructured services

312. In the *Second Further Notice* the Commission proposed to distinguish between new and restructured services and to treat them as they are treated under AT&T's price cap plan.⁴¹² Some parts of the proposal drew little comment (e.g., definitions) while others stimulated a large response. Below, we define new services as any that enlarge the range of service offerings available to customers (i.e., all existing offerings remain available). We define restructured services as any that modify a method of charging or provisioning a service that does not result in a net increase of service options available to customers. We also decide that new services will not be incorporated into the price cap system immediately, but will be included in the LEC's cap in the first annual price cap tariff filing after the completion of the base year in which the new service becomes effective. Finally, we conclude that restructured services will be filed on 45 days' notice and must demonstrate compliance with the price cap and banding limits of the basket to which they belong.

a. Definitions

313. The proposal to distinguish between new and restructured services in a manner identical to the treatment of new and restructured services offered by AT&T under price caps drew little comment.⁴¹³ Some of the comments relating to the proposed definitions concern matters not directly related to price cap regulation.⁴¹⁴

314. New and restructured services, because they present different issues, must undergo separate forms of regulatory analysis. It is important, therefore, to set a standard for distinguishing these services from one another. We will consider as new, services which add to the range of options already available to customers. A new service may, but need not, include a new technology or functional capability. Many new services are, in essence, re-priced versions of already-existing services. It is indeed rare for a carrier to offer a wholly different form of telecommunications service. As long as the pre-existing service is still offered, and the range of alternatives available to consumers is increased, we will classify the service as new. Restructured services, on the other hand, involve the rearrangement of existing services. Carriers can

restructure a service by changing an existing method of charging or provisioning, by changing a term or condition, by adding language, or by adding, consolidating, or eliminating rate elements. When a service has been restructured, the previous version of that service no longer exists. We believe that this standard is clear, and will allow us to distinguish new services from existing, restructured ones. The 45 day notice period applicable to both new and restructured services will allow us to detect and order correction of mischaracterized filings.

b. New services: tariff standards

315. Many pleadings responded to the proposal in the *Second Further Notice* that new services be submitted on 45 days' notice, and held outside of price cap baskets for a limited period.⁴¹⁵ The *Second Further Notice* also proposed that new service tariffs be supported by a net revenue showing, under which a new service must be shown to increase the LEC's net revenue within specified guidelines.⁴¹⁶

316. Most LECs agree that new services should be held outside price caps for some initial period, since placing them in price cap regulation immediately would discourage carriers from developing new products and services.⁴¹⁷ Further, most support the use of the net revenue test to determine the cost support to accompany new filings. The LECs argue, however, that we should modify the requirement that new services be subject to a quarterly reporting requirement.⁴¹⁸

317. Other parties argue that the net revenue test proposed in the *Second Further Notice* is insufficient to protect competitors and users, and some suggest that new services should be subject to traditional tariff review standards, including full cost support and quarterly reporting of all costs, revenues, and expenses.⁴¹⁹ The LECs respond that the proposed treatment of new services provides substantial assurance that the service will meet Commission requirements.⁴²⁰ One commenter suggests that we scrap the net revenue test in favor of competitive forces (where appropriate) or, in their absence, rate bands.⁴²¹ Some parties also raise the possibility of a different standard for small and mid-sized LECs, which might not be as able as larger LECs to meet such a test.⁴²² The proposal that this test be applied to each unbundled rate element in a new service offering also stimulated comment.⁴²³

318. Commenters disagree over the "payback period," the time period in which a new service must generate net revenue, with LECs arguing for a longer period.⁴²⁴ Other commenters argue, however, that the proposed payback period is too long.⁴²⁵ Not surprisingly, commenters also had widely varying views on the 45-day notice period for new services, with LECs arguing in favor of additional streamlining,⁴²⁶ and opponents urging that 45 days' notice is essential.⁴²⁷

319. We believe permitting new services a brief period of relative flexibility will strengthen carrier incentives to innovate. Accordingly, we will not incorporate new services into our price cap system immediately, but will keep them outside of price caps for a time, as proposed, in order to enable LECs to develop the historical demand figures we require for computation of our price cap formulas. In the meantime, we will examine the new services to determine their effect on the revenues of capped services. These new services will then be included in the cap in the first annual price cap tariff filing after the comple-

tion of the base year in which the new service becomes effective. We believe this "payback period" is essential to the development of incentives to innovate.

320. We also realize, however, the need to provide standards and assurances. We believe that the 45-day notice period is both necessary and reasonable, and will allow this Commission ample opportunity to decide whether it is necessary to reject, suspend, or investigate any tariff filing implementing a new service. We also conclude that the net revenue test is necessary and sufficient, and we direct the Chief, Common Carrier Bureau to establish requirements for LEC documentation to show compliance with this standard. We believe the net revenue test will assuage concerns that in those service markets for which the LECs are subject to competition, e.g., high capacity facilities in urban areas, new services might enable a LEC to propose predatorily or discriminatorily low rates to certain customers. We conclude that the data submitted in satisfaction of this test will be sufficient to allow this Commission and interested parties to determine whether the proposed rates for a new service are reasonable. We also believe that quarterly reporting will not be burdensome to the LECs, and will be helpful to this Commission and to interested parties.⁴²⁸

321. Tariffs proposing new services shall be filed on 45 days' notice, with supporting information and data to demonstrate compliance with the net revenue test. In order for us to judge compliance with this standard, LECs must support their revenue projections with documentation: (1) measuring revenue effects on a present value basis; (2) detailing demand, cost, revenues, elasticity, and cross-elasticity of demand associated with the new service; and (3) explaining all assumptions, estimates, and cost allocation methods employed in developing the above information. While each rate element need not satisfy the net revenue standard, LECs must show that the new service imposes no unreasonable restriction on customer resale, sharing, or interconnection. For new services as for restructured services, discussed below, Part 69 limits continue to apply. Finally, LECs must file quarterly reports comparing actual operating results with projections, beginning six months after the initiation of the new service. The treatment of ONA services is discussed in part IV.A., *infra*.

c. Restructured services: tariff standards

322. The *Second Further Notice* tentatively concluded that restructured offerings of services already within price cap regulation should remain in the same price cap service baskets and categories upon restructuring, with adjustments made to the actual price index and service band index to reflect the new structure.⁴²⁹ While SWB agrees with that proposal,⁴³⁰ other LEC commenters seek modification.⁴³¹ Opponents argue that the proposed approach offers inadequate protection for competitors and users, and that restructured services should be subject to full, traditional tariff regulation.⁴³² Executive Agencies suggests the same treatment for restructured services as it does for new services.⁴³³

323. The *Second Further Notice* also tentatively concluded that restructured filings should be offered on 45 days' notice. Several LECs argue that this is unwarranted, and urge that we adopt a shorter period.⁴³⁴ Other parties object to any shortening of the notice period.⁴³⁵

324. Since other safeguards in the price cap plan already protect against the possibility of predation, our review of restructured services will focus on the possibility of unreasonable discrimination. The more serious concerns about discrimination and rate levels that may arise with respect to restructured services cannot be addressed adequately in 14 days. Therefore, we will retain the conventional tariff review period for restructured services. In addition to the 45 day notice period, LEC restructured service filings must contain a showing demonstrating compliance with the price cap and banding limits of the basket to which the service belongs. We will review this showing carefully, to ensure that the restructuring did not produce unreasonable discrimination among service users nor have any other anticompetitive effects.

325. LECs subject to price caps should continue to adhere to the rate structure requirements of Part 69 for the switched access elements. A primary purpose of the rate structures embodied in Part 69 is to eliminate unreasonable discrimination between service users. When these service users are interexchange carriers or enhanced service providers, these rules also promote competition in two markets in which we have concluded that a competitive market structure will promote the public interest. In the face of the significant market power retained by LECs in the provision of interstate access, rules that discourage unreasonable discrimination and its potentially adverse effect on competition should be given precedence over the benefits that might come from LECs' ability to depart from the Part 69 access rate structure. We continue to believe that the waiver process offers a better forum than the tariff review process for identifying and weighing the advantages and disadvantages that accompany departures from those rules. For this reason, we conclude that unless a LEC first obtains a waiver of the Part 69 rules, its price cap filings must continue to comply with the sections of that part prescribing the structure of interstate access elements, including those setting guidelines for optional carrier common line tariffs and the relationship between rates for premium and non-premium access.

E. Small company issues

326. Throughout this proceeding, the Commission has reaffirmed its commitment to a range of programs that provide assistance to small and high cost telephone companies and their subscribers, as well as to low income subscribers generally. These programs, including the Universal Service Fund, Long Term Support, Transitional Support, Link Up America, and Lifeline Assistance⁴³⁶ share a common purpose: promoting affordable telephone service throughout the United States. Because these programs were adopted within the framework of rate of return regulation, we have requested comments on steps that might be necessary to ensure that these programs continue to operate, intact, under price cap regulation.

327. In the *Further Notice*, the Commission proposed to modify rules in Parts 65 and 69 of the Rules to eliminate use of a prescribed rate for calculating revenue requirements, and otherwise alleviate administrative burdens.⁴³⁷ These proposals were non-controversial, except for their potential effect upon the calculation of obligations under universal service programs. Those include the calculation of a common line revenue requirement for the entire industry, as a basis for Long Term Support payments to companies remaining in the NECA common line pool.⁴³⁸ These payments are intended to keep the CCL rate

charged by the many small companies in the NECA pool no higher than the nationwide average CCL rate. In the *Second Further Notice* we proposed to amend the cost allocation requirements in Part 69 to require price cap carriers to allocate expenses and investment between common line and all other costs, in order to permit proper calculation of these payments. We also requested comments on alternative ways to assure continued success of the program, without requiring the application of these cost allocation requirements to price cap LECs.

328. In its supplemental comments, NECA recommends that the Commission base the NECA pool rate and the Long Term Support payments on the prospective CCL rates of exchange carriers subject to price caps, rather than prospective revenue requirements and demand. It contends that this modification will better preserve the policy of rate parity and simplify administrative requirements.⁴³⁹ This proposal was supported by other LECs.⁴⁴⁰ The one concern among the LECs, raised by NTCA, was that LECs subject to Long Term Support payments might deliberately accept lower earnings for traffic sensitive (TS) services and a higher rate for CCL, within price cap requirements.⁴⁴¹ This would have the effect of raising the nationwide average CCL rate and lowering the calculated Long Term Support payments. NTCA nevertheless recommends adoption of the NECA proposal, but suggests safeguards to prevent this subversion of the purpose of Long Term Support. AT&T opposes NECA's proposal, arguing that it might allow CCL rates to rise substantially if a per line formula is not used.⁴⁴² AT&T contends that the result would be higher NECA CCL rates and lower support payments to pool members, penalizing carriers who serve customers in NECA company territories.⁴⁴³

329. NECA members are those directly affected and benefited by Long Term Support. NECA's recommendation on their behalf does address our goals of reducing administrative burdens on price cap LECs. However, it is less clear whether the proposal might have an unwanted impact on NECA CCL rates and Long Term Support payments. The concerns raised by NTCA and AT&T justify caution at least until we can assess the actual impact of NECA's proposal in practice. Accordingly, we will not adopt the proposal at this time, but will grant NECA leave to submit additional data, including calculations of the proposal's impact, by petition for reconsideration.

330. A number of other issues of special interest to small telephone companies also appear to require further consideration as we move into price cap regulation. Among the issues that might require inquiry are the impact of regulatory change on NECA and the pools, and the impact on average schedule companies. Also, rate of return calculations have largely been developed from the capital costs of the large telephone companies and then applied on a unitary basis for all LECs. With the transition from rate of return regulation to price caps for large LECs, some modifications of this process may be desirable. We have also strongly reaffirmed our commitment to geographic rate averaging in this proceeding.⁴⁴⁴ Some commenters have suggested that the adoption of price caps for AT&T and the LECs might threaten this policy.⁴⁴⁵ We believe this is unlikely, in view of the safeguards built into the plan and the continuation of the various universal service programs. Nevertheless, the Commission will continue to monitor this issue closely, and is committed to taking action in the future should our policies with respect to geographically averaged rates be threatened.

331. This proceeding has stimulated much comment and interest from small and midsize LECs who seek regulatory reform that will reduce administrative burdens and increase flexibility and efficiency, while continuing to assure high service quality and universal service at reasonable rates. We share these goals and interests, and we have accordingly determined to initiate further proceedings dealing specifically with regulatory issues of concern to small and midsize LECs. We intend to develop a better record on the issue of whether and in what cases a lower productivity factor for small and mid-size LECs is appropriate, to provide a focused basis for their participation in price cap regulation. We will also undertake to examine various other regulatory options. As noted above, many states have developed regulatory approaches that recognize the unique circumstances that face small LECs. Options such as pricing flexibility, sharing, price freezes or rate moratoriums, price caps, some hybrid approach, and others are currently in use. We will need to consider the best regulatory approach to adopt for interstate purposes. In general, we will continue to examine the range of issues affecting small telephone companies and their customers to ensure that desirable regulatory reforms are applied to small telephone companies as far as possible, and applied with sensitivity to their special circumstances.⁴⁴⁶

III. MONITORING

A. Service quality and infrastructure development protections

332. This Commission is committed to assuring the availability of high quality, innovative communications services, and to the development of the telecommunications infrastructure needed to provide these services. We are confident that incentive regulation can provide the local exchange carriers with the impetus and opportunity to create and advance a communications network that will keep the United States at the forefront of a worldwide "information economy" approaching \$1 trillion this year. In an increasingly services-based economy, communications technologies are more and more important. One of the fundamental goals established by the Commission is "to encourage the development of a competitive, innovative, and excellent American communications system."

333. A primary tool in this effort is price cap regulation, which will encourage the LECs in network modernization, advanced applications, and new services, through appropriate investment incentives. The price cap plan is designed to help strengthen the competitiveness of American industry in domestic and international telecommunications markets, and to ensure that consumers share in the benefits of the information age through lower rates and a wide array of high quality services.

334. In the earlier Orders in this docket, the Commission recognized the theoretical concern that LECs under price cap regulation might seek to increase their profits not by becoming more productive, but by lowering the quality of the service they provide. Some commenters argue that price cap regulation will produce a perverse incentive for LECs to reduce or delay investments needed to maintain and improve service quality, because the LECs would be allowed to keep as profits the resulting "savings."⁴⁴⁷ Other commenters argue that LECs would have strong incentives to shift their investments to other, potentially more lucrative enterprises, and to provide improvements only to customers in urban markets, to the

detriment of smaller, harder-to-serve customers. The result, commenters argue, would be declines in needed expenditures, and service deterioration.⁴⁴⁸

335. We continue to believe, as stated in previous discussions,⁴⁴⁹ that under price caps the LECs will have increased incentive and opportunity to develop and introduce new services; to invest in new technology, like ISDN and SS7, that will promote cost savings and efficiencies; to innovate; and to upgrade their networks. These carriers are unlikely to jeopardize their network infrastructure, since it is their primary asset and is critical to their continued financial stability. We thus consider it reasonable to expect that price cap carriers will continue to maintain the quality of their network and improve service to customers. We also acknowledge, however, the need to ensure continued high quality service to ratepayers, and we recognize that we cannot predict with certainty the behavior of carriers operating under the price cap regulatory scheme, since they will be responding to different incentives than currently exist under rate of return regulation.⁴⁵⁰ So, while we believe that our price cap plan creates strong incentives to maintain high quality and to develop the network, we will also expand significantly our monitoring of service quality and infrastructure development.

336. First, we will modify and continue our semi-annual RBOC service quality reporting, and make it applicable to GTOC. Second, we will supplement these reports with a quarterly service report from each price cap carrier, based on a modified version of a reporting plan proposed by BellSouth and Rochester, including data on installation intervals, repair intervals, and blocking percentages. Third, as a part of this quarterly filing requirement we will collect data on post-dial delay (PDD) and switch downtime. If our monitoring shows that service quality has deteriorated, we have the authority to set standards and to order carriers to undertake specific investments. We will not hesitate to use that authority if necessary.

337. In addition to the "safety net" created by our expanded monitoring of service quality and infrastructure development, the impact of state regulatory oversight of LEC facilities should not be overlooked. In many cases, the same facilities are used for provision of interstate and intrastate access, and the service quality standards and monitoring programs maintained by many states provide another layer of protection against degradation of service quality by the price cap LECs.

1. Service quality reporting

338. Our present service quality monitoring consists of the semi-annual RBOC report, technical standards in tariff filings, certain aspects of the ARMIS reports, and the complaint process. The Commission suggested in the *Second Further Notice* the expansion of service quality monitoring by the addition of a maintenance plan proposed by BellSouth and Rochester, as well as three other categories of service quality indicators. We have now decided not only to require a modified version of the BellSouth/Rochester reporting plan and the switch downtime and the post dial delay categories, but also to require a still further expansion of service quality and infrastructure monitoring.

a. Semi-annual report

339. The semi-annual RBOC report, currently collected and analyzed by the Common Carrier Bureau's Industry Analysis Division, contains reports on customer satisfaction, dial tone speed, transmission quality, blocking, and service order response time. The customer satisfaction reports are based on telephone surveys indicating a percentage of satisfied customers, and are collected from residential and business (or, sometimes, residential, small business, and large business) customers. The reports generally provide composite information on customer satisfaction indices. Dial tone speed reports calculate the percentage of offices providing dial tone within a carrier-established standard, generally 3 seconds.⁴⁵¹ Transmission quality reports calculate the percentage of offices meeting carrier-established standards regarding noise, balance, loss, and distortion.⁴⁵² The test components are similar for all companies, but the companies may measure them differently, and may have different standards as to whether an entity is characterized as "passing" transmission tests. Interpretation of these tests thus focuses on trends rather than on absolutes or intercompany comparisons.

340. Blocking reports calculate the percentage of calls uncompleted due to equipment failure or inadequate facilities. The toll network has historically been designed to produce a blockage rate under 1 percent for all busy hour calls.⁴⁵³ The LEC network blockage rate may be somewhat higher, but is generally held under 5 percent. Service order response time reports calculate the percentage of service order responses meeting carrier-established standards.⁴⁵⁴ These results are generally reported in three overall categories: residential, access services, and business/special services. This semi-annual reporting is conducted at the same level of aggregation as is used for tariff filing, so that some reports cover a single study area, while others aggregate on a company level.

341. Our review of the information contained in these reports and of the comments indicates that their coverage should be expanded to all LECs subject to mandatory price caps and their usefulness improved. Accordingly, we direct that GTOC join the RBOCs in filing these reports as of January 1, 1991. We also remove from these semi-annual reports the requirements regarding service order response time and network blockage. These measures are included in the quarterly reports required of all price cap carriers. We further direct that the semi-annual reports be filed with the first and third quarterly ARMIS reports each year. We delegate to the Chief, Common Carrier Bureau, the task of clarifying these requirements and assuring that the reports are as standardized as possible, and of establishing calendars and other requirements. In addition, efforts to make the reports more uniform will continue.⁴⁵⁵ For example, the company-established standards in the transmission quality reports, while they may not be identical, must be similar enough to permit ready benchmarking.⁴⁵⁶ These standards must be specified by each company, and cannot be altered without Commission approval.

b. Quarterly ("BellSouth/Rochester") reports

342. In the *Second Further Notice*, the Commission proposed to require that price cap LECs file additional data on service quality performance four times a year. This proposal was a modification of a plan suggested by BellSouth and Rochester, and was generally supported in the comments.⁴⁵⁷ The modified plan we adopt requires three reports from all price cap LECs: installation interval

reports, which calculate the percentage of service installations completed within carrier-established intervals; repair interval reports, measuring the average total number of hours to complete the requested repair; and network blockage reports, measuring the ratio of blocked call attempts to total attempts at busy hour.⁴⁵⁸ The installation interval and blockage reports required here replace those required in the semi-annual report. We accordingly cancel those reports in the semi-annual data collection.⁴⁵⁹ These reports should provide sufficient information to permit evaluation of LEC performance in areas of most concern to local customers, installing and maintaining their service and completing their calls. The reports will be filed in a standardized format as part of the quarterly ARMIS filing. We have decided against requiring uniform standards, at least at this time, but we do intend to move toward uniformity and standardization in LEC reporting, and we will require all carrier reports to be based upon standards that permit ready benchmarking.⁴⁶⁰ We delegate to the Chief, Common Carrier Bureau, the establishment of the reporting format and filing schedules, and direct the Bureau to achieve as much uniformity among LECs as possible.

c. Additional reporting categories

343. In the *Second Further Notice*, the Commission sought comment on requiring quarterly reports of other service quality indicators, including post dial delay (PDD), switch downtime, and transmission quality.⁴⁶¹ Many commenters assert that the proposed BellSouth/Rochester reports are sufficiently complete, without the inclusion of additional reporting categories which are burdensome and unnecessary.⁴⁶² Virtually all the LECs argue that reports on the additional categories are difficult to obtain or compile, and are of limited usefulness. Other parties aver that PDD, transmission quality, and switch downtime are necessary, create measurable means of evaluating service quality, and should be required.⁴⁶³

344. Post-dial delay, or PDD, is the time between the dialing of the last digit and the response of a "winkback," or acknowledgment of signal receipt, from the interexchange carrier.⁴⁶⁴ While some parties argued for the addition of service quality reporting generally, the LECs uniformly opposed our suggestion that we might include PDD reporting.⁴⁶⁵ The LEC objections seem to be predicated on a different, more inclusive definition of PDD (from dialing of last digit to ring or busy signal) than interests us here. PDD as we define it is certainly recorded by the LECs, as it is essential for their preparation of access billing, among other things. While we are aware that PDD may be affected by factors other than LEC service quality, such as whether the interexchange carrier connects at an end office or a tandem, it is still a good service quality indicator because an increase in PDD flags a possible degradation in service quality generally. We also believe that an inclusion of PDD reporting in our service quality monitoring requirements is not burdensome. We are persuaded that PDD data will allow interested parties, including the Commission, to be informed and aware of, and therefore more responsive to, changes in the network. We will accordingly direct the Common Carrier Bureau to require quarterly filing of PDD data.

345. Most LECs also object to the inclusion of a transmission quality category, stating that the BOCs already file this information elsewhere (referring to the semi-annual reports), and that the interexchange portion of the network is equally responsible for transmission quality.⁴⁶⁶ Further, they contend, any LEC transmission quality problem would result in an interexchange carrier complaint (to the LEC or to the Commission), since most interexchange carriers perform their own transmission quality monitoring.⁴⁶⁷ Other commenters assert that the BellSouth/Rochester plan adequately measures transmission quality through its blockage category, and that LEC tariffs contain transmission parameters that can be checked in the tariff review process.⁴⁶⁸ SNET also asserts that there is no consensus among LECs regarding how transmission quality should be measured.⁴⁶⁹ No pleading contradicts the LECs' assertions or argues for inclusion of a transmission quality category.

346. We conclude that inclusion of transmission quality reports in our quarterly service quality data filing is neither necessary nor justified. Except for Pactel, which states that it has no objection to this requirement, no party commented in favor of this added requirement. We note that transmission quality is already measured in the semi-annual report. Further, the blockage measure established in the BellSouth/Rochester plan, together with the newly-required PDD report, will provide an indicator of transmission quality.

347. Seven LECs and USTA state that they have no strong objection to the inclusion of a switch downtime category, while three oppose it.⁴⁷⁰ BellSouth notes that switch downtime is effectively covered by the network blockage category in the BellSouth/Rochester plan.⁴⁷¹ Others argue that they cannot disaggregate intrastate and interstate for switch downtime, that the category is of no relevance to the provision of access service, or that there is no consensus on what constitutes downtime.⁴⁷² SNET notes that a LEC under price cap regulation simply has no incentive to allow this type of service degradation to occur.⁴⁷³ Other parties, however, support the addition of a switch downtime reporting requirement.⁴⁷⁴ We believe that a switch downtime report would convey useful information without imposing an unjustifiable burden. We will leave to the Common Carrier Bureau the establishment of particulars regarding this reporting requirement.

348. Two parties suggest that an additional service quality report, on the quality and availability of interconnection, should be required from the independent LECs.⁴⁷⁵ This matter is presently under consideration in another proceeding before this Commission, and we accordingly defer consideration.⁴⁷⁶

349. We are confident that the service quality reporting requirements we have now established -- the semi-annual report and the expanded quarterly report -- will provide us with sufficient data to evaluate LEC service quality under price caps. We delegate to the Common Carrier Bureau the responsibility of determining how and when these reports will be filed.

d. Reporting required by states

350. State monitoring programs will provide additional service quality safeguards. We have no desire to duplicate or impinge upon state monitoring programs, nor to intrude upon the states' authority concerning service quality. We are eager to cooperate with state commissions, to share service quality data with them, and to gain from

their experience. While some commenters suggest that the Commission should establish a federal-state joint board to develop uniform nationwide service quality standards supplemented by detailed, geographically disaggregated reporting requirements,⁴⁷⁷ we have determined that the development of such standards is not necessary at this time, in view of the monitoring programs we establish here. We reiterate our willingness and our desire to coordinate and cooperate with the states in the monitoring of service quality, however.

2. Infrastructure development

351. We believe that incentive regulation will encourage LECs to develop their infrastructure and promote innovation through the introduction of new service offerings. To ensure these developments -- and maintain high quality service -- we have directed the BOCs to file appropriate information so as to allow effective monitoring.⁴⁷⁸ In CC Docket 89-624, the BOCs and GTOC filed historical data from 1980 to the present, and projections through 1994, on the following categories: (1) number of central offices by type of equipment (SPC, digital, equal access, SS7, ISDN); (2) number of access lines by type of office (same as above); (3) local loop transmission facilities by type of available channel (baseband, analog, digital, fiber, other); (4) local loop transmission facilities by type of channels in service (same as above); (5) interoffice transmission facilities by type of channels in service (circuits: baseband, analog, digital; carrier links: copper analog or radio, digital copper or radio, or fiber); (6) copper and fiber pairs available at main frames; sheath miles; fiber to users; and (7) gross construction in millions of dollars, including (a) number of access lines, (b) access lines gained, and (c) dollars per access line gained.

352. These data categories provide a good indication of infrastructure development. Further, because the recent filing includes a ten-year historical base, we can evaluate infrastructure trends. We are accordingly directing those LECs for whom price cap regulation is mandatory, the BOCs and GTOC, to continue to file this data, on an annual basis in the ARMIS format.⁴⁷⁹ We will use the resulting information to monitor network investment and development.

353. Centel notes that LECs are at different starting points with respect to infrastructure development going into price cap regulation, and suggests that in order to stimulate investment the Commission should establish a price cap index that includes some sort of quality factor.⁴⁸⁰ Others urge that the Commission must somehow ensure that the network infrastructure is not only maintained, but advanced -- that the network is upgraded, and that new technologies are introduced.⁴⁸¹ We are persuaded that no additional action by the Commission is necessary now in this regard. As we have discussed, despite the fact that incentives to maintain service quality and develop the network are an integral part of the price cap program, we are implementing expanded service quality and infrastructure monitoring programs to ensure that the current high standards are maintained and improved. But additional infrastructure incentives here seem unnecessary. Under price caps, a LEC's profits will depend upon how well it plans and operates its network to serve its customers' needs. Whenever infrastructure programs help achieve these goals, the price cap plan will encourage LECs to pursue them.

354. One commenter states that deployment of a modern infrastructure capable of delivering advanced services throughout the nation will require that LECs invest heavily and soon in many activities that do not have immediate market potential.⁴⁸² We are confident that, under price caps, the LECs will have sufficient incentives to expand network investment in advance of demand. We agree that society will realize the greatest value from the telecommunications network when communications and information services are made available to all customers. We believe that price cap regulation will advance this goal.

355. We rely also on the ability of price cap regulation to supplement and in effect replicate many of the effects of competition, to encourage price cap LECs to make economic decisions such as they would make in a fully competitive market. Further, where access competition has begun to emerge, LECs have rapidly upgraded their networks and implemented advanced technologies. At present, alternative access vendors are active in many areas; private networks can bypass LEC services; interexchange carriers can construct their own facilities farther into the local network. In such a market-place, where alternatives exist, if LECs fail to provide good service quality and invest in advanced technology to keep their network at the technological forefront, the market will punish them through a loss of demand. We will continue to support the development of competition; through the implementation of price cap regulation, we intend to provide LECs with the opportunity to continue their efforts to modernize the communications infrastructure and to maintain a level of investment which will lead to the implementation of an intelligent, interconnectable, broadband public network.

3. Other reporting

356. In addition to the monitoring mechanisms just discussed, other indicators of service quality are available. As noted in the *Second Further Notice*, we depend on tariff filings, ARMIS reports, and the complaint process, as well as on the monitoring programs specifically designed to show service quality and infrastructure development. LEC tariff filings contain cross references to Bell Technical Publications which define technical parameters of service provision.⁴⁸³ We are not streamlining our review of proposed revisions to tariff terms and conditions, including terms and conditions relating to quality standards. Therefore, any attempts to revise tariffs that result in a downgrading of service quality remain subject to a minimum of 45 days' notice and the possibility of rejection or suspension and investigation to determine their lawfulness. Since parameters of service quality are contained in LEC tariffs, changes in these parameters would have to be made in the context of public, non-streamlined tariff proceedings, subject to full scrutiny and procedure.

357. ARMIS, the Automated Reporting Management Information System, is a system of automated reporting requirements that requires Tier 1 LECs to report data by study area and by state and interstate jurisdiction.⁴⁸⁴ While these reports are not specifically designed to reflect service quality, some information collected here can indicate trends. For example, information on plant in service is a good indicator of investment in service quality; TPIS (total plant in service) is included in both the quarterly and the annual reports, while the annual ARMIS USOA report includes gross plant additions.⁴⁸⁵

And, as discussed above, the ARMIS quarterly report will now include price cap LECs' service quality reports, as discussed above. Finally, the complaint process both provides a forum for the resolution of particular service quality complaints, and serves as a warning system of service quality deterioration.⁴⁸⁶

4. Other quality monitoring issues

358. In earlier parts of this proceeding, the Commission solicited comments on the need for, and desirability of, uniform national standards for service quality; the Notices mentioned specifically the NARUC model standards, and asked for other suggestions as well. The topic drew much comment, but no consensus.⁴⁸⁷ Nowhere in the record is there any indication that service quality is at present unacceptable or problematic. Neither is there any indication that the states are ineffective at monitoring and regulating service quality, to the detriment of interstate service. On the current record, and given the expanded monitoring program we are adopting, we believe that it is unnecessary, and would be quite difficult, to establish detailed, universal standards for service quality, and the monitoring and enforcement sequentiae they would demand. Further, the development of such standards might well impinge upon the states' efforts in that area. We do, however, stand ready to impose such standards if our monitoring indicates that is necessary.

359. In earlier rounds of this proceeding, the issue of the aggregation of data has arisen. The primary question, which the Commission explored in the *Second Further Notice*, concerns the reporting of service quality indicators on a study area or more aggregated basis. Some commenters argue that the RBOC semi-annual reports are on such a highly aggregated basis as to be useless.⁴⁸⁸ Some commenters argue that even study area-level reporting is too aggregated, since it allows averaging over a large enough area so that service quality degradation in a locality can go unnoticed.⁴⁸⁹ Some commenters suggest service quality reporting and monitoring at the LATA level.⁴⁹⁰ One commenter says that the Commission, even if it did decide to collect data on a less aggregated basis, is unwilling or unable to review and evaluate the more detailed data.⁴⁹¹ Most commenters, however, do not oppose the level of geographic aggregation we propose -- the study area -- and we are not convinced that the level of aggregation should be changed.⁴⁹² We believe that reports based on study area data are specific enough to allow adequate monitoring of LEC performance, especially in conjunction with the other service quality safeguards discussed here.⁴⁹³

360. A second aggregation issue concerns the service level of reporting. Commenters suggest that the service quality reports would be more useful if they were disaggregated by type of access (special or switched).⁴⁹⁴ We agree. Switched access customers may have different expectations and concerns regarding service quality than those held by special access customers. Further, a LEC's attention to service quality and response time may vary depending upon whether other alternatives are available to the customer. It seems possible, for example, that a LEC might respond more quickly to a special access customer's service call, given the availability of alternatives, than to a switched access customer's request for repair. Service quality reporting that fails to distinguish between special and switched would allow this difference in response time to go unnoticed. It is not clear from the

record before us, however, what the burdens of reporting switched access and special access service quality will be. While we believe that this segregation is important, we will not impose reporting burdens that outweigh the benefits. We accordingly direct the Common Carrier Bureau to determine, in the course of its development of reporting requirements, the extent to which separate switched access and special access reporting is reasonable, and to require this segregation to that extent.⁴⁹⁵ We believe that the level of service aggregation established here appropriately balances the concerns of both LECs and customers.

361. The third aggregation issue concerns the use of state reports for federal service quality reporting. Some commenters suggest that the service quality reports filed with this Commission would be more useful if they used the same formats or criteria as service quality reports required by the states.⁴⁹⁶ It is clear, however, that there is no uniformity among the states in this regard. We believe it is more important to have uniform and complete reporting on a federal level, in a format designed to provide comparability and usefulness of data while minimizing the burden on price cap LECs, than to attempt at this time to develop a format that reflects the various state formats and criteria. We also reject any suggestion that we should merely accept from each LEC a copy of whatever service quality report it files with the relevant state commission, since it is our purpose here to provide a uniform, usable, automated data collection.

362. Another issue raised by commenters concerns the need for service quality enforcement mechanisms. Many of the commenters' suggestions regarding enforcement hinge on our development of specific service quality standards; our decision not to adopt federal standards moots these suggestions.⁴⁹⁷ Some commenters suggest that the Commission should consider including an incentive plan for service quality regulation, arguing that after-the-fact responses to service quality degradation do not adequately address the problem.⁴⁹⁸ We do not believe that additional incentives are needed to ensure that LECs will maintain service quality. The economic incentives included in the price cap plan, combined with service quality monitoring programs, should be adequate to maintain and improve service quality.

363. Several commenters urge that service quality can be assured through its inclusion in a sharing plan such as has been implemented in some of the states.⁴⁹⁹ These commenters argue that LECs should be required to invest a portion of any increased earnings in network improvements. Centel urges that any sharing mechanism should encourage infrastructure development, and should recognize price and technology differences among LECs. We are familiar with the sharing plans developed in some of the states, which direct a LEC to invest in its network a percentage of its earnings above a particular level. While we believe the state commissions' development of such programs is commendable, we do not believe that such sharing arrangements are necessary or desirable on a federal level. First, this Commission is in a very different position relative to the LECs than are the state commissions.⁵⁰⁰ Further, it would be difficult for this Commission to establish guidelines regarding required or desirable amounts and purposes of LEC investment in the network. Moreover, such federal guidelines might conflict with state programs, or might fail to select the best economic approach to meeting specific local needs. These programs

would also reduce one of the benefits of price caps to customers -- *i.e.*, lower rates. Finally, we are persuaded that no such requirement is necessary on a federal level because poor service quality carries its own penalties for the LECs.

364. Our decision to make price caps mandatory for only the eight largest LECs moots the assertion by several commenters that only larger LECs (in the proposal made in the *Second Further Notice*, the Tier 1 LECs) should be required to file the proposed service quality reports on a quarterly basis.⁵⁰¹ Since we are not imposing the price cap plan on any smaller LECs, but are allowing them to elect it, we find that it would be inappropriate and unjustified to establish a different monitoring standard for them than for other LECs under price caps.⁵⁰² While we are aware that the reporting requirements discussed here might be more difficult for a small LEC to meet than for a large LEC, we are convinced that this service quality data is necessary and useful. As noted above, service quality reporting requirements will be just one of the factors considered by a LEC that is contemplating electing price cap regulation.

B. Jurisdictional cost shifting

365. Some commenters express concern that adoption of price cap rather than rate of return regulation at the federal, interstate level would cause LECs to attempt to shift costs improperly to state jurisdictions that continue to use rate of return regulation as the basis for setting intrastate rates. We believe, as noted in the *Second Further Notice*, that our price cap plan offers strong assurances that such misallocations will not occur, or in any case could be readily identified and corrected. One effective safeguard against any misallocation between state and interstate jurisdictions is our use of the ARMIS reports. ARMIS collects data both quarterly and annually, has been in existence for more than two years, and provides financial and operating data on a study area level that allows us and other interested parties to monitor LEC allocations for consistency within each filing and consistency over time. Further, the Commission's separations rules and the states' monitoring programs also act as constraints on LECs' jurisdictional misallocation. Finally, the pace of regulatory reform at the state level is accelerating, and as more states move toward price cap or incentive regulation, any LEC incentives to attempt to shift costs decrease.

366. LECs may have some incentive to attempt to manipulate jurisdictional cost allocations whenever they face different state and federal regimes.⁵⁰³ Under our price cap plan, however, we are including mechanisms to ensure that any such misallocation will be readily identified and corrected, and we are making our data compilations available to the states. The separations rules, Part 36 of the Commission's rules, 47 C.F.R. Part 36, remain unchanged as we implement price caps. These rules, revised in 1987,⁵⁰⁴ govern the allocation of costs between the interstate and intrastate jurisdictions.⁵⁰⁵ The procedures established in Part 36 are applicable to the allocation of property costs, revenues, expenses, taxes, and reserves between state and federal jurisdictions.⁵⁰⁶ The separated results are identified by property accounts, and apportionment bases are provided for those expenses which are separated on the basis of the apportionment of property costs.⁵⁰⁷ Both the FCC and the state commissions monitor the LECs' application of these rules.

367. ARMIS is a system of automated reporting requirements that requires all Tier 1 LECs to report data by state and interstate jurisdiction, and will continue to allow the Commission to track cost allocations over time.⁵⁰⁸ Because ARMIS will have been in place for more than two years prior to the implementation of price caps for LECs, interested parties, including the Commission, will be able to compare pre- and post-price cap data, and to spot trends (or departures from trends) with ease. In addition to other reports,⁵⁰⁹ the ARMIS annual filing includes a study area report containing jurisdictional separations and interstate access results for each category specified in Parts 36 and 69 of the Commission's rules.⁵¹⁰ Many of the allocation factors tracked by ARMIS are demand-driven; the allocation results we monitor will permit us to detect abnormal trends in cost allocation results. State regulators and the Commission can thus determine whether investigation or auditing is required. We are persuaded that the data collected in the ARMIS format is inclusive and detailed enough to be very useful in the oversight and monitoring process discussed here.

368. We disagree with the arguments of Maryland PC that the confidential treatment of data submitted in the ARMIS reports will significantly detract from the usefulness of that data,⁵¹¹ and with various LEC arguments that ARMIS data must be treated confidentially. We believe that a balance exists in which LEC proprietary interests are protected,⁵¹² yet enough data is available to the public to allow thorough monitoring. In two recent actions, for example, the Common Carrier Bureau determined that the vast majority of data submitted in ARMIS quarterly reports does not qualify for confidential treatment under the Freedom of Information Act or our rules.⁵¹³

369. State monitoring will also discourage and detect LEC misallocations from interstate to intrastate. Several state commissions commented in earlier stages of this proceeding, urging that their monitoring efforts depended upon our retaining the ARMIS system and making it available to them.⁵¹⁴ It is in the interests of the state commissions to ensure that LEC cost allocations are accurate, and it is clear from this record and from our discussions with state commissions that the states are eager and capable monitors. We have established, and here affirm, a policy of cooperation with the state commissions, including and attested to by the ready availability of ARMIS data.

370. Finally, as more and more states adopt incentive regulation, the LECs have less and less incentive to attempt to shift costs. If neither the state nor the federal regulator is regulating LEC rates based on a rate of return method, and both are regulating based on capped prices or other incentive plans such as rate freezes, the allocation of costs (and, specifically, their assignment to the state rather than the interstate jurisdiction) is no longer determinative of rates. Thus, as more and more states adopt regulatory methods that focus on prices rather than costs, LECs have even less to gain by trying to shift costs to the intrastate jurisdiction.

371. Many state commissions have undertaken regulatory reforms that are in some ways like our price cap plan; more than twenty states have developed some form of incentive regulation, focusing on rates rather than (or in addition to) earnings, and often including a sharing mechanism.⁵¹⁵ In fact, only a few states -- Delaware, Hawaii, Tennessee, and Wyoming -- continue to regulate LECs completely traditionally. As long as these state sys-

tems are not identical to the federal plan, some incentive to attempt to shift costs will exist. We are persuaded, however, that the combination of state regulatory reform and the other safeguards discussed here will effectively curb any jurisdictional misallocations.

C. Other monitoring and performance review

1. Monitoring of costs, demand, and earnings performance⁵¹⁶

372. We recognize that in launching an entirely new system of regulation of local exchange carriers, we have a responsibility not only to shape the plan as carefully and knowledgeably as we can, but also to monitor its application and results, to guard against unintended, unanticipated effects or problems. We also need to consider the information that would help us prepare for the performance review of the price cap program, which we have proposed to begin after no more than three years and complete by the fourth year of the plan. We have reviewed our monitoring and data collection capabilities and requirements, based upon the comments and record developed in this proceeding, to ensure that they provide information that is accurate and sufficient to this task. In some areas (e.g., service quality and infrastructure) we are expanding the LECs' obligation to collect and report the necessary data.

373. In the area of LEC costs, jurisdictional separations, usage, and earnings data, we currently monitor LEC performance using two reporting systems. The computerized ARMIS data base includes six reports of a wide range of operating information. Form 492 provides data focused primarily on the LEC's quarterly revenues and earnings. Based on our review of these reports and their contribution to price cap regulation, we conclude that these reports will adequately provide the information we will need to monitor price cap LECs. We generally deny requests by LECs that we reduce the amount of data they currently must file. The one exception is that we will not require price cap LECs to file disaggregated rate of return data that is not useful under price caps. Conversely, we deny requests by other commenters that we extend the application of ARMIS to smaller, Tier 2 LECs.

a. Use of ARMIS

374. LEC commenters agree that the data we currently collect using ARMIS is sufficient to monitor LEC performance under price caps.⁵¹⁷ Only two commenters oppose this conclusion; they assert that ARMIS is too vague,⁵¹⁸ provides no performance standards,⁵¹⁹ is untested,⁵²⁰ and is not readily available to the public.⁵²¹ They also argue that price cap regulation places additional demands on existing and planned monitoring systems.⁵²² We have reviewed these comments and believe these concerns are unfounded or represent a misunderstanding of the philosophy of price cap regulation.

375. ARMIS provides us with a consistent set of data for more than two years immediately preceding price cap regulation, and will continue to do so during the initiation of the price cap plan and throughout the initial four-year period of price caps. ARMIS reports include information on revenues, expenses, investment, taxes, and earnings, as well as demand data.⁵²³ ARMIS includes one quarterly report that contains in summary form the data needed to monitor revenue requirements, rate of return, jurisdictional separations, and access charges.⁵²⁴ ARMIS

also contains annual reports including the USOA report,⁵²⁵ the joint cost report,⁵²⁶ and the access report,⁵²⁷ as well as three-year investment usage forecasts and actuals reports. The LECs also file their Tariff Review Plans (TRPs) in ARMIS. These reports will permit us to monitor a variety of LEC activities, including cost allocations between regulated and nonregulated activities and allocations between the state and interstate jurisdictions.

(1) Modify ARMIS for Tier 1 LECs

376. Several LECs request that ARMIS data be required only at the aggregated, total interstate level, not at the current, disaggregated level of Part 69 rate elements.⁵²⁸ They state that the more detailed information is unnecessary for price cap regulation,⁵²⁹ and argue that rate level calculations based on rate of return are inappropriate in a price cap environment,⁵³⁰ and will effectively stifle the incentives we seek to establish.⁵³¹

377. We presently collect data on a Part 69 rate element level, and we believe it is desirable, if not essential, for purposes of monitoring and evaluation, to continue to collect most data on this level, which corresponds generally to the level of services that customers actually use. As with any consideration of increased aggregation, we are concerned with the potential loss of precision. For example, undesirable state-interstate shifting would be more difficult to detect if data were more highly aggregated. An error that is readily detectable at a high level of detail may be masked when the level of detail is decreased. The phasing-in of dial equipment minute (DEM) measurements, for example, can be monitored if we retain current data collection requirements; these changes would be obscured if the data were more aggregated. Our intention is to assure that jurisdictional separations and regulated-nonregulated allocations are made correctly; in order to assure this, we need to maintain the same levels of aggregation of data as are established in Part 69 and the Separations Manual.

378. ARMIS data serves more and broader purposes than merely the regulation and enforcement of rate of return. While ARMIS includes some data not directly necessary to price cap regulation, such as revenue and expense data on a rate element level, we believe that removing these parts of the ARMIS format would detract from the usefulness, consistency, and reliability of the system as a whole, both historically and on a single-filing basis. As discussed below, we believe it is inappropriate to collect price cap LECs' rate of return data on this level; but deletion from ARMIS of all category-level data would remove much that is useful, and would considerably reduce the Commission's ability to monitor LEC performance in a meaningful way.

