and resolved, the Commission would ensure that the 1996 Act does not cause any unnecessary short-term disruption to carriers or consumers.[1658]

666. The Western Alliance contends that states should have authority to order the recovery of lost contribution through access charges until explicit and competitively neutral support mechanisms are in place.[1659] Similarly, the Massachusetts Commission argues that the states should have authority to include universal service subsidies in the rates for interconnection during this period. The Massachusetts Commission further contends that prohibiting states from exercising this authority will promote inefficient competition and ultimately could result in confiscation claims being filed by incumbent LECs.[1660]

667. Some parties take the position that "play or pay" proposals incorporate implicit subsidies into rates for interconnection and unbundled network elements and are therefore inconsistent with the 1996 Act.[1661] They further argue that such programs violate the 1996 Act because they do not require all telecommunications carriers to contribute on an equitable and nondiscriminatory basis and do not qualify as "specific, predictable and sufficient mechanisms" to preserve and advance universal service.[1662]

668. Other commenters argue, however, that the 1996 Act permits reasonable differences in interconnection rates charged to carriers so long as similarly-situated carriers are treated alike. They maintain that the anti-discrimination provisions of the 1996 Act only prohibit unreasonable discrimination. Thus, they contend that "play or pay" schemes are consistent with the 1996 Act.[1663] Several parties also contend that such schemes are authorized by the reservation of state power to adopt and implement universal service measures in section 254.[1664] Moreover, the New York Commission argues that the section 254(e) requirement that universal service funding must be explicit applies only to the federal

[1658] CompTel comments at 84.

[1659] Western Alliance comments at 6-7.

[1660] Mass. Commission comments at 9-10.

[1661] *See, e.g.,* Frontier comments at 23; Teleport comments at 48-49; Texas Public Utility Counsel comments at 35-36; WinStar reply at 14 n.20.

[1662] WinStar comments at 40; *see also* Texas Public Utility Counsel comments at 35.

[1663] *See, e.g.,* New York Commission comments at 15-18; NYNEX comments at 91-97.

[1664] NYNEX comments at 95-97; New York Commission reply at 6.

Universal Service Fund, which is yet to be established, and not to state initiatives.[1665]

669. Some commenters urge the Commission to address universal service in the section 254 proceeding rather than in the section 251/252 interconnection proceeding.[1666] Other commenters suggest that universal service, access restructure, and interconnection issues should be addressed in a coordinated manner or in a consolidated proceeding.[1667]

670. *Fifth Amendment Issues.* Several incumbent LECs claim that use of a LRIC-based pricing methodology that does not permit recovery of at least joint and common costs and a reasonable profit constitutes unlawful confiscation in violation of the Fifth and Fourteenth Amendments.[1668] Other LECs further argue that, in order to avoid an unconstitutional taking, any pricing rules we adopt must enable them to recover total costs, including historical or embedded costs.[1669] Generally, these parties contend that prices limited by a forward-looking economic cost methodology do not permit an incumbent LEC to remain profitable over time because LRIC fails to recover total costs.[1670] They assert that, if the Commission decides now, long after those costs have been sunk, to bar compensatory returns, it will violate due process and undermine the incumbent LECs' legitimate, investment-backed expectations.[1671] Such interference with legitimate investor expectations, they contend, constitutes an unlawful taking.[1672] GTE contends that Commission adoption of a pure TSLRIC methodology would represent an unconstitutional taking, because it would require use of the incumbent LEC's physical property, thus giving rise to an obligation to provide just compensation.[1673]

[1665] New York Commission reply at 6.

[1666] *See, e.g.*, Competition Policy Institute comments at 13-14; F. Williamson comments at 8; Texas Public Utility Counsel comments at 36; ALTS reply at 35.

[1667] *See, e.g.*, Ad Hoc Telecommunications Users Committee comments at 35; TDS comments at 20.

[1668] *See, e.g.*, GTE comments at 65-71; MECA comments at 42; Puerto Rico Telephone Company reply at 11-12; PacTel comments at 67.

[1669] *See, e.g.*, NYNEX comments at 43-44; PacTel comments at 65-66; SNET comments at 29; Roseville Tel. comments at 6-7.

[1670] *See, e.g.*, Ameritech comments at 62-70; GTE comments at 68-71, reply at 31-32; USTA comments at 39-42.

[1671] *See, e.g.*, GTE comments at 66-71, reply at 31-33; USTA comments at 40-45, reply at 21-25, 32-34.

[1672] *Id.*

[1673] *See* GTE comments at 65-67.

671. Other parties, including the Department of Justice and new entrants, contend that using a forward-looking cost-based pricing methodology for setting the rates for interconnection and unbundled elements does not constitute an unlawful taking.[1674] These commenters point out that many state commissions already utilize a forward-looking cost-based pricing methodology.[1675] They also argue that, because forward-looking cost-based rates capture all costs for interconnection and unbundled network elements, including the risk-adjusted cost of capital, such a methodology would not result in an unlawful taking.[1676] These parties further assert that the LECs' takings claims are premature, not demonstrated with sufficient specificity, and overstate the scope of the constitutional guarantee.[1677] Commenters note that no incumbent LEC has made any effort to demonstrate the actual impact of a LRIC-based pricing methodology on its "financial integrity."[1678] These parties contend that there is no unconstitutional impairment if the shortfall is not sufficient to jeopardize the operating and financial integrity of the utility. Finally, these commenters maintain that there is no constitutional right to a particular rate-setting methodology (*i.e.*, historical cost) and there are no general principles that require every component of an integral whole of a utility service to show a profit.[1679]

(3) Discussion

672. *Overview.* Having concluded in Section II.D., above, that we have the requisite legal authority and that we should establish national pricing rules, we conclude here that prices for interconnection and unbundled elements pursuant to sections 251(c)(2), 251(c)(3), and 252(d)(1), should be set at forward-looking long-run economic cost. In practice, this will mean that prices are based on the TSLRIC of the network element, which we will call Total Element Long Run Incremental Cost (TELRIC), and will include a reasonable allocation of forward-looking joint and common costs. The 1996 Act encourages competition by removing barriers to entry and providing an opportunity for potential new entrants to purchase unbundled incumbent LEC