379. We have accordingly concluded that we should retain the ARMIS data requirements at their present level of detail. These reports will allow us to monitor LEC performance carefully in the initial years of the price cap program and for the scheduled review. This monitoring will also allow us to assure that cost allocations between regulated and nonregulated activities and allocations between the state and interstate jurisdictions are correctly calculated. We therefore reject the suggestions to modify ARMIS substantially.⁵³²

380. We do agree in part, however, with the suggestions of commenters who assert that the collection of rate of return data on an access category or rate element level is improper and unnecessary for price cap LECs.⁵³³ While

we believe that cost, revenue, and demand data are essential to monitor LEC performance under price caps, we see no need for disaggregated rate of return data. Our sharing and adjustment mechanisms are based on total interstate rate of return, and that is the only earnings data used in the price caps plan. We accordingly determine that we should remove from ARMIS, for LECs under the price cap plan, any rate of return reporting that requires data at less aggregated levels than total interstate earnings. We will also modify the tariff review plans (TRPs) of price cap LECs to the same effect. While we continue to collect other data from price cap LECs on a disaggregated basis, this collection is solely for monitoring purposes. This disaggregated data does not serve a ratemaking purpose for these carriers, nor is there any reason to expect that results under price caps will correspond to data from previous years. We have modified our Part 69 rules to reflect this expectation that our collection of disaggregated data from price cap LECs is for monitoring purposes only.⁵³⁴ We delegate to the Chief, Common Carrier Bureau the task of effecting these modifications to the ARMIS reporting requirements for price cap LECs.⁵³⁵

(2) Modify ARMIS for small LECs

381. All Tier 1 LECs are already subject to ARMIS filing requirements, and so face no additional burdens (except for the service quality and network investment indicators, newly required of all price cap carriers) under price cap regulation. But in response to the suggestion in the *Second Further Notice* that we might develop ARMIS reports for Tier 2 LECs,⁵³⁶ some commenters argue that small LECs should be able to elect price caps without being subjected to ARMIS reporting requirements.⁵³⁷ Tier 2 LECs have always been exempted from these requirements, these parties argue, in acknowledgment of their limited data collecting capabilities; these capabilities will not change or expand when a Tier 2 LEC elects price caps.⁵³⁸

382. In establishing the ARMIS system in 1987, the Commission decided that the reporting requirements would apply only to Tier 1 LECs.⁵³⁹ Although the Commission had proposed in its notice of proposed Rule Making that the ARMIS requirements apply also to Class A carriers with revenues over \$50 million, LEC commenters urged the raising of the threshold to \$100 million in view of the difficulty that smaller carriers would have meeting the automating and reporting standards. The Commission complied, and stated that filing requirements for Tier 2 carriers with revenues over \$50 million would not be specified in the ARMIS proceeding. The Commission has historically been sensitive to the difficulties faced by smaller LECs in providing cost, demand, and revenue data.⁵⁴⁰

383. We are not persuaded that the implementation of price caps requires that we abandon this sensitivity to small carriers' concerns. We note an added difficulty in extending ARMIS reporting requirements to Tier 2 LECs; some of these LECs are not subject to Part 32 or USOA requirements. Since these requirements are a major underpinning of the ARMIS reporting format, applying ARMIS requirements to these LECs would mean either making them subject to Part 32/USOA, or receiving ARMIS reports with inconsistent and possibly incompatible data. Neither of these seems to us an acceptable outcome, and we are not convinced that ARMIS should be required of Tier 2 LECs. Further, we believe that

existing Tier 2 reporting provides us with sufficient information to allow the operation of the backstop mechanisms established here. We believe that in monitoring the RBOCs and GTOC, and any Tier 1 LECs that elect price cap regulation, we will be assuring a broad and accurate overview of the price cap program. If Tier 2 LECs elect price cap regulation, and should interested parties experience difficulties and make a convincing case that the issue should be considered again, we can and will reexamine this issue.

b. Form 492

384. Form 492 reports are filed and reviewed on a quarterly basis. Form 492 is a collection of rate of return data that is required of each LEC that files an individual access tariff;⁵⁴¹ it is reviewed and analyzed by the Industry Analysis Division (IAD). As we have discussed, rate of return information is useful under price caps in monitoring and applying sharing and the adjustment mechanism,⁵⁴² but only at the total interstate level. Consistent with our determinations regarding rate element or category rate of return information in the ARMIS reports, we also direct the Common Carrier Bureau to eliminate unnecessary, disaggregated rate of return data from the Form 492.⁵⁴³

2. Performance review

a. Timing of review and adjustments

385. The performance review scheduled to begin after three years of price cap regulation for LECs, and to be completed within a year, is calculated to evaluate the system as implemented, and LEC performance under it. The transition from rate of return to price cap regulation is a complex one, and, while we have made every effort to consider each relevant factor carefully and to base our determinations in reason and experience, some fine-tuning will probably prove necessary. Our performance review will provide indications of how this is to occur. The *Second Further Notice* stated that we will evaluate LEC performance comprehensively, and will include in our review LEC prices, earnings, service quality, and technological progressiveness. The inclusion of such factors indicates our awareness that new performance measures will not be needed. We believe that price cap regulation will produce superior productivity and innovation, and it is important to design a performance review that will identify such gains.

386. To provide a fair evaluation of the program, it is also important that the initial period before periodic review and the possibility of major adjustments be long enough for incentives to operate. We believe that a four-year period without major adjustment (to, for example, the productivity factor) is reasonable. The real test of any such program is experience. Failure to provide a reasonable period of acclimation could result in regulatory ambiguity, and resulting uncertainty, that would effectively stifle the intended incentives.

387. Some commenters argue that the initial period is too long, and that LEC performance should be reviewed, and adjustments made, earlier.⁵⁴⁴ They assert that the Commission must, at a minimum, express willingness to review before the end of four years, if it appears that rates (especially for small and rural or isolated areas) are too high, that service quality is declining, or that there is any indication that price cap regulation is not fully effective.

⁵⁴⁵ Most LECs, however, urge us to maintain the proposed schedule, and to decline to engage in interim or shorter term reviews.⁵⁴⁶ They urge, also, that no adjustments should be made until the end of the four year period, and that only if this is assured will the incentives operate effectively.

388. We continue to be persuaded that the review period must be long enough to allow the effects of incentive regulation to unfold before a scheduled evaluation. We will plan to begin our review only at the end of the third year of price cap regulation, and conclude it by the end of the fourth year. We will, however, monitor LEC performance throughout, for indications such as great disparity in rates, declines in service quality, or other signs of system failure that indicate a need for intervention. This Order also serves notice that should these signs of system failure, or other substantial indicators of unacceptable performance, be exhibited, we will accelerate our performance review, and we will make adjustments and corrections as needed. Absent such problems, however, we intend to make no major, systemic adjustments until conclusion of the scheduled review.

b. Focus of review

389. The Commission has stated its intention to consider price, quality of service, earnings, and technological progressiveness in the review of LEC performance under price caps. In prior sections on service quality and infrastructure development, we have indicated the parameters of our reporting requirements, and thereby outlined at least some of the factors our performance review will consider. We have also indicated our reliance on ARMIS reporting, which provides revenues, expenses, investment, taxes, and total interstate earnings, plus demand data, and will help us compare LECs' performance under caps with their performance under rate of return regulation and to benchmark each LEC's performance to that of others.

390. Several LEC commenters have requested specifics on the criteria we will use in our review; they suggest we establish a standardized format for the review, and an opportunity and format for comments.⁵⁴⁷ They argue that if these criteria are not specified and fixed before the initiation of price caps, the resulting uncertainty will thwart the incentives price caps is meant to engender.⁵⁴⁸ Other LECs, however, argue that no set criteria should be established, but that each LEC should be reviewed on an *ad hoc* basis.⁵⁴⁹

391. Our stated intention to review "technological progressiveness" stimulated much discussion. Some LECs argue that, because of long lead times, the influence of regional economics, and differences in state regulation, it will be impossible for the Commission to perceive and measure technological progressiveness, let alone to attribute any positive growth to price cap regulation.⁵⁵⁰ Some LECs offer suggestions of how they will demonstrate real price decreases, efficiency improvements, increased service quality, and new and innovative services,⁵⁵¹ proposing that measurement of fiber optic use, access to ISDN, growth in network transport, percentage of stored program control switches, and percentages of digital interoffice facilities and digital switching can provide indications of technological progressiveness.⁵⁵²

392. We believe that the added data collection requirements set forth in our discussion of infrastructure, *supra*, will provide us with at least a framework upon which to base a review of technological progressiveness. Many of

the standards suggested by the LECs in comments are included in that ARMIS addition, including central offices categorized by type of equipment (SPC, digital, equal access, SS7, ISDN), and local loop and interoffice transmission facilities by type of available channel, among other things. Further, the BOCs and GTOC have already submitted two years of historical data in that format, so we will be able to see trends extending from rate of return into price caps, rather than just numbers from price cap experience. At the time we initiate performance review, we will also consider whether other indicators of technological progressiveness may be valuable.

393. We have not established, and do not intend to establish at this time, any specific standards or remedies, or even any specific expectations. We intend to use all available data and information in our performance reviews, and we believe that the reporting requirements established here will provide a good starting point. We are not persuaded by the LECs' arguments that our failure to specify now the criteria on which they will be reviewed in four years can result in the dissipation of the incentives provided by price cap regulation. Our review will be fair and comprehensive, and will consider the main areas outlined above. Our focus will be on the extent to which individual LECs and the industry as a whole have better met customer needs, at reasonable rates. At the appropriate time, we will establish a format for the review, and an opportunity for comment.

c. Adjustments based on review

394. The results of the performance review will enable us to revisit, with experience, some of the issues raised here, but, contrary to the assertions of some commenters, its effectiveness does not depend on the existence of specific standards and remedies.⁵⁵³ The performance review should provide sufficient information to allow the Commission to reevaluate the need for lower end adjustment and sharing mechanisms, and to adjust the sharing mechanism and productivity factor if necessary.⁵⁵⁴ At that time we will evaluate all aspects of the price cap plan and of LEC performance. Our objective will be to ensure that we are providing strong incentives to carriers to provide a rich variety of services, and a substantial benefit to customers. We hope to see that carrier productivity and innovativeness are increasing, while rates paid by subscribers are decreasing. The results of the performance review will help us evaluate and adjust any appropriate aspect of the price cap plan to better achieve those goals.

IV. EFFECT OF PRICE CAP REGULATION ON OTHER FCC REGULATION

A. Open Network Architecture

395. In response to the *Second Further Notice*, parties have raised a variety of issues related to the treatment of Open Network Architecture (ONA) services under price cap regulation.⁵⁵⁵ We conclude that ONA services, and other services that require fundamental changes in the structure of our access charge rules, raise pricing issues that can best be resolved in other proceedings.⁵⁵⁶ We therefore defer decisions related to the pricing of ONA services to the *ONA Part 69* proceeding.⁵⁵⁷ We anticipate, for example, that the *ONA Part 69* proceeding will establish rules for setting initial rates for ONA services, as well as future price cap treatment of these services. Pricing

issues related to other services that require fundamental changes in the access charge structure will be resolved in appropriate proceedings as they arise.

B. Other regulations

396. In both the *Further Notice* and the *Second Further Notice*, the Commission stated that it intends to retain existing policies and rules in several areas that foster competition and prevent discrimination in the provision of telecommunications services.⁵⁵⁸ These areas include: (1) existing market and accounting rules, including open entry, equal access, resale and shared use, interconnection, unbundling of tariffed services, and non-structural safeguards where LECs provide enhanced services, as well as the separations rules, the joint cost rules, and the USOA; (2) existing complaint procedures; and (3) rules concerning the extension of lines and discontinuation of service. We find that the implementation of price cap regulation for the LECs will be enhanced by the continuation of these rules and policies, and that such retention will ensure that our implementation of price cap regulation for interstate access services and interexchange services does not disrupt either our continuing regulation of other interstate services or state regulatory systems.

397. In response to the *Second Further Notice*, several parties support the Commission's tentative decision to retain those market and accounting rules.⁵⁵⁹ The Arkansas PSC, however, contends that the Separations Manual, the USOA, and the joint cost rules were designed for rate of return regulation and are not applicable to price cap regulation.⁵⁶⁰ While this Commission recognizes that most of these rules were designed for use with rate of return regulation, we do not find them incompatible with price cap regulation of the largest LECs and those who voluntarily elect to participate. On the contrary, we find that those rules will continue to serve a number of important purposes as more and more LECs participate in price cap regulation but many remain subject to rate of return regulation.

398. We also retain existing complaint procedures because such procedures represent an important adjunct to our ability to monitor compliance with our rules by LECs subject to price cap regulation as well as those LECs that remain subject to rate of return regulation. Complaints under Section 208 will continue to assist us in determining whether LECs have complied with the price cap rules as well as with other provisions of the Act.⁵⁶¹ While we recognize the concerns of some that there have in the past been delays in the complaint process,⁵⁶² we note that prompt disposition of many complaints will be assured by the recent adoption of legislation requiring the resolution of many complaints within one year, or, in certain cases, 15 months.⁵⁶³ Nothing in this proceeding requires adjustment of the standards or burdens associated with the complaint process, and we accordingly reject requests for changes in those areas.⁵⁶⁴

399. We have also decided not to modify at this time the Part 63 rules which enable us to monitor carrier network and service operations. We find that these rules will continue to provide us with an additional means of safeguarding the public interest, and we have found no evidence that the current approach is burdensome.

400. In response to the *Second Further Notice*, two LECs questioned our proposed treatment under Part 65 of any refund obligations price cap LECs may incur during their last rate of return enforcement period.⁵⁶⁵ We reject Bell

Atlantic's suggestion that we defer consideration of this rule to our pending Part 65 proceeding. The termination of rate of return regulation for price cap carriers requires that we make provision for possible overearnings in the final enforcement period leading to price cap regulation. We also reject US West's suggestion regarding cash refunds because we believe that prospective PCI adjustments are simpler for us to monitor, easier for the affected LECs to implement, and considerably limit the potential for discrimination among ratepayers.⁵⁶⁶ In addition, we reject the suggestion of US West that this Commission lacks authority to order refunds except where a carrier has proposed a rate increase and an accounting order has been entered.⁵⁶⁷ We wish to make clear, as we have in earlier proceedings, that our refund authority under Section 204 is not limited to such cases,⁵⁶⁸ and that our refund authority extends beyond Section 204.⁵⁶⁹

V. LEGAL AUTHORITY

401. In adopting price cap regulation for AT&T, the Commission explained in detail the legal basis for its action.⁵⁷⁰ We concluded, *inter alia*, that: (1) substitution of price cap regulation for traditional rate of return regulation was within our authority under the Communications Act; (2) price cap regulation would comply with the Act's requirement that rates be just, reasonable, and non-discriminatory; (3) our no-suspension zone approach to price cap regulation was consistent with the Act and relevant judicial authority; (4) a rate prescription was not required in connection with our use of existing rates; and (5) a *de facto* rate prescription had not been undertaken in connection with or no suspension zone approach to price caps. Consistent with our tentative conclusion in the *Second Further Notice* that price cap regulation of local exchange carriers is lawful,⁵⁷¹ we conclude, for the reasons set forth there and supplemented below, that the LEC price cap plan adopted today is within our legal authority under the Act, and that it will assure that LEC interstate rates remain just, reasonable, and non-discriminatory.

402. The primary basis for this conclusion is that our price cap plan for the LECs largely tracks our AT&T price cap plan. Both plans feature a streamlined tariff review process with suspension and no-suspension zones, baskets, service categories, and bands to guard against precipitous price changes for particular services, as well as a price cap formula that is based on existing rates,⁵⁷² reflects cost changes and includes a Consumer Productivity Dividend that requires carriers to increase their productivity above historical levels to take advantage of the increased flexibility provided by the price cap system. Several parties repeat legal arguments previously rejected in the context of the AT&T plan, but they do not explain why our legal conclusions in that context were wrong or are not directly applicable to price caps for LECs.⁵⁷³ Accordingly, we again reject those arguments for the reasons set forth in the *AT&T Price Cap Order*.

403. Compared with the price cap plan we adopted for AT&T, we have added one additional safeguard to our LEC plan to respond to the concern that, as discussed previously,⁵⁷⁴ we may not be able to select a productivity figure for the LECs in which we have precisely the same high degree of confidence as we have in the productivity figure chosen for AT&T. As a result of this concern, there is some risk that relying solely on the approach taken in

the AT&T plan could result in a particular LEC earning increased profits that are not necessarily tied to increases in productivity. Accordingly, we have adopted a sharing mechanism, described in detail above, for carriers that comply with price cap ceilings.⁵⁷⁵ By setting an upper limit on LEC profits and adding an additional mechanism to ensure that ratepayers directly benefit from any increases in profits,⁵⁷⁶ we are further ensuring that LEC rates will remain within a zone of reasonableness.

404. We adopt the sharing mechanism pursuant to our general Rule Making authority contained in Sections 4(i) and 201-203 of the Act as well as our prescription authority contained in Section 205 of the Act.⁵⁷⁷ In addition to the sharing mechanism, and under the same authority, we have included in our LEC price cap plan a lower end adjustment mechanism consistent with our obligation to ensure that LEC rates are not confiscatory.⁵⁷⁸

405. We disagree with those who argue that our price cap plan fails to assure just and reasonable rates because it does not adequately take carrier costs and profits into account.⁵⁷⁹ As we have explained, price cap rates do reflect costs and take profits into account, albeit in a different manner than do rate of return rates.⁵⁸⁰ Our decision to modify the manner in which we take costs and profits into account is based on our analysis that the price cap cost benchmark will produce efficiencies unattainable in the prior regulatory system, and is fully supported by relevant precedent.⁵⁸¹ Furthermore, the relative absence of competition compared to the interexchange market is not a legal basis to block price cap reform for LECs, as some have claimed.⁵⁸² Price cap regulation for AT&T was not predicated on the existence of competition, and nothing in the design of LEC price cap regulation is predicated on the existence of competition for interstate access services. In fact, the absence of competition is one reason we decided to employ the backstop of a sharing mechanism to prevent even the possibility of excessive monopoly earnings.⁵⁸³

406. With respect to costs and profits, we will continue to rely, as we do with AT&T, on the Section 204 investigation and Section 208 complaint processes as part of our plan to ensure just, reasonable, and non-discriminatory rates.⁵⁸⁴ In light of our selection of the sharing and adjustment mechanisms, complaints claiming that overall company earnings that comply with the sharing mechanism are excessive in view of costs will not lie. Since our sharing mechanism does not relate to specific rates, however, complaints that particular rates are unjust and unreasonable in light of the relevant costs and profits, or that they are discriminatory, may continue to be filed. In addition, if a LEC does not appear to be in compliance with the sharing mechanism, its tariffs would be subject to investigation and suspension pending an inquiry into the extent to which its price cap indexes had been sufficiently reduced to properly account for its historical earnings. Complaints could also be filed in this case. Similarly, if a LEC has been permitted to charge above-cap rates, the sharing mechanisms would no longer apply, and the LEC's rates would be subject to complaint on the basis that they are unjust and unreasonable in light of the current rate of return prescription. Thus, our investigation and complaint processes will remain important tools in ensuring just, reasonable, and non-discriminatory rates, and in monitoring carrier costs and profits.

VI. PAPERWORK REDUCTION ACT ANALYSIS

407. On May 11, 1989, after the release of the *Second Further Notice* in this proceeding, the Commission requested that the Office of Management and Budget (OMB) review the proposed information collection requirements for compliance with the Paperwork Reduction Act (PRA). On July 20, 1989, OMB approved the Commission's proposed information collection requirements contained in the *Second Further Notice* on LEC price cap regulations. The Report and Order adopted here contains final rules that modify the reporting requirements proposed in the *Second Further Notice* and approved by OMB.

408. This Order adopts incentive regulation for the LECs, and promulgates final rules to implement such regulation. In connection with this Report and Order, we renew our request for review of Paperwork Reduction Act requirements in light of the modifications here of proposals made in the *Second Further Notice* and the *Supplemental Notice*. The rules for LECs contained herein have been analyzed with respect to the Paperwork Reduction Act of 1980 and found generally to decrease the information collection burden on the public, although some new reporting requirements have been added.⁵⁸⁵ This modification in the information collection burden is subject to approval by OMB as prescribed by the Paperwork Reduction Act.

409. As was done in the case of adopting final rules for AT&T, we identify those portions of this *Further Notice* that respond to the eight OMB concerns raised in response to our *Further Notice*. With respect to the LECs, our response to OMB's concerns can be found at: (1) need for a rate "floor" designating the bottom of the no-suspension zone -- pages 95, 135-137; (2) need to band rates by rate element -- pages 90-93; (3) need for 90-day review period for above-band rates -- pages 129-132; (4) need for identical tariff treatment of AT&T and LEC filings -- pages 124-144, (5) burdens of expanding service quality reporting from Tier 1 LECs to all price cap carriers -- pages 148-165; (6) election of price caps by LECs -- pages 111-117; (7) quantification of administrative savings and identification of changes in reporting requirements -- pages 20, 83, 124-144, 148-165,⁵⁸⁶ and (8) impact on state regulators -- pages 20-24, 165-169.

VII. REGULATORY FLEXIBILITY ACT ANALYSIS

410. We certify that the Regulatory Flexibility Act⁵⁸⁷ is not applicable to the rule changes we are proposing for the LECs in this proceeding. In accordance with the provisions of Section 605 of that Act, a copy of this certification will be sent to the Chief Counsel for Advocacy of the Small Business Administration at the time of publication of a summary of this *Further Notice* in the Federal Register.

411. As part of our analysis of the regulation adopted in this Report and Order, however, this Commission has considered the impact of the proposal on small telephone companies, *i.e.*, those serving 50,000 or fewer access lines. As a result of our decision to make price cap regulation elective for depooled cost companies other than the RBOCs and GTOC, no small carrier will be forced to change the method by which it is regulated. Small companies that currently file their own cost-based access tariffs are free to remain under rate of return if they decide that rate of return is better suited to their circumstances

than is price caps. Small carriers participating in the NECA pools, and for whom NECA files access tariffs, will not be forced to leave the pools as a result of the price cap rules we are adopting in this Report and Order. In addition, nothing in the price cap program would discontinue or impair the variety of programs we have established to provide support to small carriers. These programs, such as our High Cost Fund and long term support mechanisms, continue intact. Furthermore, average schedule companies that are or become affiliated with cost companies that are regulated under price caps would not need to relinquish average schedule, rate of return regulation. We have also determined that, for companies that have not yet begun conversion to equal access, conversion costs be treated as exogenous costs under the price cap formula. This conclusion ensures that small carriers, who are the least likely to have begun equal access conversion, can flow through these costs to their rates should they elect price caps. These regulations, when viewed in their totality, permit small, depooled cost companies to take advantage of the benefits of price cap regulation at their option, while ensuring that the status quo is maintained for small carriers that do not participate in price cap regulation.⁵⁸⁸

412. Based on the foregoing analysis, we strongly disagree with Ronan's contention that we intend to discriminate against smaller carriers in this proceeding.⁵⁸⁹ On the contrary, we have made a number of important accommodations to the interests of small carriers and, in a subsequent proceeding, will continue to explore ways to enable more small carriers to participate in the price cap program.

VIII. CONCLUSION AND ORDERING CLAUSES

413. The rules adopted here, establishing tariff filing requirements, the adjustment formulas, and other requirements for price cap regulation, will be effective October 31, 1990, in order to implement the November 1, 1990 filing date and January 1, 1991 tariff effective date. We find good cause to make these rules effective on less than 30 days' notice after publication in the Federal Register. See 5 U.S.C. § 553(b)(B). The January 1, 1991 tariff effective date will provide the earliest and fullest availability of the price cap plan's substantial benefits to the public. The tariff filing ordered here, like traditional tariff filings, relies on information that the carriers collect and compile on a quarterly and annual basis; the tariff year is July 1 to June 30.⁵⁹⁰ Our selection of a January 1, 1991 effective date implements an initial half-year period of price cap regulation; this will allow the first full annual filing, to be made 90 days before July 1, 1991, to reflect some initial experience with price cap regulation and the modified filing requirements it establishes, and to apply the formula adjustments discussed herein. Further, the companies that the price cap rules will require to take action within less than 30 days from Federal Register publication have been actively involved in the development of these regulations, and are fully supportive of the initiation of price cap regulation as soon as possible.⁵⁹¹ We do not believe it would be appropriate to shorten the review period for this initial price cap filing. The public interest requires an adequate review period, to ensure that this Commission and interested parties can fully consider and evaluate these initial submissions of LECs participating in the price cap plan. The 60-day review period we

have established, from November 1, 1990, to January 1, 1991, is the minimum period necessary for this comprehensive review and evaluation.⁵⁹² Were we to establish an effective date later than October 31, 1990 for the rules defining the tariff filings, we would delay the effectiveness of price cap regulation, and its benefits for ratepayers, until at least July 1, 1991. This would also mean that the first price cap tariff filing would be a full annual filing, and that the application of the adjustment formulas, and the incentives they create, would be delayed for a full year after that filing, or until July 1, 1992.

414. Accordingly, IT IS ORDERED that, pursuant to Sections 4(i), 4(j), 201-205, 303(r), and 403 of the Communications Act of 1934, 47 U.S.C. §§ 154(i), 154(j), 201-205, 303(r), 403, and Section 553 of Title 5, United States Code, that Part 61, Part 65, Part 69, and Sections 61.3, 61.38, 61.39, 61.41, 61.42, 61.43, 61.44, 61.45, 61.46, 61.47, 61.48, 61.49, 61.58, 65.1, 65.600, 65.701, 65.703, 69.1, 69.3, 69.101, 69.105, 69.111, 69.113, 69.114, and 69.205, and 69.411 of this Commission's Rules, 47 C.F.R. Part 61, Part 65, and Part 69, §§ 61.3, 61.38, 61.39, 61.41, 61.42, 61.43, 61.44, 61.45, 61.46, 61.47, 61.48, 61.49, 61.58, 65.1, 65.600, 65.701, 65.703, 69.1, 69.3, 69.101, 69.105, 69.111, 69.113, 69.114, and 69.205, ARE AMENDED as set forth in Appendix B to this Order EFFECTIVE OCTOBER 31, 1990.

415. IT IS FURTHER ORDERED that authority is delegated to the Chief, Common Carrier Bureau, as specified herein, to effect the decisions set forth above.

416. IT IS FURTHER ORDERED that the Joint Motion for Tentative Decision filed by ADAPSO *et al.* IS DENIED.⁵⁹³

FEDERAL COMMUNICATIONS COMMISSION

Donna R. Searcy
Secretary

FOOTNOTES

¹ The Report and Order adopting price cap regulation for AT&T, and the *Second Further Notice* proposing price cap regulation of LECs was published as one document. When referring to the portion of the document containing the final order for AT&T price cap regulation, we will cite: *AT & T Price Cap Order*, 4 FCC Rcd 2873 (1989). When referring to the portions of the document addressing LEC price caps, we will cite: *Second Further Notice*, 4 FCC Rcd 2873 (1989).

² Policy and Rules Concerning Rates for Dominant Carriers, CC Docket No. 87-313, Notice of Proposed Rule Making, 2 FCC Rcd 5208 (1987) (*Notice*); Further Notice of Proposed Rule Making, CC Docket No. 87-313, 3 FCC Rcd 3195 (1988) (*Further Notice*); Report and Order and Second Further Notice of Proposed Rule Making, CC Docket No. 87-313, 4 FCC Rcd 2873 (1989) (*AT & T Price Cap Order* or *Second Further Notice*); Supplemental Notice of Proposed Rule Making, CC Docket No. 87-313, 5 FCC Rcd at 2176 (1990) (*Supplemental Notice*). See also FCC Public Notice, Parties in Price Cap Proceeding Requested To File Draft Rules Implementing Proposed Price Cap Plans, 3 FCC Rcd 262 (Com.Car.Bur. 1988).

³ The measure of inflation will be the same as in the AT&T price cap system, the Gross National Product Price Index.

⁴ The seven corporations are: Ameritech Operating Companies (Ameritech), Bell Atlantic Telephone Companies (Bell Atlantic), BellSouth Corporation (BellSouth), New York Telephone Company and New England Telephone and Telegraph Company (NYNEX), Pacific Bell and Nevada Bell (Pactel), Southwestern Bell Telephone Company (SWB), and Mountain States Telephone and Telegraph Company, Northwestern Bell Telephone Company and Pacific Northwest Bell Telephone Company (US West).

⁵ Represcribing the Authorized Rate of Return for Interstate Services of Local Exchange Carriers, CC Docket No. 89-624, FCC 90-315, adopted September 19, 1990 (*Represcription Order*).

⁶ Since LECs must share 50 percent of their regulated earnings between 12.25 percent and 16.25 percent, and return all earnings above 16.25 percent, LECs may keep only 14.25 percent once sharing is completed.

⁷ In this case, LECs retain 50 percent of the earnings between 13.25 percent and 17.25 percent, for a total of 15.25 percent.

⁸ In two of the baskets, we have decided not to use service categories. In the common line basket, prices for all the rate elements except for terminating carrier common line charges are for the most part controlled by existing Part 69 rules concerning subscriber line charges and the originating charge for carrier common line. Section 69.105 of the Commission's Rules, 47 C.F.R. § 69.105. Because LECs generally do not retain much discretion over the other rate elements in common line, the terminating carrier common line charge will either move with the price cap, or be priced below cap. In this circumstance no bands are required. In the interstate basket, we have decided not to impose additional service category requirements because interexchange services are a relatively small portion of LEC offerings.

⁹ Investigation of Special Access Tariffs of Local Exchange Carriers, CC Docket No. 85-166, Phase II, Part 1, Memorandum Opinion and Order, 4 FCC Rcd 4797 (1988) (*Strategic Pricing Order*); *recon.* 5 FCC Rcd 4001 (1990) (*Strategic Pricing Reconsideration*).

¹⁰ High capacity channels are defined according to capacity. A DS1 facility provides 1.544 Mbps of capacity and can be divided into 24 voice channels; a DS3 provides 44.736 Mbps and can be divided into 672 voice channels.

¹¹ *Second Further Notice*, 4 FCC Rcd at 2931 (para. 113).

¹² However, regulators can disallow costs so long as the total effect of a rate order is to impose rates within the zone of reasonableness. *Duquesne Light Co. v. Barasch*, 109 S.Ct. 609 (1989) (regulators can disallow a utility's proposed amortization of investment that never became used and useful).

¹³ *Further Notice*, 3 FCC Rcd at 3222-23 (paras. 42-44).

¹⁴ *Id.* at 2884-86 (paras. 19-25).

¹⁵ American Tel. & Tel. Co., 9 FCC 2d 30 (1967) (prescribing a rate of return for the interstate operations of the Bell System). In 1969, the Commission initiated a proceeding to establish ratemaking principles for the Bell System. American Tel. & Tel. Co., 18 FCC 2d 761 (1969). That proceeding subsequently was included in an investigation of AT&T's rates. AT&T Long Lines Department, Revisions to Tariff F.C.C. No. 260, Private Line Services, Series 5000 (Telpak), Docket No. 18128, 61 FCC 2d 587 (1976), *recon.*, 64 FCC 2d 971 (1977), *further recon.*, 67 FCC 2d 1441 (1978), *aff'd in pertinent part sub nom. Aeronautical Radio v. FCC*, 642 F.2d 1221 (D.C. Cir. 1980) (*Telpak*). In *Telpak*, the Commission found that allocations based on historical cost causation were the best methodology to employ in evaluating AT&T's rates. Attempts to apply this methodology to Bell System rates were, however, unsuccessful. See AT&T, Manual and Procedures for Allocation of Costs, 84 FCC 2d 667 (1981) (set-

ting out an "interim" procedure for AT&T to develop its costs), *aff'd sub nom. MCI Telecommunications Corp. v. FCC*, 675 F.2d 408 (D.C. Cir. 1982). For AT&T, the interim cost allocation procedures remained in place until 1989, when they were dissolved upon the implementation of price cap regulation. Policy and Rules Concerning Rates for Dominant Carriers, 4 FCC Rcd 2873, 3136-37 (paras. 546-47) (1989).

¹⁶ 47 C.F.R. Part 65. See also Refinement of Procedures and Methodologies for Represcribing Interstate Rates of Return for AT&T Communications and Local Exchange Carriers, 2 FCC Rcd 6491 (1987).

¹⁷ Uniform System of Accounts for Telephone Companies, 60 RR 2d 1111 (1986), *recon.*, 2 FCC Rcd 1086 (1987); Separation of Costs of Regulated Telephone Service from Costs of Nonregulated Activities, CC Docket No. 86-111, Report and Order, 2 FCC Rcd 1298 (1987), *recon.*, 2 FCC Rcd 6283 (1987), *further recon.*, 3 FCC Rcd 6701 (1988), *aff'd*, *Southwestern Bell v. FCC*, 896 F.2d 1378 (D.C. Cir. 1989).

¹⁸ 47 C.F.R. Part 69

¹⁹ We have also begun to require LECs to file cost information according to standard formats that we dictate in order to simplify the tariff review process. In addition, we have on occasion utilized filing formats that limit the types of costs (and, thus, cost changes) a carrier can use to justify new rates. Commission Requirements for Cost Support Material To Be Filed with January 1, 1990, Access Tariff Revisions, 4 FCC Rcd 6773 (Com.Car.Bur. 1988). See also Amendment of Part 67 (New Part 36) of the Commission's Rules and the Establishment of a Federal-State Joint Board, CC Docket No. 86-297, Recommended Decision and Order, 2 FCC Rcd 2582; Report and Order, 2 FCC Rcd 2639 (1987).

²⁰ E.g., Amendments of Part 69 of the Commission's Rules Relating to the Creation of Access Charge Subelements for Open Network Architecture, 4 FCC Rcd 3983 (1989); Amendment to Part 67 (New Part 36) of the Commission's Rules and Establishment of a Federal-State Joint Board, CC Docket No. 86-297, Recommended Decision and Order, 2 FCC Rcd 2582; Report and Order, 2 FCC Rcd 2639 (1987).

²¹ See MTS and WATS Market Structure, 77 FCC 2d 224 (1980) (Second Supplemental Notice) (explaining the division of revenues process among Bell System entities and the settlements process between the Bell System and the independent LECs that compensated LECs for the origination and termination of long distance calls).

²² We do not mean to suggest that technology was not yet forcing the industry and its regulators to confront competitive issues. The *Second Further Notice* reviews the competitive pressures that, in the 1960s, were already beginning to develop. *Second Further Notice*, 4 FCC Rcd at 2885 (para. 22). As history has borne out, however, the competitive issues reaching the Commission then were mere harbingers of what was to come.

²³ *Id.*

²⁴ *Id.*

²⁵ See, e.g., Clemens P. Work, "Wiring the Global Village." *U.S. News & World Report*, February 26, 1990; Calvin Sims, "The Baby Bells Scramble for Europe," *New York Times*, Section 3, page 1, December 10, 1989; S. Prokesch, "Western Europe Moves to Expand Free-Trade Links," *New York Times*, Page A-1, December 8, 1989.

²⁶ See, e.g., Jack Robertson, "US Losing in Gear, Materials," *Electronic News*, page 5, July 16, 1990. T. Sweeney, "GPT Polishes Profile," *Communications Week*, 249:1, May 22, 1989.

²⁷ See 47 C.F.R. Part 68 (specifying rules for the connection of terminal equipment to the telephone network).

²⁸ See, e.g., W.J. Baumol, S.B. Blackman, E. Wolff, *Productivity and American Leadership: The Long View* (1989).

²⁹ *Further Notice*, 3 FCC Rcd at 3219-23 (paras. 38-47). We therefore disagree with the comments of those who argue that there is little empirical basis for a price cap system of regulation. See Justice Reply at 8; MCI Reply at 10-11. See also CFA Reply at 2 (no evidence that the theoretical problems associated with rate of return occur in practice); NCTA Reply, Statement of S. Besen at 3-4.

³⁰ The Commission has identified two economic phenomena tending to create inefficient results. The Averch-Johnson effect occurs when carriers have an incentive to adopt inefficient, capital intensive approaches to business operations when the allowed rate of return exceeds the cost of capital, and to adopt inefficient, labor intensive approaches when the cost of capital exceeds the allowed rate of return. Averch & Johnson, *Behavior of the Firm Under Regulatory Constraints*, 52 *Amer. Econ. Rev.* 1052 (1962). The term "X-inefficiency" refers to a second phenomenon describing the lack of incentive for utilities to control expenses when expenses are included in a firm's annual revenue requirement. Leibenstein, *Allocative Efficiency vs. X-Efficiency*, 56 *Amer. Econ. Rev.* 392, 392-415 (1966).

³¹ *Further Notice*, 3 FCC Rcd at 3221 & n. 64 (noting disallowances totaling \$163 million in 1986 and 1987). As noted in the section discussing existing rates, *infra*, the Common Carrier Bureau has disallowed over \$2.7 billion in LEC access charges since 1985.

³² *Accord* NY DPS Comments at 14-15 (supporting price cap regulation of interstate access services with some modifications); Executive Agencies Comments at 1; CSE Comments at 1-2 and Mink Report at 20-21; SBA Comments at 4, 6-7 (arguing that rate of return is ripe for reform); David Comments at 3-7 (price caps creates a "consumer-oriented" set of incentives); Integrated Network Comments at 3-6; Verilink Comments at 4-8; AT&T Comments at 1-3 (supporting "appropriate" price cap regulation for LECs); USTA Comments at 2-3; USTA Reply at 3-5 (citing a broad consensus of the benefits of price caps as revealed in the comments); Ameritech Comments at 4-5; W. Virginia PSC Comments at 1; California Supplemental Comments at 2-4. See also Letter from Janice Obuchowski, Administrator, NTIA to FCC Chairman Alfred C. Sikes, May 7, 1990 (price caps can create efficiencies, benefit consumers, and benefit the industry more than rate of return), and Letter from Robert C. Atkinson, Senior Vice President, Teleport Communications Group to FCC Secretary Donna R. Searcy, May 7, 1990 (arguing in favor of eliminating rate of return, although finding equal interconnection guarantees a necessary predicate to price caps).

³³ MCI Comments at 38-40, 52 (by not severing the tie between prices and profits, the type of market-based innovation the Commission seeks will not materialize); SBA Comments at 9 n.8 (while price caps may encourage engineering improvements in equipment, price caps will not, by itself, result in the introduction of new services); Iowa Comments at 2-4 (questioning what technological advances have been delayed, deferred, or rejected under the rate of return system).

³⁴ *But see* Integrated Network Comments at 3-6 ("[i]n INC's experience, certain carriers have been somewhat discouraged by rate of return regulation from experimenting with new, cost-effective, innovative equipment or service options"); David Comments at 3-7 (rate of return has suppressed LEC demand for technological innovations); NYNEX Comments at 5-6; Rochester Comments at 2.

³⁵ We therefore disagree with MCI's argument, made in earlier rounds, that while profits from innovations are presently capped at the authorized return, the Commission's practice of passing through to rates the costs associated with innovations provides substantial incentives to innovate. MCI Comments at 38.

³⁶ See, e.g., Indiana UCC Comments at 7-11; MCI Comments at 17-20; Allnet Comments at 1-4; TeleComm Comments at 2; Ad Hoc Comments at 2-3; NY Clearinghouse Comments at 2-4; Ohio PUC Comments at 1-2; Local Telecom Comments at iii, 2-3; LOCATE Comments at 1-3; IDCMA Comments at 1-3; NCTA Reply at i, 3-7; Maryland PC Reply at 8 (arguing that no effective competition exists with respect to special access services provided to radio and television stations); Justice Reply at 2, 5-7; MCI Reply at 10-11; Hawaii Reply at 4-5; NASUCA Supplemental Reply at 12 & Statement of Ben Johnson Associates, Inc. at 2-4.

³⁷ A number of parties argue that the system, as proposed, will produce prices that will unjustly enrich the LECs by approximately \$5 billion over the next four years. See, e.g., Joint Parties Supplemental Comments at 2-3; AT&T Supplemental Comments at 2; Corporate Committee Supplemental Comments at 7-10; Ad Hoc Supplemental Comments at 2; Aeronautical Radio Supplemental Comments at 2; NASUCA Supplemental Reply at 2; Metropolitan Supplemental Reply at 6; Ad Hoc Supplemental Reply at 3-4, 6-7. *But see* USTA Supplemental Reply at 1-2 (consumers will benefit by as much as \$3.4 billion under the price cap proposal); NYNEX Supplemental Reply at 38; Pactel Supplemental Reply at 3-4, 9; BellSouth Supplemental Reply at 2-3. The issue parties raise is grounded in the design and evaluation of the price cap mechanism. We believe that our selection of a higher productivity hurdle (through a different common line formula and a higher offset) and an incentive-based sharing mechanism will make ratepayers better off under price cap regulation than under rate of return, and we explore this finding in our discussion of the price cap mechanism, *infra*.

³⁸ See, e.g., *Further Notice*, 3 FCC Rcd at 3225 (para. 52).

³⁹ See *New York Telephone and New England Telephone and Telegraph Co. Apparent Violation of the Commission's Rules and Policies Governing Transactions with Affiliates, Order to Show Cause and Notice of Apparent Liability for Forfeitures*, 5 FCC Rcd 866 (1990).

⁴⁰ *Accord* CSE Comments at 1-2 and Mink Report at 20-21; Ameritech Supplemental Comments at 26-28.

⁴¹ See *Further Notice*, 3 FCC Rcd at 3224-25 (paras. 50-51).

⁴² See, e.g., MCI Comments at 40-42 ("cost misallocations will make the LECs' monopoly earnings appear smaller for the next periodic review or in applying the automatic stabilizer"); Iowa Comments at 2-4; NARUC Reply at 1-2; DC PSC Reply at 1-2; Hawaii Reply at 1-2; Ohio PUC Comments at 1-2 (lack of competition for access will allow LECs to shift rate burdens to residential and small business users); Metropolitan Comments at 6-8 (LECs will subsidize their more competitive offerings with revenues from their less competitive offerings); SBA Comments at 8 n.7 (LECs might also subsidize a nonregulated activity); Adapso Supplemental Comments at 2-3; Boeing Computer Supplemental Comments at 4-6; Corporate Committee Supplemental Comments at 20-21; Local Telecom Supplemental Reply at 1; Hawaii Supplemental Comments at 3-4; Ad Hoc Supplemental Comments at 36-37 & ETI Report at 21-22; Joint Parties Supplemental Comments at 3; TCA Supplemental Comments at 6; IDCMA Supplemental Reply at 2-3.

⁴³ In addition, we disagree with commenters who would have us reform our rate of return practices to employ marginal costs in our allocation systems instead of fully distributed costing.

See, e.g., Indiana UCC Comments at 15. Simply employing a different cost allocation methodology in rate of return does not create the positive incentives of a price cap system for a LEC to meet, and beat, a pre-established productivity hurdle.

⁴⁴ Section 61.38 of the Commission's Rules, 47 C.F.R. § 61.38.

⁴⁵ See, e.g., CFA Reply at 1; IDCMA Reply at 3-4 (concurring in the judgment that alternatives to price cap regulation ought to be explored); Allnet Comments at 6-8 (arguing for a system of "Bi-Modal Profit Cap Regulation" that would uniformly bring rates down in accordance with the Gross National Product Price Index less a productivity offset, unless a conventional rate of return calculation produced lower rates). *But see* PRTC Reply at 7-8 (moving rates uniformly does not permit LECs to respond to competition).

⁴⁶ E.g., Indiana UCC Comments at 15; IDCMA Comments at ii, 1-3.

⁴⁷ MCI Comments at 34-36. MCI argues that rate of return, combined with regulatory lag, can create substantial incentives to efficiency, provided that the review of access tariffs is "strict and speedy," and does not require continuing investigations. MCI states that the access review process is now beginning to work properly, supported by ARMIS reporting and the Tariff Review Plan. See also NCTA Reply, Statement of S. Besen at 4-8 (same efficiency effects will accrue if prices are decreased more quickly -- or raised more slowly -- using the rate of return system); Justice Reply at 3-4 (arguing that regulatory lag can increase efficiencies and spur innovation); Ad Hoc Reply at 5 n.2 and ETI Report at 5, 38 (Commission should move on to less ambitious incentive plans); ICA Reply at 4; IDCMA Reply at 3-4.

⁴⁸ Delaware, Tennessee, Hawaii, Wyoming, Alaska (for its larger LECs), Arizona, Indiana, Ohio, the District of Columbia, Mississippi, New Hampshire, and North Carolina are the states that currently use traditional rate of return regulation.

⁴⁹ Streamlining of competitive offerings, rate freezes, and pricing flexibility are examples of techniques now in use by many states as part of their regulatory reform of LECs.

⁵⁰ See *Further Notice*, 3 FCC Rcd at 3254-55 (paras. 105-106).

⁵¹ Ameritech Reply at 30-32; Pactel Reply at ii, 15-16; NYNEX Reply at 2 n.4; United Reply at 8 n.27.

⁵² A number of states have incentive plans that fit this general description. Illinois' two-year trial does not adjust rates through an inflation index, but includes a rate freeze on core services, and a tapered sharing plan with a cap (100 percent returned to ratepayers) at 15 percent return on equity, with all sharing to be accomplished by an annual retroactive refund. Missouri's incentive plan is similar, providing a tapered sharing plan and an annual bill credit. Rhode Island's plan, a stipulation among New England Telephone, the commission, and others, includes significant network investment terms. Washington allows downward pricing flexibility on monopoly services, and a sharing plan that leaves the sharing methodology to the discretion of the commission. The Wisconsin plan provides no sharing of excess earnings, but allows the LEC to keep earnings up to 18 percent, and requires it to refund any earnings above that point. North Dakota uses incentive regulation for "essential" services -- including basic. The New Jersey Commission and New Jersey Bell have developed a plan that includes a rate freeze, and is effective 1987-93. Beginning in July 1990, New Jersey Bell can request rate hikes due to inflation and government action. Florida's plan runs 1988-90, has a cap for basic residential service, and sets two levels of sharing to correct for high earnings. Connecticut has had a rate of return-based incentive regulation plan in place for service years. Taking the form of a settlement agree-

ment between SNET and the commission, this plan includes a two and a half year rate moratorium and a sharing arrangement.

⁵³ For example, SWB and the Kansas Commission have agreed to a freeze on basic services, and to streamline SWB's discretionary services. SWB will invest \$110 million in network improvements. When the freeze concludes in 1995, SWB has proposed that it be allowed to change its rates in accordance with an indexing device similar to the one we adopt for SWB's interstate services.

⁵⁴ In some states, uncertainty exists as to the desirable degree of deregulation, or the most appropriate means of regulatory reform. Georgia, for example, has considered reform both specifically and generically. Southern Bell (SB) proposed, then withdrew, a Rate Stabilization and Incentive Sharing plan for Georgia in early 1989. This plan included a 3-year freeze on basic residential and single line business, and 50-50 sharing of earnings over 15 percent. Following SB's withdrawal of this proposal, the commission initiated generic hearings on incentive regulation, in which SB seeks discussion of a new reform plan proposing a social contract/incentive regulation plan with some of the same features as its previous proposal. This plan would provide SB with flexibility in areas the commission determines to be competitive or discretionary. Mississippi, New Hampshire, Massachusetts, Utah, Minnesota, Delaware, Oregon, Iowa, Nevada, and Oklahoma are considering specific incentive regulation proposals. Other states, such as Maine, the District of Columbia, Indiana, Louisiana, and North Carolina, are engaged in general studies of regulatory reform, including incentive regulation.

⁵⁵ See, e.g., ADAPSO Supplemental Comments at 1; Joint Parties Supplemental Comments at 4; Boeing Computer Supplemental Comments at 4; IIA Supplemental Comments at 1-2; TCA Supplemental Comments at 3; Corporate Committee Supplemental Comments at 1-3; Ad Hoc Supplemental Comments at 2; Aeronautical Radio Supplemental Comments at 1-2; NASUCA Supplemental Comments at 5; SBA Supplemental Comments at 5, 18; IDCMA Supplemental Reply at 1; Boeing Computer Supplemental Reply at 2; DC People's Counsel Supplemental Reply at 1-2.

⁵⁶ E.g., MCI Supplemental Reply at 4-6; TCA Supplemental Reply at 5-6; Ad Hoc Supplemental Reply at 9; Executive Agencies Supplemental Reply at 11; Comptel Supplemental Comments at 2-3; Corporate Committee Supplemental Comments at 21-22; DC PSC Supplemental Comments at 9-10; Missouri PSC Comments at 1-2; Michigan PSC Comments at 1; NARUC Reply at 1, 4-5; Local Telecom Comments at 7; Metropolitan Reply at 11-14; Iowa Comments at 2-4.

⁵⁷ The PCI for the LECs, like that of AT&T, will be initialized at a level of 100, consistent with its structure as a fixed weight, or Laspeyres, index. See Appendix F.

⁵⁸ See, e.g., Centel Comments at 9; GTOC Comments at 37-39 and App. 5; Pactel Comments at 19; USTA Comments at 39; NYNEX Comments at 34; Rochester Reply at 16-17; US West Comments at 46. AT&T made no such argument. See *AT&T Price Cap Order*, 4 FCC Rcd at 2974 n. 414.

⁵⁹ *AT&T Price Cap Order*, 4 FCC Rcd at 2972-74 (paras. 193-97). The CPI measures the prices urban consumers (about 80 percent of consumers generally) pay for most goods and services for everyday living. The CPI does not include government-provided services (e.g., Medicare) or goods used by industry but not by consumers. The PPI measures changes in the net revenue received by producers, covering all manufactured and processed goods. It does not include retail sales or services.

⁶⁰ The historical base period is currently 1982; the base period is adjusted about every ten years.

⁶¹ Further, to the extent that the LECs purchase their factors of production in numerous roughly competitive markets, the GNP-PI's failure to capture their precise factor mix is not crucial. The GNP-PI is a broad-based index that reflects price experience in numerous markets, unlike a narrower index like the CPI which may be subject to forces not relevant to the LECs.

⁶² See, e.g., CBT Comments at 5; SWB Comments at 7; Bell Atlantic Comments at 4. *But see* Ad Hoc Comments and ICA Comments, ETI Report at 3 (recommending that we reexamine the GNP-PI to be sure it is a useful measure of LEC input costs).

⁶³ A current-year-weight, or Paasche, index will fluctuate according to changes in the relative composition of the GNP, as well as to changes in prices. See Appendix F.

⁶⁴ If, for example, the price of a good remains stable, but the quantity increases, the GNP-PI would remain constant and the GNP deflator would show the change as inflation. The GNP-PI divides current price times base period demand by base price times base period demand; the GNP deflator simply divides total current GNP by total last-period GNP.

⁶⁵ *AT&T Price Cap Order*, 4 FCC Rcd at 2973 n.412, citing the Commerce Department's disclaimer that the GNP deflator's "use as a measure of price change should be avoided."

⁶⁶ *AT&T Price Cap Order*, 4 FCC Rcd at 2974 (para. 197).

⁶⁷ Indiana UCC Comments at 18-21.

⁶⁸ No commenters contested our proposal to use the basic price cap formula in use for AT&T (inflation less a productivity offset, plus or minus exogenous costs) for LEC services other than common line. We therefore adopt without discussion the basic formula for use in baskets other than common line. See new Section 61.45(b) of the Commission's Rules, 47 C.F.R. § 61.45(b).

⁶⁹ Section 69.612 of the Commission's Rules, 47 C.F.R. §69.612.

⁷⁰ See *Second Further Notice*, 4 FCC Rcd at 3221 (para. 721). See also, e.g., Ameritech Reply at 14, SWB at 20-22; BellSouth Reply at 24.

⁷¹ *Second Further Notice*, 4 FCC Rcd at 3221. See also, e.g., AT&T Comments at 6-17; MCI Reply at 23-24; Ad Hoc Comments at 14-15, 38-39, and ETI Report at 20-22; API Reply at 10; California PUC Comments at 3; Hawaii Reply at 15; AT&T Supplemental Comments at 16-20; MCI Supplemental Comments at 11-12; California PUC Supplemental Comments at 7.

⁷² Clarification of Cap on Common Line Rates, Proposed Price Cap Rules for Local Exchange Carriers, CC Dkt. No. 87-313, Public Notice, 4 FCC Rcd 4775 (Com.Car.Bur. 1989).

⁷³ BellSouth Comments at 20-22; BellSouth Reply at 24.

⁷⁴ USTA Comments at 31; USTA Reply at 21. See also, e.g., SNET Comments at 7.

⁷⁵ PRTC Comments at 26-28.

⁷⁶ SWB Reply at 36-37.

⁷⁷ NYNEX Comments at ii.

⁷⁸ AT&T Comments at 18-19; MCI Reply at 23.

⁷⁹ AT&T Comments at ii, 6-7; MCI Reply at 23.

⁸⁰ Ad Hoc Comments at 14-15, 38-39.

⁸¹ AT&T Comments at 18-19; MCI Reply at 23-24.

⁸² Ad Hoc Reply at 4; Ad Hoc Reply and ICA Reply, ETI Report at 31-37.

⁸³ Identifying current sources of CCL demand growth and, more importantly, predicting future sources and their magnitude, is obviously in part a speculative enterprise. We do not suggest that the 50-50 split is a matter of precise calculation in terms of contributions to increased demand. Rather, it represents an effort to provide some balanced incentives for this particular form of productivity growth. As we gain experience with the price cap plan, we may develop sufficient evidence to calculate a different split. We believe, however, that the critics fail to account for the ability of the LECs to stimulate CCL demand by some or all of the programs and initiatives described in the text. See AT&T Supplemental Comments at 16-21 (arguing that whatever the uncertainty about the LECs' actual or projected interstate access productivity experience, there is no question that LECs' CL costs do not vary with demand); MCI Supplemental Reply at 23-24 (arguing that capping common line rates half on a per minute basis and half on a per line basis essentially negates the entire productivity offset for common line services). While the exact scope of this potential source of increased productivity may be uncertain, we continue to believe that it is real and that the Balanced 50-50 formula is a reasonable way to tap into it.

⁸⁴ See, e.g., Ex Parte Presentation of USTA to the Staff, Common Carrier Bureau, July 25, 1990 (noting four additional formulas introduced by USTA and AT&T in *ex parte* presentations).

⁸⁵ *Second Further Notice*, 4 FCC Rcd at 2969; *Supplemental Notice*, 5 FCC Rcd at 2186.

⁸⁶ See *Supplemental Notice*, 5 FCC Rcd at 2212-17 (paras. 67-77) (summarizing the historical evidence).

⁸⁷ *Second Further Notice*, 4 FCC Rcd at 3208-12 (paras. 693-700).

⁸⁸ *Supplemental Notice*, 5 FCC Rcd at 2222-25 (paras. 92-100). The Frentrup-Uretsky study, included in the *Supplemental Notice* at Appendix C and revised in this Order at Appendix C, analyzes LEC productivity in the post-divestiture period using data submitted by AT&T and USTA. The Spavins-Lande study, included in the *Supplemental Notice* at Appendix D and revised in this Order at Appendix D, attempts to confirm long term estimates of local carrier productivity by examining the indirect productivity of the total telephone industry between 1928 and 1989 using a Consumer Price Index series.

⁸⁹ See, e.g., *Second Further Notice*, 4 FCC Rcd at 3363 (critiquing an early Bellcore attempt to measure post-divestiture LEC productivity); *Supplemental Notice*, 5 FCC Rcd at 2217 (critiquing an effort by AT&T to measure post-divestiture LEC productivity).

⁹⁰ AT&T Supplemental Comments at 21-25 and Appendix F.

⁹¹ AT&T Supplemental Comments at 7-8 (quoting Lambert and Landwehr analysis from AT&T's Appendix C) and Appendix A, Part I; Ad Hoc Supplemental Comments at 11-13; MCI Supplemental Comments at 10 n.12; TCA Supplemental Comments at 9.

⁹² AT&T Supplemental Comments at 8.

⁹³ E.g., USTA Supplemental Reply at 16; Pactel Supplemental Reply at 19-21; SWB Supplemental Reply at 12.

⁹⁴ Appendix C at 1.

⁹⁵ *Supplemental Notice* Appendix C.

⁹⁶ AT&T Supplemental Comments, Appendix B at 2-5.

⁹⁷ *Id.* at 5-10.

⁹⁸ USTA Supplemental Reply, Attachment B.

⁹⁹ *Id.* at 1, 5-7.

¹⁰⁰ AT&T Comments, Appendix B at 8 n.**.

¹⁰¹ *Supplemental Notice*, 5 FCC Rcd at 2224-25 and Appendix D.

¹⁰² See Appendix D, page 10, n.23.

¹⁰³ We also examined an alternative estimate of the adjustments that should be made to control for exogenous demand stimulation, using demand growth at 8 percent per year, rather than the calculated 6.5 percent. Combining the productivity associated with 8 percent demand growth with the high range total productivity target of 2.1 percent provides an estimate of the upper bound of the interstate productivity offset at 1.82 percent using the per line formula.

¹⁰⁴ See Appendix C at paras. 12-13 and Chart PROD. The computed 0.41 percent difference between per line and Balanced 50-50 under the long term study differs slightly from the difference computed for the short term study. The long term study is based on slightly different demand growth and includes both switched and special access. The short term study examines only switched access.

¹⁰⁵ USTA and its consultant, NERA, did present a statistical test which they claim indicates the two offsets are like. USTA Supplemental Comments, Attachment B at 19-20. However, their analysis indicates only that, because of the small number of data points in the short term study, the two cannot statistically be shown to be *unlike*. This is a very different question. In any event, this analysis does not answer the ultimate question of which factor to choose.

¹⁰⁶ We therefore agree with commenters who point out that the choice of CCL formula is directly related to the overall productivity offset. The effect of adopting the Balanced 50-50 formula for CCL rates is to impose a substantially higher effective productivity hurdle upon the LECs than under the old 50-50 formula. Even with no growth in usage per line, the Balanced 50-50 formula will increase real CCL rate reductions substantially. We have computed this effect in Appendix C, Chart PROD, page 1. If total CCL usage grows by 8 percent in the future, for example, switched access rates (including CCL) would be pushed down by the same amount as if a productivity offset about 0.75 percent higher were chosen. Additional demand growth would widen this difference even further, because rates will go down under the Balanced 50-50 formula but might have increased under the previous version. Thus, in turning to consideration of the appropriate productivity offset, we recognize that we must take into account the substantial increase in the productivity challenge already produced by the Balanced 50-50 formula, and develop a productivity offset that leads to just and reasonable rates.

¹⁰⁷ We estimate that the 2.8 percent baseline productivity offset using the Balanced 50-50 formula is equivalent to a 3.5 percent offset under the originally proposed formula at 8 percent demand growth.

¹⁰⁸ It is, for example, approximately as challenging as the "simple" plan proposed by AT&T, which is by far the largest access customer and provider of long distance services based on LEC access rates.

¹⁰⁹ See *Second Further Notice*, 4 FCC Rcd at 3212-3214 (paras. 701-06).

¹¹⁰ *Second Further Notice*, 4 FCC Rcd at 3210 (para. 698).

¹¹¹ Contel Supplemental Comments at 19; USTA Supplemental Comments at 11-12; TDS Supplemental Reply at 5; SNET Comments at 22; PRTC Comments at 14-15; Rochester Supplemental Comments at 6-9.

¹¹² In our discussion of small company issues, *see infra*, Section II. E., we outline possible means for obtaining the information necessary to set a productivity factor that could apply to all small and mid-size companies.

¹¹³ See Testimony of L. Christensen filed in *United States v. AT & T*, Civ. Action No. 74-1698 (D.C.C. filed Nov. 20, 1984). See also *Further Notice*, 3 FCC Rcd at 3401 (para. 368).

¹¹⁴ As explained in the *Further Notice*, total factor productivity includes use of labor, capital, and raw materials as relevant factors, and considers as many distinct outputs as necessary to portray the productivity of a firm. However, on occasion, it is useful to perform productivity studies that limit attention to just two factors, such as labor and capital. Such studies are known as two-factor productivity studies. Similarly, a productivity study that encompasses three relevant factors is known as a three-factor study. See *Further Notice*, 3 FCC Rcd at 3401 (para. 367).

¹¹⁵ CBT Comments at Appendix A ("Total Factor Productivity Analysis, Cincinnati Bell Telephone" performed by NERA for CBT).

¹¹⁶ *Id.* at Appendix B ("Cincinnati Bell Telephone Pre-vestiture Productivity: Three-Factor Model", Performed by NERA for CBT).

¹¹⁷ *Id.* at Appendix C ("Total Factor Productivity of Interstate Access Services", Cincinnati Bell Telephone Company, performed by NERA for CBT). Similarly, over the period 1984-1988, Bellcore performed an indirect comparative analysis of LEC productivity and that of the independents. Although Bellcore found that the differential was 3.35 percent, the results of this study were criticized by the Commission because of problems with the study's methods. For example, the Commission determined that Bellcore incorrectly estimated certain exogenous costs, and incorrectly assessed special access productivity. See generally, *Second Further Notice* at Appendix E.

¹¹⁸ CBT Comments at Attachment 1 ("Incentive Regulation and Estimates of Productivity" prepared for CBT by NERA, June 9, 1989). See also *Supplemental Notice*, 5 FCC Rcd at 2226 (para 103).

¹¹⁹ PRTC also performed a study in which it compared annual revenue requirement with GNP-PI to determine productivity trends. While the PRTC study provides an interesting look at how costs changed relative to inflation, productivity studies should encompass an evaluation of inputs relative to outputs, as TFP studies or indirect price analyses do.

¹²⁰ Ronan Comments at 4. See generally TUECA Comments at 4; NCTA Reply at 2-3; TDS Reply at 16.

¹²¹ See Illinois Telco Reply at 2-5.

¹²² See, e.g., CBT Comments at Appendix A and Appendix B; Contel Supplemental Comments at 17-18; USTA Supplemental Comments at 10.

¹²³ CBT Comments at 6; Contel Supplemental Comments at 17-18; Ronan Comments at 4; TUECA Comments at 4; NCTA Reply at 2-3; TDS Supplemental Reply at 16.

¹²⁴ USTA Supplemental Comments at 10; NTCA Comments at 6; Centel Supplemental Comments at 16; SNET Reply at 10.

¹²⁵ PRTC Comments at 23; USTA Supplemental Comments at 10.

¹²⁶ See CBT Supplemental Comments at 7 (arguing that it has established the need for a lower productivity offset factor in its own case, and that it should not be forced to operate under the same standards applied to the RBOCs, simply because other LECs have not submitted empirical data demonstrating their own need for relief).

¹²⁷ In our discussion of small companies issues, see *infra*, Section II. E., we discuss future investigation of these issues.

¹²⁸ United Reply at 1-11.

¹²⁹ *Second Further Notice*, 4 FCC Rcd at 3212-19 (paras. 701-714).

¹³⁰ *Supplemental Notice*, 5 FCC Rcd at 2252-57 (paras. 163-176).

¹³¹ See, e.g., Bell Atlantic Supplemental Comments at 3-5.

¹³² *Second Further Notice*, 4 FCC Rcd at 3212 n.1484.

¹³³ See, e.g., Pactel Supplemental Comments at 17-21; GTOC Supplemental Comments at 16-17.

¹³⁴ United Supplemental Reply at 4-7.

¹³⁵ See, e.g., USTA Supplemental Comments at 30 and Attachment F.

¹³⁶ See, e.g., Bell Atlantic Supplemental Comments at 8, n.16; Pactel Supplemental Comments at 30.

¹³⁷ Bell Atlantic Supplemental Reply at 13; accord, SWB Supplemental Comments at 7-17 (arguing that a tapered sharing plan should be used beginning with 25 percent sharing at a level determined by the 60th percentile of the earned returns on capital of the S&P Industrials (currently 14.3 percent) and 50 percent at the 75th percentile (currently 16.1 percent)). See also NYNEX Supplemental Comments at 13-15, 18. As an alternative, NYNEX suggests that some portion of productivity gains above the 50-50 sharing mark be targeted to specific network modernization programs beyond the scope of those planned by the company. See also Pactel Supplemental Reply at 37-38; US West Supplemental Reply at 14-16 (generally supporting Pactel's proposal, but arguing for a no-sharing zone of 300 basis points above the uniform rate of return, and sharing no higher than 50 percent).

¹³⁸ Lincoln Supplemental Comments at 8.

¹³⁹ MCI Supplemental Comments at 20-25.

¹⁴⁰ AT&T Supplemental Comments at 25-27.

¹⁴¹ Aeronautical Radio Supplemental Comments at 8-11.

¹⁴² NASUCA Supplemental Comments at 3-4, Attachment at 16-21.

¹⁴³ United Supplemental Reply at 4.

¹⁴⁴ See, e.g., NYNEX Supplemental Comments at 12-17 and Attachment B; Centel Supplemental Comments at 11-12.

¹⁴⁵ See, e.g., US West Supplemental Comments at 34-36; USTA Supplemental Comments at 27.

¹⁴⁶ California Comments at 6-7; California Supplemental Comments at 5-6.

¹⁴⁷ Executive Agencies Supplemental Comments at 14-17.

¹⁴⁸ NASUCA Supplemental Comments, Appendix at 18-21.

¹⁴⁹ NASUCA Supplemental Comments at 3-4.

¹⁵⁰ Ameritech Supplemental Comments at 10-25 and Attachment A.

¹⁵¹ Aeronautical Radio Supplemental Comments at 9-10; MCI Supplemental Reply at 45-46.

¹⁵² Executive Agencies Supplemental Comments at 17-19.

¹⁵³ Allnet Supplemental Comments at 18.

¹⁵⁴ *Id.*

¹⁵⁵ Bell Atlantic Supplemental Comments at 9.

¹⁵⁶ *Id.* at n.18.

¹⁵⁷ See, e.g., USTA Proposed Findings at 21; GTOC Supplemental Submission at Attachment.

¹⁵⁸ Bell Atlantic Supplemental Submission at 3-4; SWB Supplemental Submission at 11.

¹⁵⁹ AT&T Proposed Findings at 18-20; Ad Hoc Proposed Findings at 51-54; Consumer Coalition Proposed Findings at 57-60.

¹⁶⁰ AT&T Proposed Findings at 10. *Accord* Ad Hoc Reply to Supplemental Submissions at 8 (mere fact that the LECs would argue for such high sharing levels "signals dire consequences for ratepayers").

¹⁶¹ Ad Hoc Reply to Supplemental Submissions at 5-7. *See also* Consumer Coalition Reply to Supplemental Submission at i, 10.

¹⁶² AT&T Reply to Supplemental Submission at 8, 11, and Reply Statement of Dr. Peter M. Sterling at 3-4; Ad Hoc Reply to Supplemental Submission at 12-15.

¹⁶³ *See, e.g.* AT&T Supplemental Submission at 4-6.

¹⁶⁴ AT&T Supplemental Submission at 4-6 (sharing should be triggered at 25 basis points above the rate of return whenever rates are increased); Consumer Coalition Supplemental Submission, Appendix A at 5-7 (50 percent sharing of any earnings above the rate of return, and 100 percent return of earnings greater than 50 basis points above the unitary rate of return); Ad Hoc Supplemental Submission at 13-14 (sharing should begin at the unitary rate of return and all earnings greater than 100 basis points above the rate of return should be returned to ratepayers). *But see, e.g.,* Bell Atlantic Reply to Supplemental Submissions at 3-4; BellSouth Reply to Supplemental Submissions at 7-10; NYNEX Reply to Supplemental Submissions at 5-8.

¹⁶⁵ Ad Hoc Supplemental Submission at 4.

¹⁶⁶ *E.g.* USTA Supplemental Submission at 3; GTOC Supplemental Submission at 10; *accord* SWB Supplemental Submission at 6.

¹⁶⁷ NYNEX Supplemental Submission at 4, 7; Pactel Supplemental Submission at 17-19.

¹⁶⁸ *See, e.g.,* Consumer Coalition Reply to Supplemental Submissions at 5-6.

¹⁶⁹ Indeed, given the productivity goal we have adopted for the LECs, we do not anticipate earnings in the upper reaches of the sharing zone during the first four years of the plan.

¹⁷⁰ *See Second Further Notice*, 4 FCC Rcd at 3187 (para. 645).

¹⁷¹ *Second Further Notice*, 4 FCC Rcd at 3011 (para. 280).

¹⁷² Allnet Comments at 13.

¹⁷³ To prevent excessive rate churn, carriers will not be permitted to adjust their PCIs to reflect changes in certain exogenous costs at the time these changes occur. Instead, they will be permitted to adjust their PCI to reflect these changes only once a year on July 1. Such costs are: (1) changes in long term support; (2) changes in transitional support; (3) changes in Subscriber Plant Factor (SPF); and (4) changes in Dial Equipment Minutes (DEM). *See* Appendix B at 61.45(d) (3).

¹⁷⁴ 47 C.F.R. §§ 32.1 *et seq.*

¹⁷⁵ *Accord* Executive Agencies Comments at 7; Ohio PUC Comments at 13.

¹⁷⁶ GAAP changes are adopted by the Financial Accounting Standards Board (FASB).

¹⁷⁷ *See* Section 32.16 of this Commission's Rules, 47 C.F.R. § 32.16.

¹⁷⁸ American Telephone and Telegraph Company, Trans. No. 2304, 5 FCC Rcd 3680 (Com.Car.Bur. 1990) (*AT&T Annual 1990 Price Cap Filing Order*).

¹⁷⁹ MTS and WATS Market Structure, CC Dkt No. 78-72, FCC 87J-2, 2 FCC Rcd 2078 (1987), *recon.*, 3 FCC Rcd 4543 (1988). (*Pooling Order*).

¹⁸⁰ *See Second Further Notice*, 4 FCC Rcd at 3191-3192 (para. 659).

¹⁸¹ MCI is incorrect in its assessment that these cost changes are merely a cost of doing business. MCI Reply at 26. While it is true that they are a business cost to LECs that experience support changes, such changes are not under LECs' control, and are therefore exogenous.

¹⁸² 47 C.F.R. § 64.901.

¹⁸³ *See, e.g.,* Alabama PSC Comments at 4; Ohio PUC Comments at 13; Michigan PSC Staff Comments at 5.

¹⁸⁴ *See Second Further Notice*, 4 FCC Rcd at 3019 (para. 301).

¹⁸⁵ *See, e.g.,* Executive Agencies Comments at 7; Rochester Comments at 4; NY DPS Comments at 11-12; Ohio PUC Comments at 13.

¹⁸⁶ *Second Further Notice*, 4 FCC Rcd at 3017-3018 (para. 292). We do not resolve every issue raised by parties on the regulatory treatment of amortizations. When the Commission reviews its amortization program, these issues will be considered. *See* Rochester Comments at 4 (whether future amortizations of depreciation reserve deficiencies should be given exogenous treatment).

¹⁸⁷ These services include corridor services and interstate-intraLATA services.

¹⁸⁸ *See Second Further Notice*, 4 FCC Rcd at 3187 (para. 646). These rates are subject to Commission review.

¹⁸⁹ SBA Comments at 28-29.

¹⁹⁰ We decline to adopt USTA's suggestion to make exchange access costs incurred in the provision of joint services exogenous for the secondary carrier. USTA Comments at 24-25. *See also* US West Comments at 26-27. Since access charges are being made exogenous solely to provide parity to the regulation of interexchange service providers, we cannot extend exogenous treatment to any and all circumstances in which a LEC pays access charges.

¹⁹¹ *Second Further Notice*, 4 FCC Rcd at 3010 (para. 275).

¹⁹² *See, e.g.,* Justice Reply at 18; NYDPS Comments at 14; Ohio PUC Comments at 9-10.

¹⁹³ Rochester Comments at 4-5. *Accord* Centel Comments at 22-24; SWB Comments at 35; Ameritech Comments at 25-26; Centel Reply at 25.

¹⁹⁴ *Second Further Notice*, 4 FCC at 3009 (para. 274). BellSouth argues that investment tax credit amortizations, and the flow back of excess deferred taxes under Section 203(e) of the Tax Reform Act of 1986, should be given immediate exogenous treatment. *See* BellSouth Comments at 45-46. We note that neither of these tax requirements were made exogenous in the case of AT&T price caps, and that BellSouth has offered no showing as to why these tax requirements should be made exogenous for LECs. Furthermore, BellSouth is the only company that has requested this treatment. Accordingly, we reject BellSouth's argument.

¹⁹⁵ *See Second Further Notice*, 4 FCC Rcd at 3010 (para. 276).

¹⁹⁶ PRTC Comments at 28-30; PRTC Reply at 19-20.

¹⁹⁷ *See, e.g.,* USTA Comments at 23; USTA Reply at 36; CBT Comments at 9-10; Rochester Comments at 5 n.9.

¹⁹⁸ Michigan PSC's criticism that endogenous treatment of equal access costs is necessary to maintain proper jurisdictional cost allocations is not well founded. The separations process that determines cost allocation is not affected by our determination that a particular cost is exogenous. *See* Michigan PSC Comments at 4.

¹⁹⁹ *See* GTOC Comments at 24-30; Pactel Comments at 13-14; Ameritech Comments at 29-32; SNET Comments at 8-9; CBT Comments at 8-9; PRTC Reply at 18-19; SNET Reply at 15.

²⁰⁰ *See, e.g., Second Further Notice*, 4 FCC Rcd at 3015 (para. 290) (citing 47 USC § 220 (b)).

²⁰¹ See generally Property Depreciation, 83 FCC 2d 267 (1980), *recon. denied* 87 FCC 2d 916 (1981).

²⁰² *Second Further Notice*, 4 FCC Rcd at 3016 (para. 291).

²⁰³ Nor do we believe, as GTOC contends, that exogenous treatment of the costs associated with changes in depreciation rates violates *Arizona Grocery Co. v. Atchison Topeka and Santa Fe Ry. Co.*, 284 U.S. 370 (1932). In *Arizona Grocery*, the Court held that the Interstate Commerce Commission, after prescribing maximum rates, could not later order refunds based on a finding that rates below the prescribed maximum were unjust and unreasonable. GTOC cites the case for the broad proposition that an agency may not retroactively penalize a carrier for doing what the agency had sanctioned. GTOC's citation to *Arizona Grocery* is clearly inapposite. As noted above, after the Commission prescribes depreciation rates, carriers retain authority to determine when to deploy and retire equipment. Hence, unlike the rate prescription in *Arizona Grocery*, which the Court found was equivalent to a finding by the ICC that rates below the maximum were just and reasonable, a depreciation prescription does not represent any judgement by the Commission regarding the proper rate at which a carrier should deploy and retire equipment. Unlike *Arizona Grocery*, therefore, the Commission in prescribing depreciation rates can not be said to be requiring or sanctioning any carrier investment decisions in the first place.

²⁰⁴ See SWB Reply at 40; CBT Comments at 20.

²⁰⁵ CBT Comments at 20; SWB Reply at 39. "Economic life" can be defined as the period during which the equipment meets the customer's needs and also provides a cost/benefit advantage over other technologies.

²⁰⁶ See Ameritech Comments at 31-33.

²⁰⁷ See *Second Further Notice*, 4 FCC Rcd at 3016 (para. 292). See also Property Depreciation, 87 FCC 2d 916, 918-19 (1981).

²⁰⁸ SNET Comments at 9. See also CBT Comments at 9; Executive Agencies Comments at 31-33.

²⁰⁹ NY PDS Comments at 12-13.

²¹⁰ Pactel Reply at 64-67.

²¹¹ We are not persuaded that small companies will be disproportionately burdened if cost changes due to changes in depreciation rates are not considered exogenous. Like larger companies, smaller companies exert control over these costs.

²¹² United Comments at 11-12; TUECA Comments at 5.

²¹³ See *Second Further Notice*, 4 FCC Rcd at 3020-3021 (para. 304).

²¹⁴ *Second Further Notice*, 4 FCC Rcd at 3020 (para. 303).

²¹⁵ *Id.*

²¹⁶ *Further Notice*, 3 FCC Rcd at 3317 (para. 223).

²¹⁷ *Second Further Notice*, 4 FCC Rcd at 3229 (para. 742).

²¹⁸ Local Exchange Carriers' Individual Case Basis DS3 Service offerings, CC Docket No. 88-136, 4 FCC Rcd 8634 (1989) (*ICB Order*), *recon.* 5 FCC Rcd 4842 (1990).

²¹⁹ These are also known as "special construction" offerings.

²²⁰ *Second Further Notice*, 4 FCC Rcd at 3229-30 (para. 743).

²²¹ See Investigation of Access and Divestiture Related Tariffs, 101 FCC 2d 911 (1985) (describing the presubscription process LECs are required to follow); Bell Atlantic Tariff F.C.C. No. 1, 5 FCC Rcd 2990 (Com.Car.Bur. 1990) (permitting a tariff to become effective that allows Bell Atlantic to charge a fee to an interexchange carrier for an unauthorized change order).

²²² As stated in the *Second Further Notice*, the price cap plan for LECs affects only federally tariffed offerings. We do not include as part of price cap regulation bilaterally negotiated contracts between a LEC and a mobile service provider. *Second Further Notice*, 4 FCC Rcd at 3229, n.1528.

²²³ Investigation of Access and Divestiture Related Tariffs, CC Docket No. 83-1145, FCC 84-51, released February 17, 1984 at para. 81. See also AT&T Communications, The Chesapeake and Potomac Telephone Company of Maryland, Mimeo 1225, released December 6, 1984.

²²⁴ An example of the type of Federal Government offering we would exclude is service offered as part of FTS 2000. We similarly exclude from price cap regulation any type of contract services offered by a LEC, and will subject such an offering to conventional tariff review processes. As noted in the case of AT&T, these offerings may raise controversial issues under the Communications Act. 4 FCC Rcd at 3034-35 (para. 330).

²²⁵ For example, complaints filed against an excluded service, containing a *prima facie* showing that a rate for an excluded service is unlawful, would require the carrier to come forward with additional information to justify the rate. See Section 208 of the Communications Act, 47 U.S.C. § 208.

²²⁶ We therefore decline to impose service-by-service reporting of earnings, as requested by Allnet. Allnet Comments at 14-15.

²²⁷ *Second Further Notice*, 4 FCC Rcd at 3229 (para. 742).

²²⁸ See Bell Atlantic Comments at 4.

²²⁹ As we have discussed in prior Notices, the most economically efficient set of prices are those based on marginal cost. Price caps, by eliminating the requirements that carriers adhere to fully distributed costing, permits movement towards prices based on marginal costs. *Second Further Notice*, 4 FCC Rcd at 2924-25 (paras. 105-06).

²³⁰ *Id.* at 3235-40 (paras. 751-59).

²³¹ We describe the tariff standards associated with rates within the "no suspension" zone and for rates outside of it, in the tariff standards section, II.D, Evaluation of Price Cap Tariffs, *infra*.

²³² See also Section 61.3(f) of the Commission's Rules, 47 C.F.R. § 61.3(f) (defining baskets for the purpose of the application of the price cap rules).

²³³ See also Section 61.3(d) of the Commission's Rules, 47 C.F.R. § 61.3(d) (defining bands).

²³⁴ See also Section 61.3 (ee) of the Commission's Rules, 47 C.F.R. § 61.3(ee) (defining service categories).

²³⁵ The categories proposed in the *Second Further Notice* were: (1) voice grade; (2) metallic; (3) telegraph; (4) program audio; (5) video; (6) wideband analog; (7) wideband data; (8) Digital Data Service; and (9) high capacity.

²³⁶ *Second Further Notice*, 4 FCC Rcd at 3239 (para. 758).

²³⁷ Accord SWB Comments at 9.

²³⁸ An exception to this characterization is GTE Hawaiian, which offers international MTS and interstate access service, in addition to local service.

²³⁹ Accord United Comments at 10-11 (arguing that because interexchange services are subject to as much competition as AT&T's interexchange services, they should be subject to a similar price cap plan).

²⁴⁰ Investigation of Special Access Tariffs of Local Exchange Carriers, CC Docket No. 85-166, Phase II, Part 1, 4 FCC Rcd 4797 (1988) (*Strategic Pricing Order*), *recon.* 5 FCC Rcd 400

(1990). Local Exchange Carriers' Individual Case Basis DS3 Service Offerings, CC Docket No. 88-136, 4 FCC Rcd 8634 (1989), *recon.* 5 FCC Rcd 4842 (1990).

²⁴¹ A number of LEC tariffs, including some covering DS1 and DS3 services, are the subject of pending tariff investigations. As noted in the discussion of existing rates, initial rates for price caps carriers will be adjusted to reflect the outcome of these investigations in cases where the investigations conclude prior to price cap implementation. After the implementation of price cap regulation, investigations may also result in adjustments to indexes, to give full effect to finding of unlawfulness.

²⁴² AT&T Comments at 3-4, 26-30 (advocating six baskets: common line, local switching, local transport, voice grade special access, high capacity digital special access, all other digital special access). *Accord* Ad Hoc Reply and ICA Reply, ETI Report at 34; API Reply at 13-14; MCI Comments at 59-60; TCA Comments at 12; *see also* Aeronautical Radio Supplemental Comments at 7-8; Allnet Supplemental Comments at 21-22; IDCMA Supplemental Reply at 7-8.

²⁴³ BellSouth Supplemental Comments at 31-32; Contel Supplemental Comments at 22-23. Other LECs accept the three basket proposal. Bell Atlantic Comments at 4; US West Comments at 33; USTA Comments at 31.

²⁴⁴ *See AT & T Price Cap Order*, 4 FCC Rcd at 3065 (para. 386).

²⁴⁵ As discussed in previous decisions in this proceeding, baskets and bands are to some extent substitutable. *Id.* at 3052 (para. 360).

²⁴⁶ In response to Allnet's argument concerning the applicability post-price caps of the nonpremium discount to carrier common line rates in non-equal access areas, we note that our rules continue to require the discount. *See* Allnet Supplemental Comments at 24 n.45.

²⁴⁷ *Second Further Notice*, 4 FCC Rcd at 3235 (para. 752).

²⁴⁸ Some commenters support separating interexchange services from the special access basket. *E.g.*, IDCMA Reply at 7-8; US West Comments at 40. Other commenters advocated creating several different baskets for various types of interexchange offerings. *E.g.*, AT&T Comments at 30; Allnet Supplemental Comments at 21-22.

²⁴⁹ United Comments at 10-11.

²⁵⁰ *E.g.*, Bell Atlantic Reply at 17-18; Pactel Reply at 17-19.

²⁵¹ *See* CBT Comments at 16-17; United Comments at 10.

²⁵² Corridor services are interstate offerings provided by RBOCs as exceptions to the requirements of the Modified Final Judgment.

²⁵³ This is as true for the 3 percent offset we developed for AT&T and use in the LEC interexchange basket as it is for the LEC productivity factors we apply to the interstate access baskets.

²⁵⁴ Hawaii Comments at 7; Hawaii Supplemental Comments at 13-14. *Accord* GTOC Reply at 18-19. *See also* LD/USA Reply at 5 (also favoring the creation of an additional basket for GTE Hawaiian's IMTS).

²⁵⁵ Hawaii Reply at 19-20; GTOC Comments at 38.

²⁵⁶ Telenet Comments at 3-4; Comptel Supplemental Comments at 4-5; MCI Supplemental Comments at 32-34.

²⁵⁷ *Accord* Contel Comments at 9; NYNEX Comments at 26; SWB Comments at 7, n.7; USTA Reply at 27. We disagree with Telenet's argument that a separate category is required to ensure that enhanced service providers do not pay for the cost of equal access when they buy local switching. Since carriers subject to price caps are generally substantially well along in the

equal access conversion process, carriers are not facing new major financial commitments to convert their networks. The cost shifting opportunities that might have been present several years ago are no longer available.

²⁵⁸ *E.g.*, Aeronautical Radio Supplemental Comments at 7.

²⁵⁹ *E.g.*, NYNEX Comments at 26; BellSouth Reply at 48; Contel Comments at 8-9. *But see* MCI Supplemental Reply at 55.

²⁶⁰ *See, e.g.*, Comptel Supplemental Comments at 4-5 (arguing that we should resolve the issue of how to band dedicated transport now, one year in advance of the expiration of the "equal price per unit of traffic rule" contained in the MFJ).

²⁶¹ Amendments of Part 69 of the Commission's Rules Relating to the Creation of Access Charge Subelements, Notice of Proposed Rule Making, CC Docket No. 89-79, 4 FCC Rcd 3983 (1989).

²⁶² Demand trends were analyzed based on the 1990 Tariff Review Plan Tier 1 Rollup, DMD-4.

²⁶³ *See, e.g.*, US West Supplement Comments at 60-64; GTOC Supplemental Comments at 22; SNET Supplemental Comments at 15-16.

²⁶⁴ *E.g.*, Corporate Committee Supplemental Comments at 12-14.

²⁶⁵ *E.g.*, Boeing Computer Supplemental Comments at 19-20; Aeronautical Radio Supplemental Comments at 3.

²⁶⁶ *E.g.*, TCA Supplemental Comments at 19-20; Allnet Supplemental Comments at 22-23.

²⁶⁷ MCI Supplemental Comments at 35; IDCMA Supplemental Reply at 3-4. *See also* Allnet Supplemental Comments at 22-23 (arguing that the 5 percent bands on local transport and local switching will not protect interexchange carriers from discriminatory treatment). We disagree with Allnet's contention that the LECs will bias rates in favor of AT&T's network configuration. Allnet has not demonstrated why the LECs would have the incentive to benefit one interexchange carrier, particularly when our capping mechanism provides rewards for increases in demand.

²⁶⁸ *E.g.*, AT&T Supplemental Comments at 29-31 (presenting a numerical example of how LECs could breach the crossover ratios established under rate of return in the first year of price caps, absent further controls on DS1 and DS3 prices).

²⁶⁹ For similar reasons, we also abandon the crossover relationship previously established for 4-wire and 2-wire special access serving arrangements. Investigation of Special Access Tariffs of Local Exchange Carriers, Phase I, CC Docket No. 85-166, 1 FCC Rcd 427 (1986), *remanded Western Union Corp. v. FCC*, 856 F.2d 315 (D.C. Cir. 1988).

²⁷⁰ Ameritech Comments at 35-36, 43; Bell Atlantic Reply at 18-19; Pactel Comments at 30; SWB Reply at 34; GTOC Supplemental Comments at 23-24. *But see* US West Supplemental Comments at 65 (arguing that a 5 percent upper limit is not sufficient to achieve efficient pricing).

²⁷¹ AT&T Comments at 27; MCI Reply at 10 n.21; Ad Hoc Comments at 25-26; NY Clearinghouse Comments at 13-14; NARUC Reply at 6-7; Missouri PSC Comments at 8-9.

²⁷² *See, e.g.*, AT&T Supplemental Comments at 23-25 (proposing a rate freeze); NY Clearinghouse Comments at 13-14 (proposing an upper limit of 1 percent for traffic sensitive categories and an upper limit of 2 percent for special access); Ohio PUC Comments at 6-7 (favoring a 2 percent upper band).

²⁷³ *See Further Notice*, 3 FCC Rcd at 3238-40 (paras. 77-81) (discussing the New York rate moratorium then in effect).

²⁷⁴ See, e.g., NY Clearinghouse Comments at 13-14 (arguing that the upper bands would have permitted increases five times greater than actually experienced in the last three years).

²⁷⁵ See Ad Hoc Comments and ICA Comments, ETI study at 32-33. ETI provides a study of the three largest categories of interstate access service, purporting to show that price increases for these categories have rarely reached 5 percent. While we do not necessarily endorse the study's findings, it is consistent with the recent history of access charges, which have been falling dramatically in recent years in response to regulatory reforms and the increase in demand for service. Since the regulatory reforms that gave rise to those decreases are at an end, we do not believe the 5 percent band gives LECs unwarranted upward flexibility.

²⁷⁶ We disagree with Illinois that the 4 percent pricing bands operating on two AT&T service categories in the residential and small business basket require us to place tighter constraints on the LECs' bands. The 4 percent upper limits to two MTS categories and the 1 percent upper limit on the average residential rate recognize traditional universal service concerns this Commission has had with respect to residential service. *AT&T Price Cap Order*, 4 FCC Rcd at 3060 (paras. 376-77). Accordingly, we reject Illinois' argument.

²⁷⁷ See, e.g., Pactel Supplemental Comments at 67-68; Ameritech Supplemental Comments at 30; US West Supplemental Comments at 65; GTOC Supplemental Comments at 24-25; Ad Hoc Supplemental Comments at 39-41.

²⁷⁸ But see Metropolitan Supplemental Comments at 12-17 (arguing that 5 percent lower bands are too blunt an instrument to correct the subtle forms of predation LECs will engage in). We disagree with Metropolitan's premise that price bands are less effective than rate of return in controlling more subtle anticompetitive abuses, such as price disciplining. Price cap regulation encourages LECs to price within the no suspension zone in order to obtain the presumption of lawfulness associated with such filings. Under rate of return, carriers were free to file substantial rate changes, and there was little incentive for LECs to keep the changes in rate levels small.

²⁷⁹ We also reject suggestions to give LECs "credit" in their Actual Price Index (API) computations only for the first 5 percent of a below band rate decrease. See Ad Hoc Supplemental Comments at 6, 40 n.33; MCI Supplemental Reply at 57. The "no-credit" rule was raised and rejected in earlier rounds of this proceeding. *AT&T Price Cap Order*, 4 FCC Rcd at 3066 (para. 388). We believe that if a LEC can support a below-band filing, the LEC's API level should reflect, in full, what its name implies -- actual prices.

²⁸⁰ *Further Notice*, 3 FCC Rcd at 3434 (para. 443).

²⁸¹ The exception to this rule is the common line basket. See Appendix E.

²⁸² This determination is consistent with their structure as Laspeyres indexes. See Appendix F for a discussion of issues related to the initiation of indexes.

²⁸³ Annual 1990 Access Tariff Filings, CC Docket No. 90-320, DA 90-887, 5 FCC Rcd 4142 (Com.Car.Bur. 1990)

²⁸⁴ Represcribing the Authorized Rate of Return for Interstate Services of Local Exchange Carriers, CC Docket No. 89-624, FCC 90-315, adopted September 19, 1990 (*Represcription Order*).

²⁸⁵ Annual 1990 Access Tariff Filings, CC Docket No. 90-320, 5 FCC Rcd 4177 (Com.Car.Bur. 1990) (*1990 Access Order*).

²⁸⁶ See 4 FCC Rcd at 3023 (para. 308) (explaining why the indexes used in price cap regulation are Laspeyres indexes and are subject to certain economic conventions in their application).

²⁸⁷ MTS and WATS Market Structure, CC Docket No. 78-72, Phase I, Third Report and Order, 93 FCC 2d 241 (1983); Supplemental Order, 94 FCC 2d 852 (1983); *recon.*, 97 FCC 2d 682 (1983); *recon.*, 97 FCC 2d 834 (1984). Numerous subsequent orders in this docket have considered various aspects of access offerings and charges.

²⁸⁸ Revision of the Uniform System of Accounts for Class A and Class B Telephone Companies, CC Docket No. 78-196, '51 Fed. Reg. 43498 (Dec. 2, 1986); *recon.*, 2 FCC Rcd 1086 (1987); *recon.*, 2 FCC Rcd 6555 (1987).

²⁸⁹ Separation of Costs of Regulated Telephone Service from Costs of Nonregulated Activities, CC Docket No. 86-111, 2 FCC Rcd 1298 (1987); *recon.*, 2 FCC Rcd 6283 (1987); *recon.*, 3 FCC Rcd 6701 (1988); *upheld*, *Southwestern BellCorp. v. FCC*, 896 F.2d 1378 (D.C. Cir. 1990).

²⁹⁰ See Refinement of Procedure and Methodologies for Represcribing Interstate Rates of Return for AT&T Communications and Local Exchange Carriers, CC Docket No. 87-463, Notice of Proposed Rule Making, 2 FCC Rcd 6491 (1987); Deferral Order, 3 FCC Rcd 1697 (1988); Order, 5 FCC Rcd 197 (1989).

²⁹¹ Automated Reporting Requirements for Certain Class A and Tier 1 Telephone Companies (Parts 31, 43, 67, and 69 of the FCC's Rules), CC Docket No. 86-182, 2 FCC Rcd 5770 (1987); *recon.*, 3 FCC Rcd 6375 (1988).

²⁹² See Commission Requirements for Cost Support Material To Be Filed with Access Tariffs on March 1, 1985, Public Notice, Mimeo No. 2133, released Jan. 25, 1985. The Common Carrier Bureau disallowed \$214 million of the LEC's annual 1985 access charges. Annual 1985 Access Tariff Filings, Memorandum Opinion and Order, Mimeo 7109 (Sept. 17, 1985).

²⁹³ Annual 1990 Access Tariff Filings, CC Docket No. 90-320, 5 FCC Rcd 4177 (Com.Car.Bur. 1990) (*1990 Access Order*). The Bureau has subsequently reversed approximately \$84.4 million in disallowances.

²⁹⁴ Access Tariff Filing Schedules, Report and Order, CC Docket No. 88-326, 3 FCC Rcd 5495 (1988).

²⁹⁵ Local Exchange Carrier Access Tariff Rate Levels, CC Docket No. 88-554, 4 FCC Rcd 762 (Com.Car.Bur. 1988) (*1988 Order to Show Cause*); Local Exchange Carrier Access Tariff Rate and Earnings Levels, CC Docket No. 90-1, 5 FCC Rcd 482 (Com.Car.Bur. 1990) (*1990 Order to Show Cause*); Local Exchange Carrier Access Tariff Rate Levels, CC Docket No. 90-1, 5 FCC Rcd 1070 (Com.Car.Bur. 1990) (*1990 Supplemental Order to Show Cause*).

²⁹⁶ MTS and WATS Market Structure, CC Docket No. 78-72, Phase I, Third Report and Order, 93 FCC 2d 241, 314 (1983).

²⁹⁷ See generally Investigation of Access and Divestiture Related Tariffs, 97 F.C.C. 2d 1082 (1984) (*ECA Tariff Order*); Investigation of Access and Divestiture Related Tariffs, CC Docket No. 83-1145, Phase I, Mimeo No. 2802, released Mar. 7, 1984 (*Non-ECA Tariff Order*); Investigation of access and Divestiture Related Tariffs, CC Docket No. 83-1145, Phase I and Phase II, Part 1, FCC 84-524, released Nov. 9, 1984.

²⁹⁸ Investigation of Access and Divestiture Related Tariffs, CC Docket No. 83-1145, Phase I and Phase II, Part 1, Order, FCC 85-70, released Feb. 19, 1985, at para. 24; Order, FCC 85-100, released Mar. 8, 1985.

²⁹⁹ See Investigation of Special Access Tariffs of Local Exchange Carriers, CC Docket No. 85-166, Order Designating Issues for Investigation, Mimeo No. 4726, released May 24, 1985. The Commission completed its investigation of most of the rate structure and cost allocation issues, and found that the rates were reasonable, with exceptions regarding disallowance for un-

used video cable, some allocations of voice grade costs and the prescribed 2-wire to 4-wire ratio. Investigation of Special Access Tariffs of Local Exchange Carriers, CC Docket No. 85-166, Phase I, FCC 86-52, released Jan. 24, 1986, *aff'd on review*, 1 FCC Rcd 427 (1986). The investigation of the special access rate levels of certain carriers concluded with the order of some disallowances. Investigation of Special Access Tariffs of Local Exchange Carriers, Mimeo No. 3436, released Mar. 27, 1986. In another part of the investigation, the Commission found that non-recurring rates should recover the full costs of the associated non-recurring activities. Investigation of Interstate Access Tariff Non-Recurring Charges, CC Docket No. 85-166, Phase I, Part 3, 2 FCC Rcd 3498 (1987).

³⁰⁰ See Annual 1985 Access Tariff Filings, Mimeo No. 7401 (Com.Car.Bur. Sept. 30, 1985).

³⁰¹ Annual 1987 Access Tariff Filings, 2 FCC Rcd 280 (Com.Car.Bur. 1986); Investigation of Special Access Tariffs of Local Exchange Carriers, CC Docket No. 85-166, Phase II, Part 1, Memorandum Opinion and Order, 2 FCC Rcd 3507 (Com.Car.Bur. 1987).

³⁰² Annual 1989 Access Tariff Filings, 4 FCC Rcd 3638 (Com.Car.Bur. 1989). See also Investigation of Special Access Tariffs of Local Exchange Carriers, CC Docket No. 85-166, Phase II, Part 1, 4 FCC Rcd 4797 (1988) (*Strategic Pricing Order*). The *Strategic Pricing Order* considered that a pricing ratio of 4 to 8 voice grade (VG) circuits to one high capacity (HiCap) circuit served as an acceptable surrogate for detailed cost showings, and produced a price range within which HiCap rates appear to be reasonable.

³⁰³ Investigation of Special Access Tariffs of Local Exchange Carriers, CC Docket No. 85-166, Phase II, Part 1, 5 FCC Rcd 400 (1990) (*Strategic Pricing Reconsideration Order*).

³⁰⁴ *Strategic Pricing Reconsideration Order*, 5 FCC Rcd at 407. This Order affirms the 4-8 to one cross-over ratio as an indication of reasonableness.

³⁰⁵ See Investigation of Special Access Tariffs of Local Exchange Carriers, CC Docket No. 85-166, Phase II, Part 1, 5 FCC Rcd 412 (1990) (*Strategic Pricing Refund Order*), *recon.* FCC 90-274, released Aug. 1, 1990 (*August 1990 Order*) (affirming DS 1 refunds, but exempting LECs from paying refunds for DDS rates for procedural due process reasons).

³⁰⁶ Annual 1989 Access Tariff Filings, 4 FCC Rcd 3638 (Com.Car.Bur. 1989) (*1989 Access Order*), at 3693-94 (paras. 509-514), 3708 (para. 667).

³⁰⁷ *1990 Access Order*, 5 FCC Rcd 4177 at 4231 (para. 488).

³⁰⁸ Ad Hoc Comments at 32-33; Networks Comments at 4-7.

³⁰⁹ We also disagree with commenters who imply that our authority to order any refunds has been impaired by the the Court of Appeal decision relating to an automatic refund mechanism. *AT & T v. FCC*, 836 F.2d 1386 (D.C. Cir. 1988). We view our authority to order refunds under Section 204(a) of the Act to be unaffected by that decision. See *August 1990 Order*. See also *New England Tel. & Tel. v. FCC*, 826 F.2d 1101 (D.C. Cir. 1987), *reh'g and reh'g en banc denied* (Nov. 2, 1988).

³¹⁰ Metropolitan Supplemental Comments at 10-13.

³¹¹ See SBA Supplemental Comments at 16; Boeing Computer Supplemental Comments at 13-14; MCI Supplemental Reply at 58-63; NASUCA Supplemental Comments, Statement of Ben Johnson Associates, Inc. at 22 (reasonableness of rates cannot be inferred in the absence of an investigation).

³¹² SBA Supplemental Comments at 17-18; DC PSC Supplemental Reply at 7-8 (suggesting a rate review at the time of implementation). SBA's suggested method, evaluating loop costs

and cost of living differences, raises many complexities and much uncertainty, since interstate access includes switching, transport and information functions not embedded in loop costs.

³¹³ *Supplemental Notice*, 5 FCC Rcd at 2279-80.

³¹⁴ See, e.g., Ad Hoc Comments at 6, 31-32; MCI Reply at 44-46.

³¹⁵ In the *Supplemental Notice*, we proposed that any retargeting resulting from over- or under-earnings be treated as exogenous during the six months leading up to price caps. However, since we decided to conduct a full access filing for July 1, 1990, mid-course corrections during the six-month period leading up to price caps are likely to be premature. We will not give any such corrections routine exogenous treatment.

³¹⁶ If an investigation results in a refund of rates from a previous time period - i.e., there is no finding that the unlawful practice is part of existing rates - no PCI adjustment need result.

³¹⁷ See Allnet Supplemental Comments at 19 (arguing for an across the board rate cut of 3 percent); NASUCA Supplemental Comments, Statement of Ben Johnson Associates, Inc. at 22 (arguing that an upfront rate cut is a reasonable alternative to a rate case).

³¹⁸ See Hawaii Comments at 7-9; Hawaii Reply at 17-19; Hawaii Supplemental Comments at 14-18.

³¹⁹ We note, for example, that GTE-Hawaiian's IMTS revenues, which grew throughout 1986 and 1987, dropped by about 6 percent in 1988, the year of AT&T's entry into the Hawaii IMTS market. In 1989, when Sprint and MCI entered the market, GTE-Hawaiian's IMTS revenues fell an additional 26 percent.

³²⁰ In 1989, the Commission approved the construction and operation of the TPC-4 common carrier cable. See American Telephone and Telegraph Company, 4 FCC Rcd 8042 (1989). Three other Pacific cable projects affecting Hawaii are also under consideration by this Commission: Haw5 (File No. I-T-C-90-081), PacrimEast (File No. I-T-C-90-072), and PacrimWest (File No. I-T-C-90-097).

³²¹ As with other carriers, if these rates should later be shown to be unreasonable, the PCI can be appropriately adjusted.

³²² See, e.g., Regulation of International Accounting Rates, CC Docket No. 90-337, Notice of Proposed Rule Making, 5 FCC Rcd 4948 (1990).

³²³ For example, SWB, the smallest RBOC, has 11.76 million access lines. United Telephone, the largest non-RBOC/GTOC LEC, has 3.8 million, and Lincoln, the smallest Tier 1 LEC, has .23 million. The balance of total assets is similar: SWB's \$21.16 billion compares to United's \$9.8 billion and Lincoln's \$278 million.

³²⁴ See Sections 69.605 and 69.606 of our Rules, 47 C.F.R. §§ 69.605, 69.606.

³²⁵ USTA Comments at 10-12; TDS Reply at 8; SNET Reply at 5, n.**; Rochester Reply at 16-17; USTA Supplemental Comments at 11-12; NECA Supplemental Comments at 2, n.5; TDS Supplemental Reply at 8; SNET Supplemental Comments at 22.

³²⁶ Some parties suggest that price cap regulation should be entirely optional. US West Comments at 15; Ohio PUC Comments at 5, 14-15; CBT Reply at 14; Contel Comments at 22-23 n.2. We affirm the discussion in the *Second Further Notice*, and conclude that the price cap plan will be most effective if it is mandatory for the largest carriers.

³²⁷ See Contel Comments at 22; TDS Comments at 5-12; Lincoln Comments at 2; SNET Comments at 6; Rochester Comments at 9-10; Rochester Reply at 16-17; PRTC Reply at 11; TUECA Reply at 2-3. Some of these carriers indicate they would prefer that no carriers be subject to mandatory price cap

regulation, but that if price caps is mandated, the requirement should be confined to the RBOCs. *See, e.g.,* Rochester Comments at 9-10; SNET Comments at 6.

³²⁸ GTOC currently has total assets exceeding those of Bell Atlantic, the largest RBOC, and about one quarter the total for all the RBOCs. (GTOC total assets = \$31.996 billion; Bell Atlantic total assets = \$26.22 billion; all RBOCs' total assets = \$142.25 billion). GTOC provides access service in 31 study areas, compared with 7 for Bell Atlantic and 51 for all the RBOCs together. GTOC's 15.14 million access lines approach Bell Atlantic's total, 17.056 million, and comprise over 11 percent of all LEC access lines. These figures do not include Contel, whose merger with GTOC is currently underway.

³²⁹ The RBOCs and GTOC control 118,798,000 (about 88 percent) of the 135,010,000 access lines provided by the industry.

³³⁰ CBT Supplemental Comments at 7; SNET Supplemental Comments at 5; NTCA Supplemental Comments at 6.

³³¹ *See* Commission Requirements for Cost Support Material To Be Filed with Access Tariff on March 1, 1985, Public Notice, Mimeo No. 2133, released Jan. 25, 1985. Tier 1 companies are defined as those companies having annual revenues from regulated telecommunications operations of \$100 million or more. Commission Requirements for Cost Support Material To Be Filed with 1990 Annual Access Tariffs, 5 FCC Rcd at 1364 (para. 4) (1990).

³³² *See* Executive Agencies Comments at 2; Illinois Reply at 16; Ad Hoc Reply and ICA Reply, ETI Report at 9-11; Indiana UCC Reply at 7; CBT Comments at 4; NERA Study at 13.

³³³ As part of its continuing efforts to maintain geographically averaged rates and to promote universal service, the Commission established NECA and initially required all LECs to participate in its tariffs. *See* 47 C.F.R. §§ 69.601 *et seq.* NECA administers three pools: the carrier common line pool, the end user common line pool, and the traffic sensitive pool. By mandating LEC participation in the pools, the Commission was able to secure the cooperation of lower cost LECs in contributing to the maintenance of averaged rates throughout the country. The Commission has subsequently permitted LECs to withdraw from NECA pools, provided that the LECs continue to supply certain financial support to high cost companies that remain in the pools. *See* § 69.612 of the Rules. Participation in the NECA pools is thus no longer mandatory, but LECs that do participate continue to receive the support they would have received had pools remained mandatory. While the pooling system has been exceedingly effective in assisting high cost companies and their ratepayers, the system necessarily involves a significant sharing of financial risks by pool participants and a resultant diminution of incentives to operate efficiently.

³³⁴ *Second Further Notice*, 4 FCC Rcd at 3169-70, 3176-78 (stating that price cap regulation requires fundamental alterations to the purposes, structure, and operation of both the traffic sensitive and common line pools, and that pool participation diminishes a LEC's responsiveness to incentives).

³³⁵ This exclusion from price caps does not apply to intra-company "mini-pools," averaged geographic rates, and similar mechanisms resulting from the cooperation of affiliated companies in preparing access rates for different geographic areas. Price cap tariffs can be filed on the basis of such pools as well as on a simple company-wide basis.

³³⁶ Current NECA rules limit LECs to one annual June notice of depooling, and prevent LECs from receiving any transitional support. Long term support is still available. *See* 47 C.F.R. § 69.612.

³³⁷ *See, e.g.,* NECA Supplemental Comments at 2 n.5 (asserting option to choose or reject price caps must be permanently maintained for small LECs); USTA Comments at 19-20, 37-38; Illinois Telco Reply at 7; TUECA Comments at 6-7; Alltel Comments at 33; OPASTCO Comments at 5-6; Rochester Comments at 24; PRTC Comments at 18.

³³⁸ *See* new Section 69.3(i)(4) of the Commission's Rules, 47 C.F.R. § 69.3(i)(4).

³³⁹ USTA Supplemental Comments at 35-36 (including a table showing USTA's proposed price cap implementation schedule); PRTC Supplemental Comments at 4; OPASTCO Supplemental Comments at 5-8; Alltel Supplemental Comments at 13-14.

³⁴⁰ Cost affiliates are affiliated LECs that develop rates based on costs. Average schedule affiliates, as discussed below, are affiliated LECs that are compensated for the costs of providing service on the basis of formulas derived from aggregate LEC data.

³⁴¹ *Second Further Notice*, 4 FCC Rcd at 3178 (para. 628).

³⁴² *See, e.g.,* Rochester Comments at 12-13; Alltel Comments at 20-21. *See* discussion of jurisdictional cost shifting at Part III.B., *infra*. The record in this proceeding establishes that improper cost shifting can and does occur between affiliates of LEC holding companies, and that particularly intensive efforts are often necessary to detect and correct it.

³⁴³ *See, e.g.,* DOJ Reply at 16; TDS Reply at 8-10.

³⁴⁴ *Second Further Notice*, 4 FCC Rcd at 3178; *Supplemental Notice*, 5 FCC Rcd at 3174, 3178 (stating that reducing incentives to shift costs has been one of our principal objectives throughout this proceeding). *See also* New York Telephone Co. and New England Telephone & Telegraph Co., Apparent Violations of the Commission's Rules and Policies Governing Transactions with Affiliates, 5 FCC Rcd 866 (1990).

³⁴⁵ Alltel Comments at 16-17; Alltel Supplemental Comments 7-8; Rochester Comments at 12.

³⁴⁶ This approach is analogous to our approach in *Computer II* and *Computer III*, where the Commission first acted cautiously to control cost shifting by adopting structural separation rates for enhanced service operations. In that context, the Commission monitored the situation and ultimately determined that a less intrusive regulatory approach would be effective.

³⁴⁷ *See, e.g.,* Rochester Comments at 13.

³⁴⁸ TUECA Reply at 2-4 (adding that such a rule would prevent TUECA from obtaining any actual data on the price cap performance of either its own members or other similarly situated companies); USTA Reply at 35 (stating that this rule will unfairly limit the regulatory flexibility this Commission has traditionally extended to small LECs).

³⁴⁹ We also note that, since those LECs subject to mandatory price cap regulation have, with minor exception, depooled all their affiliates, our all-or-nothing rule does not compel any company to depool.

³⁵⁰ *Accord* NECA Supplemental Comments at 8; TDS Supplemental Reply at 7-8; Alltel Supplemental Comments at 5, 11.

³⁵¹ Smaller LECs that qualify as "average schedule" companies under §§ 69.605 and 69.606 of our Rules are eligible to use simpler, averaging mechanisms rather than actual cost accounting, to secure compensation for the services they provide. *See generally* Report and Order in the Matter of Average Schedule Companies, 103 FCC 2d 1017 (1986); *recon.* 3 FCC Rcd 834 (1987); *remand City of Brookings Municipal Telephone Co., et al. v. FCC*, 822 F.2d 1153 (1987); Revisions to the Average Schedules Proposed by NECA on October 3, 1988, 4 FCC Rcd 2804 (Com.Car.Bur. 1989).

³⁵² Cost companies, by contrast, are compensated on the basis of projected demand and costs, including the authorized rate of return, as reflected in individual or NECA tariff support materials.

³⁵³ USTA Comments at 12; TDS Comments at 9; Alltel Comments at 7-10; NTCA Comments at 2; NECA Comments at 8; Michigan PSC Comments at 3-4. Michigan PSC contended that, in Michigan, a LEC holding company would have incentives to shift costs from a price cap affiliate to an average schedule affiliate because such a shift would enable the average schedule affiliate to show (improperly) lower interstate earnings and thereby secure higher intrastate rates to recover the difference. Michigan PSC Comments at 3-4. We note that Michigan's recently-adopted incentive regulation plan resolves this issue by removing the problem of cost-shifting incentives.

³⁵⁴ See, e.g., Alltel Comments at 7-10 (noting need for change in pooling rules to accommodate such an exception), 28-29. While Alltel agrees that average schedule companies should be exempted as discussed here, it argues that the *Second Further Notice* was mistaken in asserting that the all-or-nothing rule does not affect these companies, since an average schedule company that wished to elect price caps would have to convert to cost-based settlements before it could depool.

³⁵⁵ USTA Comments at 12.

³⁵⁶ *Second Further Notice*, 4 FCC Rcd at 3178 n.1350. Accord Alltel Comments at 7-8.

³⁵⁷ See Section 61.41(a)(2) and (3) of the Rules. When a LEC withdraws from a pool, its cost and average schedule affiliates must also withdraw from the pool.

³⁵⁸ *Alltel Corp. v. FCC*, 838 F.2d 551 (D.C. Cir. 1988). See Contel Comments at 6; Rochester Comments at 10-13; USTA Comments at 13-14; TDS Comments at 11; Alltel Comments at 21-22, 29-30; Alltel Reply at 17-18.

³⁵⁹ Alltel Comments at 27-30 (arguing that the *Alltel* decision means that the Commission can never base requirements or regulatory decisions on a LEC's affiliation, and that the all-or-nothing rule is unreasonably discriminatory).

³⁶⁰ Furthermore, we considered the existence of corporate barriers, regulatory restraints, and other asserted limitations on the ability of a holding company to shift costs improperly to an affiliate, and found that the record here reveals no adequate safeguards against improper cost shifting. Such limitations vary considerably from company to company and from state to state, and provide insufficient assurance against improper cost-shifting.

³⁶¹ New Section 61.41(c) of our Rules, in Appendix B herein. Since such merger transactions provide the companies involved with considerable flexibility, our rule applies equally to a non-price cap carrier acquiring a price cap carrier.

³⁶² Alltel Supplemental Reply at 6; Rochester Comments at 15 (arguing that any rule requiring a cost carrier to convert to price cap regulation will adversely affect the marketability of that carrier; also, absent unusual circumstances, any cost shifting between the two should not affect the profitability of either). Accord TDS Reply at 11 (stating that particularly when allocations are based on access lines or other neutral criteria, the likelihood of cost shifting is remote); Alltel Comments at 31 (claiming that little or no incentive exists to shift costs between merged or acquired carriers, and there is no evidence of actual cost shifting between such entities).

³⁶³ Amendment of Part 69 of the Commission's Rules Relating to the Common Line Pool Status of Local Exchange Carriers Involved in Mergers or Acquisitions, CC Docket No. 89-2, 5 FCC Rcd 231 (1989).

³⁶⁴ Consistent with the rules regarding initial participation in price cap regulation, we also exclude average schedule affiliates from the application of this price cap merger and acquisition rule. As the incentives to become more efficient are comparable for price cap carriers and average schedule companies, we find that these two types of carrier can co-exist in the same corporate organization.

³⁶⁵ AT&T's tariff filings requirements are included in Part 61 of the Commission's Rules, 47 C.F.R. Part 61, along with the tariff rules for rate of return carriers.

³⁶⁶ SNET argues that 60 days' notice is sufficient time to allow AT&T adequate opportunity to reflect proposed LEC access charges in its own subsequent annual price cap filing. SNET Comments at 24. We believe that the annual filings will be substantial, and that it is necessary that both the Commission and interested parties have adequate opportunity to review them fully. LECs will be required to include several adjustments in their annual filings, as discussed herein, and we believe the 90-day notice period is necessary to provide an adequate review. We accordingly reject the SNET proposal.

³⁶⁷ See, e.g., Ameritech Comments at 37-42; Pactel Comments at 43-44.

³⁶⁸ See, e.g., MCI Supplemental Comments at 41-43 (arguing that streamlined regulation is suitable only for non-dominant firms).

³⁶⁹ DC PSC Comments at 18-19 (lesser degree of competition justifies a less stringent showing applicable to requests for suspension). See also MCI Comments at 69-71 (streamlined regulation is designed for carriers that lack market power). Accord Ohio PUC Comments at 6-7. *But see* Ameritech Comments at 41-42. Ameritech argues that the price cap plan we imposed on AT&T is a form of regulation which is necessary because AT&T does not face sufficient competition to prevent it from monopoly pricing of some services. The fact that the LECs face even less such competition, Ameritech says, should not affect the levels of scrutiny which we apply because, in both cases, our price cap mechanisms are directed to rates for noncompetitive services.

³⁷⁰ MCI Comments at 71-72.

³⁷¹ MCI Comments at 69-71; NARUC Reply at 5-7 (proposed 5 percent upward and downward pricing flexibility in each service category is too great to prevent price discrimination). *But see* Contel Comments at 6-11 (place bands at the basket level for both switched traffic sensitive access and special access, to reflect the fact that ratepayers actually perceive these services as comprehensive packages).

³⁷² IDCMA Comments at 14-17; IDCMA Reply at 4-7 (excessive aggregation in our proposed standards would effectively divorce rate elements from underlying costs; need clear standards to relate costs to rate level changes in specific rate elements).

³⁷³ We see no reason to impose special restrictions on non-recurring charges. Non-recurring charges must be paid by customers of all interexchange carriers when they change carriers or migrate to different services. On the information before us in this proceeding, we have no reason to believe that any one interexchange carrier or group of interexchange carriers is experiencing a disproportionate effect.

³⁷⁴ Corporate Committee Supplemental Comments at 25 (suggesting that the Commission establish a mechanism that would enable potential petitioners to obtain service-specific cost data from the LECs when questions are raised regarding the lawfulness of the rates for individual access services).

³⁷⁵ See, e.g., IDCMA Comments at 16-17.

³⁷⁶ Metropolitan Comments at 29-31 (asserting that the other types of available evidence we suggested in the *Second Further Notice*, such as successive rate increases, would be insufficient to protect competitors because these criteria are vague and rely too much on this Commission's discretion). See also Ad Hoc Comments at 15-19 (noting that our within-band proposal contains no definition of the current information that the LECs must produce, no pre-existing body of information against which that current information can be checked, no discovery procedures, and no indication that our staff will become actively involved in ferreting out the truth). Accord IDCMA Comments at 16-17.

³⁷⁷ See *AT & T Price Cap Order*, 4 FCC Rcd at 3079, and *Second Further Notice* 3242-43, 3252-53.

³⁷⁸ 47 C.F.R. § 1.773(a)(1)(iv). This section requires petitioners to demonstrate that: (1) there is a high probability the tariff will be found unlawful after investigation; (2) the suspension will not substantially harm other interested parties; (3) irreparable injury will result if the tariff filing is not suspended; and (4) suspension is not otherwise contrary to the public interest.

³⁷⁹ For example, we could require additional information upon a showing that the LEC had under its exclusive control dispositive evidence of unreasonable rates. Persuasive evidence of several rate increases in succession for a particular service, discriminatorily high increases for certain services, or precipitous decreases having anticompetitive effect might also convince us that the carrier needed to supplement its original rate filing. See *AT & T Price Cap Order*, 4 FCC Rcd at 3099-3100 (para. 458).

³⁸⁰ See Section V, *infra*; see also *Second Further Notice*, 4 FCC Rcd at 3300-3305 (paras. 887-893).

³⁸¹ *Second Further Notice*, 4 FCC Rcd at 3255-56 (paras. 795-96).

³⁸² Ameritech Comments at 43 (stating that the notice period should be 45 days, with an option to extend it for another 45 days where necessary, because some tariff changes would not need the full 90 days); accord SNET Comments at 24; SNET Supplemental Comments at 25.

³⁸³ CBT Comments at 18; accord SNET Reply at 16. CBT advocates instead that above-band increases should be evaluated under the present cost support requirements of Section 61.38 of our Rules.

³⁸⁴ See, e.g., NYNEX Reply at 32-33.

³⁸⁵ USTA Comments at 31-32; see also Rochester Comments at 3 n.5.

³⁸⁶ IDCMA Comments at 19. IDCMA contends that we should clarify whether the substantial cause test differs from our requirement of "some causal relationship" between the increased rate and increased costs. See also DC PSC Comments at 18-19 (citing *AT & T Price Cap Order* at 4 FCC Rcd at 3099 (para. 457) and arguing that the substantial cause test is more lenient than the present requirements under Part 69 of our rules, and that the relative absence of competition in LEC markets requires that we impose rigorous standards on the LECs under price caps to prevent them from disregarding the band limitations when it is in their interest to do so).

³⁸⁷ Ad Hoc Comments at 19-21 (stating that, although our proposed standards would create some minor procedural requirements not currently imposed, there would be no well-defined, heightened substantive burden for such filings, and that the substantial cause standard is unacceptably vague, especially because we have eliminated the criterion of "unforeseeable costs" at the core of the concept and have attempted to replace it with nothing more than the vague criterion of "some causal

relationship"); Ad Hoc Supplemental Comments at 22 n.15 (asserting that the substantial cause test will not provide an adequate degree of certainty that carriers will abide by the caps and bands).

³⁸⁸ See, e.g., NARUC Reply at 6 (stating that our proposed "streamlined" tariff review for above-band increases would result in cross-subsidization, especially because the bands are to be applied at the service category level of aggregation, rather than the rate element level).

³⁸⁹ *AT & T Price Cap Order*, 4 FCC Rcd at 3101-03 (citing *RCA American Communications, Inc.*, 86 FCC 2d 1197 (1981)). The test was proposed for use in a LEC price cap system at *Second Further Notice*, 4 FCC Rcd at 3255-56 (paras. 795-96).

³⁹⁰ For an explanation of the history of the substantial cause test, see *AT & T Price Cap Order*, 4 FCC Rcd at 3103-05 (paras. 466-75).

³⁹¹ When cost increases form the basis of a substantial cause showing, we would expect to see some causal relationship between the service bearing the increase and the costs which made the increase necessary, and an explanation of why the LEC is not attempting to raise the needed revenues through smaller, within-band increases to a wider range of services. In addition, LECs should be prepared to justify why a particular service or individual rate element has been singled out for the increase.

³⁹² *Second Further Notice*, 4 FCC Rcd 3256-58 (paras 797-802).

³⁹³ SNET Supplemental Comments at 25 (arguing that a 45 day notice period is sufficient); CBT Comments at 18; accord SNET Reply at 16.

³⁹⁴ US West Comments at 11-12.

³⁹⁵ Ad Hoc Supplemental Comments at 22 n.15. See also Pactel Supplemental Comments at 34-35 (suggesting that the Commission require LECs to show either that the above-cap rate increase is "necessary to avoid unlawful confiscation of property, or necessary to ensure acceptable service quality").

³⁹⁶ *AT & T v. FCC*, 487 F.2d 865, 873 (2d Cir. 1973). See also *AT & T Price Cap Order*, 4 FCC Rcd 3300 (para. 887).

³⁹⁷ See PRTC Reply at 31-32.

³⁹⁸ Because of the limited purpose of above-cap filings - to avoid confiscating rate levels - we will employ a scrupulous review procedure to ensure that no LEC can benefit unfairly (i.e., earn above a reasonable level) as a consequence of an above-cap rate.

³⁹⁹ Several small and mid-size LECs respond favorably to our suggestion that small companies should be held to a lesser burden for above-cap increases, and some of them cite a similar need for midsize companies. TDS Comments at 13-14; TDS Supplemental Reply at 10 (advocating streamlined procedures for the above-cap filings of small LECs, on the grounds that this added flexibility would help persuade small LECs to elect price caps). These parties recommend various criteria and mechanisms to mitigate the burden on smaller companies for above-cap filings, and cite various reasons for this differential treatment, including smaller companies' lesser ability to attract capital, maintain service quality, implement technological upgrades, avert bypass by major customers, and make detailed element-by-element showings to this Commission. USTA Comments at 32-33 (small and mid-size LECs should be required only to provide their most recent cost and demand data); PRTC Comments at 42-44; SBA Comments at 34-35; Lincoln Comments at 7-8; OPASTCO Comments at 17-18. As noted in the next section (E. Small company issues), we propose to conduct further proceedings to consider the concerns of smaller LECs

with regard to price caps. In the meantime, if these companies perceive problems in these areas, they need not elect price cap regulation.

⁴⁰⁰ In those rare instances, if any, in which above-cap filings are found to be lawful, the carrier involved would not be able to take advantage of our rules regarding increased profits under the sharing mechanism. That is, such a carrier would become subject again to the unitary rate of return. We will deal with the future regulatory treatment of these carriers on a case-by-case basis, either as part of the tariff process or in a subsequent enforcement action.

⁴⁰¹ *Second Further Notice*, 4 FCC Rcd at 3258-59 (paras. 803-05).

⁴⁰² *Id.* at 3259 (para. 805).

⁴⁰³ SWB Comments at 8 n.10 (stating that the LECs should not have to compute and submit such information to this Commission on a routine basis); US West Comments at 41-42; SNET Reply at 16. *See also* Executive Agencies Comments at 16 (favoring incremental cost over average variable cost). *Accord* SWB Comments at 8.

⁴⁰⁴ Ameritech Comments at 43-44; Bell Atlantic Comments at 6 (stating that the effect is to deprive consumers of reductions and to protect competitors from rigorous competition). Bell Atlantic apparently means that if a proposed rate reduction still manages to cover average variable cost, it should not only become effective without suspension, but also be found lawful on the merits.

⁴⁰⁵ BellSouth Comments at 27-29; Pactel Comments at 30-33.

⁴⁰⁶ Local Telecom Supplemental Reply at 5, citing *McGhee v. Northern Propane Gas Company*, 858 F.2d 1487, 1503 (11th Cir. 1988): ("If a defendant's prices were below average total cost and above short run marginal cost, then there is circumstantial evidence of predatory intent.")

⁴⁰⁷ Local Telecom Supplemental Reply at 5-6 (stating that the average variable cost standard would prove troublesome for LEC services). *Accord* D.C. People's Counsel Supplemental Reply at 8 (stating a concern that revenues would not cover the total cost of providing service and that the LECs would shift these costs, through higher prices for monopoly services, to captive ratepayers). *See also* Ohio PUC Comments at 7-8 (arguing that the only possible explanation for prices below average variable cost is predatory pricing).

⁴⁰⁸ MCI Comments at 61-62 (citing *Instruction Systems Dev. Corp. v. Aetna Casualty & Surety Co.*, 817 F.2d 639, 648 (10th Cir. 1987) and *MCI v. AT & T*, 708 F.2d 1081, 1119-1120 (7th Cir. 1983)).

⁴⁰⁹ Metropolitan Reply at 18-21.

⁴¹⁰ *See* Areeda & D. Turner, *Antitrust Law* (1978) ¶ 711; R. Koller, *The Myth of Predatory Pricing: An Empirical Study*, 4 *Antitrust L. & Econ. Rev.* 105 (1971); *see generally* J. Kwoka & L. White, *The Antitrust Revolution* (1989).

⁴¹¹ *See Cargill Inc. v. Monfort of Colorado*, 469 U.S. 104, 117 n. 12 (1986), comparing *Arthur S. Langenderfer, Inc. v. S. E. Johnson Co.*, 728 F.2d, 1050, 1056-57 (6th Cir.) *cert. denied*, 469 U.S. 1036 (1984), with *Transamerica Computer Co. v. International Business Machines Corp.*, 698 F.2d 1377 (9th Cir.), *cert. denied*, 464 U.S. 955 (1983).

⁴¹² *Second Further Notice*, 4 FCC Rcd at 3264-68, (paras. 820-26) citing *AT & T Price Cap Order*, 4 FCC Rcd at 3122-29 (paras. 518-34).

⁴¹³ Metropolitan Comments at 32 (arguing that the distinctions drawn in the *Second Further Notice* between new services and restructured services are vague and unenforceable, and citing as an example, whether BSEs will be treated as new or

restructured services); Networks Comments at 7 n.9 (stating that digital television service should be considered "new," as it will be provisioned differently than analog service, and can share fiber optic cable with other services such as associated voice and data coordination circuits).

⁴¹⁴ GTOC Comments at 37 (urging that we modify the Part 69 rules to permit the introduction of new services, since the new-restructured distinction has little meaning to LECs if waivers of the Part 69 rules are required every time a LEC seeks to introduce a new service); Hawaii Comments at 21 (arguing that we must monitor the introduction of new and restructured services to ensure that they are not introduced in a discriminatory fashion, and asserting that carriers have been slow in bringing innovative new and restructured offerings to Hawaii).

⁴¹⁵ *Second Further Notice*, 4 FCC Rcd at 3265-66 (paras. 821-23). The Commission proposed that incorporation of new services would occur at the first annual filing after completion of the base period in which the service was introduced. The Commission suggested that the limited delay in incorporating new services was necessary to develop the historical demand data that the actual price index and the service band index require.

⁴¹⁶ *Id.* The net revenue test is as follows: (1) the proposed service and each unbundled element thereof must increase net revenue; (2) the increase in net revenue must occur in the lesser of 24 months from the time the service is incorporated into the indexes or 36 months from the date the new service is introduced; (3) net revenue shall be measured on a present value basis; (4) detailed information must be provided on demand, cost, revenues, elasticity, and cross-elasticity of demand associated with the new service; (5) assumptions, estimates, and cost allocation methods shall be explained; (6) beginning six months after introduction of the new service, LECs must file quarterly reports comparing actual operating results with the net revenue projections.

⁴¹⁷ Ameritech Comments at 35 (asserting that the potential for short term profit is what drives the industry to undertake costly innovations, and as competitors introduce similar services, prices will tend to move downward). *Accord* SWB Comments at 9. *See also* NYNEX Comments at 27-28; NYNEX Reply at 34 (adding that services introduced on or before April 1, 1989, should be included in the initial price cap filing).

⁴¹⁸ USTA Comments at 33; Pactel Comments at 20-21; CBT Comments at 17 (arguing that new services generally have small customer demand and insufficient revenues to justify the cost of a quarterly reporting system); United Comments at 13 (arguing that quarterly reporting could be required in specific cases, if necessary). *But see* NYNEX Reply at 33-34 (supporting the quarterly reporting requirement).

⁴¹⁹ Metropolitan Comments at 33-35. *Accord* Local Telecom Reply at 7-8. Metropolitan would also postpone incorporation of new service rates into price caps until the new service is generating a positive net revenue. Metropolitan Reply at 28.

⁴²⁰ *See, e.g.*, NYNEX Reply at 33-34.

⁴²¹ Executive Agencies Comments at 20. Executive Agencies suggests that the upper band "reflect" the current facilities costs, including overhead. For the lower band, Executive Agencies suggest we employ an incremental cost standard, as average variable cost would yield a lower band that is too high. Executive Agencies would also review rates every two years.

⁴²² USTA Comments at 34-35, 37; USTA Reply at 34-35; SNET Reply at 17.

⁴²³ GTOC Comments at 36-37 (arguing that the test should be applied to the overall "product level," thus significantly reducing the amount of supporting data required). *But see* Executive

Agencies Reply at 7-8 (stating that GTOC's approach provides too little information about whether the new service is being priced in an anticompetitive way, at rates that subsidize other services).

⁴²⁴ Pactel Comments at 22-23 (requesting clarification of waiver requirements to include situations in which payback would be "impracticable" in stated period because service is brand new, and LEC must create a market). *Accord* PRTC Reply at 60-61; United Comments at 12-13 (requesting a 48-month payback period for all new services); *accord* SNET Reply at 17.

⁴²⁵ Metropolitan Comments at 34; Metropolitan Reply at 26-27; Local Telecom Reply at 7-8 (stating that this will result in streamlined treatment of noncompensatory rates for a period of up to three years); DC PSC Reply at 3-4 (suggesting instead that we discount the positive present value at a prospective cost of capital that reflects the risk involved in offering an untried service).

⁴²⁶ *See, e.g.*, Ameritech Comments at 34-35 (arguing that a presumption of reasonableness should attach to new service filings); BellSouth Comments at 33-34 (proposing a 14-day period); *accord* PRTC Reply at 60-61. *But see* SNET Comments at 24 (supporting 45 days' notice for new services).

⁴²⁷ Metropolitan Reply at 25-26. *Accord* Local Telecom Reply at 7-8.

⁴²⁸ Because we are not requiring price cap regulation for any small or mid-size LEC, we do not believe it is necessary now to create a different standard for such companies. The reporting requirement established here is one factor that such a LEC will consider in deciding whether to elect price cap regulation.

⁴²⁹ *Second Further Notice*, 4 FCC Rcd at 3267-68 (paras. 825-26).

⁴³⁰ SWB Comments at 9.

⁴³¹ *See, e.g.*, GTOC Comments at 36 (arguing that the net revenue standard ought to be applied to restructured offerings).

⁴³² Metropolitan Comments at 36-37; *accord* Local Telecom Comments at 5.

⁴³³ Executive Agencies Comments at 20.

⁴³⁴ PRTC Reply at 60-61; BellSouth Comments at 33-34 (urging 14 day notice period, with reliance on the Commission's suspension powers to extend the period of review if a tariff presents public interest concerns).

⁴³⁵ Metropolitan Reply at 25-26; Local Telecom Reply at 7-8.

⁴³⁶ For a description of these programs *see* *Second Further Notice*, 4 FCC Rcd at 3273-75 (para. 834 and accompanying footnotes).

⁴³⁷ *Id.* at 3269-70 (para. 828).

⁴³⁸ *See* Section 69.612(a) of the Commission's Rules, 47 C.F.R. § 69.612(a).

⁴³⁹ NECA Supplemental Comments at 3-6.

⁴⁴⁰ USTA Supplemental Reply at 21-22; Alltel Supplemental Reply at 12; NTCA Supplemental Reply at 1-6; SNET Supplemental Comments at 25-26.

⁴⁴¹ NTCA Supplemental Reply at 3-6.

⁴⁴² AT&T Supplemental Reply at 20 n.**.

⁴⁴³ AT&T Ex Parte Presentation by Joel E. Lubin, September 12, 1990.

⁴⁴⁴ *See, e.g.*, *Second Further Notice*, 4 FCC Rcd at 3130, 3279-82.

⁴⁴⁵ NTCA Supplemental Comments at 8-9; Hawaii Supplemental Comments at 6-12; Alaska Supplemental Reply; BellSouth Supplemental Reply at 42-44.

⁴⁴⁶ We find no merit, however, in the generalized claim by MCI that "the Commission should investigate the existing subsidy mechanisms and determine whether they will continue to be viable under incentive regulation." MCI Supplemental Comments at 18-19. MCI has had several opportunities in this proceeding and others to present any specific proposals for revisions to the rules governing these programs, under both current regulation and price caps. MCI presents no substantial arguments based on its objections to these separate programs, such as would justify delay in the price cap plan.

⁴⁴⁷ *See, e.g.*, SNET Supplemental Comments at 24; NYNEX Supplemental Reply at 30; Centel Supplemental Comments at 2; Pactel Supplemental Reply at 11-12; United Supplemental Reply at 12-13; USTA Supplemental Reply at 22-23.

⁴⁴⁸ *See, e.g.*, Hawaii Comments at 10-11; NARUC Reply at 7; TCA Comments at 6-7; DC PSC Comments at 9; Missouri Comments at 4; NCTA Reply, Besen Statement at 8-11; Indiana UCC Comments at 17-18; Indiana UCC Reply at 7-8; Joint Parties Supplemental Comments at 3-4; Ad Hoc Supplemental Comments at 29; Corporate Committee Supplemental Comments at 14-15; TCA Supplemental Comments at 16-18; Executive Agencies Supplemental Reply at 9.

⁴⁴⁹ *Further Notice*, 3 FCC Rcd at 3265-66 (paras. 134-136); *Second Further Notice*, 4 FCC Rcd at 3160-63 (paras. 593-604).

⁴⁵⁰ Commenters' concerns arise from the fact that price cap regulation departs from the encouragement fostered under rate of return regulation to "gold-plate" the network. We are aware of, and concerned by, this shift, as well.

⁴⁵¹ The three-second standard is an example of an industry-developed service parameter. This time limit was not developed or imposed by this Commission or any regulatory agency; rather, it evolved through industry practice and self-monitoring before divestiture, and is broadly accepted now.

⁴⁵² Bell Atlantic reports all four transmission quality components, but some companies report the percent of measured central offices meeting only one or two of the key criteria. Pacific Bell has so far provided no transmission quality reporting.

⁴⁵³ *See* Update on Quality of Service for the Bell Operating Companies, Industry Analysis Division Report, June 1990, at 4-5.

⁴⁵⁴ The companies have been fairly consistent in their reporting procedures, but the measurement reflects the date promised to the customer for a service order, and is not uniform across companies. In addition, the categorization of service calls varies among carriers. But for purposes of summarizing these reports, a standard format is used.

⁴⁵⁵ While we conclude that we will not set specific standards at this time, we do intend that the carriers use, as much as possible, the same units of measure, the same classifications of services, and the same reporting formats. Efforts have been made informally to achieve higher levels of uniformity in the format and bases of these reports, and summary information is presented uniformly for all companies. The reports continue to rely, however, on standards established by individual carriers. Also, in some cases data underlying the reports is categorized or aggregated differently. We direct the Chief, Common Carrier Bureau to make every effort, in the course of its proceedings to develop reporting requirements and formats, to promote uniformity among the LECs regarding classification of services, establishment of intervals, units of measurement, establishment of standards, and other reporting factors.

⁴⁵⁶ This desire for uniformity applies as well to those measurements included in the quarterly reports, discussed below, that rely on carrier-established standards.

⁴⁵⁷ Although most LECs state that reporting requirements of the sort developed by BellSouth and Rochester would not be burdensome, some smaller LECs say that these requirements would impose a substantial administrative burden, and that non-BOC LECs should be free of the BellSouth/Rochester reporting requirements. In view of our eligibility determinations, we need not consider these arguments, since we are not imposing this reporting requirement on any LECs other than GTOC and the BOCs. The reporting requirement is one of several factors that will be considered by a LEC in its deliberations about electing price cap regulation, and the burden of reporting can be balanced against the substantial potential benefits.

⁴⁵⁸ Network blockage reports apply to Feature Groups C and D only.

⁴⁵⁹ We believe that keeping these reports in the modified BellSouth/Rochester plan will make them more useful than they would be in the semi-annual report. First, the reports will be filed quarterly (at least for the initial two-year period) rather than semi-annually. Second, they will be compiled and filed on a study area basis rather than on a tariff entity basis. The BellSouth/Rochester report's requirement of complaints per thousand lines is eliminated. This reporting is superfluous, in view of our Enforcement Division's internal tracking procedures.

⁴⁶⁰ Some commenters are opposed in principle to allowing the LECs to design their own service quality standards, if we adopt the RBOC reports (originally designed to gather information already compiled by the RBOCs for their own purposes) and the proposal of BellSouth and Rochester Telephone. Ad Hoc Comments at 43-44; Hawaii Comments at 10-11. We believe that the reporting requirements, as expanded and modified here, adequately acknowledge and address commenters' concerns in this regard.

⁴⁶¹ Several commenters object to the inclusion, without discussion or justification, of these three additional reporting categories. SNET Supplemental Comments at 22; USTA Supplemental Comments at 41-42. We believe, however, that this latest round of comments has offered all parties reasonable opportunity to comment on the inclusion of these reporting categories, and that our discussion herein justifies these requirements.

⁴⁶² See, e.g., SNET Supplemental Comments at 22-24; CSE Supplemental Reply at 7.

⁴⁶³ Ad Hoc Supplemental Comments at 33-34; TCA Supplemental Comments at 17-18. Metropolitan and OPASTCO suggest the addition of a reporting requirement on the quality of connections; Ad Hoc and TCA urge the inclusion of still other reporting categories. Boeing Computer asserts that even detailed reporting will not keep the FCC apprised of how LEC infrastructure development compares to that undertaken in other industrialized countries, so the Commission should work with the user community to develop appropriate quality standards and monitoring programs.

⁴⁶⁴ PDD is also known as "access time." Provision of Access Service, 4 FCC Rcd 2824, 2840 & n.26 (1989).

⁴⁶⁵ The LECs argue that various factors (including interexchange carrier service, customer premises equipment configuration, and calling patterns) affect PDD. They also assert that they do not have the ability to monitor PDD, and that to do so would be costly, labor-intensive, and burdensome. Further, they state, the resulting data would be meaningless, since so many factors are more determinative of PDD than the sending LEC's service quality. Finally, they state that no discussion

or justification of this or the other additional categories has yet been provided. SNET Supplemental Comments at 23; USTA Supplemental Comments at 42-43.

⁴⁶⁶ See, e.g., Bell Atlantic Comments at 13-14; BellSouth Comments at 40.

⁴⁶⁷ BellSouth Comments at 41; NYNEX Comments at 11-12; SWB Comments at 30; USTA Comments at 7.

⁴⁶⁸ Rochester Comments at 21-22; USTA Comments at 7-8; BellSouth Comments at 40-41; SNET Supplemental Comments at 22-24; USTA Supplemental Comments at 41-43; CSE Supplemental Reply at 7.

⁴⁶⁹ SNET Supplemental Comments at 22-23.

⁴⁷⁰ All of the supporting LECs argue for modification of our category proposal, limiting reporting to a per-incident basis, to service affecting outages, and to outages with a minimum duration of two minutes. NYNEX Comments at 10-11; SWB Comments at 26-27; US West Comments at 23 n.76; United Comments at 9; Pactel Comments at 52; USTA Comments at 9; CBT Comments at 15; Rochester Comments at 21.

⁴⁷¹ BellSouth Comments at 41.

⁴⁷² SNET Comments at 22.

⁴⁷³ SNET Supplemental Comments at 22-24.

⁴⁷⁴ See, e.g., NARUC Reply at 8; Illinois Reply at 18; NY DPS Comments at 10.

⁴⁷⁵ Metropolitan Supplemental Reply at 8-9; OPASTCO Supplemental Comments at 2.

⁴⁷⁶ See Public Notice, Metropolitan Fiber Systems Petition for Rule Making on Interconnection of Competitive Carrier Access Facilities, RM-7249, DA 90-132, released Feb. 2, 1990.

⁴⁷⁷ TCA Supplemental Comments at 17; Boeing Computer Supplemental Comments at 10; TCA Supplemental Reply at 10-11, 14.

⁴⁷⁸ We required the BOCs to file these reports; GTOC provided the data on its own initiative. See Represcribing the Authorized Rate of Return for Interstate Services of Local Exchange Carriers, CC Docket No. 89-624, 5 FCC Rcd 543 (Com.Car.Bur. 1990) (*Data Request*); 5 FCC Rcd 892 (Com.Car.Bur. 1990) (modifying and clarifying the *Data Request*).

⁴⁷⁹ We are less concerned with collecting this data from smaller LECs that might elect price caps, because we believe that infrastructure monitoring of the largest eight LECs will provide a good indication of the general state of the infrastructure nationwide. We are also reluctant to create reporting requirements that might be more burdensome for smaller carriers, and might preclude their participation in price cap regulation. If we have indications that LECs electing price caps are failing to maintain and improve their network, however, we will revisit this issue. As we have done with the other service quality reports, we delegate the responsibility for implementing this filing requirement to the Chief, Common Carrier Bureau.

⁴⁸⁰ Centel Supplemental Reply at 2-4. CSE suggests that when LECs introduce technological improvements or enhancements to consumer telephone service, the Commission should adjust the price cap index to account for a quality change. CSE Supplemental Reply at 8-9. By keeping the index low as these services become increasingly available, this commenter asserts, the Commission would encourage companies to make technological changes that benefit customers. *Id.*

⁴⁸¹ Ad Hoc Supplemental Comments at 34; Corporate Committee Supplemental Comments at 17; SWB Supplemental Comments at 15-16; Aeronautical Radio Supplemental Reply at 9-11. Ad Hoc and Aeronautical Radio contend that the Commission must establish standards to assess LEC investment levels.

TCA suggests that the Commission use a sharing mechanism to ensure network investment, noting that some state regulators have implemented sharing plans that include a network investment component. TCA Supplemental Reply at 10-11; TCA Supplemental Comments at 5, 16-18.

⁴⁸² NYNEX Supplemental Reply, Att. 2.

⁴⁸³ While these technical references do not establish specific standards of acceptable service quality, they do provide a uniform definition of service upon which comparisons can be based.

⁴⁸⁴ See Automated Reporting Requirements for Certain Class A and Tier 1 Telephone Companies (Parts 31, 43, 67, and 69 of the FCC's Rules), CC Docket No. 86-182, Report and Order, 2 FCC Rcd 5770 (1987) (*ARMIS Order*); *recon.*, 3 FCC Rcd 6375 (1988). The ARMIS reports are fully automated, and the system can cross-check columns and rows to ensure an internally consistent report that is also consistent over time.

⁴⁸⁵ Further, the ARMIS quarterly report includes Table III, consisting of non-financial data such as premium and non-premium minutes of use, and number of access lines in service.

⁴⁸⁶ Many manifestations of service quality decline, such as increases in blockage, PDD, noise, and time to complete installations or repairs, are easily detectable by ratepayers.

⁴⁸⁷ Several commenters, including state commissions and NARUC, support the development of such standards, and argue that they are necessary to ensure that service quality remains high, and that service quality levels are constant across geographic areas, among urban and rural communities, and across different classes of customers. Aeronautical Radio Supplemental Comments at 11; Hawaii Supplemental Comments at 19; Iowa Comments at 10; NARUC Reply at 8-9. These commenters suggest formation of a task force, a state-federal joint board, or some other body to develop these standards. NARUC Reply at 8-9; Ohio PUC Reply at 3-4. Other commenters, including the LECs generally, argue that no specific standards are necessary, for the reasons stated in our *Second Further Notice*. See USTA Reply at 10; NYNEX Supplemental Reply at 12; United Supplemental Reply at 12-13. Some of the LECs argue that the service quality standards already present in interstate tariffs, and those established and enforced by state commissions, are sufficient, and that the Commission need not develop or impose additional standards.

⁴⁸⁸ See, e.g., Boeing Computer Supplemental Comments at 9-11; Hawaii Supplemental Reply at 12-13. In order for these reports to indicate any diminishing of service quality, these commenters assert, the service quality breakdown would have to be broadbased and almost absolute.

⁴⁸⁹ See, e.g., Boeing Computer Supplemental Comments at 11 (suggesting disaggregation at the service category and geographic subdivision level to prevent masking problems in a single service or locale).

⁴⁹⁰ Hawaii argues that the reporting level must be even lower, or there will be incentives to discriminate among groups of customers or between geographic locations. Hawaii Reply at 20; Hawaii Supplemental Reply at 12-13. LECs argue that LATA-level reporting would be onerous and burdensome, and would provide no balancing benefit. NYNEX Reply at 30; SWB Comments at 49-50.

⁴⁹¹ Boeing Computer Supplemental Comments at 11; see also Corporate Committee Supplemental Comments at 16.

⁴⁹² The semi-annual service quality reports are prepared at a filed-tariff level; ARMIS reports, including the BellSouth/Rochester, switch downtime, and PDD reports added here, are on a study area level, as are the newly-added infrastructure reports.

⁴⁹³ Another related issue, the availability of our service quality data to state commissions and other interested parties, is discussed in part "C. Other monitoring and performance review," *infra*.

⁴⁹⁴ Boeing Computer Supplemental Comments at 11 (arguing that reporting that fails to distinguish between switched and special will reveal only the most general of information or the most drastic of trends); Hawaii Supplemental Comments at 19; TCA Supplemental Comments at 17 (contending that reporting must segregate switched and special in order to minimize LECs' ability to migrate customers). Some commenters suggest that reports should be written for specific services within access categories. See, e.g., TCA Supplemental Comments at 17. Other parties oppose such disaggregation on the grounds that there is little plant that is dedicated to a single service, so that such disaggregation would be burdensome, and would not provide useful information. NYNEX Reply at 30; SWB Comments at 49-50; SNET Supplemental Comments at 24.

⁴⁹⁵ We do not see the need for reporting on a per-service level within access categories. Such a requirement would add substantially to the reporting burden, and would not likely provide any consensus on format or definition.

⁴⁹⁶ See, e.g., SNET Supplemental Comments at 24.

⁴⁹⁷ For example, some commenters discuss with approval Rochester Telephone's settlement with the New York DPS, which includes a requirement that the company refund to customers 1/2 of one percent of its monopoly revenues if it does not meet certain service quality standards. NY DPS Supplemental Comments at 8; Hawaii Supplemental Reply at 13; NYNEX Supplemental Reply at 29-30; Executive Agencies Supplemental Reply at 9-10. The workability of such an enforcement provision disappears with the conclusion that we will not establish specific federal service quality standards. Similarly, some commenters assert that the Commission must inform the LECs that they will not be permitted to keep the "savings" that would result if they allow service quality to decline, but that their rates will be adjusted downward to reflect inferior service. Ad Hoc Supplemental Comments at 34; Hawaii Supplemental Reply at 12-13; TCA Supplemental Comments at 18. This suggestion, as well as suggestions of independent testing programs and imposition of penalties, all disappear as options with our decision not to develop specific standards.

⁴⁹⁸ Corporate Committee Supplemental Comments at 24-25; Boeing Computer Supplemental Comments at 9-10, 12; Ad Hoc Supplemental Comments at 30-32.

⁴⁹⁹ Centel Supplemental Comments at 7-10; Aeronautical Radio Supplemental Comments at 11; TCA Supplemental Comments at 16, 18.

⁵⁰⁰ The state commissions have, as might be anticipated, a much closer involvement in LEC operations, and knowledge of the needs and requirements of the specific populations served, than we have. In many cases, the network improvements or investments required by state regulators have been developed as part of a negotiated agreement with the LEC in question. For example, SWB in New Mexico will develop a network connecting all of that state's universities and community colleges; Pacific Bell in California will invest \$404 million to digitize its network by 1992.

⁵⁰¹ See, e.g., USTA Comments at 6, 36-37; Contel Comments at 19-21; Lincoln Comments at 8-9; SNET Comments at 19. According to these commenters, LECs that elect price cap regulation should be exempt from any new service monitoring plan, but should be allowed to meet FCC reporting requirements by submitting copies of any reports required by their state commissions.

⁵⁰² We note that we take a different approach with regard to infrastructure data reports. While we conclude here that no exemption from service quality reporting can be justified for LECs electing price caps, we concluded with regard to the infrastructure data collection that such reporting would be especially burdensome for smaller LECs, and that data collected from the eight largest LECs would provide an adequate indication of the general state of the infrastructure nationwide. See discussion on infrastructure development at III.A.3., *supra*.

⁵⁰³ The Commission has previously stated that "[t]he possibility of cost shifting . . . is inherent in a bifurcated regulatory system." *Second Further Notice*, 4 FCC Rcd at 3167 (para. 610). But the Notice tentatively concluded that "the combination of ARMIS, the separations rules, and state monitoring will be effective in identifying and correcting the misallocation of costs to either the state or the interstate jurisdiction." *Id.*

⁵⁰⁴ See MTS and WATS Market Structure, Amendments to Part 67 (New Part 36) of the Commission's Rules and Establishment of a Federal-State Joint Board, CC Docket Nos. 78-72 and 86-271, Report and Order, 2 FCC Rcd 2639 (1987); Reconsideration and Supplemental Notice of Proposed Rule Making, 2 FCC Rcd 5349 (1987); Reconsideration and Supplemental Notice of Proposed Rule Making, 3 FCC Rcd 5518 (1988).

⁵⁰⁵ Part 36 procedures rely on the concept of the separability of telecommunications plant to interstate and intrastate use. Telecommunications plant, in general, is segregable into two broad classifications, namely, (i) interexchange plant (including operator systems, switching plant, and trunk transmission equipment), which is plant used primarily to furnish toll services; and (ii) exchange plant (including operator systems, switching plant, trunk equipment and subscriber plant), which is plant used primarily to furnish local services. See 47 C.F.R. §36.2.

⁵⁰⁶ See 47 C.F.R. §36.1(a). Part (c) of §36.1 states:

The fundamental basis on which separations are made is the use of telecommunications plant in each of the operations. The first step is the assignment of the cost of the plant to categories. The basis for making this assignment is the identification of the plant assignable to each category and the determination of the cost of the plant so identified. The second step is the apportionment of the cost of the plant in each category among the operations by direct assignment where possible, and all remaining costs are assigned by the application of appropriate use factors.

Data on plant in service and gross plant additions are reported in the ARMIS filings. The separations rules, like the ARMIS and other reporting requirements, specify use of the Uniform System of Accounts (USOA).

⁵⁰⁷ 47 C.F.R. §36.1(g).

⁵⁰⁸ See Automated Reporting Requirements for Certain Class A and Tier 1 Telephone Companies (Parts 31, 43, 67, and 69 of the FCC's Rules), CC Docket No. 86-182, Report and Order, 2 FCC Rcd 5770 (1987) (*ARMIS Order*); *recon.*, 3 FCC Rcd 6375 (1988).

⁵⁰⁹ The annual ARMIS reports also include forecasts of regulated and nonregulated usage and costs for each cost pool as required in the *Joint Cost Order*, company-wide data for each account specified in the USOA, and a study area report containing data for each revenue requirement related account specified in the USOA. ARMIS also includes a quarterly report, which contains in summary form the data needed to monitor revenue requirements, rate of return, jurisdictional separations, and access charges. The LECs' Tariff Review Plans (TRPs) are not

formally a part of the ARMIS system, but are generally included in the annual ARMIS filing and incorporated in the ARMIS data bank. The Common Carrier Bureau recently adopted revisions to the ARMIS Quarterly Report which further strengthen the Commission's monitoring of jurisdictional allocations. Automated Reporting Requirements for Certain Class A and Tier 1 Telephone Companies, CC Docket No. 86-182, 5 FCC Rcd 4718 (Com.Car.Bur. 1990).

⁵¹⁰ See *ARMIS Order*, 2 FCC Rcd at 5770.

⁵¹¹ Maryland PC Comments at 7-8. See also Alabama PSC Comments at 3.

⁵¹² In the *ARMIS Order* the Commission determined that LECs' fears of competitive disadvantage with regard to automated reporting were overstated, and that the existing rules regarding confidential treatment of proprietary information are adequate. We believe that several factors, most especially the level of aggregation of data for ARMIS reporting, preclude competitors' use of most of this data to harm LECs.

⁵¹³ See Feb. 10, 1989, Letter from Chief, Common Carrier Bureau, to Frank Krogh, MCI, FOIA Control No. 80-15; Nov. 7, 1989, Letter from Deputy Chief, Common Carrier Bureau, to Paul Rodgers, NARUC, FOIA Control No. 89-151. In these two determinations, the Bureau concluded that almost all ARMIS data is so aggregated as to ensure that its release offers no competitive advantage to LEC competitors. The Bureau did determine, however, that the RBOCs were justified in withholding usage forecasts for nonregulated ventures, as competitively significant. Both cases allowed confidential treatment only of data contained in the RBOCs' ARMIS Report 495(A), a three-year forecast of usage.

⁵¹⁴ See, e.g., W. Virginia PSC Comments at 1; Maryland PC Comments at 7-8 (arguing that the Commission should make ARMIS data more available by clarifying and minimizing LECs' reliance on confidentiality); Alabama PSC Comments at 3. As noted above, we consider ARMIS reports to be freely and generally available to the public, with the possible exception of the Report 495(a) usage forecasts.

⁵¹⁵ Among these are New York, Nebraska, California, and Michigan. Many other states, including Alabama, Colorado, Connecticut, Delaware, Florida, Idaho, Illinois, Kansas, Maine, Maryland, Minnesota, Missouri, Nevada, New Jersey, Rhode Island, Vermont, Washington, West Virginia, and Wisconsin have developed regulatory approaches similar to our federal plan.

⁵¹⁶ Service quality monitoring is discussed in section III. A. on service quality, *supra*. Monitoring of jurisdictional allocations is discussed in section III. B., *supra*.

⁵¹⁷ BellSouth Comments at 34-37; Pactel Comments at 44; USTA Comments at 39.

⁵¹⁸ Ad Hoc Comments at 43-44; Ad Hoc Supplemental Comments at 27-28; ICA Supplemental Comments at 3, 7; Ad Hoc Supplemental Reply and ICA Supplemental Reply, ETI Report at 2 (arguing that ARMIS reports are necessary, but not sufficient, as they were not designed to evaluate price caps).

⁵¹⁹ Ad Hoc also objects that among all our data collections, there is nothing that provides analysis of the economic reasonableness of LEC investment decisions, or on LECs' investment of excess earnings in new ventures. Ad Hoc Supplemental Comments and ICA Supplemental Comments, ETI Report at 31-32.

⁵²⁰ Ad Hoc Comments at 45-46 and ETI Report at 39-40. We reject the assertion that the ARMIS computerized data base is not yet developed. ARMIS has been in effect for more than two years, and has proved to be a reliable and usable data collection.

⁵²¹ See, e.g., Ad Hoc Comments at 27, 43-46. We have discussed and resolved the question of confidentiality of ARMIS reports in our section on service quality monitoring, *supra*.

⁵²² Ad Hoc Comments and ICA Comments, ETI Report at 34-39 (arguing also that the Commission's staff and analytical resources are inadequate to the task of monitoring price cap carriers); see also Local Telecom Comments at 11-12. Ad Hoc recommends that instead of the existing and proposed monitoring plan, we use a forecast plan similar to that developed in Vermont, under which LECs would submit well-defined data to compare to meaningful standards of carrier performance. Ad Hoc Comments at 27-28. We reject this suggestion.

⁵²³ ARMIS includes the following reports: the quarterly report, 43-01; the USOA report, 43-02; the joint costs report, 43-03; the jurisdictional separations report, 43-04; the three-year investment usage forecast report, 495A; the three-year investment actuals report, 495B; and the LEC tariff review plans (TRPs).

⁵²⁴ The quarterly report, 43-01, will be expanded by the addition of new service quality reporting requirements, as discussed above. The 43-01 report presently consists of three tables: Table I, Costs and Revenues, includes total, non-regulated, shared network facilities agreements (SNFA) and intra-company adjustments, all other adjustments, subject to separations, state, interstate, common line (which is broken into pay phone, inside wire, base factor portion, and total), traffic sensitive (containing switching, equal access, transport, information, and total), special access, total access, billing and collection, and interexchange. Table II, Demand Analysis, includes minutes of use (MOU) for common line premium and non-premium originating and terminating, and for switched traffic sensitive; line counts for common line demand for single line business, residence lifeline, residence non-lifeline, multiline business, and special access lines subject to surcharge. Table III, Restated Data, contains data for current quarter, monitoring period to date, and previous monitoring period, for rows listed in Table I, for Subject to Separations, Interstate Access, Common Line, Traffic Sensitive, and Special Access.

⁵²⁵ Report 43-02 includes company-wide data for each account specified in the USOA, a study area report containing data for each revenue requirement related account specified in the USOA.

⁵²⁶ Report 43-03 includes forecasts of regulated and nonregulated usage and costs for each cost pool as required in the *Joint Cost Order*. Separation of Costs of Regulated Telephone Service from Costs of Nonregulated Activities, CC Docket No. 86-111, 2 FCC Rcd 1298 (1987) (*Joint Cost Order*).

⁵²⁷ Report 43-04 includes a study area report containing jurisdictional separations and interstate access results for each category specified in Parts 36 and 69 of the Commission's rules.

⁵²⁸ See, e.g., United Comments at 5-7 (arguing that it is unnecessary and perhaps improper to collect data on the element and subelement level, that Reports 43-02 and 43-03 give enough detail to monitor allocations of regulated and nonregulated costs. To monitor price-regulated LEC activity, United argues, the Commission needs only total company, total state, and total interstate data); SNET Supplemental Comments at 24-25.

⁵²⁹ United also argues that individual case basis (ICB) reporting requirements should be reduced whenever the ICB offerings amount to no more than 1 percent of the LEC's interstate revenues. United Comments at 5-6.

⁵³⁰ See, e.g., SNET Supplemental Comments at 24-25; United Supplemental Comments at 5-6.

⁵³¹ See, e.g., SWB Supplemental Reply at 2.

⁵³² The ARMIS changes effected in a recent Common Carrier Bureau order are merely adjustments that further enhance our ability to monitor LEC activities that are discussed as concerns here. See Automated Reporting Requirements for Certain Class A and Tier 1 Telephone Companies (Parts 31, 43, 67, and 69 of the FCC's Rules), CC Docket No. 86-182, Order, DA 90-959, released July 20, 1990.

⁵³³ Many LEC commenters urge us to eliminate all earnings indicators from our monitoring and performance review; other commenters urge us to increase the use of such data. Some parties suggest that our monitoring program is inadequate absent some parallel cost of service checks on the initial LEC price cap plan, and urge us to retain rate of return regulation, in tandem with price cap regulation, to provide a basis of comparison and evaluation. See, e.g., Ad Hoc Supplemental Comments, ICA Supplemental Comments, ETI Report at 2 (discussing the uncertain assumptions upon which plan is based, such as productivity factor, plus pricing flexibility and potential for strategic pricing). NARUC urges us to adopt such an approach, at least for some initial period of price cap implementation. NARUC Letter, from Deputy Assistant General Counsel Andre J. Lachance to Secretary, FCC, Aug. 22, 1989 (supporting Congressional proposal that would require this Commission to monitor LECs under rate of return principles, as well as under price cap principles). NARUC summarizes the Congressional proposal as requiring: (1) a comparison of price cap rates and the rates that would have occurred under rate of return; (2) a report on price cap carriers' rates of return; and (3) an analysis by the General Accounting Office of Commission data to review the effects of price cap regulation on residential telephone usage, competition in the interexchange market, and services and rates available to rural subscribers.

⁵³⁴ See new Section 69.1(c), 47 C.F.R. § 69.1(c), in Appendix B.

⁵³⁵ MCI urges the Commission to retain the tariff review plan as it currently exists, MCI Supplemental Comments at 48-49; but much of this data would be of no value under price caps, and a substantial burden to price cap LECs. For example, the TRP requires LECs to compute a complete and detailed projection of future costs and demand for all rate elements. This information is irrelevant to the price cap plan. See Appendix F.

⁵³⁶ 4 FCC Rcd at 3167 n.1304.

⁵³⁷ Alltel Comments at 33-35 (asserting that carriers below Tier 1 should be subject to reduced reporting requirements, and suggesting that they file a modified Tier 2-B TRP only. Alltel also argues that Tier 2 carriers should not be required to file quarterly, but only annually).

⁵³⁸ USTA Comments at 8-9, 36-37; USTA Reply at 34-35; United Comments at 6-7. These commenters urge that we make other monitoring changes too, to decrease the reporting burden for small LECs, so that these small LECs will not be deterred from electing price cap regulation.

⁵³⁹ See Part 32 of the Commission's Rules, 47 C.F.R. Part 32. Tier 1 was defined for purposes of access tariff filings for 1985 as comprising those carriers whose regulated revenues exceed \$100 million.

⁵⁴⁰ See, e.g., Commission Requirements for Cost Support Material To Be Filed with Access Tariffs on October 3, 1986, Mimeo No. 6356 (released Aug. 15, 1986).

⁵⁴¹ The most recent Form 492 summary shows 77 LECs plus NECA.

⁵⁴² Because Form 492 reports are filed to be consistent with the level of aggregation in the tariff, some Form 492 reports are aggregated, while others are not: some of the filings cover one

study area, some cover two or more, and some include the Tier 1 LEC's Tier 2 affiliates (if those affiliates join in the Tier 1 LEC's tariff filing).

⁵⁴³ See Ameritech Supplemental Comments at 9.

⁵⁴⁴ Ad Hoc Comments at 46-48; MCI Supplemental Comments at 48.

⁵⁴⁵ See, e.g., Ameritech Supplemental Comments at 6-7; SWB Supplemental Reply at 23. See also NCTA Comments at 15; NCTA Reply at 9. NCTA argues the Commission must make it clear we will revisit the plan early if access rates become too disparate; NCTA states that the Commission must be prepared to commit to any corrective action necessary to ensure that the access rates of small and rural LECs do not rise unreasonably.

⁵⁴⁶ GTOC Supplemental Reply at 12-13; SWB Supplemental Reply at 2; Ameritech Supplemental Comments at 7.

⁵⁴⁷ See, e.g., BellSouth Comments at 43; Bell Atlantic Comments at 6-7.

⁵⁴⁸ See SWB Supplemental Reply at 23-24; Ameritech Supplemental Comments at 7.

⁵⁴⁹ SWB Comments at 30-34 (arguing that it will be impossible to determine whether price cap regulation has led to technological progressiveness, due to long lead times, the effects of regional economic conditions, and state regulation); Pactel Comments at 44-45 (urging that the Commission should assess technological progressiveness on the basis of descriptive evidence rather than statistical evidence, by requiring the LECs to describe their efforts to improve and advance their networks and to provide data that supports their descriptions).

⁵⁵⁰ See, e.g., NYNEX Comments, Att. B; USTA Comments at 37, 39-40.

⁵⁵¹ See, e.g., BellSouth Comments at 43 (arguing that the comprehensive review should conform to the data this Commission presently collects); Bell Atlantic Comments at 6-7 (stating that the review should focus on: the degree to which LECs have provided real price decreases; efficiency improvements while maintaining quality of service; and new and innovative services); SWB Comments at 30-34 (suggesting such measures as growth in percentage of fiber miles in loop plant, or growth in percentage of access lines with ISDN). Other LECs suggest measurements very similar to those we have included in our infrastructure reporting requirement. See, e.g., NYNEX Comments, Attachment B at 3; USTA Comments at 39-40.

⁵⁵² Others suggest that we look at indicators of the penetration level of basic service elements and basic service arrangements available, such as percentages of customers with local access to gateway services, to custom local areas signalling services (CLASS), and to ISDN. NYNEX Comments, Att. B, at 3.

⁵⁵³ See e.g., Iowa Comments at 10; Ohio PUC Reply at 3-4; NARUC Reply at 8-9; Ad Hoc Comments at 43-44.

⁵⁵⁴ See Ad Hoc Comments at 43-45 (arguing that the Commission must clarify how and when the productivity offset might be adjusted, and how deficiencies in the caps plan will be uncovered).

⁵⁵⁵ For example, some parties argue that price cap regulation of ONA services fundamentally conflicts with the goals of ONA. See, e.g., Ad Hoc Comments at 48-50; ICA Comments at 9-10. Other parties question the basket and band treatment to be used for ONA services. See, e.g., USTA Reply at 33 (include ONA subelements in the service band or category of the service element from which it was unbundled); MCI Comments at 59-60 (establish separate bands for ONA subelements); ADAPSO Supplemental Comments at 6-8 (exclude ONA services from price caps). Other commenters question the tariff treatment

these services would receive under price cap regulation. See, e.g., Telenet Comments at 4-5 (net revenue standard for new services is unworkable).

⁵⁵⁶ Accord NY Clearinghouse Comments at 16-17.

⁵⁵⁷ Amendments of Part 69 of the Commission's Rules Relating to the Creation of Access Charge Subelements for Open Network Architecture, Notice of Proposed Rule Making, CC Docket No. 89-79, 4 FCC Rcd 3983 (1989).

⁵⁵⁸ *Second Further Notice*, 4 FCC Rcd 2873, 3288-3289 (paras. 867-872); *Further Notice*, 3 FCC Rcd 3195, 3379 (para. 328).

⁵⁵⁹ See BellSouth Comments at 60-61; Ohio PUC Comments at 17; API Comments at 27; USTA Comments at 7; Rochester Reply at 3.

⁵⁶⁰ Arkansas PSC Comments at 2.

⁵⁶¹ 47 U.S.C. §208. As discussed in the section detailing our sharing mechanism, *supra*, we have created sharing obligations based on total company earnings that automatically permit ratepayers to share in high earnings. Accordingly, complaints concerning LEC total earnings will lie only if a complainant alleges non-compliance with the rules. Also, complaints relating to excessive earnings on specific rates or rate discrimination will continue to lie.

⁵⁶² API Comments at 41-42; Allnet Comments at 4.

⁵⁶³ See Federal Communications Commission Authorization Act of 1987, P.L. 100-594 (signed Nov. 3, 1988). See also 47 U.S.C. §204(a)(2)(A) and (B).

⁵⁶⁴ See, e.g., IDCMA Comments at 51-52.

⁵⁶⁵ Bell Atlantic Comments at 15, n.42 (opposing proposed rule and suggesting issue be deferred to our pending Part 65 proceeding under CC Docket 87-463); US West Comments at 31-32 (suggesting rule be expanded to permit cash refunds as well as prospective PCI adjustments). See also *Second Further Notice*, Appendix D, at 4 FCC Rcd 3353, proposing a new Section 65.703(h).

⁵⁶⁶ For a more complete discussion of our sharing mechanisms under price cap regulation, see Section II.A.4. *supra*.

⁵⁶⁷ See US West Comments at 32.

⁵⁶⁸ See, e.g., Investigation of Special Access Tariffs of Local Exchange Carriers, CC Docket No. 85-166, Phase II, Part 1, FCC 90-274, Memorandum Opinion and Order, July 25, 1990, citing Annual 1988 Access Tariff Filings, CC Docket No. 88-1, Phase II, Memorandum Opinion and Order on Reconsideration, 4 FCC Rcd 3965, 3966 (1989), petition for review pending, *Southern Bell Telephone and Telegraph Company and South Central Bell Telephone Company et al. v. FCC et al.*, D.C. Cir. Nos. 89-1081 et al. See also *Mobil Alaska Pipeline Co. v. U.S.*, 436 US 631, 654-657.

⁵⁶⁹ See *New England Telephone and Telegraph Co. v. FCC*, 826 F.2d 1101 (D.C. Cir. 1987).

⁵⁷⁰ *AT&T Price Cap Order*, 4 FCC Rcd at 3295-3307 (paras. 880-895).

⁵⁷¹ *Second Further Notice*, 4 FCC Rcd at 3307 (para. 896).

⁵⁷² With regard to existing rates, we note that our concurrent reduction of the unitary rate of return will further assure the reasonableness of the rates price cap carriers use as the basis for their initial price cap tariffs. In addition, we will make further adjustments on a case-by-case basis, if any existing or future rates are found unlawful following complaint or other investigatory proceedings.

⁵⁷³ See, e.g., Ad Hoc Comments at 53-54, 57.

⁵⁷⁴ See Section II.A.2., *supra*.

⁵⁷⁵ See Section II. A. 4., *supra*.

⁵⁷⁶ As discussed in the context of AT&T, we believe it is appropriate, and consistent with relevant precedent, to permit greater earnings flexibility as a mechanism for improving efficiency. See 4 FCC Rcd at 3299-3300 (para. 886) and nn. 1840, 1841.

⁵⁷⁷ See *Nader v. FCC*, 520 F.2d 182 (D.C. Cir. 1975).

⁵⁷⁸ See generally *AT & T v. FCC*, 836 F.2d 1386 (D.C. Cir. 1988).

⁵⁷⁹ See, e.g., Florida Citizens Comments at 4-5 (expressing concern that, even with the previously proposed automatic stabilizer, rates authorized under price caps would be "largely divested of cost-based principles"); Maryland PC Comments at 2-3 (must measure carrier costs either individually or by peer group average -- no "zone of reasonableness" can be established around a point that is itself not demonstrably reasonable); Maryland PC Reply at 2; Ad Hoc Comments at ii and 4 (asserting that the non-cost based character of the price caps proposal is "inconsistent" with cost based ONA rates and that the Commission employs "very subtle argumentation to camouflage the arbitrariness of this inconsistency"); IIA Comments at 1 (plan fails to address the potential for deviations from just and reasonable, cost based rates for common carrier services); NCTA Reply at 19 (rates must be based on carrier costs).

⁵⁸⁰ See *Second Further Notice*, 4 FCC Rcd at 3296-99 (paras. 882-85). See also Section I. C. and D., *supra*.

⁵⁸¹ See *id.*, 4 FCC Rcd at 3299-3300 (para. 886) and nn.1840, 1841.

⁵⁸² IIA Comments at 3; Maryland PC Comments at 2-3; CFA Reply at 1-2 (contending that Commission's latitude does not extend to elimination of the regulation of service cost and earnings for dominant carriers); Maryland PC Comments at 3-4 (by improperly relying on cases endorsing zones of reasonableness in essentially competitive industries, the Commission seeks to "parlay" emergence of some competition for AT&T into grounds for claiming such cases support price cap regulation for the LECs); *accord* Ohio PUC at 2 (competition is a precondition to the efficacy of price cap regulation); Hawaii Supplemental Reply at 3 (because LECs retain monopoly control over interstate local access market, price caps cannot prevent prices from diverging from costs over time because there is no inherent pressure for this relationship to exist).

⁵⁸³ It should be noted that while the Commission expressly did not rely on competition as a prerequisite for its legal authority to adopt price caps for AT&T, it did state that the existence of competition would "provide added assurance" that AT&T's rates would remain within the zone of reasonableness. See 4 FCC Rcd at 3303 (para. 892) and n. 1857. The sharing mechanism we adopt here directly establishes the "added assurance" that competition more indirectly provides in the context of the interexchange market.

⁵⁸⁴ See 47 U.S.C. §§ 204, 208.

⁵⁸⁵ Specific reference is made to three sections of this Report and Order: service quality reporting, with the addition of post dial delay, installation interval, repair intervals, and network blockage (see part III. A. 1. b and c., *infra*); infrastructure development, with the addition of reporting categories established in Common Carrier Docket No. 89-624 (see part III. A. 3., *infra*); and reporting of excluded services revenues (see part II.B.1., *infra*).

⁵⁸⁶ See also NYNEX Reply, App. E, for a discussion of savings related to price cap tariff filing procedures.

⁵⁸⁷ Because of the nature of local exchange and access service, this Commission has concluded that small telephone companies are dominant in their fields of operation and therefore are not small entities as defined by the Regulatory Flexibility Act. See

MTS and WATS Market Structure, 93 FCC 2d 241, 338-99 (1983). Thus, this Commission is not required by the terms of that Act to apply the formal procedures set forth therein. Accordingly, we continue to reject the assertions of SBA to the contrary. See SBA Comments at 4 n.2. We are nevertheless committed to reducing the regulatory burdens on small telephone companies whenever possible consistent with our other public interest responsibilities. Accordingly, we have chosen to utilize, on an informal basis, appropriate Regulatory Flexibility Act procedures to analyze the effect of proposed regulations on small telephone companies.

⁵⁸⁸ We thus reject the claims of SBA that this Commission has not adequately analyzed the effects of these rules on small businesses. Similarly, in light of the optional application of price cap regulation to smaller LECs, we reject SBA's assertion that we have not adequately examined regulatory alternatives for smaller LECs. See SBA Comments at 3.

⁵⁸⁹ Ronan Supplemental Reply at 14-15.

⁵⁹⁰ Access Tariff Filing Schedules, Report and Order, CC Docket No. 88-326, 3 FCC Rcd 5495 (1988).

⁵⁹¹ See Ameritech Comments at 5 n.5; Bell Atlantic Comments at 3 n.6; NYNEX Comments at 6-7; Pactel Comments at i, 3-6; SWB Comments at 5; USTA Comments at 4, 16-19; US West Supplemental Comments at 67; SWB Supplemental Comments at 21; NECA Supplemental Comments at 1-2; Pactel Supplemental Comments at 73; NYNEX Supplemental Reply at 26; Pactel Supplemental Reply at 7; US West Supplemental Reply at 26-29.

⁵⁹² We note that we have set a 90-day review period for full, annual price cap tariff filings; the fact that this first filing will establish tariffs to be effective for six months, and that it will not include application of the adjustment formulas, allows us to establish a shorter, 60-day review period.

⁵⁹³ These parties request that we release a tentative decision, rather than a final decision, in order to allow for further comment. We believe that the three-year course of this proceeding, and in particular this Commission's issuance of a *Supplemental Notice* following the *Second Further Notice* (resulting in a record of more than 11,000 pages) constitutes a full and fair opportunity for notice and comment, and that a final order is fully justified and appropriate at this time.

**Statement
of
Commissioner Ervin S. Duggan**

Concurring in Part, Dissenting in Part

In Re: Policy and Rules Concerning Rates for Dominant Carriers (CC Docket No. 87-313), Report and Order

Price cap regulation promises to produce lower rates for consumers and, simultaneously, to spur efficiency, innovation and new investments by industry. Because I support these goals, I am eager to see a plan establishing price caps for local exchange telephone companies succeed.

While I support the result that the Commission votes for today, however, I must dissent in part--- albeit quietly and respectfully--- on one key element of the plan: the Commission's choice of a common line formula.

My chief concern in this proceeding is the Commission's explicit promise that under a price cap system of regulation, rates will be lower than under the traditional rate-of-return system. The Commission put that promise this way in 1988:

[W]e propose to [e]nsure that consumers benefit from price cap regulation by extracting from carriers real rate decreases that reasonably can be expected to exceed those which would have resulted if rate-of-return regulation were applied . . . [T]he half a percentage point premium [the consumer productivity dividend] that we are placing on the productivity factor ensures, on an ongoing basis, that ratepayers will be better off under price caps than they would have been under rate-of-return regulation. *Further Notice* in CC Docket No. 87-313, 3 FCC Rcd 3195, 3263, 3408, (1988) [Emphasis added.]

Later, in its *Report and Order* adopting price caps for AT&T the following year, the Commission repeated its determination to ensure that "ratepayers are better off under price cap regulation"--- and spoke of a " *guarantee* that under a price cap system, inflation-adjusted rate reductions will exceed the historical average under rate of return." 4 FCC Rcd 2873, 3001 (1989) [Emphasis added.]

The Common Line Formula

I am not confident that the common line formula chosen by the majority today does enough to further the goal of lower rates for consumers. Indeed, I fear that it will have the opposite effect.

Because of unique characteristics associated with common lines (or "subscriber lines"), a price cap formula that is rational for other service baskets may not make sense for the common line basket. Common line costs are "non-traffic-sensitive": no matter how much or how little a subscriber uses such a line, that is, the telephone company's cost for the line remains the same.

Under rate-of-return regulation, when usage per line increases, the telephone company's effective cost-per-minute falls and the savings are passed through to ratepayers. And historically, demand -- expressed in terms of minutes of use per line -- has grown each year. And so, as telephone ratepayers have made increasingly heavy use of these lines, the cost-per-minute to the local telephone company has fallen, and the decline in cost has resulted in declining rates paid by long-distance companies for access to the local exchange--- the carrier common line charge. The recent marked decline in access charges also has been fueled by the FCC's requirement that much of the cost of subscriber lines be recovered through flat subscriber line charges. This decline in access charges has made it possible for long-distance companies to offer their services, in recent years, at ever-lower prices. Lower prices, in turn, have stimulated increased calling---a highly satisfactory self-reinforcing effect.

Because common line costs do not vary with usage, the most rational approach to capping the common line "basket," in my view, is to impose a cap on the price of each subscriber line---the so-called "per line" approach. Because common line revenues are collected both through flat charges (the so-called subscriber line charges) and

through usage-based charges (the carrier common line charge), the effect of a per-line price cap approach would be to drive the per-minute charge *down* as usage increases: the same rate effect that one would see under rate-of-return regulation. As costs per minute fall, rates per minute would fall proportionally---an approach which, in my judgment, would more strongly support the Commission's expressed promise to ensure that ratepayers will be better off under price cap regulation. A per line approach, moreover, would give the local telephone company the incentive to pare down its costs for providing subscriber lines, while giving the customers---both long-distance carriers and telephone subscribers---a price incentive to increase usage.

A Misplaced Benefit?

Under the "balanced 50-50" formula chosen by the majority, however, ratepayers will likely pay higher carrier common line rates than under rate-of-return regulation. The "balanced 50-50" formula takes half the benefit of increased network usage from the consumer (either the long-distance carrier or the caller, to whom it would go under rate-of-return regulation) and gives it instead to the local exchange carrier. The greater the increase in demand growth under this "balanced 50-50" formula, the greater the benefit to the local exchange company---and the worse the potential disadvantage to ratepayers.

In the course of an intense debate over this question within the Commission, the Chairman and the staff have done much to mitigate the potential disadvantage to ratepayers that their chosen formula has presented for me; today's plan is, to my mind, a great improvement over what was earlier proposed. But the revised formula still is impossible for me to rationalize; it still awards half the benefit of demand growth over subscriber lines to the local telephone companies, even though there is relatively little they can do, as local companies, to stimulate interstate usage. Generous efforts have been made to make it possible for me to travel the distance between the per-line approach and the "50-50" option; I continue, however, to find even the balanced "50-50" approach impossible to justify.

Who Stimulates Demand?

Some will see, in the Commission's selected common line formula, a noble effort to make a Solomonic compromise between two demanding industries. For me, however, to make a half-way split between what seems rational and what appears irrational is to arrive at only a semi-rational result. Others will justify the "50-50" formula's assignment of certain demand-growth benefits to the local exchange companies as an "incentive" to them to make future investments that will stimulate increased interstate long-distance calling. But I am not convinced that the local exchange companies have any great ability to stimulate such demand. And to the extent that they do, they already enjoy ample incentives to boost usage---because "traffic-sensitive" rates, designed to cover traffic-sensitive costs, are capped on a per-minute basis.

Let us assume for the nonce that some of the benefit of this demand growth should go to local exchange companies as an incentive to stimulate further usage. A question then arises: How much? I can simply find no

rational basis--other than a somewhat arbitrary generosity--for giving fully half of that benefit to the LECs. To my mind most, if not all, of the incentive should go to the interexchange carriers and to interstate long-distance callers--the parties most responsible for increasing usage.

The amounts in question are not trivial. Depending upon actual growth in interstate demand over the next several years, the LECs could reap hundreds of millions of extra dollars through the formula adopted by the Commission today. We all hope, of course, that these millions will be wisely invested in the telephone network. But our hope remains just that, a hope; we have no guarantee that this generous "incentive" will call forth the response we desire.

The Threat to Ratepayers

The majority's chosen formula, moreover, threatens to reduce the stimulus to demand that results from ever-decreasing carrier common line charges. Keeping carrier common line charges artificially high under price caps will, I fear, dampen demand for interexchange services. At a time when the nation faces a possible recession, we should be wary of any risk of increasing costs for businesses and consumers.

Another promised benefit of price caps is that telephone companies, under price caps, will find it much more difficult to engage in cross-subsidies because of the downward pressure exerted by the price caps for each service basket. If telephone companies find themselves presented with a generous revenue "cushion" in one service basket, however--for example, from too liberal a formula in the common line basket--they will be better able to underprice those services in other baskets for which they face competition.

The public will measure the success of our price cap program against three yardsticks: rates, service quality and infrastructure investment. If price caps fail to measure up against any one of these yardsticks, we will be faced with intense (and justified) criticism--and with the necessity for an agonizing reappraisal. Along with my fellow Commissioners, I will carefully monitor the industry's progress under this new regulatory regime. I will be watching to see whether rates have been at least as favorable to consumers as they would have been under rate-of-return regulation, whether service quality has been maintained, and whether the local exchange companies have invested sufficiently in the network.

Despite my reservations, I am cautiously optimistic that price caps can bring positive change to this industry and to ratepayers. Months of cordial and informative meetings with officials of the local exchange companies have convinced me that they are determined and eager to improve service to their consumers under the incentives provided by price cap regulation. Nothing could give me more pleasure than to find, in our formal review three years hence, that my reservations have been overcome by experience, and that price caps are a resounding success, both for the telecommunications industry and for the nation's consumers.

APPENDIX A

PRICE CAP PROCEEDING
LIST OF COMMENTERS

Second Further Notice

The following parties filed comments:

Ad Hoc Telecommunications Users Committee (Ad Hoc)
Alabama Public Service Commission (Alabama PSC)
Alltel Corporation (Alltel)
Allnet (Allnet)
Association for Local Telecommunications Services (Local Telecom)
Ameritech Operating Companies (Ameritech)
American Petroleum Institute (API)
American Telephone and Telegraph Company (AT&T)
Bell Atlantic Telephone Companies (Bell Atlantic)
BellSouth Corporation (BellSouth)
California Public Utilities Commission (California PUC)
Cincinnati Bell Telephone Company (CBT)
Central Telephone Company (Centel)
Contel Corporation (Contel)
Citizens for a Sound Economy (CSE)
David Systems, Inc. (David)
D.C. Public Service Commission (DC PSC)
Federal Executive Agencies (Executive Agencies)
Citizens of Florida (Florida Citizens)
GTE Telephone Operating Companies (GTOC)
State of Hawaii (Hawaii)
International Communications Association (ICA)
Independent Data Communications Manufacturers Association (IDCMA)
Information Industry Association (IIA)
Illinois Commerce Commission (Illinois)
Indiana Office of Utility Consumer Counselor (jointly with NASUCA)
(Indiana UCC)
Integrated Network Corporation (Integrated Network)
Iowa State Utilities Board (Iowa)
Lincoln Telephone Company (Lincoln)
Local Area Telecommunications (LOCATE)
MCI Telecommunications Corporation (MCI)
Maryland People's Counsel (Maryland PC)
Metropolitan Fiber Systems (Metropolitan)
Michigan Public Service Commission Staff (Michigan PSC)
Missouri Public Service Commission (Missouri PSC)
National Exchange Carrier Association (NECA)
Captital Cities/ABC, CBS, and NBC (Networks)

New York Clearinghouse Association, et al. (NY Clearinghouse)
National Telephone Cooperative Association (NTCA)
New York State Department of Public Service (New York DPS)
New York Telephone Company and New England Telephone and Telegraph Company
(NYNEX)
Ohio Public Utilities Commission (Ohio PUC)
Organization for the Protection and Advancement of Small Telephone Companies
(OPASTCO)
Pacific Bell and Nevada Bell (Pactel)
Puerto Rico Telephone Company (PRTC)
Rochester Telephone Corporation (Rochester)
Ronan Telephone Company (Ronan)
United States Small Business Administration (SBA)
Southern New England Telephone Company (SNET)
Southwestern Bell Telephone Company (SWB)
Telephone and Data Systems (TDS)
Tele-Communications Association (TCA)
Telephone Utilities Exchange Carrier Association (TUECA)
Telenet (Telenet)
United Telecommunications, Inc. (United)
University Group Project (University)
United States Telephone Association (USTA)
Mountain States Telephone and Telegraph Company, Northwestern Bell Telephone
Company and Pacific Northwest Bell Telephone Company (US West)
Verilink Corporation (Verilink)
West Virginia Public Service Commission (W. Virginia PSC)

The following parties filed reply comments:

Ad Hoc
Alltel
Ameritech
API
AT&T
Bell Atlantic
BellSouth
CBT
Centel
Consumer Federation of America (CFA)
Colorado Office of Consumer Counsel (Colorado OCC)
DC PSC
Department of Justice (Justice)
Executive Agencies
GTOC
Hawaii
ICA
IDCMA
Illinois
Illinois Consolidated Telephone Company (Illinois Telco)

Indiana UCC
Long Distance/USA (LD/USA)
Local Telecom
LOCATE
MCI
Maryland PC
Metropolitan
National Association of Broadcasters (NAB)
National Association of Regulatory Utility Commissioners (NARUC)
National Cable Television Association (NCTA)
Networks
NY Clearinghouse
NTCA
NYNEX
Office of Ohio Consumer Counsel (Ohio Counsel)
Ohio PUC
OPASTCO
Pactel
PRTC
Rochester
SNET
SWB
TDS
TCA
TUECA
United
USTA
US West

Supplemental Notice

The following parties filed supplemental comments:

Computer Software and Services Industry Association (ADAPSO)
Ad Hoc
Alltel
Allnet
Ameritech
API
Aeronautical Radio Inc. (Aeronautical Radio)
AT&T
Bell Atlantic
BellSouth
Boeing Computer Services (Boeing Computer)
California PUC
CBT
Committee of Corporate Telecommunications Users (Corporate Committee)
Centel

Competitive Telecommunications Association (Comptel)
Contel
CSE
DC PSC
Executive Agencies
GTOC
Hawaii
ICA
IIA
Integrated Network
ADAPSO, Ad Hoc Telecommunications Users Committee, Aeronautical Radio, Aetna
Life & Casualty, Allnet, American Airlines, American Express, AT&T, America's
Carriers Telecommunications Association, Automatic Data Processing, Inc.,
Boeing Computer, and 25 others. (Joint Parties)
Lincoln Telephone Company (Lincoln)
Local Telecom
MCI
Metropolitan
National Association of State Utility Consumer Advocates (NASUCA)
NECA
NTCA
National Telecommunications and Information Administration (NTIA)
New York DPS
NYNEX
OPASTCO
Pactel
PRTC
Rochester
SBA
SNET
TCA
Teleport Communications Group (Teleport)
United
USTA
US West

The following parties filed supplemental reply comments:

Ad Hoc
Alaska
Alltel
Local Telecom
Ameritech
AT&T
Bell Atlantic
BellSouth
Boeing Computer
CBT
Centel
Contel
CSE
Office of People's Counsel, District of Columbia (DC People's Counsel)
DC PSC
Executive Agencies
GTOC
Hawaii
ICA
IDCMA
MCI
Metropolitan
NASUCA
NTCA
NYNEX
Pactel
PRTC
Rochester
Ronan Telephone Company (Ronan)
SNET
SWB
TDS
TCA
United
USTA
US West

APPENDIX B

AMENDMENTS TO THE CODE OF FEDERAL REGULATIONS

Title 47 of the CFR, Parts 61, 65, and 69 are amended as follows:

PART 61 -- TARIFFS

1. The authority citation for Part 61 continues to read as follows:

Authority: Sec. 4, 48 Stat. 1066, as amended; 47 U.S.C. 154. Interpret or apply sec. 203, 48 Stat. 1070; 47 U.S.C. 203.

2. Section 61.3 is amended by revising paragraphs (u), (w), and (x) to read as follows:

§ 61.3 Definitions.

* * * * *

(u) Price Cap Index (PCI). An index of costs applying to carriers subject to price cap regulation, which index is calculated for each basket pursuant to §§ 61.44 or 61.45. * * * * *

(w) Price cap tariff. Any tariff filing involving a service that is within a price cap basket, or that requires calculations pursuant to §§ 61.44, 61.45, 61.46, or 61.47.

(x) Productivity factor. An adjustment factor used to make annual adjustments to the Price Cap Index to reflect the margin by which a carrier subject to price cap regulation is expected to improve its productivity relative to the economy as a whole.

* * * * *

3. Section 61.38 is amended by revising the last sentence of paragraph (a) to read as follows:

§ 61.38 Supporting information to be submitted with letters of transmittal.

(a) * * * This section (other than the preceding sentence of this paragraph) shall not apply to tariff filings proposing rates for services identified in §§ 61.42(a), (b), (d), (e), and (g), which filings are submitted by carriers subject to price cap regulation.

* * * * *

4. Section 61.39 is amended by adding the following new sentence at the end of paragraph (a) to read as follows:

§ 61.39 Optional supporting information to be submitted with letters of transmittal for Access Tariff filings effective on or after January 1, 1989, by local exchange carriers serving 50,000 or fewer access lines that are described as subset 3 carrier in § 69.602.

(a) * * * This section (other than the preceding sentence of this paragraph) shall not apply to tariff filings proposing rates for services identified in §§ 61.42(d), (e), and (g), which filings are submitted by carriers subject to price cap regulation.

* * * * *

5. Section 61.41 is revised to read as follows:

§ 61.41 Price cap requirements generally.

(a) Sections 61.42 through 61.49 shall apply as follows:

(1) To dominant interexchange carriers, as specified by Commission order;

(2) To such local exchange carriers as specified by Commission order, and to all local exchange carriers, other than average schedule companies, that are affiliated with such carriers; and

(3) On an elective basis, to local exchange carriers, other than those specified in paragraph (2), that are neither participants in any Association tariff, nor affiliated with any such participants, except that affiliation with average schedule companies shall not bar a carrier from electing price cap regulation provided the carrier is otherwise eligible.

(b) If a telephone company, or any one of a group of affiliated telephone companies, files a price cap tariff in one study area, that telephone company and its affiliates, except its average schedule affiliates, must file price cap tariffs in all their study areas.

(c) The following rules apply to telephone companies subject to price cap regulation, as that term is defined in § 61.3(v), which are involved in mergers, acquisitions, or similar transactions.

(1) Any telephone company subject to price cap regulation that is a party to a merger, acquisition, or similar transaction shall continue to be subject to price cap regulation notwithstanding such transaction.

(2) Where a telephone company subject to price cap regulation acquires, is acquired by, merges with, or otherwise becomes affiliated with a telephone company that is not subject to price cap regulation, the latter telephone company shall become subject to price cap regulation no later than one year

following the effective date of such merger, acquisition, or similar transaction and shall accordingly file price cap tariffs to be effective no later than that date in accordance with the applicable provisions of this Part 61.

(3) Notwithstanding the provisions of § 61.41(c)(2) above, where a telephone company subject to price cap regulation acquires, is acquired by, merges with, or otherwise becomes affiliated with a telephone company that qualifies as an "average schedule" company under §§ 69.605 and 69.606, the latter company may, but shall not be obligated to, become subject to price cap regulation.

(d) Local exchange carriers that become subject to price cap regulation as that term is defined in § 61.3(v) of this chapter shall not be eligible to withdraw from such regulation.

6. Section 61.42 is amended by redesignating paragraph (d) as paragraph (g), by revising the first sentence thereof, and by adding new paragraphs (d), (e), and (f) to read as follows:

§ 61.42 Price cap baskets and service categories.

* * * * *

(d) Each local exchange carrier subject to price cap regulation shall establish baskets of services as follows:

(1) A basket for the common line interstate access elements as described in § 69.103, 69.104, 69.105, and 69.115 of this chapter;

(2) A basket for traffic sensitive switched interstate access elements;

(3) A basket for special access services as described in § 69.114 of this chapter; and

(4) to the extent that a local exchange carrier specified in § 61.41(a)(2) or (3) above offers interexchange services that are not classified as access services for the purposes of Part 69 of this Commission's Rules, such exchange carrier shall establish a fourth basket for such services.

(e)(1) The traffic sensitive switched interstate access basket shall contain such services as the Commission shall permit or require, including the following service categories: (i) local switching as described in § 69.106; (ii) equal access as described in § 69.107; (iii) information, as described in § 69.109; and (iv) transport, as described in §§ 69.111 and 69.112 of this chapter.

(2) The basket for special access services shall contain such services as the Commission shall permit or require, including the following service categories: (i) voice grade, WATS, metallic, and telegraph services; (ii) audio and video services; (iii) high capacity and DDS services; and (iv) wideband data and wideband analog services.

(f) Each local exchange carrier subject to price cap regulation shall exclude from its price cap baskets such services or portions of such services as the Commission has designated or may hereafter designate by order.

(g) New services, other than those within the scope of paragraphs (c) and (f) of this section, * * *

7. Section 61.43 is amended by revising the first sentence to read as follows:

§ 61.43 Annual price cap filings required.

Carriers subject to price cap regulation shall submit annual price cap tariff filings that propose rates for the upcoming year, that make appropriate adjustments to their PCI, API, and SBI values pursuant to §§ 61.44 through 61.47, and that incorporate the costs and rates of new services into the PCI, API, or SBI calculations pursuant to §§ 61.44(g), 61.45(g), 61.46(b), and 61.47(b) and (c). * * *

8. Section 61.44 is amended by revising the heading and first sentences of paragraphs (a) and (b) to read as follows:

§ 61.44 Adjustments to the PCI for Dominant Interexchange Carriers.

(a) Dominant interexchange carriers subject to price cap regulation shall file adjustments to the PCI for each basket as part of the annual price cap tariff filing, and shall maintain updated PCIs to reflect the effect of mid-year access and exogenous cost changes. * * *

(b) Subject to paragraph (d) of this section, adjustments to each PCI of dominant interexchange carriers subject to price cap regulation shall be made pursuant to the following formula: * * *

* * * * *

9. New section 61.45 is added to read as follows:

§ 61.45 Adjustments to the PCI for Local Exchange Carriers.

(a) Local exchange carriers subject to price cap regulation shall file adjustments to the PCI for each basket as part of the annual price cap tariff filing, and shall maintain updated PCIs to reflect the effect of mid-year exogenous cost changes.

(b) Adjustments to local exchange carrier PCIs for the baskets designated in §§ 61.42(d)(2), (3), and (4) shall be made pursuant to the formula set forth in § 61.44(b), and as further explained in §§ 61.44(e), (f), (g), and (h).

(1) Notwithstanding the value of X defined in § 61.44(b), the X value applicable to the baskets specified in § 61.42(d)(2) and (3) shall be 3.3%, or 4.3% if the carrier so elects.

(2) For the basket specified in § 61.42(d)(4), the value of X shall be 3%, or 4% if the carrier so elects.

(c) Subject to paragraph (e) of this section, adjustments to local exchange carrier PCIs for the basket designated in § 61.42(d)(1) shall be made pursuant to the following formula:

$$PCI_t = PCI_{t-1} [1 + w((GNP-PI - X - (g/2))/(1 + (g/2)))] + \Delta Z/R$$

where

GNP-PI = the percentage change in the GNP-PI between the quarter ending six months prior to the effective date of the new annual tariff and the corresponding quarter of the previous year,

X = productivity factor of 3.3%, or 4.3% if the carrier so elects,

g = the ratio of minutes of use per access line during the base period, to minutes of use per access line during the previous base period, minus 1,

ΔZ = the dollar effect of current regulatory changes when compared to the regulations in effect at the time the PCI was updated to PCI_{t-1} , measured at base period level of operations,

R = base period quantities for each rate element "i", multiplied by the price for each rate element "i" at the time the PCI was updated to PCI_{t-1} ,

w = $R + \Delta Z$, all divided by R,

PCI_t = the new PCI value, and

PCI_{t-1} = the immediately preceding PCI value.

(d) The exogenous cost changes represented by the term " ΔZ " in the formulas detailed in paragraphs (b) and (c), shall be limited to those cost changes that the Commission shall permit or require.

(1) Subject to further order of the Commission, those exogenous cost changes shall include cost changes caused by (i) the completion of the amortization of depreciation reserve deficiencies; (ii) changes in the Uniform System of Accounts; (iii) changes in the Separations Manual; (iv) changes to the level of obligation associated with the Long Term Support Fund and the Transitional Support Fund described in § 69.612; (v) the reallocation of investment from regulated to nonregulated activities pursuant to § 64.901; (vi) such tax law changes and other extraordinary exogenous cost changes as the Commission shall permit or require, and (vii) retargeting the PCI to the level specified by the Commission for carriers whose base year earnings are below the level of the lower adjustment mark.

(2) Local exchange carriers specified in § 61.41(a)(2) or (a)(3) shall also make such temporary exogenous cost changes as may be necessary to reduce PCIs to give full effect to any sharing of base period earnings required by the sharing mechanism set forth in the Commission's Second Report and Order in Common Carrier Docket No. 87-313, FCC 90-314, adopted September 19, 1990.

(3) Local exchange carriers specified in § 61.41(a)(2) or (a)(3) shall, in their annual access tariff filing, recognize all exogenous cost changes attributable to modifications during the coming tariff year in the obligations specified in § 61.45(d)(1)(iv) as well as those changes attributable to alterations in their Subscriber Plant Factor and the Dial Equipment Minutes factor.

(4) Exogenous cost changes shall be apportioned on a cost-causative basis between price cap services as a group, and excluded services as a group. Exogenous cost changes thus attributed to price cap services shall be further apportioned on a cost-causative basis among the price cap baskets.

(e) The " $w[(GNP-PI - X - (g/2))/(1 + (g/2))]$ " component of the PCI formula contained in paragraph (c) shall be employed only in the adjustment made in connection with the annual price cap filing.

(f) The exogenous costs caused by new services subject to price cap regulation must be included in the appropriate PCI calculations under paragraph (c) of this section beginning at the first annual price cap tariff filing following completion of the base period in which such services are introduced.

(g) In the event that a price cap tariff becomes effective, which tariff results in an API value (calculated pursuant to § 61.46) that exceeds the currently applicable PCI value, the PCI value shall be adjusted upward to equal the API value.

(h) To the extent a local exchange carrier elects the higher productivity factor, the election must be made in all baskets.

10. Section 61.46 is amended by revising the first part of paragraph (a) and by adding new paragraph (d) to read as follows:

§ 61.46 Adjustments to the API

(a) Except as provided in paragraphs (d) and (e) of this section, in connection with any price cap tariff filing proposing rate changes, the carrier must calculate an API for each affected basket pursuant to the following methodology:

■ ■ ■ ■ ■

(d) In connection with any price cap tariff proposing changes to rates for services in the basket designated in § 61.42(d)(1), the carrier common line (CCL) charges shall be computed pursuant to the following methodology:

$$CCL_{MOU} = CL_{MOU} * (1 + \% \text{ change in CL PCI}) - EUCL_{MOU} * 1 / (1 + (g/2))$$

where

CCL_{MOU} = the sum of each of the proposed Carrier Common Line rates multiplied by its corresponding base period Carrier Common Line minutes of use, divided by the sum of all types of base period Carrier Common Line minutes of use,

CL_{MOU} = the sum of each of the existing Carrier Common Line rates multiplied by its corresponding base period Carrier Common Line minutes of use plus each existing End User Common Line (EUCL) rate multiplied by its corresponding base period lines, divided by the sum of all types of base period Carrier Common Line minutes of use,

$EUCL_{MOU}$ = proposed End User Common Line rates multiplied by base period lines, and

g = the ratio of minutes of use per access line during the base period to minutes of use per access line during the previous base period, minus 1.

(e) In addition, for the purposes of § 61.46(d), "Existing Carrier Common Line Rates" shall include existing originating premium, originating non-premium, terminating premium, and terminating non-premium rates; and "End User Common Line Rates" used to calculate the CL_{MOU} and the EUCL_{MOU} factors shall include, but not be limited to, Residential and Single Line Business rates, Multi-Line Business rates, Centrex rates, Limited Pay Telephone Rates, and the Special Access surcharge.

11. Section 61.47 is amended by adding paragraph (h) to read as follows:

§ 61.47 Adjustments to the SBI; pricing bands.

* * * * *

(h) Local exchange carriers subject to price cap regulation as that term is defined in § 61.3(v) of this chapter shall use the methodology set forth in paragraphs (a) through (d) of this section to calculate two separate subindexes: one for the DS1 services offered by such carriers and the other for the DS3 services offered by such carriers. Notwithstanding paragraph (e) of this section, the annual pricing flexibility for each of these two subindexes shall be limited to an annual increase or decrease of five percent, relative to the percentage change in the PCI for the special access services basket, measured from the last day of the preceding tariff year.

12. Section 61.48 is amended by adding paragraphs (c), (d), (e), and (f) to read as follows:

§ 61.48 Transition rules for price cap formula calculations.

* * * * *

(c) Local exchange carriers subject to price cap regulation shall file initial price cap tariffs not later than November 1, 1990, to be effective January 1, 1991.

(d) In connection with the initial price cap filing described in paragraph (c) of this section, each PCI, API, and SBI shall be assigned an initial value prior to adjustment of 100, corresponding to the costs and rates in effect as of July 1, 1990.

(e) In connection with the initial price cap filing described in paragraph (c) of this section, initial PCI calculations shall be made without adjustment for any changes in inflation or productivity. Annual price cap filings incorporating the full values of the GNP-PI and productivity offsets will commence April 2, 1991, with a scheduled effective date of July 1, 1991.

(f) Local exchange carriers specified in §61.41(a)(2) or (3) shall, in their initial price cap filings described in paragraph (c) of this section, adjust their PCIs through use of an exogenous cost factor to account for the re prescription of the rate of return, effective January 1, 1991.

13. Section 61.49 is amended by revising paragraph (a) and the last sentence of paragraph (g) to read as follows:

§ 61.49 Supporting information to be submitted with letters of transmittal for tariffs of carriers subject to price cap regulation

(a) Each price cap tariff filing must be accompanied by supporting materials sufficient to calculate required adjustments to each PCI, API, and SBI pursuant to the methodologies provided in §§ 61.44, 61.45, 61.46, and 61.47, as applicable.

* * * * *

(g) * * * Each such tariff filing must also be accompanied by data sufficient to make the API and PCI calculations required by §§ 61.46(b), 61.44(g), and 61.45(f), § 61.46(d), and, as necessary, to make the SBI calculations provided in §§ 61.47(b) and (c).

14. Section 61.58(c) is amended by revising paragraphs (c)(1), (c)(5), and (c)(6) to read as follows:

§ 61.58 Notice Requirements.

* * * * *

(c) * * *

(1) For annual adjustments to the PCI, API, and SBI values under §§ 61.44, 61.46, and 61.47, respectively, dominant interexchange carrier filings must be made on at least 45 days' notice. For annual adjustments to the PCI, API, and SBI values under §§ 61.45, 61.46, and 61.47, respectively, local exchange carrier tariff filings must be made on not less than 90 days' notice.

* * * * *

(5) Tariff filings involving a change in rate structure of a service included in a basket listed in § 61.42(a) or § 61.42(d), or the introduction of a new service within the scope of § 61.42(g), must be made on at least 45 days' notice.

(6) The required notice for tariff filings involving services included in § 61.42(c) or § 61.42(f), or involving changes to tariff regulations, shall

be that required in connection with such filings by dominant carriers that are not subject to price cap regulation.

**PART 65 -- INTERSTATE RATE OF RETURN PRESCRIPTION
PROCEDURES AND METHODOLOGIES**

1. The authority citation for Part 65 continues to read as follows:

Authority: Secs. 4, 201, 202, 203, 205, 218, 403, 48 Stat. 1066, 1072, 1077, 1094, as amended, 47 U.S.C. 154, 201, 202, 203, 205, 218, 403.

2. Section 65.1 is revised to read as follows:

§ 65.1 Application of Part 65.

This part establishes procedures and methodologies for Commission prescription of interstate rates of return. This part shall apply to those interstate services and carriers as the Commission shall designate by order. This part shall not apply to dominant interexchange carriers subject to §§ 61.41 through 61.49, except as set forth in §§ 65.600(c), 65.701(c) and 65.703(g) of this chapter. Local exchange carriers subject to §§ 61.41 through 61.49 are exempt from the requirements of this part with the following exceptions: (1) carriers that meet the requirements of § 65.200(b) shall be subject to the filing requirements of Subpart C of this part; (2) carriers subject to §§ 61.41 through 61.49 shall employ the rate of return value calculated for interstate access services in complying with any applicable rules under Parts 36 and 69 that require a return component; (3) carriers subject to §§ 61.41 through 61.49 shall be subject to §§ 65.600(d), 65.701(d), and 65.703(h); and (4) carriers subject to §§ 61.41 through 61.49 shall continue to comply with the prescribed rate of return when offering any services specified in § 61.42(f) unless the Commission otherwise directs.

3. Section 65.600 is amended by revising paragraph (b) and adding new paragraph (d), to read as follows:

(a) * * * * *

(b) Each local exchange carrier or group of affiliated carriers which is not subject to §§ 61.41 through 61.49 of this chapter and which has filed individual access tariffs during the preceding enforcement period shall file with the Commission within three (3) months after the end of each calendar quarter, a quarterly rate of return monitoring report. Each report shall contain two parts. The first part shall contain rate of return information on a cumulative basis from the start of the enforcement period through the end of the quarter being reported. The second part shall contain similar information for the most recent quarter. The final quarterly monitoring report for the entire enforcement period shall be considered the enforcement period report. Reports shall be filed on the appropriate report form prescribed by the Commission (see § 1.795 of this chapter) and shall provide full and specific answers to all questions propounded and information requested in the currently effective report form. The number of copies to be filed shall be specified in the applicable report form. At least one copy of

the report shall be signed on the signature page by the responsible officer. A copy of each report shall be retained in the principal office of the respondent and shall be filed in such manner as to be readily available for reference and inspection. Final adjustments to the enforcement period report shall be made by September 30 of the year following the enforcement period to ensure that any refunds can be properly reflected in an annual access filing. For local exchange carriers subject to §§ 61.41 through 61.49 of this chapter, final adjustments to the final enforcement period report covering the period ending December 31, 1990, shall be made no later than September 30, 1991.

* * * * *

(d) Each local exchange carrier or group of affiliated carriers subject to §§ 61.41 through 61.49 of this chapter shall file with the Commission within three (3) months after the end of each calendar year a report of its total interstate access rate of return for that year. Such filings shall include a report of the total revenues, total expenses and taxes, operating income, and the rate base. Reports shall be filed on the appropriate report form prescribed by the Commission (see § 1.795 of this chapter) and shall provide full and specific answers to all questions propounded and information requested in the currently effective report form. The number of copies to be filed shall be specified in the applicable report form. At least one copy of the report shall be signed on the signature page by the responsible officer. A copy of each report shall be retained in the principal office of the respondent and shall be filed in such manner as to be readily available for reference and inspection.

4. Section 65.701 is amended by adding paragraph (d) to read as follows:

§ 65.701 Period of Review.

* * * * *

(d) Notwithstanding other provisions in this subpart, the final period of review for any local exchange carrier subject to §§ 61.41 through 61.49 of this chapter shall end on December 31, 1990.

5. Section 65.703 is amended by revising the first sentence of paragraph (g) and by adding new paragraph (h) to read as follows:

§ 65.703 Refunds.

* * * * *

(g) For interexchange carriers subject to §§ 61.41 through 61.49 of this chapter, refund obligations incurred prior to the date their tariffs filed pursuant to §§ 61.41 through 61.49 of this chapter take effect for the

first time shall be effectuated by an adjustment to the applicable Actual Price Index, Service Band Index, and Price Cap Index (as defined in § 61.3 of this chapter). * * *

(h) For each local exchange carrier subject to §§ 61.41 through 61.49 of this chapter, refund obligations incurred prior to the end of its final period of review shall be effectuated by an adjustment to the applicable Actual Price Index, Service Band Index, and Price Cap Index (as defined in § 61.3 of this chapter). Carriers making an adjustment to effectuate any outstanding refund requirements from their final enforcement period shall make such adjustments no later than the next scheduled annual price cap adjustment tariff filing following the submission of the final enforcement report. The adjustment shall be designed to complete the required refund within 12 months of the close of such period. Upon completion of the required refund, the Actual Price Index, the Service Band Index, or the Price Cap Index shall be adjusted to remove the effect of the adjustment.

PART 69 -- ACCESS CHARGES

1. The authority citation for Part 69 continues to read as follows:

Authority: Secs. 4, 201, 202, 203, 205, 218, 403, 48 Stat. 1066, 1070, 1072, 1077, 1094, as amended, 47 U.S.C. §§ 154, 201, 202, 203, 205, 218, 403, unless otherwise noted.

2. Section 69.1 is amended by revising paragraph (b) and adding paragraph (c) to read as follows:

§ 69.1 Application of access charges.

* * * * *

(b) Except as provided in § 69.1(c), charges for such access service shall be computed, assessed, and collected and revenues from such charges shall be distributed as provided in this part. * * *

(c) The following provisions of this part shall apply to telephone companies subject to price cap regulation only to the extent that application of such provisions is necessary to develop the nationwide average carrier common line charge and for purposes of reporting pursuant to § 43.21 and § 43.22: §§ 69.3(f), 69.105(b)(4), 69.105(b)(5), 69.106(b), 69.107(b), 69.107(c), 69.109(b), 69.111(c), 69.112(a), 69.112(b)(2), 69.112(b)(3), 69.112(d)(2), 69.112(d)(3), 69.114(b), 69.114(d), 69.205(e), 69.301 through 69.310, and 69.401 through 69.412. The computation of rates pursuant to these provisions by telephone companies subject to price cap regulation, as that term is defined in § 61.3(v) of this chapter, shall be governed by the price cap rules set forth in Part 61 of this chapter and other applicable Commission Rules and orders.

3. Section 69.3 is amended by revising paragraphs (a) and (e)(4), and by adding new paragraphs (h) and (i) to read as follows:

§ 69.3 Filing of access service tariffs.

(a) Except as provided in paragraphs (f) and (g), a tariff for access service shall be filed with this Commission for an annual period. Such tariffs shall be filed on a minimum of 90 days' notice with a scheduled effective date of July 1. Such tariff filings shall be limited to rate level changes.

* * * * *

(e) * * *

(4) Except for charges subject to price cap regulation as that term is defined in § 61.3(v) of this chapter, any charge in such a tariff that is

not an association charge must be computed to reflect the combined investment and expenses of all companies that participate in such a charge;

* * * * *

(h) Local exchange carriers subject to price cap regulation as that term is defined in § 61.3(v) of this chapter, shall file with this Commission a price cap tariff for access service for an annual period. Subject to § 61.48, such tariffs shall be filed to provide a minimum of 90 days' notice with a scheduled effective date of July 1. Such tariff filings shall be limited to changes in the Price Cap Indexes, rate level changes (with corresponding adjustments to the affected Actual Price Indexes and Service Band Indexes), and the incorporation of new services into the affected indexes as required by § 61.49 of this chapter.

(i) The following rules apply to the withdrawal from Association tariffs by telephone companies electing to file price cap tariffs pursuant to § 69.3(h).

(1) In addition to the withdrawal provisions of § 69.3(e)(9), a telephone company or group of affiliated telephone companies that participates in one or more Association tariffs during the current tariff year and that elects to file price tariffs effective July 1, 1991, shall notify the Association not later than December 31, 1990, that it is withdrawing from all Association tariffs effective June 30, 1991, subject to the terms of this Rule.

(2) Such withdrawal shall only be filed for the purpose of becoming eligible to file price cap tariffs effective July 1, 1991.

(3) Notwithstanding the provisions of § 69.3(e)(9), in the event a telephone company or group of affiliate telephone companies withdraws from all Association tariffs for the purpose of filing price cap tariffs, such companies may exclude from such withdrawal any or all affiliates that qualify as "average schedule" companies under §§ 69.605 and 69.606 provided that all affiliates so excluded are clearly specified in the withdrawal.

(4) If a telephone company elects to withdraw from Association tariffs and thereafter becomes subject to price cap regulation as that term is defined in § 61.3(v) of this chapter, neither such telephone company nor any of its withdrawing affiliates shall thereafter be permitted to participate in any Association tariffs.

4. Sec. 69.101 is revised to read as follows:

§ 69.101 General.

Except as provided in § 69.1 and Subpart C of this part, charges for each access element shall be computed and assessed as provided in this subpart.

5. Sec. 69.105 is amended by adding paragraphs (b)(7) and (b)(8), to read as follows:

§ 69.105 Carrier Common Line.

* * * * *

(b) * * *

(7) The Carrier Common Line charges of telephone companies that are subject to price cap regulation as that term is defined in § 61.3(v) of this chapter, shall be computed at the level of Carrier Common Line access element aggregation selected by such telephone companies, subject to § 69.3(e)(7). For each such Carrier Common Line access element tariff, the premium originating Carrier Common Line charge shall be one cent per minute. The premium terminating Carrier Common Line charge shall be set at a level that, when aggregated with the one cent originating charge and the non-premium originating and terminating carrier common line charges, shall not cause the aggregate carrier common line charge for the common line basket to exceed the capped charge computed pursuant to § 61.46(d) for that basket. The non-premium charges shall be equal to .45 multiplied by the premium charges.

(8) If the calculations described in subparagraph (b)(7) of this section result in a per minute charge on premium terminating minutes that is less than one cent, the originating and terminating charges shall be equal, and set at a level that does not cause the aggregate carrier common line charge for the common line basket to exceed the capped charge computed pursuant to § 61.46(d). The non-premium charges shall be equal to .45 multiplied by the premium charge.

* * * * *

6. Section 69.111 is amended by revising paragraph (a) to read as follows:

§ 69.111 Common transport.

(a) A charge that is expressed in dollars and cents per access minute shall be assessed upon all interexchange carriers that use (1) switching or transmission facilities that are apportioned to the Common Transport element for purposes of apportioning investment, or (2) equivalent facilities offered by carriers subject to price cap regulation as that term is defined in § 61.3(v) of this chapter.

* * * * *

7. Section 69.112 is amended by revising paragraph (b)(1), the first sentence of paragraph (c), and paragraph (d)(1) to read as follows:

(b) * * *

(1) Such charges shall be assessed upon all interexchange carriers for the interface arrangements they use to provide interstate or foreign services and for the equivalent arrangements offered by companies subject to price cap regulation as that term is defined in § 61.3(v) of this chapter.

(c) Charges for the use of voice grade transmission facilities shall be assessed upon interstate carriers that use such facilities to provide interstate or foreign services and for the use of equivalent facilities offered by companies subject to price cap regulation as that term is defined in § 61.3(v) of this chapter.

(d) * * *

(1) Such charges shall be assessed upon all interexchange carriers that use conditioning arrangements in the provision of interstate and foreign services and those that use equivalent arrangements offered by companies subject to price cap regulation as that term is defined in § 61.3(v) of this chapter.

8. Section 69.113 is amended by revising paragraph (c) to read as follows:

§ 69.113 Non-Premium Charges for MTS-WATS Equivalent Services.

* * * * *

(c) For telephone companies that are not subject to price cap regulation as that term is defined in § 61.3(v) of this chapter, the non-premium charge for the Local Switching element shall be computed by multiplying a hypothetical premium charge for such element by .45. The hypothetical premium charge for such element shall be computed by dividing the annual revenue requirement for each element by the sum of the projected access minutes for such element for such period and a number that is computed by multiplying the projected non-premium minutes for such element for such period by .45. For telephone companies that are price cap carriers, the non-premium charge for the Local Switching element shall be computed by multiplying the premium charge for such element by .45. Through December 31, 1992, the non-premium charge shall be computed by multiplying the LS1 charge for such element by .45.

* * * * *

9. Section 69.114 is amended by revising paragraph (a) to read as follows:

§ 69.114 Special access.

(a) Appropriate subelements shall be established for the use of equipment or facilities that are assigned to the Special Access element for purposes of apportioning net investment, or that are equivalent to such equipment or facilities for companies subject to price cap regulation as that term is defined in § 61.3(v) of this chapter.

* * * * *

10. Section 69.205 is amended by revising paragraph (c) to read as follows:

§ 69.205 Transitional premium charges.

* * * * *

(c) Except for telephone companies subject to price cap regulation, as that term is defined in § 61.3(v) of this chapter, the charge for an LS2 premium access minute shall be computed by dividing the premium Local Switching revenue requirement by the sum of the projected LS2 premium access minutes and a number that is computed by multiplying the projected LS1 premium access minutes by the applicable LS1 transition factor. For all telephone companies, the charge for an LS1 premium access minute shall be computed by multiplying the charge for an LS2 premium minute by the applicable LS1 transition factor. For telephone companies that are not subject to price regulation, as that term is defined in § 61.3(v) of this chapter, the premium Local Switching revenue requirement shall be computed by subtracting the projected revenues from non-premium charges attributable to the Local Switching element from the revenue requirement for each element.

APPENDIX C

A STUDY OF LOCAL EXCHANGE CARRIER POST-DIVESTITURE
SWITCHED ACCESS PRODUCTIVITY

by J. Christopher Frentrup and Mark I. Uretsky¹

1. This study, using data submitted by the United States Telephone Association (USTA), examines switched access revenue, cost, and demand data from June 1984 through June 1991 in order to determine the productivity offset, or "X factor" which would have been necessary to give the same prices in 1991 under the Commission's Balanced 50/50 price cap plan as should have occurred under rate of return regulation in that period.² We find that this X factor is approximately 3.5 percent on a historical basis. Depending on the assumptions made regarding future growth in demand and the percent of common line revenues which come from Subscriber Line Charges (SLCs), the X factor on a prospective basis ranges between approximately 3.3 and 3.6 percent. As in our original study,³ the value of X is very sensitive both to the time period chosen for the starting point of the analysis and to changes in the formula used for the price cap index (PCI).

2. The original version of this study used data submitted by USTA and by the American Telephone and Telegraph Company (AT&T)⁴ to examine switched access revenue, cost, and demand data from June 1984 through December 1989 in order to determine the X factor which would have been necessary to give the

1 Mr. Frentrup is Senior Economist, and Mr. Uretsky is Senior Supervisory Economist, for the Tariff Division, Common Carrier Bureau, Federal Communications Commission.

2 The Balanced 50/50 cap approach is presented in Appendix E.

3 See Policy and Rules Concerning Rules for Dominant Carriers, CC Docket No. 87-313, Supplemental Notice of Proposed Rulemaking, 5 FCC Rcd 2176 (1990) Supplemental Notice.

4 See Public Notice DA 90-114 (Action in CC Docket 87-313; Common Carrier Bureau Seeks Post-Divestiture Productivity Data for Local Exchange Carriers), released Jan. 29, 1990. See also Letter from Associate General Counsel, USTA to Chief, Common Carrier Bureau, Feb. 9, 1990; Letter from Director, Federal Regulation Division, AT&T, to Chief, Common Carrier Bureau, Feb. 9, 1990; and Letter from Associate General Counsel, USTA, to Chief, Common Carrier Bureau, Feb. 20, 1990 (post-divestiture data).

same prices in 1989 under the Commission's originally proposed 50/50 price cap plan as should have occurred under rate of return regulation in that period.⁵ That study found the X for this plan to be approximately 4 percent. This study, which revises some of the 1984 to 1989 data and adds 1990/1991 data finds that the X for the originally proposed 50/50 plan is approximately 4.1 percent on a historic basis. On a prospective basis, the X factor ranges from approximately 3.7 to approximately 4.7 percent, depending on the assumptions made as to demand growth and the percent of common line revenues which come from SLCs. The current study reflects several revisions to the methodology and the data used in the original study, which are outlined below.

I. BACKGROUND

3. Both USTA and AT&T had submitted studies of LEC post-divestiture access productivity.⁶ These studies gave disparate results, with USTA finding differential productivity⁷ of about 2 to 3 percent, and AT&T finding differential productivity of 6 to 7 percent. The Common Carrier Bureau obtained post-divestiture data from both AT&T and USTA to attempt to determine the cause of this discrepancy. The analysis described in our initial study was performed on both the data provided by USTA and the data provided by AT&T. We found that both sets of data, if treated consistently, provided approximately the same estimates of productivity. The difference between

5 USTA also submitted special access revenue, cost, and price index data. The price index data submitted was a subset of the total special access demand, including only certain services. These services accounted only for approximately 68 percent of special access revenues in the 1985-86 period and only approximately 63 percent in 1989. In addition, there was an important discontinuity in the price index time series, due to the inclusion of WATS data beginning in 1986-87. For these reasons, the price index series appears not to provide sufficient or comparable data for the estimation of special access productivity and we were unable to analyze special access productivity in the initial study. We have also been unable to analyze special access productivity in our further study outlined in this Appendix.

6 See Policy and Rules Concerning Rates for Dominant Carriers, CC Docket No. 87-313, Report and Order and Second Further Notice of Proposed Rulemaking, 4 FCC Rcd 2873 (1989) and Erratum, 4 FCC Rcd 3379 (1989) (together Second Further Notice), Appendix E, note 5 for citation of these studies in 1988. See also AT&T's Comments, June 19, 1989 at Appendix A and USTA Reply, Aug. 3, 1989 at Attachment C (July 24, 1989 Report by National Economic Research Associates, Inc., "Analysis of AT&T's Comparison of Interstate Access Charges Under Incentive Regulation and Rate of Return Regulation").

7 Differential productivity is productivity which differs from the average achieved by the economy as a whole.

USTA's and AT&T's studies appeared to lie in the different assumptions and methodological treatment given the data, rather than in major differences in the data underlying the various studies.

4. Several commenters noted various alleged methodological flaws and data problems with our initial study. As discussed below, we have revised our study to reflect the criticisms we see as valid. We also discuss the reasons we have not made certain other suggested changes.

II. METHODOLOGY

5. For each of the six post-divestiture periods -- June 1984 through May 1985 (1984/1985), June 1985 through May 1986 (1985/1986), July 1986 through June 1987 (1986/1987), calendar year 1988 (1988), April 1989 through December 1989, annualized (1989), and July 1990 through June 1991 (1990/1991) -- this study computes common line rates, traffic sensitive rates, and total switched access rates on a per minute of use basis. In computing these rates, revenues are adjusted for the exogenous changes which would have been reflected in the price cap index for both the common line and traffic sensitive baskets. These changes were (1) the transition of the subscriber plant factor (SPF) to 25 percent; (2) the revised separations treatment of local commercial operations expense (Account 645); (3) the direct assignment of closed-end WATS lines to the special access category; (4) the implementation of reserve deficiency amortizations to compensate for inadequate depreciation levels; (5) the effects of the 1986 Tax Reform Act; (6) the revised separations calculation of the dial equipment minutes (DEM) factor; (7) the revised separations treatment of central office equipment category 4 terminations; (8) the revised separations treatment of revenue accounting expenses (Account 662); (9) the adoption of a new Uniform System of Accounts (Part 32) in place of Part 31, including conformance of Parts 36 and 69 of the Rules to Part 32; and (10) the revised treatment of pension expenses.

6. In addition, we make several other adjustments to revenue: (1) the effects of the Universal Service Fund (high cost fund) are removed from common line revenue; (2) traffic sensitive revenue and common line revenue are recast to earn 12.00 percent, the currently authorized rate of return;⁸ (3) the costs of conversion to equal access are removed;⁹ (4) revenue requirements for

8 It appears that changes in the cost of capital used in the computation of the GNP-PI have not adequately paralleled the reduction in the LECs' interstate rate of return from 12.75 percent to 12.00 percent in 1987. As a result, equalization of the authorized rates of return appears to be necessary.

9 Despite this adjustment, the problems in estimating the cost effect of migration of Feature Group A and B minutes to Feature Group D minutes remains unsolved. See Second Further Notice at Appendix E.

inside wire and customer premise equipment are removed and (5) demand quantities (minutes of use) are adjusted for exogenous stimulation caused by the introduction of subscriber line charges and by the exogenous changes listed above.

7. By making these adjustments, revenues and demand quantities for each of the periods under study are adjusted to a comparable base, enabling us to make an inference regarding the level of productivity. Revenues and demand for each year are adjusted to reflect 1990/1991 conditions and levels of exogenous factors since such conditions and levels best reflect future conditions and levels, and therefore, future productivity.

8. Common line, traffic sensitive and total switched rates in each of the six periods are computed by dividing revenue, adjusted as described above, by demand, adjusted as described above. In our original study, the annual growth rates for the adjusted common line, traffic sensitive and total switched access rates were computed using a logarithmic trend line regression through the data points.¹⁰ The X factor that yields these annual growth rates, given the growth in the GNP-PI and g, were then computed using formulas derived from the proposed PCI formulas. Use of this method effectively implies, as USTA correctly notes¹¹, that there was only one price cap update filing. We have revised our method as follows.

9. Trend line regressions are used to estimate the beginning (1984/1985) and ending (1990/1991) common line, traffic sensitive switched and total switched rates. The proposed formulas, reflecting the historical values of growth in minutes of use per line ("g" in the "Balanced 50/50 formula," the common line PCI formula adopted in this Order) and GNP-PI are then applied five times to the 1984/1985 rates to obtain the 1990/1991 price cap rates. The value of X is chosen such that the 1990/1991 price cap rates equal the 1990/1991 rates estimated by the trend line regression.¹²

10 Application of a regression technique (finding the line which best fits the data points scattered on a graph) allows us, in essence, to compute the average price change per year for the post-divestiture period, despite the fact the year-to-year price changes varied widely.

11 See USTA Comments at Attachment B, page 8.

12 USTA also notes that the GNP-PI data that should be used in our study is the GNP-PI data that would have been available at the time of each of the filing. See USTA Comments at Attachment B, page 7. We agree, and have revised the GNP-PI data used in our study to reflect that data.

10. For the common line basket, an historical X is computed using the Balanced 50/50 formula, the per line formula, and the originally proposed 50/50 formula. In the Balanced 50/50 formula, this X is 3.31 percent. In the per line formula, this X is 2.32 percent. In the originally proposed 50/50 formula, this X is 4.38 percent. For the traffic sensitive basket, the historical X is computed using the traffic sensitive formula proposed in the Second Further Notice (the "GNP-PI - X" formula). In this GNP-PI - X formula, the X is 3.64 percent.

11. These estimates measure the X that would be used in the common line formula and traffic sensitive formula for the PCI if a different X were used in each basket. The current proposal, however, is to use one X for both baskets. In addition, the value of X in both the Balanced 50/50 and the originally proposed 50/50 formulas which will give the same change in the rate as under rate of return depends on the assumptions made about the values of three parameters: g, GNP-PI, and the percent of common line revenue which is recovered by SLCs. We must therefore determine the unitary X which will, when used in the 50/50 common line PCI formula and the GNP-PI - X traffic sensitive PCI formula, give the same percentage change in the total switched access rate that we expect under rate of return given our assumptions about the expected value of the three parameters.

12. We determine the unitary X to be used in both the common line PCI formula and the traffic sensitive PCI formula by a two step process. First, the percentage change in the carrier common line (CCL) rate is computed on a historical basis using the formula

$$(1) \quad \% \text{ Change CCL} = \frac{[(CL * (\% \text{ Change in PCI})) + (SLC * g/(1+g))]}{[CL - SLC]}$$

for the per line and the initially proposed 50/50 formulas, and

$$(2) \quad \% \text{ Change CCL} = \frac{[(CL * (\% \text{ Change in PCI})) + (SLC * (g/2) / (1 + (g/2)))]}{[CL - SLC]}$$

for the Balanced 50/50 PCI, where CL and SLC are the computed common line per minute rate and the computed subscriber line charge per minute rate,¹³ and the percentage change in the traffic sensitive rate is computed using the formula

$$(3) \quad \% \text{ Change TS} = \% \text{ Change in PCI} = \text{GNPPI} - X$$

13 Equivalently, given a fixed base of minutes, they are, respectively, common line revenues and subscriber line charge revenues.

A weighted average of these two changes is obtained by multiplying equation (1) or (2), depending on the formula, by the ratio of CCL revenue to common line plus TS revenue and multiplying equation (3) by the ratio of TS revenue to common line plus TS revenue and summing. This weighted average is computed using the separate X's computed for the historical per line CL PCI and the TS PCI. A unitary X is then chosen such that the weighted average change in CCL and TS rates using the unitary X is equivalent to the weighted average change in CCL and TS rates using the separate X's. Second, a unitary X is chosen for the Balanced 50/50 CL PCI and the GNPPI - X TS PCI such that the weighted average change in the CCL and TS rates is the same as for the unitary X used in the per line CL PCI and the TS PCI. A unitary X for the originally proposed 50/50 CL PCI and the TS PCI formulas is also computed in the same manner.

13. The percentage change in the total switched access rate that we expect would occur under rate of return in the near future is given by the percentage change in that rate using the historical X values in the per line common line PCI formula and the GNP-PI - X traffic sensitive formula, together with assumptions concerning the three parameters. We assume that the growth in minutes of use will be 8 percent, growth in lines will be 3.1 percent, growth in GNP-PI will be 3.9 percent, and the percent of common line revenue which is recovered by SLCs will be 61.38 percent. If we make these assumptions, the X for total switched access using the Balanced 50/50 CL PCI and the TS PCI formulas is 3.43 percent. If alternatively we assume that growth in minutes of use is 10 percent rather than 8 percent, the X factor is 3.61 percent. The X's for total switched access using the originally proposed 50/50 CL PCI and the TS PCI formulas under the same assumptions are 4.17 and 4.65 percent, respectively.

III. CRITICISMS AND CHANGES IN ORIGINAL STUDY

14. In addition to the changes outlined above, other changes were suggested by commenters. USTA noted that the High Cost Fund was not included in common line revenues in 1989, and should not have been removed from that year.¹⁴ We have made this change. In addition, USTA notes that the FIT/SLIT gross-up factor for the traffic sensitive category was incorrectly used in the common line category.¹⁵ This was done because, up until 1989, the common line factor reported by USTA incorrectly reflected only federal taxes. However, we have changed the factors used in the common line category to reflect the common line factor for 1989 and 1990/1991, and have continued to use the traffic sensitive factor for all earlier years.

14 USTA Comments, Attachment B at 8.

15 Id.

15. USTA cites two other minor adjustments it believes should not have been made. The first is that our study reduced the tax reform exogenous change for removal of equal access revenues, the only exogenous change so treated.¹⁶ We continue to believe this is the correct way to treat this change, since equal access costs are to a large degree capital costs and amortizations and taxes on those items. The other adjustment USTA cites is the removal of Inside Wire (ISW) and Customer Premises Equipment (CPE) amounts from the SPF transition exogenous change.¹⁷ This adjustment is not needed, they argue, because the effect of SPF transition is almost entirely confined to an effect on Base Factor Portion (BFP), with minimal effect on ISW and CPE. We believe, however, that USTA is mistaken in its belief that the effect is solely on BFP.

16. USTA argues that we should have treated three further exogenous changes in a different manner. The first of these is the adjustment of the data for the actual rate of return (ROR). We made two adjustments for rate of return; a one time adjustment for the change in the allowed rate of return, and an adjustment of each year to the allowed rate of return. USTA agrees with the first adjustment, but argues that we should not have made the second, because the X we want is the X which exactly reproduces ROR regulation as it worked in actual practice. We disagree with USTA on this point, since we do not feel that the X we should choose should institutionalize the imperfections of the access review and monitoring process.

17. The second adjustment which USTA would have us treat differently is the removal of equal access. It argues access expenses should not have been removed for several reasons. First, there is a difficulty in measuring cost changes. Some expenses (e.g., installation of tandems) may not have been measured. Also, switch upgrades which may have occurred even without equal access may have been included. Second, there may have been changes in output quantity and quality. Equal access expenses generated higher quality output (FGD MOU) which led to growth in output by AT&T's competitors. Since the FGD price was fixed at an arbitrary multiple of FGA/B price, increase in quality was not reflected as an increase in output. Thus, in adjusting expenses for equal access conversion, some adjustment for demand quality must be made to avoid bias in measurement of X. Also, some of the increase in demand which occurred after 1984 must have been due to equal access. Third, the shift from non-premium to premium MOU causes changes in separations factors, which results in reduced local switching costs per minute. USTA notes that the net effect of these is hard to quantify, but making no adjustment for equal access lowers X by about 0.3 percentage points.

16 Id. at 4-5.

17 Id. at 8-9.

18. The Commission adopted a stringent definition of the costs to be included in equal access, which included only pre-subscription costs and the upgrade of end offices to FGD. Thus, there may be some costs which were a result of equal access, which we cannot quantify, which were not recovered in the equal access element. USTA's argument that the conversion to equal access may have caused some of the observed demand stimulation may be correct, as may its argument regarding the effect on separations factors. Considering these two items together, it is unclear in which direction the bias lies. We do not believe that simply making no adjustment for equal access is the reasonable solution to the problem.

19. USTA also argues that the reserve deficiency amortizations (RDA) should not have been treated as an exogenous change in our study.¹⁸ It argues that an examination of post-divestiture depreciation expenses reveals that the regional Bell operating companies (RBOCs) were requesting and receiving increased depreciation rates up until the RDAs were implemented effective on January 1, 1987. After that date, the depreciation rates remained stable or fell. Thus, USTA argues, the RDA "reflected a single event that formalized an increase in depreciation expense".¹⁹ The RDA was not a one time event; instead, it affected subsequent LEC depreciation cost changes, and should therefore not be removed from the analysis.

20. We partially agree with USTA's contention. The RDAs were an alternate method of adjusting the RBOCs' depreciation expenses to reflect shorter plant lives. Prior to implementing the RDAs, the Commission had been granting higher depreciation rates to the RBOCs to make up for depreciation reserve deficiencies. These higher depreciation rates reflected not only the actual depreciation rate of the plant, but also an additional increment to adjust for the earlier years when the allowed depreciation rate had been lower than the actual depreciation rate. With the implementation of the RDAs, the depreciation rates were set at the actual depreciation rate, and the additional increment was recovered in the RDA. The adjustment that needs to be made to the RDA exogenous change amount is thus to remove the amount of the increment from the RDA. This has been done in our present study by computing the ratio of this increment to the RDA amount for the RBOCs and multiplying this ratio by the reported RDA amounts.

21. Some commenters object to our inclusion of the 1984 data point in the analysis.²⁰ AT&T analyses the 1984 data point and cites several reasons

18 USTA Reply, Attachment B at 10-12.

19 USTA Reply, Attachment B at 11.

20 Ad Hoc Comments at 8-9 and Appendix A; AT&T Comments at 6-9 and Appendix C.

to reject it as being a statistical outlier. It inserts a dummy variable for 1984 into the log trend model, and finds that the dummy variable is significantly different from zero. It also uses a model with only a dummy variable and finds the dummy variable is still significantly different from zero. A linear trend model with a dummy variable also shows a significant dummy variable.

22. AT&T also uses 1984 as a starting point and draws a line from 1984 to each of the later years. The line so created does not pass through any of the other points. Thus, AT&T argues, this 'deterministic' model should not be used. The trend model should also not be used, AT&T states, because it has a very low t-statistic on the trend variable. If a regression model is to be used, it alleges one which has no trend provides a better fit than the regression used. AT&T's preferred model is to use a regression excluding the 1984 data point. This provides a better fit and a slope significantly different from zero. This line, AT&T avers, is also consistent with the rates that the LECs filed to go into effect on July 1, 1990.

23. Ad Hoc makes a similar point. Ad Hoc notes that the R-squared values for the regressions are very low, and that the t-statistics on the trend variable are also low. In addition, they perform a Chow test to determine whether the 1984 data point is significantly different from the other data points, and find that it is.

24. In addition to these statistical arguments against the inclusion of the 1984 data point, AT&T has attempted to uncover possible reasons why the 1984 revenue data may be understated and to quantify the effect of the understatement. They note that some LECs were not assessing access charges on their interexchange and corridor traffic in 1984/1985, and may not have included these revenues and costs for that year. USTA has examined the data for the year and determined that some companies did exclude those revenues and costs for 1984/1985. They revised the revenue data upward by \$125.9 million and that data is reflected in this study.

25. AT&T also notes that the Directory Assistance rate was set at 25 cents in 1984/1985 even though the costs were shown to be higher. In addition, the costs of WATS dedicated access line extensions, which should have been included in traffic sensitive costs, were incorrectly included in special access costs for setting rates in 1984/1985. Thus 1984/1985 TS revenue will be understated. However, as USTA argues, as long as the average net investment is reported correctly, these two problems are corrected by our adjusting the 1984/1985 revenue to reflect a fixed rate of return. USTA has examined the data it submitted and states that the average net investment was reported correctly. Thus we have not reflected this change in the current study.

26. AT&T also notes that GTE and United cited in support of their TS rate increases in 1985/1986 the fact that AT&T's redeployment of its points of presence was causing a one time increase in its costs. This point, however,

seems to argue that the 1985/1986 data point should be adusted downward, rather than that the 1984/1985 point should be adjusted upward. This change is not reflected in the current study, because there is not sufficient information on which to make a reasonable adjustment.

27. AT&T also argues that 1984/1985 demand was higher than the trend of later data because of problems with the provisioning of special access. These problems caused minutes to remain on the switched network which would otherwise have migrated to special access. Thus, demand should be lower, giving a higher adjusted traffic sensitive per minute rate. This adjustment seems speculative and not accurately quantifiable. We have not reflected this in the current study.

28. We continue to believe that the best way to estimate the overall growth between 1984/1985 and 1990/1991 is to use a trend regression over the entire time period. While we grant that this gives a model with a low R-squared value and a trend variable with a low t-statistic, we still believe that an averaging technique using all post-divestiture data gives a more complete picture of LEC post-divestiture productivity than would result from excluding one year. The statistical tests which show that the 1984/1985 data point is an outlier are merely indications that the data point needs to be examined closely. That examination has been given and the data point has been adjusted to reflect the changes identified.

29. The final point we have to consider is the amount of demand stimulation. We have reflected in our study the amount of demand stimulation reported by USTA in its ex parte submission of August 6, 1990. This estimate assumes that the demand function for interstate minutes is

$$q = A * p^e$$

where q is quantity demanded, p is price, e is the elasticity of demand and A contains all variables that affect demand other than price. Demand stimulation is then given by the formula

$$\text{Stimulation} = q * [1 - (R1 / RO)^{(e/1+e)}]$$

where q is observed demand, RO is observed CCL plus TS revenue, R1 is RO plus SLC revenue plus the exogenous changes, and e is the elasticity of demand, multiplied by the proportion of interexchange carrier revenues which are access. USTA assumed a constant long run elasticity of -0.723 and a constant access fraction of 0.45 in computing its estimate of stimulation. AT&T notes that the elasticity number used should reflect the intertemporal nature of stimulation, and thus that a first year elasticity of -0.47 and long run elasticity of -0.68 should be used. Also, AT&T notes that the access fraction for it has been declining over time, and is currently below 0.45. Making these two changes, AT&T states, would result in a lower estimate of stimulated demand.

30. We believe USTA's estimate of stimulated demand is reasonable. The elasticity factors that both AT&T and USTA use are estimated from time series data, and thus have associated variances. There is also some uncertainty about the correct access fraction to use. Presumably, the other interexchange carriers access fractions differ from AT&T's and have been rising over time as they have begun paying premium access rates as equal access is implemented. As these carriers market share has increased, the proportion of their expenses which are access becomes more important in determining the industry access fraction. Also, the access fraction that both USTA and AT&T propose is the access fraction that actually existed in each year. A reasonable argument can be made that the correct fraction to be used in the fraction that would result if the SLC revenue and exogenous changes were added back on to access costs in each year. This would result in a higher access fraction. The access fraction and demand elasticity that USTA used thus appear to be reasonable estimates which adequately balance these offsetting factors.

TREND LINE REGRESSION
COMPUTATION OF X FACTORS

Beginning trend line CL/MOU rate, beginning trend line TS/MOU rate, and ending trend line total switched rate are computed in Chart TREND. On a historic basis, we compute the X in the balanced 50/50 CL PCI formula, the X in the per line CL PCI formula, the X in the initially proposed 50/50 CL formula, and the X in the TS PCI formula. On a prospective basis, we compute a unitary X, the X which, when used in the CL PCI formula and applied to the estimated beginning trend line CL/MOU rate, and in the TS PCI formula and applied to the estimated beginning trend line TS/MOU rate, will give ending CL/MOU and TS/MOU rates which sum to the ending trend line Total Switched rate. A prospective unitary X is computed for use with the TS PCI and each of the per line, balanced 50/50, and initially proposed 50/50 CL PCI formulas.

	CL ---	TS ---	Unitary -----
Historic X's			
Per Line CL PCI	2.32%	na	2.97%
Balanced 50/50 CL PCI	3.31%	na	3.49%
Initially proposed 50/50 CL PCI	4.38%	na	4.08%
TS PCI	na	3.64%	na
Prospective X's			
Per Line CL PCI	na	na	2.97%
Balanced 50/50 CL PCI	na	na	3.43%
Initially proposed 50/50 CL PCI	na	na	4.17%
TS PCI	na	na	na

DATA USED IN REGRESSIONS

This chart presents the adjusted CL/MOU and TS/MOU rates as computed in Chart RATE. The Total Switched/MOU rates are the sum of the TS/MOU and CL/MOU rates. CL MOU/Line is computed as the CL MOU adjusted for exogenous stimulation computed in Chart RATE divided by the Subscriber Lines. The numbers on the columns on this chart correspond to the numbers on the regressions on Chart REG.

	(1)	(2)	(3)	(4)	TREND
	CL/MOU	TS/MOU	TotSW/MOU	CL MOU/LINE	
6/84-5/85	\$0.0305	\$0.0244	\$0.0549	1.8894	7
6/85-5/86	\$0.0332	\$0.0279	\$0.0610	1.9004	19
7/86-6/87	\$0.0358	\$0.0272	\$0.0631	1.9354	32
1988	\$0.0309	\$0.0274	\$0.0583	2.1851	50
4/89-12/89	\$0.0292	\$0.0271	\$0.0563	2.3073	63.5
7/90-6/91	\$0.0277	\$0.0255	\$0.0532	2.4016	80
Log Trend Annual Growth	-2.45%	0.23%	-1.22%	4.56%	
Log Trend R-square	0.3936	0.0108	0.1925	0.9451	

DATA USED IN REGRESSIONS

This chart presents the adjusted CL/MOU and TS/MOU rates as computed in Chart RATE. The Total Switched/MOU rates are the sum of the TS/MOU and CL/MOU rates. CL MOU/Line is computed as the CL MOU adjusted for exogenous stimulation computed in Chart RATE divided by the Subscriber Lines. The numbers on the columns on this chart correspond to the numbers on the regressions on Chart REG.

	CL REV	CL MOU	TS REV	TS MOU	LINES
6/84-5/85	\$6,333,273	207,772,422	\$4,553,364	186,783,366	109,965,483
6/85-5/86	\$7,141,522	215,343,084	\$5,604,779	201,188,517	113,316,244
7/86-6/87	\$8,049,472	224,625,813	\$6,129,746	225,136,070	116,063,662
1988	\$8,220,317	265,823,867	\$7,229,553	263,972,545	121,654,374
4/89-12/89	\$8,528,394	291,716,955	\$8,001,639	295,351,330	126,432,081
7/90-6/91	\$8,863,314	319,439,082	\$8,353,356	327,897,259	133,009,705

DATA USED IN REGRESSIONS

This chart presents the adjusted CL/MOU and TS/MOU rates as computed in Chart RATE. The Total Switched/MOU rates are the sum of the TS/MOU and CL/MOU rates. CL MOU/Line is computed as the CL MOU adjusted for exogenous stimulation computed in Chart RATE divided by the Subscriber Lines. The numbers on the columns on this chart correspond to the numbers on the regressions on Chart REG.

GNP-PI: Source is Survey of Current Business for month shown, column J, Table 7.1 for all years except the 02/85 one, in which the data is from Table 7.2

4Q/83	227.6	02/85
4Q/84	237.1	02/85
4Q/84	110	02/86
4Q/85	113.8	02/86
2Q/86	114.7	09/87
2Q/87	118.6	09/87
3Q/87	119.7	12/88
3Q/88	124.9	12/88
4Q/88	126.2	03/90
4Q/89	131.4	03/90

LOGARITHMIC TREND REGRESSIONS

This chart presents the regression results of logarithmic time trend regressions on the CL/MOU rate, the TS/MOU rate, the Total Switched/MOU rate, and the CL MOU per line data presented in Chart DATA. The number of the regression output on this chart corresponds to the number on the data on Chart DATA.

(1) CL/MOU, 1984 - 1990

Regression Output:		
Constant		0
Std Err of Y Est		0.07930378
R Squared		0.39360783
No. of Observations		6
Degrees of Freedom		4
X Coefficient(s)	-3.3832206	-0.0020663
Std Err of Coef.	0.06275079	0.00128239

(2) TS/MOU, 1984 - 1990

Regression Output:		
Constant		0
Std Err of Y Est		0.05737638
R Squared		0.01082344
No. of Observations		6
Degrees of Freedom		4
X Coefficient(s)	-3.6372165	0.00019410
Std Err of Coef.	0.04540027	0.00092781

(3) TotSW/MOU, 1984 - 1990

Regression Output:		
Constant		0
Std Err of Y Est		0.06479185
R Squared		0.19248555
No. of Observations		6
Degrees of Freedom		4
X Coefficient(s)	-2.8096100	-0.0010230
Std Err of Coef.	0.05126792	0.00104773

(4) CL MOU/LINE, 1984 - 1990

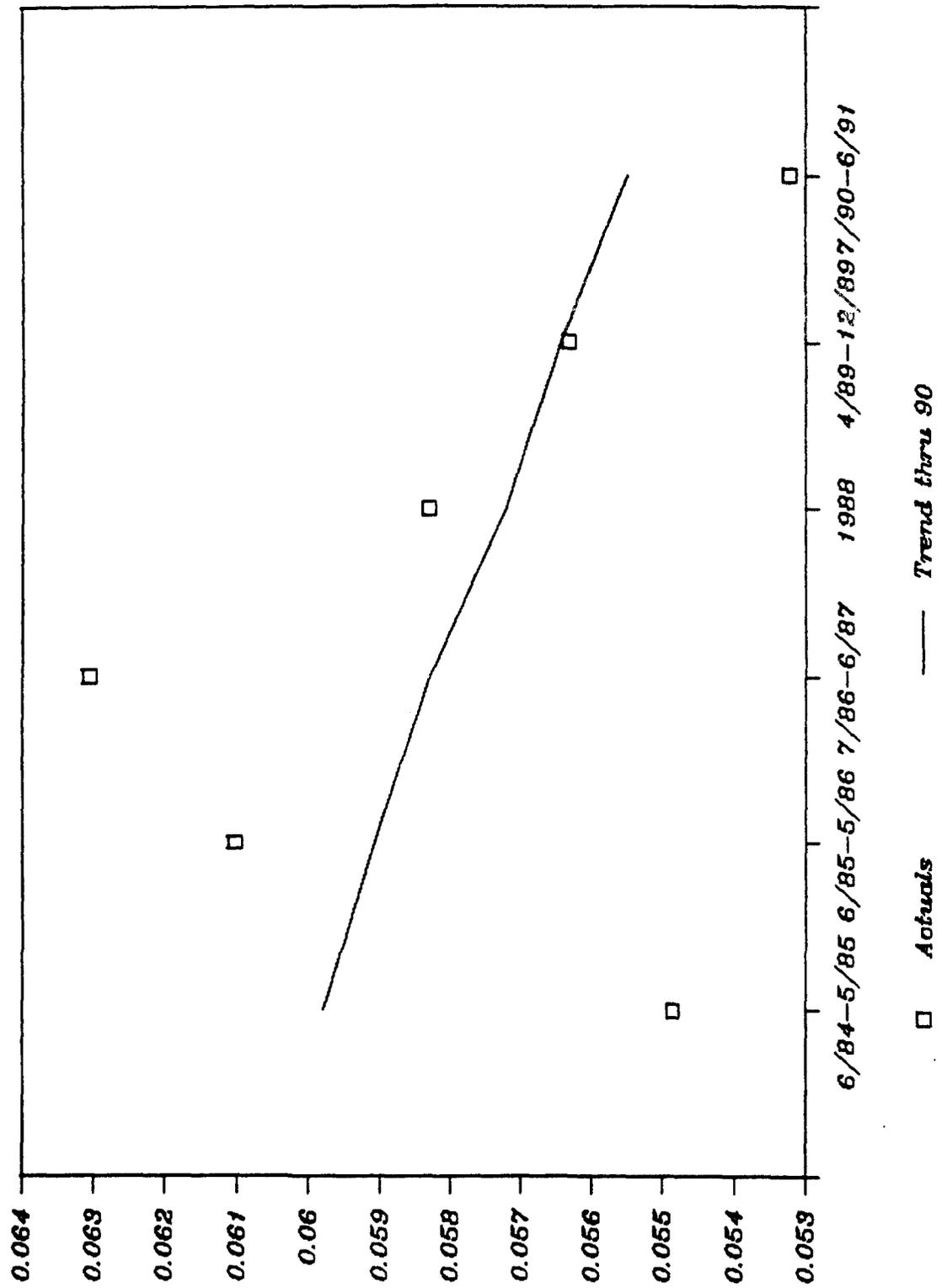
Regression Output:		
Constant		0
Std Err of Y Est		0.02776368
R Squared		0.94513430
No. of Observations		6
Degrees of Freedom		4
X Coefficient(s)	0.58253569	0.00372677
Std Err of Coef.	0.02196860	0.00044895

TREND LINE ESTIMATES OF ACCESS RATES AND DEMAND

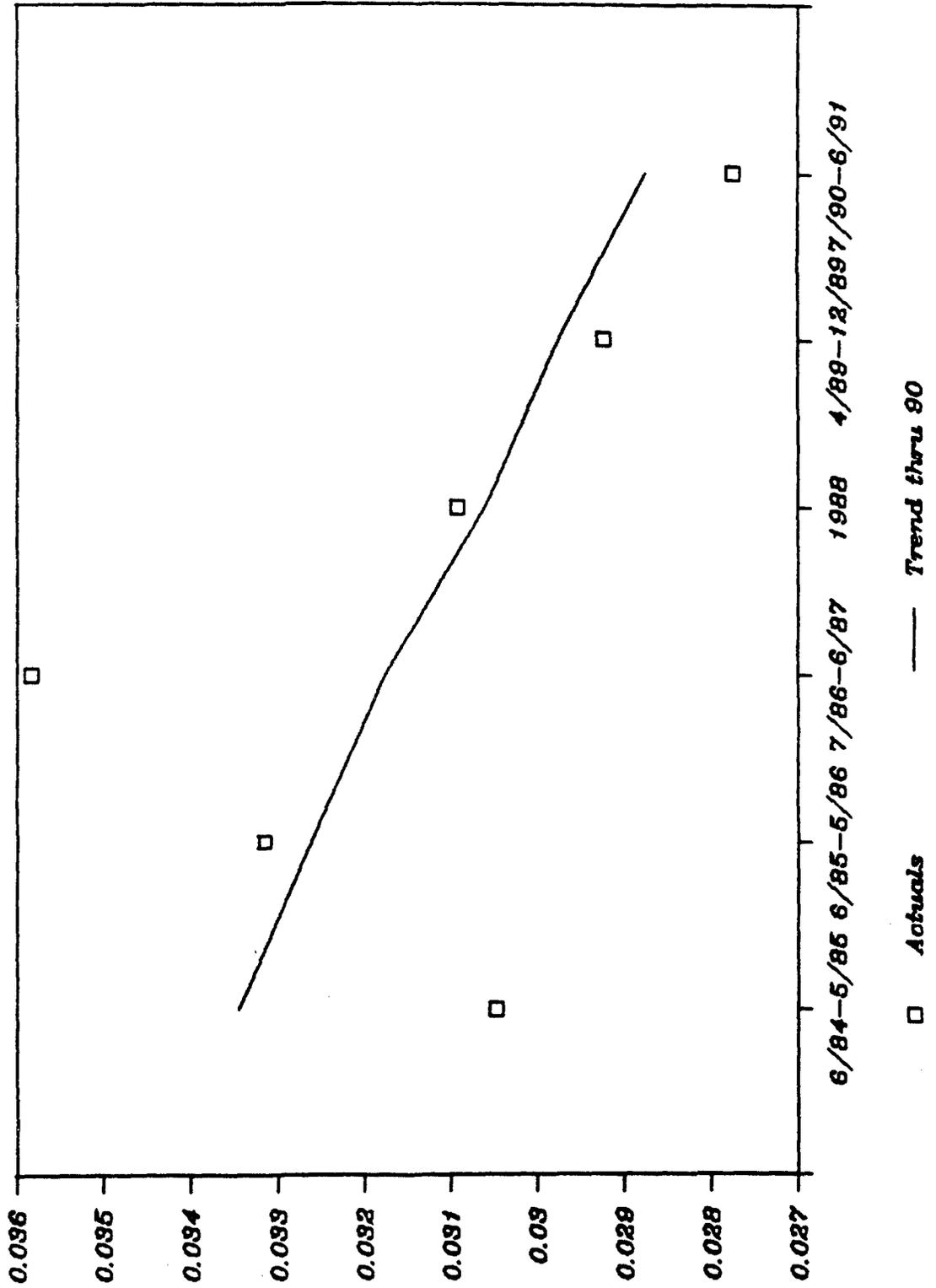
This chart presents the trend line estimates of the CL/MOU, TS/MOU, and Total Switched/MOU rates, and the trend line estimate of CL MOU per Line, using the regression output from Chart REG.

	CL/MOU	TS/MOU	TotSW/MOU	CL MOU/LINE
6/84-5/85	\$0.03345	\$0.02636	\$0.05980	1.8379
6/85-5/86	\$0.03263	\$0.02642	\$0.05907	1.9220
7/86-6/87	\$0.03177	\$0.02649	\$0.05829	2.0174
1988	\$0.03061	\$0.02658	\$0.05723	2.1573
4/89-12/89	\$0.02976	\$0.02665	\$0.05644	2.2687
7/90-6/91	\$0.02877	\$0.02674	\$0.05550	2.4125

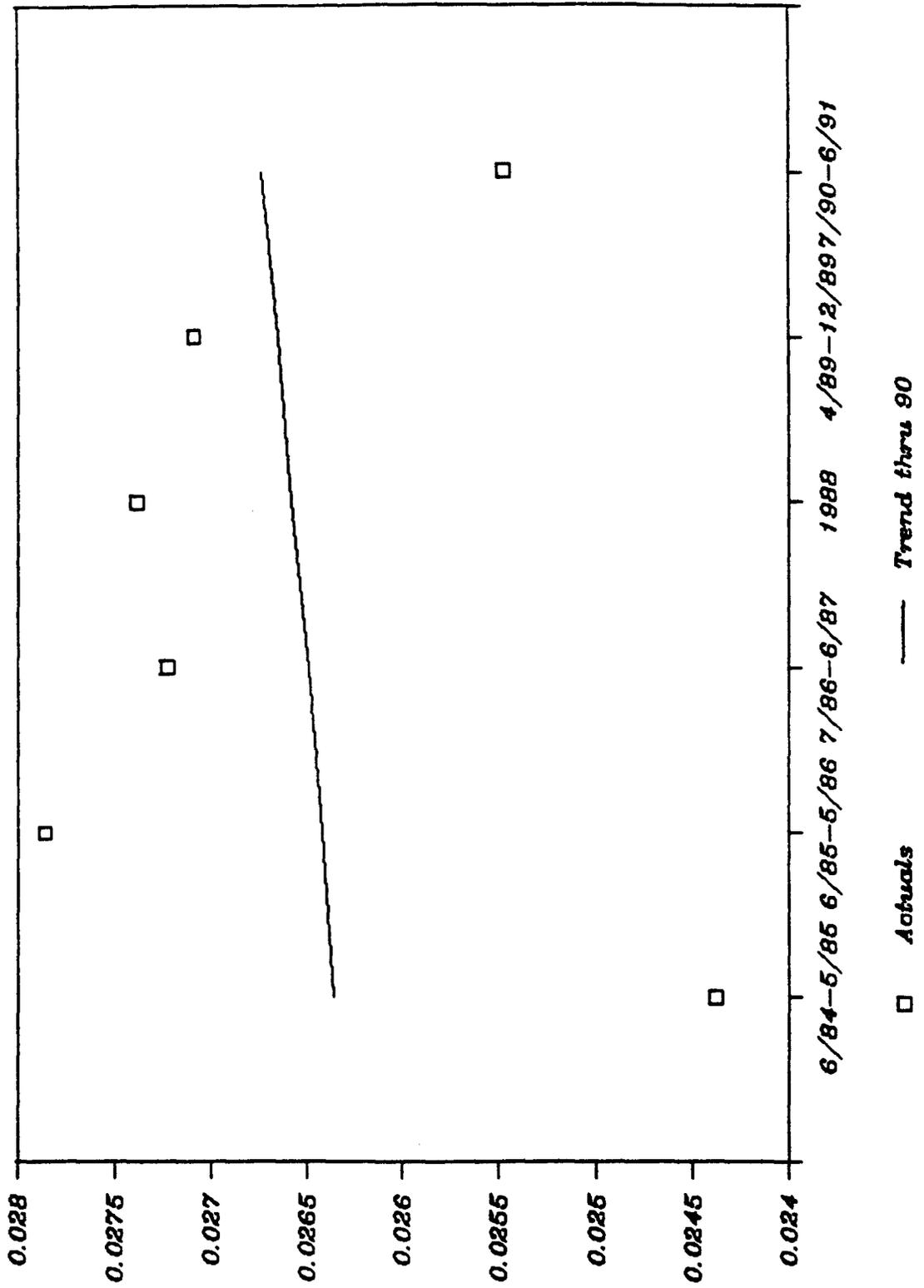
Adjusted TotSw/MOU Rates



Adjusted CL/MOU Rates



Adjusted TS/MOU Rates



Computation of Adjusted 1990 Common Line/MOU Rate

1990 As Ordered
Common Line

Access Rev (CL)	\$9,629,850	As reported
Net Return	n/a	As reported
ANI	n/a	As reported
FIT/SLIT	0.551244	As reported
ROR	12.00%	Net Return / ANI
Net Return at 12%	n/a	12% * ANI
Earnings above 12%	n/a	Net Return at 12% - Net Return
Revenue above 12%	n/a	(1 + FIT/SLIT) * Earnings above 12%
CL Rev at 12%	\$9,629,850	Access Rev (CL) - Revenue above 12%
Inside Wire	\$766,536	As reported
IW ANI	n/a	As reported
IW Excess Rev	n/a	(IW ANI / ANI) * Revenue above 12%
IW at 12%	\$766,536	Inside Wire - IW Excess Rev
CPE	\$0	As reported
CPE ANI	\$0	As reported
CPE Excess Rev	\$0	(CPE ANI / ANI) * Revenue above 12%
CPE at 12%	\$0	CPE - CPE Excess Rev
CL less IW & CPE at 12%	\$8,863,314	CL Rev at 12%-IW at 12%-CPE at 12%
High Cost Fund	0	
CL Rev Adj for Exo Changes	\$8,863,314	CL less IW & CPE at 12%
Prem MOU	312,739,935	As reported
Non-Prem MOU	6,699,147	As reported
Total MOU	319,439,082	Prem MOU + Non-Prem MOU
Stim MOU: SLC	56,710,175	As reported
Stim MOU: Exo	44,885,731	As reported
Stim MOU: Total	83,216,292	As reported
Total MOU Adj for Incl of Stim	319,439,082	No adjustment made; Total MOU reflects 1990 stimulation
Subscriber Lines	133,009,705	As reported
CL/MOU Rate Adj for Exo Changes	\$0.0277	CL Rev Adj / Total MOU Adj
CL/MOU Rate Unadj	\$0.0301	Access Rev (CL) / Total MOU
CL/Loop Rate Adj for Exo Changes	\$66.64	CL Rev Adj / Subscriber Lines
CL/Loop Rate Unadj	\$72.40	Access Rev (CL) / Subscriber Lines

Computation of Adjusted 1989 Common Line/MOU Rate

1989 Actuals
Common Line

Access Rev (CL)	\$9,727,121
Net Return	\$1,897,225
ANI	\$16,515,385
FIT/SLIT	0.558349
ROR	11.49%
Net Return at 12%	\$1,981,846
Earnings above 12%	(\$84,621)
Revenue above 12%	(\$131,869)
CL Rev at 12%	\$9,858,990

Inside Wire	\$1,202,272
IW ANI	\$720,071
IW Excess Rev	(\$5,750)
IW at 12%	\$1,208,022

CPE	\$0
CPE ANI	\$0
CPE Excess Rev	\$0
CPE at 12%	\$0

CL less IW & CPE at 12%	\$8,650,969
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SPF Phase-Down	(\$177,662)
SPF Phase-Down less CPE and IW	(\$155,893)

High Cost Fund	\$245,050
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Tax Reform	\$17,332
Tax Reform less CPE and IW	\$15,208

COE Cat 3 - Dens	\$20,639
COE Cat 3 - Dens less CPE and IW	\$18,110

CL Rev Adj for Exo Changes	\$8,528,394
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All exogenous changes except the HCF are cumulated for all later years. Thus the effect in 1989 is the amount reported for 1990. The effect in 1988 will be the sum of the 1990 and 1989 amounts, and so on. This adjusts exogenous changes to 1990 levels.

The High Cost Fund, conversely, is cumulated over all previous years. Thus, the 1988 amount is the sum of the reported 1984/5, 1985/6, 1986/7, and 1988 amounts. This amount is subtracted from CL revenue because, beginning in 1989, HCF is no longer recovered in the CCL rate. The HCF is not removed in 1989 for this reason.

Computation of Adjusted 1989 Common Line/MOU Rate

Prem MOU	273,404,737
Non-Prem MOU	8,018,019
Total MOU	281,422,756
Stim MOU: SLC	43,374,442
Stim MOU: Exo	31,825,428
Stim MOU: Total	65,700,270
Stim MOU: Total @ 90	75,994,469
Total MOU Adj for Incl of Stim	291,716,955
Subscriber Lines	126,432,081
CL/MOU Rate Adj for Exo Changes	\$0.0292
CL/MOU Rate Unadj	\$0.0346
CL/Loop Rate Adj for Exo Changes	\$67.45
CL/Loop Rate Unadj	\$76.94

All exogenous changes except HCF and RDA are recast to remove the portion of the exogenous change reflected in the CPE and IW categories.

Total exogenous stimulation in each year prior to 1990 is recast to the 1990 level by multiplying the ratio of total 1990 Stim MOU to 1990 Total MOU less total Stim MOU, by the year's Total MOU less total Stim MOU

Computation of Adjusted 1988 Common Line/MOU Rate

1988 Common Line	
Access Rev (CL)	\$10,012,595
Net Return	\$2,030,613
ANI	\$16,589,979
FIT/SLIT	0.607716
ROR	12.24%
Net Return at 12%	\$1,990,797
Earnings above 12%	\$39,816
Revenue above 12%	\$64,012
CL Rev at 12%	\$9,948,583
Inside Wire	\$1,354,704
IW ANI	\$985,445
IW Excess Rev	\$3,802
IW at 12%	\$1,350,902
CPE	\$0
CPE ANI	\$0
CPE Excess Rev	\$0
CPE at 12%	\$0
CL less IW & CPE at 12%	\$8,597,681
SPF Phase-Down	(\$298,488)
SPF Phase-Down less CPE and IW	(\$257,957)
High Cost Fund	\$184,651
Reserve Def Amort	\$18,589
Tax Reform	\$17,332
Tax Reform less CPE and IW	\$14,979
COE Cat 3 - Dens	\$34,656
COE Cat 3 - Dens less CPE and IW	\$29,950
COE Cat 4 - Terms	\$9,071
COE Cat 4 - Terms less CPE and IW	\$7,839
Acct 662	(\$7,074)
Acct 662 less CPE and IW	(\$6,113)
CL Rev Adj for Exo Changes	\$8,220,317

Computation of Adjusted 1988 Common Line/MOU Rate

Prem MOU	235,269,424
Non-Prem MOU	9,197,903
Total MOU	244,467,327
Stim MOU: SLC	31,694,745
Stim MOU: Exo	23,914,790
Stim MOU: Total	47,892,584
Stim MOU: Total @ 90	69,249,124
Total MOU Adj for Exo Changes	265,823,867
Subscriber Lines	121,654,374
CL/MOU Rate Adj for Exo Changes	\$0.0309
CL/MOU Rate Unadj	\$0.0410
CL/Loop Rate Adj for Exo Changes	\$67.57
CL/Loop Rate Unadj	\$82.30

Computation of Adjusted 7/86-6/87 Common Line/MOU Rate

7/86-6/87
Common Line

Access Rev (CL)	\$10,213,735
Net Return	\$2,066,210
ANI	\$17,655,505
FIT/SLIT	0.867188
ROR	11.70%
Net Return at 12%	\$2,118,661
Earnings above 12%	(\$52,451)
Revenue above 12%	(\$97,935)
CL Rev at 12%	\$10,311,670
Inside Wire	\$1,116,361
IW ANI	\$944,570
IW Excess Rev	(\$5,240)
IW at 12%	\$1,121,601
CPE	\$222,659
CPE ANI	\$273,660
CPE Excess Rev	(\$1,518)
CPE at 12%	\$224,177
CL less IW & CPE at 12%	\$8,965,893

Computation of Adjusted 7/86-6/87 Common Line/MOU Rate

SPF Phase-Down	(\$470,726)
SPF Phase-Down less CPE and IW	(\$409,291)
High Cost Fund	\$89,309
Reserve Def Amort	\$63,236
Tax Reform	(\$436,275)
Tax Reform less CPE and IW	(\$379,337)
COE Cat 3 - Dems	\$42,683
COE Cat 3 - Dems less CPE and IW	\$37,112
COE Cat 4 - Terms	\$11,996
COE Cat 4 - Terms less CPE and IW	\$10,430
Acct 662	(\$26,718)
Acct 662 less CPE and IW	(\$23,231)
Conformance	(\$95,687)
Conformance less CPE and IW	(\$83,199)
FASB 87	(\$49,261)
FASB 87 less CPE and IW	(\$42,832)
CL Rev Adj for Exo Changes	\$8,049,472
Prem MOU	186,034,212
Non-Prem MOU	12,844,050
Total MOU	198,878,262
Stim MOU: SLC	21,440,878
Stim MOU: Exo	15,684,711
Stim MOU: Total	32,769,169
Stim MOU: Total @ 90	58,516,720
Total MOU Adj for Exo Changes	224,625,813
Subscriber Lines	116,063,662
CL/MOU Rate Adj for Exo Changes	\$0.0358
CL/MOU Rate Unadj	\$0.0514
CL/Loop Rate Adj for Exo Changes	\$69.35
CL/Loop Rate Unadj	\$88.00

Computation of Adjusted 6/85-5/86 Common Line/MOU Rate

6/85-5/86 Common Line	
Access Rev (CL)	\$10,878,568
Net Return	\$2,404,629
ANI	\$18,387,193
FIT/SLIT	0.967797
ROR	13.08%
Net Return at 12%	\$2,206,463
Earnings above 12%	\$198,166
Revenue above 12%	\$389,950
CL Rev at 12%	\$10,488,618
Inside Wire	\$1,627,434
IW ANI	\$1,507,750
IW Excess Rev	\$31,976
IW at 12%	\$1,595,458
CPE	\$921,415
CPE ANI	\$1,167,587
CPE Excess Rev	\$24,762
CPE at 12%	\$896,653
CL less IW & CPE at 12%	\$7,996,507

Computation of Adjusted 6/85-5/86 Common Line/MOU Rate

SPF Phase-Down	(586,093)	
SPF Phase-Down less CPE and IW	(446,836)	
Acct 645	20,255	
Acct 645 less CPE and IW	15,442	
High Cost Fund	23,040	
WATS DA: 1986-7	(88,697)	WATS DA adjustment is calculated by assuming constant MOU/line and multiplying 7/86 - 6/87 WATS exogenous change by ratio of WATS closed-end MOU in current year to that of 7/86 - 6/87. The result is then multiplied by \$103 / \$149 to remove ISW included in the WATS exogenous change.
Reserve Def Amort	137,137	
Tax Reform	(471,932)	
Tax Reform less CPE and IW	(359,800)	
COE Cat 3 - Dems	42,683	
COE Cat 3 - Dems less CPE and IW	32,541	
COE Cat 4 - Terms	11,996	
COE Cat 4 - Terms less CPE and IW	9,146	
Acct 662	(26,718)	
Acct 662 less CPE and IW	(20,370)	
Conformance	(95,687)	
Conformance less CPE and IW	(72,952)	
FASB 87	(49,261)	
FASB 87 less CPE and IW	(37,557)	
CL Rev Adj for Exo Changes	7,141,522	

Computation of Adjusted 6/85-5/86 Common Line/MOU Rate

Prem MOU	179,382,372
Non-Prem MOU	20,564,460
Total MOU	199,946,832
WATS DA	24,541,446
Tot MOU less WATS DA	175,405,386
Stim MOU: SLC	12,533,370
Stim MOU: Exo	4,530,043
Stim MOU: Total	16,160,801
Stim MOU: Total @ 90	56,098,499
Total MOU Adj for Exo Changes	215,343,084
Subscriber Lines	113,316,244
CL/MOU Rate Adj for Exo Changes	\$0.0332
CL/MOU Rate Unadj	\$0.0544
CL/Loop Rate Adj for Exo Changes	\$63.02
CL/Loop Rate Unadj	\$96.00

Computation of Adjusted 6/84-5/85 Common Line/MOU Rate

6/84-5/85 Common Line	
Access Rev (CL)	\$10,172,842
Net Return	\$2,162,478
ANI	\$18,510,144
FIT/SLIT	0.926620
ROR	11.68%
Net Return at 12%	\$2,221,217
Earnings above 12%	(\$58,739)
Revenue above 12%	(\$113,168)
CL Rev at 12%	\$10,286,010
Inside Wire	\$1,846,371
IW ANI	\$2,398,915
IW Excess Rev	(\$14,667)
IW at 12%	\$1,861,038
CPE	\$1,329,590
CPE ANI	\$1,893,588
CPE Excess Rev	(\$11,577)
CPE at 12%	\$1,341,167
CL less IW & CPE at 12%	\$7,083,806

Computation of Adjusted 6/84-5/85 Common Line/MOU Rate

SPF Phase-Down	(\$701,460)	
SPF Phase-Down less CPE and IW	(\$483,084)	
Acct 645	\$124,571	
Acct 645 less CPE and IW	\$85,790	
High Cost Fund	\$0	
WATS DA: 1986-7	(\$84,798)	WATS DA adjustment is calculated by assuming constant MOU/line and multiplying 7/86 - 6/87 WATS exogenous change by ratio of WATS closed-end MOU in current year to that of 7/86 - 6/87. The result is then multiplied by \$103 / \$149 to remove ISW included in the WATS exogenous change.
Reserve Def Amort	\$137,137	
Tax Reform	(\$471,932)	
Tax Reform less CPE and IW	(\$325,012)	
COE Cat 3 - Dems	\$42,683	
COE Cat 3 - Dems less CPE and IW	\$29,395	
COE Cat 4 - Terms	\$11,996	
COE Cat 4 - Terms less CPE and IW	\$8,261	
Acct 662	(\$26,718)	
Acct 662 less CPE and IW	(\$18,400)	
Conformance	(\$95,687)	
Conformance less CPE and IW	(\$65,898)	
FASB 87	(\$49,261)	
FASB 87 less CPE and IW	(\$33,925)	
CL Rev Adj for Exo Changes	\$6,333,273	

Computation of Adjusted 6/84-5/85 Common Line/MOU Rate

Prem MOU	159,296,057
Non-Prem MOU	24,306,300
Total MOU	183,602,357
WATS DA	23,462,547
Tot MOU less WATS DA	160,139,810
Stim MOU: SLC	6,493,672
Stim MOU: Exo	0
Stim MOU: Total	6,493,672
Stim MOU: Total @ 90	54,126,284
Total MOU Adj for Exo Changes	207,772,422
Subscriber Lines	109,965,483
CL/MOU Rate Adj for Exo Changes	\$0.0305
CL/MOU Rate Unadj	\$0.0554
CL/Loop Rate Adj for Exo Changes	\$57.59
CL/Loop Rate Unadj	\$92.51

Computation of Adjusted 1990 Traffic Sensitive/MOU Rate

1990 As Ordered
Traffic Sensitive-Switched

Access Rev (TS-SW)	\$8,587,353	As reported
Net Return	\$1,559,189	As reported
ANI	\$13,000,093	As reported
FIT/SLIT	0.600616	As reported
ROR	11.99%	Net Return / ANI
Net Return at 12%	\$1,560,011	12% * ANI
Earnings above 12%	(\$822)	Net Return at 12% - Net Return
Revenue above 12%	(\$1,316)	(1 + FIT/SLIT) * Earnings above 12%
TS-SW Rev at 12%	\$8,588,669	Access Rev (CL) - Revenue above 12%
Equal Access	\$235,313	As reported
EA Excess Rev	\$0	See page 19 of this chart
EA at 12%	\$235,313	Equal Access - EA Excess Rev
TS-SW less EA at 12%	\$8,353,356	TS-SW Rev at 12% - EA at 12%
Prem MOU	321,083,177	As reported
Non-Prem MOU	6,814,082	As reported
Total MOU	327,897,259	Prem MOU + Non-Prem MOU
Stim MOU: SLC	6,327,658	As reported
Stim MOU: Exo	5,008,300	As reported
Stim MOU: Total	9,285,181	As reported
Total MOU Adj for Exo Changes	327,897,259	No adjustment made; Total MOU reflects 1990 stimulation
TS-SW Rate Adj for Exo Changes	\$0.0255	TS-SW less EA / Total MOU Adj
TS-SW Rate Unadj for Exo Changes	\$0.0262	Access Rev (TS-SW) / Total MOU

Computation of Adjusted 1989 Traffic Sensitive/MOU Rate

1989 Actuals
Traffic Sensitive-Switched

Access Rev (TS-SW)	\$8,663,331
Net Return	\$1,691,423
ANI	\$13,294,262
FIT/SLIT	0.601947
ROR	12.72%
Net Return at 12%	\$1,595,311
Earnings above 12%	\$96,112
Revenue above 12%	\$153,966
TS-SW Rev at 12%	\$8,509,365

Equal Access	\$247,757
EA Excess Rev	\$0
EA at 12%	\$247,757

TS-SW less EA at 12%	\$8,261,608
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SPF Phase-Down	(\$3,143)
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Tax Reform	\$47,181
Tax Reform less EA	\$45,807

COE Cat 3 - Dems	(\$302,634)
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TS-SW Rev Adj for Exo Changes	\$8,001,639
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All exogenous changes are cumulated for all later years. Thus the effect in 1989 is the amount reported for 1990. The effect in 1988 will be the sum of the 1990 and 1989 amounts, and so on. This adjusts exogenous changes to 1990 levels.

Only the Tax Reform Act exogenous change must be recast to remove the portion of the exogenous change reflected in the EA category.

Computation of Adjusted 1989 Traffic Sensitive/MOU Rate

Prem MOU	289,764,442	
Non-Prem MOU	7,794,881	
Total MOU	297,559,323	
Stim MOU: SLC	6,979,203	Total exogenous stimulation in each year prior to 1990 is recast to the 1990 level by multiplying the ratio of total 1990 Stim Mou to 1990 Total MOU less total 1990 Stim MOU, by the year's Total MOU less total Stim MOU.
Stim MOU: Exo	5,120,899	
Stim MOU: Total	10,571,560	
Stim MOU: Total @ 90	8,363,567	
Total MOU Adj for Exo Changes	295,351,330	
TS-SW Rate Adj for Exo Changes	\$0.0271	
TS-SW Rate Unadj for Exo Changes	\$0.0291	

Computation of Adjusted 1988 Traffic Sensitive/MOU Rate

1988	
Traffic Sensitive-Switched	
Access Rev (TS-SW)	\$8,231,744
Net Return	\$1,722,997
ANI	\$12,825,399
FIT/SLIT	0.607716
ROR	13.43%
Net Return at 12%	\$1,539,048
Earnings above 12%	\$183,949
Revenue above 12%	\$295,738
TS-SW Rev at 12%	\$7,936,006
Equal Access	\$255,242
EA Excess Rev	\$0
EA at 12%	\$255,242
TS-SW less EA at 12%	\$7,680,764
SPF Phase-Down	(\$5,281)
Reserve Def Amort	\$14,964
Tax Reform	\$47,181
Tax Reform less EA	\$45,664
COE Cat 3 - Dens	(\$508,165)
COE Cat 4 - Terms	\$7,301
Acct 662	(\$5,694)
TS-SW Rev Adj for Exo Changes	\$7,229,553

Computation of Adjusted 1988 Traffic Sensitive/MOU Rate

Prem MOU	258,269,102
Non-Prem MOU	8,452,116
Total MOU	266,721,218
Stim MOU: SLC	6,765,907
Stim MOU: Exo	5,105,113
Stim MOU: Total	10,223,676
Stim MOU: Total @ 90	7,475,003
Total MOU Adj for Exo Changes	263,972,545
TS-SW Rate Adj for Exo Changes	\$0.0274
TS-SW Rate Unadj	\$0.0309

Computation of Adjusted 7/86-6/87 Traffic Sensitive/MOU Rate

7/86-6/87

Traffic Sensitive-Switched

Access Rev (TS-SW)	\$7,102,456
Net Return	\$1,517,112
ANI	\$11,662,549
FIT/SLIT	0.867188
ROR	13.01%
Net Return at 12%	\$1,399,506
Earnings above 12%	\$117,606
Revenue above 12%	\$219,593
TS-SW Rev at 12%	\$6,882,863

Equal Access	\$220,924
EA Adjust to 12%	(\$2,100)
EA at 12%	\$218,824

Equal Access revenue is reported at the authorized rate of return. For this year, an average ROR of 12.375 was assumed. The adjustment is computed by multiplying EA ANI/EA Revenue by 0.375% by reported Equal Access.
See 1989 TRP, COS-1(P) for EA ANI/EA Rev

TS-SW less EA at 12%	\$6,664,039
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SPF Phase-Down	(\$8,328)
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Reserve Def Amort	\$49,763
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Tax Reform	(\$303,494)
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Tax Reform less EA	(\$293,845)
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COE Cat 3 - Dens	(\$625,862)
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COE Cat 4 - Terms	\$9,562
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Acct 662	(\$20,881)
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Conformance	\$393,380
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FASB 87	(\$38,082)
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TS-SW Rev Adj for Exo Changes	\$6,129,746
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Computation of Adjusted 7/86-6/87 Traffic Sensitive/MOU Rate

Prem MOU	213,555,674
Non-Prem MOU	13,332,499
Total MOU	226,888,173
Stim MOU: SLC	5,317,735
Stim MOU: Exo	3,890,099
Stim MOU: Total	8,127,360
Stim MOU: Total @ 90	6,375,257
Total MOU Adj for Exo Changes	225,136,070
TS-SW Rate Adj for Exo Changes	\$0.0272
TS-SW Rate Unadj	\$0.0313

Computation of Adjusted 6/85-5/86 Traffic Sensitive/MOU Rate

6/85-5/86
Traffic Sensitive-Switched

Access Rev (TS-SW)	\$6,562,000
Net Return	\$1,331,020
ANI	\$10,699,691
FIT/SLIT	0.967797
ROR	12.44%
Net Return at 12%	\$1,283,963
Earnings above 12%	\$47,057
Revenue above 12%	\$92,599
TS-SW Rev at 12%	\$6,469,401

Equal Access	\$86,737
EA Adjust to 12%	(\$1,649)
EA at 12%	\$85,088

For this year, ROR was set at 12%. The adjustment was made as on page 15 of this chart, with the factor 0.75% instead of 0.375%.

TS-SW less EA at 12%	\$6,384,313
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SPF Phase-Down	(\$10,369)
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Acct 645	(\$37,234)
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WATS DA: 1986-7	(\$225,599)
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WATS DA adjustment is calculated by assuming constant MOU/line and multiplying 7/86 - 6/87 WATS exogenous change by ratio of WATS closed-end MOU in current year to that of 7/86 - 6/87.

Reserve Def Amort	\$98,296
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Tax Reform	(\$327,047)
Tax Reform less EA	(\$322,746)

COE Cat 3 - Dens	(\$625,862)
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COE Cat 4 - Terms	\$9,562
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Acct 662	(\$20,881)
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Conformance	\$393,380
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FASB 87	(\$38,082)
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TS-SW Rev Adj for Exo Changes	\$5,604,779
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Computation of Adjusted 6/85-5/86 Traffic Sensitive/MOU Rate

Prem MOU	178,986,662
Non-Prem MOU	20,500,443
Total MOU	199,487,105
Stim MOU: SLC	3,098,841
Stim MOU: Exo	1,120,040
Stim MOU: Total	3,995,713
Stim MOU: Total @ 90	5,697,125
Total MOU Adj for Exo Changes	201,188,517
TS-SW Rate Adj for Exo Changes	\$0.0279
TS-SW Rate Unadj	\$0.0329

Computation of Adjusted 6/84-5/85 Traffic Sensitive/MOU Rate

6/84-5/85	
Traffic Sensitive-Switched	
Access Rev (TS-SW)	\$5,587,443
Net Return	\$1,137,574
ANI	\$9,379,928
FIT/SLIT	0.927645
ROR	12.13%
Net Return at 12%	\$1,125,591
Earnings above 12%	\$11,983
Revenue above 12%	\$23,098
TS-SW Rev at 12%	\$5,564,345
Equal Access	\$46,856
EA Adjust to 12%	(\$891)
EA at 12%	\$45,965
TS-SW less EA at 12%	\$5,518,380
SPF Phase-Down	(\$12,410)
Acct 645	(\$228,992)
WATS DA: 1986-7	(\$215,681)
Reserve Def Amort	\$98,296
Tax Reform	(\$327,047)
Tax Reform less EA	(\$324,345)
COE Cat 3 - Dens	(\$625,862)
COE Cat 4 - Terms	\$9,562
Acct 662	(\$20,881)
Conformance	\$393,380
FASB 87	(\$38,082)
TS-SW Rev Adj for Exo Changes	\$4,553,364

WATS DA adjustment is calculated by assuming constant MOU/line and multiplying 7/86 - 6/87 WATS exogenous change by ratio of WATS closed-end MOU in current year to that of 7/86 - 6/87.

Computation of Adjusted 6/84-5/85 Traffic Sensitive/MOU Rate

Prem MOU	158,815,341
Non-Prem MOU	24,293,020
Total MOU	183,108,361
Stim MOU: SLC	1,614,205
Stim MOU: Exo	0
Stim MOU: Total	1,614,205
Stim MOU: Total @ 90	5,289,210
Total MOU Adj for Exo Changes	186,783,366
TS-SW Rate Adj for Exo Changes	\$0.0244
TS-SW Rate Unadj	\$0.0305

APPENDIX D

The Long Term View of the Appropriate Productivity Factor For Interstate Exchange Access

by Thomas C. Spavins¹

1. The Supplemental Notice in this proceeding presented a long term study of the productivity of the local exchange industry.² The study also outlined the relationship between the productivity of the local exchange telephone companies as a whole and the productivity of interstate access. This document revisits the analysis presented in that study. Explicit numerical estimates of the appropriate interstate productivity factor are presented under a number of alternative assumptions. This document also responds to comments on the initial study.

The Long Term Total Company View of Telephone Productivity

2. The approach taken in Appendix D of the Supplemental Notice estimated the price performance of the local telephone companies over the long term.³ The starting point for this analysis was a conceptual model of the local exchange industry. This model viewed local telephone companies as providers of an essentially homogenous commodity, exchange access and transport, which is divided for historical legal and political reasons into federal and state jurisdictional portions. This model, when combined with an understanding of the separations process, provided a method of estimating the price performance of the local carrier's interstate access business. The next step in the analysis was to derive a long term estimate of the indirect total factor

1 Assistant Bureau Chief For Economics, Common Carrier Bureau, Federal Communications Commission.

2 Supplemental Notice, 5 FCC Rcd at 2414 (Appendix D).

3 The study focused on the rate of change of the long term inflation adjusted price of telephone service. This number, under specified assumptions, is equal to the difference between the total factor productivity of the telephone industry and that of the economy as a whole. See Second Further Notice, 4 FCC Rcd at 2990 (para. 223). Supplemental Notice, 5 FCC Rcd at 2213 (para. 70) This estimate of differential total factor productivity is indirectly derived from price data, rather than directly estimated from data on inputs and outputs. In Appendix D and elsewhere this estimate has therefore been called an indirect productivity estimate.

productivity of the local companies. This section restates, with no essential changes, those results.

3. The basic view of the stylized facts of the local exchange industry was not new to the study published with the Supplemental Notice. The growth of competition and the AT&T divestiture spawned a number of careful economic studies of the economics of the local exchange.⁴ A common theme of this literature was the relative homogeneity of local usage, despite the different names assigned to different uses of the local network (e.g., local, intra-LATA toll, interstate access and intrastate access). The large role of fixed costs, which are substantially independent of use, was a key point in the analyses.⁵ This consensus stressed that local carrier revenue requirements, and therefore any measure of price performance for interstate access, were the result of both the economic costs of production and the separations rules used to recover these costs. This premise of the study presented in Appendix D of the Supplemental Notice drew no critical comment.

4. The next step in the analysis was to explore the implications of the separations process. The study observed that if the costs of local exchange were divided on a relative use basis then improvements in local carrier productivity would be shared between the two jurisdictions. If costs were divided in fixed proportions and were collected from customers in the same way, prices in both jurisdictions would reflect equally any improvements in price performance. However, if some costs were divided in fixed proportions but recovered on the basis of use, then the jurisdiction with a more rapid rate of growth would appear more productive. The study observed that with respect to the local telephone industry of the 1990's, special access and traffic sensitive costs are divided between the jurisdictions on a relative use basis, while non-traffic sensitive costs are divided between the jurisdictions on approximately a fixed proportions basis but recovered in part

4 See R. Park & B. Mitchell, Optimal Peak-Load Pricing for Local Telephone Calls (June 1986)(Rand Corporation, No. M. R-3404-RC); B. Mitchell, Incremental Capital Costs of Telephone Access and Use (August 1989)(Rand Corporation, No. R-3762-1CTF); R. Park & B. Mitchell, Local Telephone Pricing and Universal Service (June 1989)(Rand Corporation, No. R-3724-NSF); R. Shin, Econometric Estimation of Telephone Costs for Local Exchange Companies: Implications for Economies of Scale and Scope and Regulatory Policy (1988)(University of California); G. Brock, Telephone Pricing to Promote Universal Service and Economic Freedom (January 1986)(Federal Communications Commission). These papers contain extensive bibliographies.

5 For example, there is a debate as to the efficiency of local usage pricing given that most of the usage sensitive costs are caused by the provision of peak hour capacity rather than actual daily use.

on a usage basis.⁶ The jurisdiction with the faster rate of growth (interstate) would appear to have a higher productivity with respect to these latter costs.⁷ This analysis received no unfavorable comments. USTA provided a mathematical exposition of the general problem of measuring "productivity" when costs are not recovered in the same way they are caused.⁸

5. The study in Appendix D of the Supplemental Notice also observed that the post-divestiture time period was marked by a number of important shifts in the jurisdictional recovery of costs, and other factors which made it desirable to use estimates from both jurisdictions and a longer time period as a check of possible error. A number of important recent changes were identified. The comments on the Supplemental Notice disagreed with neither the desirability of a check or the list of important changes.⁹

6 See 47 C.F.R. §§ 36.2 and 36.154.

7 The assumption that the output of the unified entity is homogeneous is important to this analysis. Even if costs were divided in such a way that the rate of productivity growth were the same for each type of cost, if these rates were not all equal to each other, and the proportions of each type of output differed across jurisdictions, then another source of difference in productivity could arise. Casual inspection of the relevant data shows that the differences in the proportion of costs assigned to traffic sensitive and private lines does not, in the aggregate, differ much between the jurisdictions, so a failure of the homogeneity assumption would not appear to matter much. A very useful description of the technology of local access and transport is contained in Notes on the BOC Intra-LATA Networks (1983) (AT&T). See also J. Martin Telecommunications and the Computer (Prentice-Hall 1990).

8 See USTA Supplemental Reply, Attachment A. While AT&T's experts indicated general conceptual agreement with this approach to jurisdictional reconciliation, FCC staff and AT&T's experts did not reach closure on all points of interpretation, or on the magnitudes of the applicable parameters. Ex Parte Presentation June 28, 1990, referenced in letter of June 28, 1990 from Agnes Cashman, of AT&T, to Donna Searcy, Secretary, FCC.

9 Some parties argued that while a long time series with a large number of observations is inherently desirable, the 60-year length of the study includes data that are obsolete and hence of questionable relevance. AT&T Supplemental Comments, Appendix E at 4; see also Ad Hoc Supplemental Comments at 10. However, the study released in Appendix D of the Supplemental Notice identifies (using independent historical sources) major factors that affected telecommunications productivity. After statistically adjusting for the identified factors to determine if there were any unexplained divergence from long term patterns in recent years, there were none. This result supports the view that a long term study is relevant to today's interexchange access

6. The next step in the analysis of the productivity of the local carriers was to estimate the price performance or indirect total factor productivity of the local carriers. The study then used data from the Bureau of Labor Statistics to indirectly estimate the productivity of the telephone industry as a whole.¹⁰ It was necessary to estimate productivity indirectly as the authors of the study did not have access to the data necessary to do a direct study.¹¹ NYNEX, in its Supplemental Comments, demonstrates the

market. In addition, some parties identified a pattern of autocorrelation in Models 1 and 2 of Appendix D. See e.g., Ad Hoc Supplemental Comments at 12 and Appendix A at 8. However, the autocorrelation identified does not change the sign or value of relevant parameters. See USTA Supplemental Reply, Attachment A. Nevertheless, the revised study presented here reestimates Models 1 and 2 to correct for autocorrelation. These corrections do not change the principal results.

¹⁰ The data series used was the Consumer Price Index - All Urban Consumers (CPI-U) Telephone Services for 1936 to present, linked to a series on telephone and telegraph expenditures for 1930-1935. Criticisms of the use of this data series as overstating per line productivity fail to recognize that prices indicated in this series contain many usage based services. See AT&T Supplemental Comments, Appendix E at 2, 7-9. More fundamentally, the composite BLS series includes services such as historical long distance calling whose price declined faster than other telephone services, as well as services such as the provision of inside wire and customer premises equipment (CPE) that may not have been subject to as rapid a decline in per unit price. Baumol and Wolff are quite correct that a more disaggregated approach is desirable. We differ in the path we take to refine the data. They seek to identify exchange access with the old toll service. This view does not take into consideration that the old toll service included varying amounts of contribution toward local exchange costs. The Commission's purpose in this proceeding is to establish correct pricing incentives given a predetermined set of separations rules. Therefore, the approach herein takes these rules as given and "builds up" a productivity estimate. This is not to say that as an economic matter, the existing rules represent the definitive lodestone of access costs, rather; as an administrative matter, they are to be taken as given for the purpose of this proceeding.

¹¹ Direct productivity studies measure a company's inputs and outputs to determine productivity. Indirect studies draw on price changes, since the prices companies charge directly reflects their performance. Several parties have challenged the use of indirect price studies as measures of productivity. See NASUCA Supplemental Comments, Attachment 1 at 13; Ad Hoc Supplemental Comments, Attachment A at 3; DSPSC Supplemental Reply at 3-5; CSE Supplemental Comments at 5. These comments suggested that an indirect study of productivity must hold profits constant. These criticisms are correct, and

high degree of comparability between the indirect estimates of local carrier productivity and the direct estimates, for the time periods all three series are available.¹²

7. The series on local carrier productivity shows much variation over time, as the real (e.g., inflation-adjusted) price of telephone service has declined over time. The data also shows much year-to-year variation. The next step was to see if any changes could be discerned in the pattern of carrier productivity over time. Three regression models were estimated, and the residuals or unexplained variation in the data were displayed. The data demonstrated that while the rate-of-inflation did affect measured telephone price performance, the trend of adjusted telephone prices appeared to be constant.¹³ This was consistent with the observations of a number of other

explain why Appendix D did not rely on unadjusted price data. Indeed, the study performed a statistical analysis to ensure that this source of error did not bias the result. As indicated in the original study, there was a statistically significant association between the relative market-to-book ratio of AT&T's common stock, and the gap between cumulative price performance and the long term trend. This indicates that changes in profits had been a reason for the apparent departures of "productivity" from the long term trend. Furthermore, those criticizing the study did not offer alternative analyses or estimates of the magnitude of error. Finally, as indicated in Appendix D, telephone companies' earnings in this time period did not always exceed their cost of capital, as NASUCA suggests.

12 NYNEX Supplemental Comments, Attachment B at Chart 1. The correlations between the Appendix D Study, AT&T, and Christensen estimates are substantial (.591 and .606) and statistically significant.

13 NASUCA argues that the conclusion that a single trend in productivity has prevailed over the last 60 years stands in contrast to the results of every other study that attempts to detect changes in productivity trends over extended time periods. According to NASUCA, the body of evidence overwhelmingly supports the proposition that the telecommunications industry has experienced more rapid progress in productivity in later periods than in earlier periods. NASUCA Supplemental Comments, Attachment 1 at 12. None of the studies cited by NASUCA attempt to determine if there was a constant trend after adjusting for inflation and other variables. The studies are mere compilations of raw productivities, about which there is no question that they vary from year to year. The studies are also generally not studies of productivity differentials but of the absolute change in total factor productivity. The innovation that is of concern here is not scientific discovery per se, but the actual deployment and use of new technologies in the telephone network. Those changes are usually embedded in long lived telephone plant, which is replaced at a periodic rate. This is consistent with most models of the diffusion of innovation.

observers of the local telephone industry.¹⁴ The equations show that adjusted for the impact of inflation, the long term trend in observed telephone company price performance showed a constant rate of improvement of 1.7-2.0 percent. These equations are reproduced in Table I. Chart I shows the historical price performance series. Chart II shows the difference between the actual and estimated real telephone prices. While the productivity estimates of the long term studies were not greeted enthusiastically by all, no party denied that inflation matters for the price performance of the telephone companies, nor did anyone even attempt to provide a productivity series which was explicitly adjusted for the effects of inflation.¹⁵

14 The impact of inflation and regulation on the economic fortunes of the telephone companies is no mere statistical artifact. Rather, it is one of the most salient features of the economic history of the industry. See J. Brooks, Telephone: The First Hundred Years, 189, 213-214, 227, 238, 243, 281-284, 296-297, (Harper & Row 1976); P. MacAvoy, The Regulated Industries and the Economy, 59-80, (Norton 1979); and the papers cited in T. Spavins, An Introduction to the Economics of Price Cap Regulation (1990)(Federal Communications Commission). J. Pierce & A. Noll, Signals: The Science of Telecommunications (W.H. Freeman & Co. 1990) provides a nice review of the long term evolution of telecommunications technology.

15 The ETI Report argues that statistical tests performed on the data demonstrate a significant trend difference for 1935-1961 and 1962-1989. Ad Hoc Supplemental Comments, Attachment A at 3-4. The data show no such breakpoint after adjustment for the effect of inflation and other variables. See Charts I and II. Ad Hoc's review of Appendix D is puzzling in other ways. For example, it asserts that Model 3 contained in Appendix D appears to add variables in a "random and undocumented manner" even though the text of Appendix D provides an explanation of the Model's specification, an explanation of the included variables, and references to a prior public document on the topic of telephone prices.

Table I

Model 1

1930-1989; -1.7% regression line trend; with autocorrelation correction

Regression Output: R Squared .70647
Std Error of Y est .02164
Von-Neuman Ratio 1.96487

	constant	dCPI	d2CPI
X Coefficients	0.02780	-0.71879	-0.23464
Std Error	0.00515	0.08519	0.08490
t	5.394	-8.437	-2.763

Model 2

1946-1989; -2.0% regression trend line; with autocorrelation correction

Regression Output: R Squared .63245
Std Error of Y est .02276
Von-Neuman Ratio 1.95664

	constant	dCPI	d2CPI
X Coefficient	0.03209	-0.70221	-0.29325
Std Error	0.00772	0.12737	0.11744
t	4.157	-5.512	-2.496

Model 3

1930-1989; multivariate analysis

Regression Output: R Squared .745

	constant	CPI	Yield	GNP	Traffic
X Coefficient	0.014	0.714	0.180	-0.135	-0.222
t stat	4.313	9.020	4.095	2.313	3.696

The Interstate Productivity Factor

8. The task before the Commission is to establish an interstate price performance target for local exchange carriers for the years beginning in

1991. An adjustment to the total company long term estimate should be made.¹⁶ If the rate of growth of interstate use is greater than that of intrastate use, the interstate jurisdiction will appear to be more productive depending upon the difference in the rates of growth and the proportion of costs which are caused by lines but recovered by use.

9. An estimate of the difference between the expected growth of interstate use and intrastate use during the appropriate time period is also required. Data on the historical rate of growth of intrastate minutes is available from Common Carrier Statistics for 1980 - 1988,¹⁷ and both the Tariff Review Plan and Common Carrier Statistics provides data on the rate of growth of interstate access minutes. The long term trend in intrastate use was about 3.2 percent.¹⁸ Estimating the long term trend in interstate toll calling is somewhat more complex. Total interstate switched use grew at a rate of about 9.65 percent over the period 1980-1991.¹⁹ This growth includes the large volume of traffic stimulated by the subscriber line charge program, the deregulation of customer premise equipment and inside wire, and various separations reforms. An accurate measure of growth in total interstate switched demand therefore requires removal of stimulated minutes. This requires use of estimation techniques on which economists may differ. The author's single value estimate of the amount by which 1990-1991 quantities would be reduced if regulators tried to tax interstate switched access for the full amount of the separations reform and subscriber line charge program is about 85-90 billion access minutes.²⁰ This volume of stimulation would reduce

16 The comment by Baumol-Wolff on the need to adjust the raw number is quite correct. AT&T Supplemental Comments, Appendix E at 3-4. As observed in Appendix D to the Supplemental Notice "If ... the rate of growth of interstate traffic were greater ... interstate should appear to be more productive".

17 Statistics of Communications Common Carriers, 307, (1988/1989 Edition)(Federal Communications Commission).

18 This is the simple 1980-1988 compound rate of growth of the sum of local use and state toll calling. See Statistics of Communications Common Carriers, 307, (1988/1989 Edition)(Federal Communications Commission).

19 This growth rate was computed over an 11.5 year period (1/1980-7/1991). Interstate toll calling for 1980 is shown at Statistics of Common Carriers, 307, (1988/1989 Edition)(Federal Communications Commission). Traffic for 7/90-7/91 is the estimated volume of traffic sensitive access minutes. This was used to provide a series that is consistent given the removal of closed end WATS lines from payment of NTS charges in 1986.

20 The key parameters of the estimate are: initial quantity of 327 billion access minutes, a price of a two ended call-minute of about \$.21, a traffic

the trend rate of growth to 6.43 percent. To be conservative either because of an overestimate of demand stimulation or other factors,²¹ this study will also estimate the interstate price performance target under the assumption of 8 percent rate of growth. Thus, the difference between the two interstate rates of growth and the 3.2 percent intrastate rate of growth is between 3.23 percent and 4.8 percent. The difference between the interstate and intrastate rates of growth is this percent difference multiplied by the proportion of interstate costs that are non-traffic sensitive but are recovered by use.²² If interstate costs are 25 percent of the total, then interstate productivity should be .53 or .79 above intrastate. Therefore, the adjustment of the average productivity required to derive interstate productivity is .4 to .6.

sensitive marginal cost of \$.01, an elasticity of demand of -0.7, and about \$10.5 billion in net shift of revenues. The parameters are all at or near values generally used in this record. See Ex Parte Letter dated August 16, 1990 from Agnes Cashman, of AT&T, to Donna Searcy, Secretary, FCC.

21 For example, the long distance industry may not have been in a sustainable equilibrium in 1980, and might have experienced reduced growth, but for the access charge reform program.

22 The expected average of this amount is 16.4 percent, based on the most recent tariff review plan for the eight largest companies.

Table II

The Interstate Productivity Target

Factor	Low	High	Best Estimate
Total Productivity	1.7	2.0	1.85
Interstate Adjustment	.4	.6	.4
Total	2.1	2.6	2.25 ²³

Productivity Targets for Different Formulas

10. The task of reconciling the long term studies of telephone productivity with a productivity factor to be used in a system of price caps for interstate access requires an additional adjustment. The price cap system will not use a simple price index that weights each year's prices by recent quantities. Rather, the price cap formula will use a slightly different formula which attempts to weight in equal proportions the per line and per minute recovery of non-traffic sensitive costs. This study calculates an interstate productivity offset on the assumption that non-traffic sensitive revenue requirement is capped on a per line basis. The per line measure, which weights per line recovery at 100 percent and per minute recovery at zero, provides a useful comparison to the short term study contained in Appendix C.

11. The table below calculates the adjusted interstate productivity target for a per line NTS index. The results are displayed for an assumed

23 This estimate is almost equal to the estimate of National Economic Research Associates of the interstate productivity factor when it tried to reconcile the available data on total productivity with that for toll and interstate access. See USTA Supplemental Reply, Attachment A. This level of technical change is at the high end of the available estimates of total productivity for major sectors of the U.S. economy. An interstate productivity differential of 2.25, is the equivalent of a total productivity of almost 3.15 over the 1948-1979 period. None of the sectors surveyed in one major study were able to sustain a productivity that high for such a long period. For short periods, productivity growth rates this high were observed. See D. Jorgenson, F. Gollop, & B. Fraumeni, Productivity and U.S. Economic Growth, 17-19, (Harvard University Press 1987).

average rate of growth of 6.5 percent and 8.0 percent for each of three productivity estimates.

Table III

Productivity Targets for Different Formulas²⁴

<u>Productivity</u>	<u>Productivity Adjusted for the Per Line Formula</u>
2.10	1.53
2.25	1.68
2.6	2.03

²⁴ The proposed Consumer Productivity Dividend will add .5 percent to each of the numbers presented in this table.

CHART 1

Actual and Predicted GAP

using published IPI 1945 - 1989

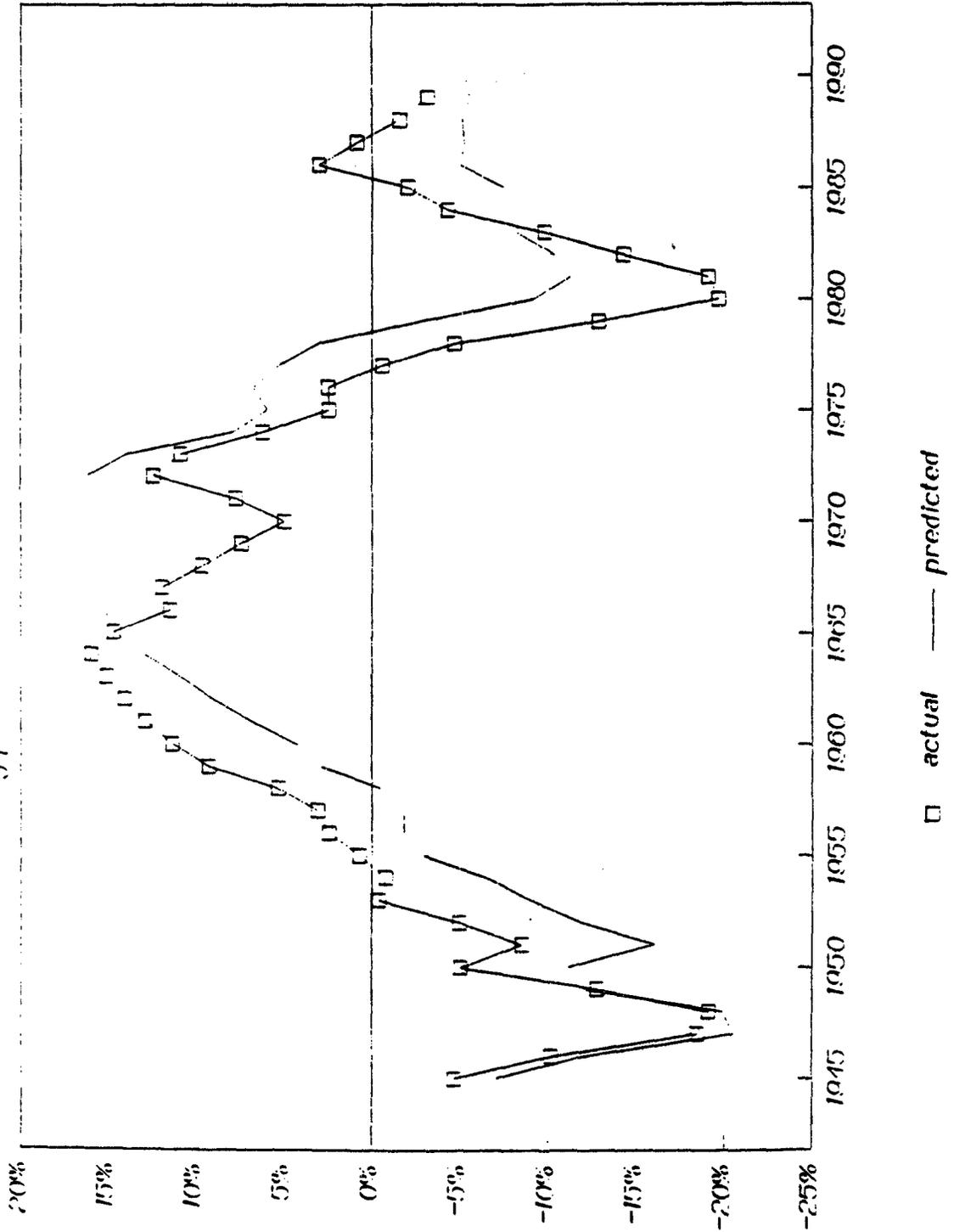
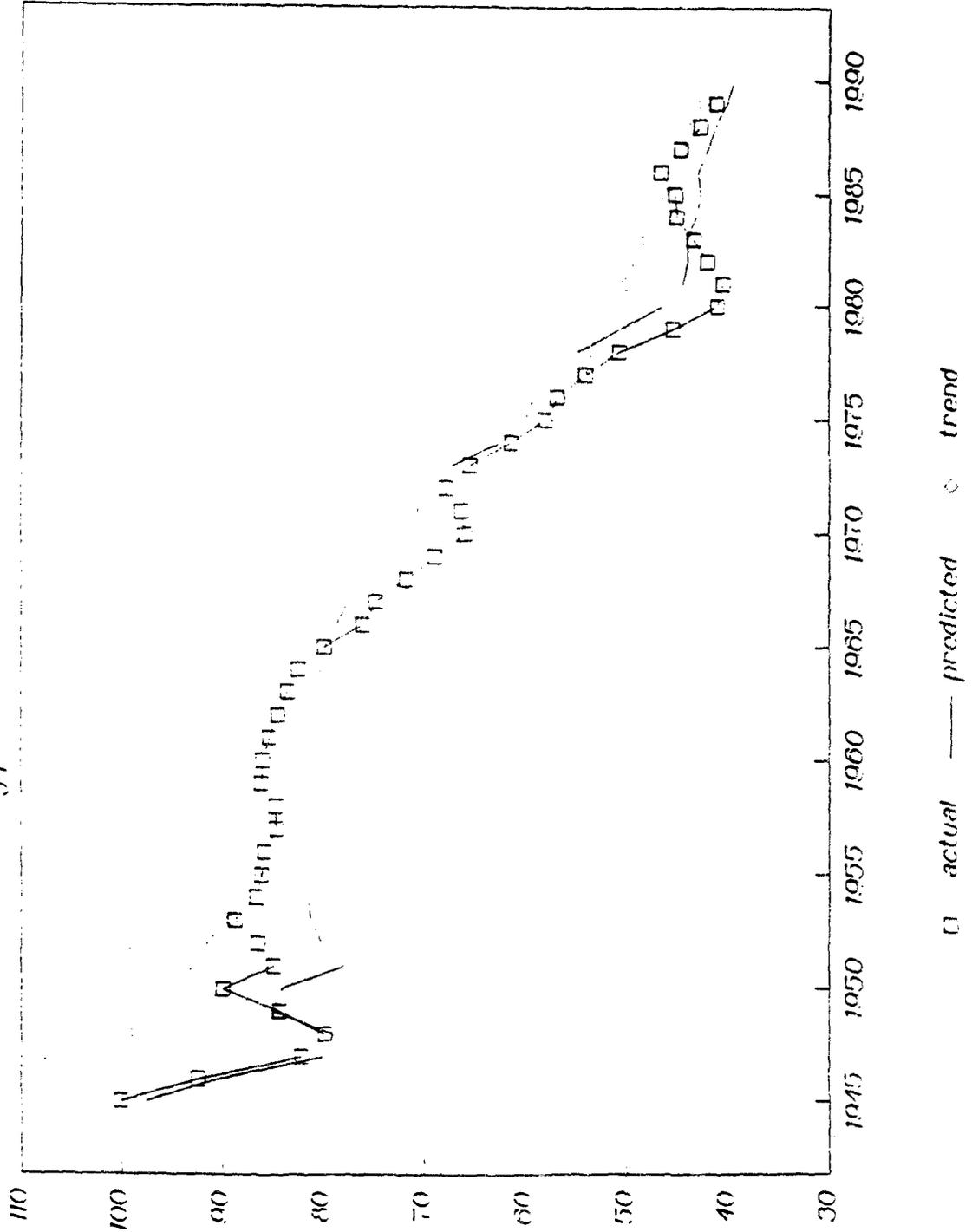


CHART 2

Actual and Predicted Real TPI

using published TPI 1945 - 1980



APPENDIX E

Technical Aspects of the Common Line Price Cap Index Formula

Several commenters expressed confusion and concern about the method proposed for capping the carrier common line rate.¹ This Appendix, along with the rules we are adopting in CFR §61.45 clarify and explain the method we are using to cap the common line basket.

Calculation of the Price Cap Index

- Let C = base period cost per line
M = base period carrier common line (CCL) minutes per line
g = annual growth rate of CCL minutes per line
X = productivity offset

We assume that the costs per line change with the inflation-adjusted productivity measure (GNP-PI - X). Then the base period common line (CL) cost per minute is:

$$\text{CL Base : } C/M$$

Since costs per line change by "GNP-PI - X", minutes change by g, and we are splitting the benefits of demand growth between local exchange carriers and their customers, the common line cost per minute in the following period is given by:

$$\text{CL Proposed : } [C(1 + \text{GNP-PI} - X)] / [M(1 + (g/2))]$$

To determine the percent change in the CL cost per minute:

$$\begin{aligned} (\text{CL Proposed} - \text{CL Base}) / \text{CL Base} &= ((1 + \text{GNP-PI} - X) / (1 + (g/2))) - 1 \\ &= (\text{GNP-PI} - X - (g/2)) / (1 + (g/2)) \end{aligned}$$

This formula provides the percentage change in the common line cost per minute, absent any changes in exogenous costs.

If exogenous cost changes occur, this will have two effects on the percent change in the CL per minute. First, there is the direct effect of the

¹ California Comments at 4-5; Centel Comments at 15; Hawaii Reply at 16-17.

exogenous cost, which is given by the term " $\Delta Z/R$ " in the PCI formula. Second, the change in exogenous costs will alter the base of costs to which the inflation-adjusted productivity measure is applied. Because costs are changing by ΔZ , the inflation-adjusted productivity measure is applied only to those costs which will be incurred in the coming period. These costs are:

$$R + \Delta Z$$

where

ΔZ = change in exogenous costs, and

R = the sum of existing CCL and SLC rates multiplied by base demand²

The new CL per minute rate is thus obtained by multiplying the existing Cl per minute rate by:

$$[1 + w((GNP-PI - X - (g/2)) / (1 + (g/2))) + \Delta Z/R]$$

where

$$w = (R + \Delta Z) / R$$

Calculation of the CCL Rate

Having obtained the change in the CL per minute rate allowed under the price cap, we must translate that change into a change in the carrier common line per minute rate. The method used to achieve this can perhaps best be understood by a review of the method used to develop CCL rates under rate of return regulation.

Under rate of return, carriers forecast total CL costs and total subscriber lines. Costs are then divided by lines to obtain a rate per subscriber line. The Subscriber Line Charge (SLC) the end user pays is the lesser of this computed rate or the maximum SLC allowed under the Commission's rules. The CCL rate is then set to recover any residual CL revenue requirement, which is the difference between the total CL costs and the sum of the SLCs multiplied by forecasted subscriber lines.

² Since the existing rates must in aggregate be set at or below the cap (which reflects costs) we do not need to use booked revenues for R in this formula. See United Supplemental Comments at 16-17.

Under price cap regulation, SLCs will be determined as they were under rate of return regulation. The CCL rates will then be determined to recover the residual CL costs using the following formula:

$$CCL_{MOU} = CL_{MOU} * (1 + \% \text{ change in CL PCI}) - SLC_{MOU} * 1 / (1 + (g/2))$$

where

$$CCL_{MOU} = \text{proposed CCL rates multiplied by base period CCL minutes of use, divided by base period CCL minutes of use,}$$

$$CL_{MOU} = \text{existing CCL rate multiplied by base period CCL minutes of use plus existing SLC rates multiplied by base period lines, divided by base period CCL minutes of use, and}$$

$$SLC_{MOU} = \text{proposed SLC rates multiplied by base period lines.}$$

Note that the SLC rates used to compute CL_{MOU} and SLC_{MOU} will not necessarily be the same. This is the case because they are fulfilling different functions in the two parts of the CCL equation. In the computation of CL_{MOU} , the SLCs reflect base period costs, and therefore the existing (i.e., base period) SLC should be used. These costs recovered by SLCs, along with the costs recovered by existing (i.e., base period) CCL rates, are then allowed to change by the percent change in the CL PCI. In computing the SLC_{MOU} , the SLCs are the revenue per line which will be received. This revenue must be subtracted from the total CL costs to determine the costs which must be recovered by CCL charges.

Calculation of Upper and Lower Service Bands

Pactel requests that we clarify our methodology for computing the upper and lower bands on the Service Band Indexes (SBIs). It proposes the following formulas:

$$\begin{aligned} \text{Lower Band} &= \text{SBI(PY)} * [\text{PCI}(t) / \text{PCI}(t-1) - 0.5] \\ \text{Upper Band} &= \text{SBI(PY)} * [\text{PCI}(t) / \text{PCI}(t-1) + 0.5] \end{aligned}$$

where SBI(PY) is the SBI value in effect at the end of the previous tariff year. While we are adopting no specific formulas for computing the upper and lower bands, we note that these formulas will compute the upper and lower bands as required by our rule.³

3 See CFR §61.47(e).

APPENDIX F

Issues Affecting the January 1 and July 1, 1990 Price Cap Filings

As we have done under rate of return, we plan to standardize the tariff filing formats for price cap carriers. We therefore direct the Common Carrier Bureau to develop a standard tariff review plan for use in annual filings. For the purposes of the first price cap filing on January 1, 1991, we provide some guidance here of the methods we wish to be used. Additional guidance may be provided by the Bureau subsequent to the release of this Order. As in the annual filings effective July 1 of each year, we seek filing formats and methods that are as standardized as possible for the first set of price cap tariffs.

Price cap tariffs effective January 1, 1991 will be filed no later than November 1, 1990. Due to the simplified nature of the first filing, 60 days' notice should provide ample time for interested parties and Commission staff to review the proposed rates for adherence to our price cap rules.

Since the first price cap filing arrives in the middle of an annual tariff cycle that normally begins July 1 and ends the following June 30, the price cap annual adjustment mechanism (the price cap index) will not be calculated to reflect changes in inflation less the productivity offset. Accordingly, PCI levels filed November 1, 1990 should reflect the PCI initial value of 100 on July 1, 1990, adjusted only for exogenous cost factors detailed in the Order or specified in this appendix through January 1, 1991. Actual prices, filed November 1, 1991, as measured by the actual price index, must be at or below the PCI level.

In addition, because this first price cap filing is coming in the middle of a tariff year, upper and lower bands shall be set based on the July 1, 1990 service band index (SBI) levels, adjusted for changes in the PCI. If carriers have lowered rates since July 1, 1990 to a level that would take an SBI below its lower band, the lower band shall be set at the SBI. No further below band cost support will be required in such a case, because the cost support filed previously with the rate reduction will have shown that the rates cover their costs.

Treatment of Disallowances Revised Since July 1, 1990

On July 2, 1990, the Common Carrier Bureau revised the disallowances that were reflected in July 1, 1990 rates. These revisions resulted in changes

to the July 1, 1990 rates.¹ These revised disallowances, and any other subsequent revisions to disallowances, must be reflected as adjustments to Price Cap Indexes. Treatment of revised disallowances as adjustments to PCI levels is consistent with the Commission's decision to use July 1, 1990, rates as a starting point for price cap regulation. Selection of the July 1, 1990, date as the point indexes are initialized reflects the Commission's view that, for the purposes of starting caps, rates bear a reasonable relationship to costs. Subsequent decisions to alter our view of costs therefore requires adjustment to PCI levels. The methods that carriers use to calculate PCI adjustments for this purpose will be resolved by the Bureau.

Exogenous Costs Included in 7/1/90 Rates

The July 1, 1990 rates reflect the half year effect of certain exogenous changes that will be going into effect on January 1, 1991. These exogenous changes are changes in Subscriber Plan Factor (SPF) and changes in Dial Equipment Factor (DEM). In addition, the July 1, 1990 rates reflect the one quarter effect of other exogenous changes that will be going into effect on April 1, 1991. These are changes in transitional support. No further adjustment to the PCIs will be required on January 1, 1991 to reflect these changes. However, in the annual filing to be effective July 1, 1991, the PCIs must be adjusted to reflect the remainder of the January 1, 1991 exogenous effects and the half year and quarter year effects of the January 1, 1992 scheduled exogenous changes.

We require this adjustment to avoid excessive rate churn that would be associated with reflecting these exogenous changes in the PCI at the time they occur. Since these changes are scheduled to occur at certain times, we believe that the best way to "smooth" their impact on the PCI is to allow them to be reflected only yearly and at the time of the annual filing. We believe that this treatment will avoid excessive filings by carriers and is consistent with currently scheduled filings to account for these changes under rate of return. We recognize, of course, that this treatment is an exception to the rule that exogenous cost changes be reflected at the time they occur. See Appendix B, Rule 61.45(d)(2).

Rate of Return Represcription

Beginning January 1, 1991, carriers must reflect the 11.25 percent rate of return in both their price cap index levels and their rates. We delegate to the Common Carrier Bureau the authority to specify the mechanics of the flow through of the revised rate of return.

¹ See In the Matter of Annual 1990 Access Tariff Filings, CC Docket No. 90-320, 5 FCC Rcd 4142 (1990).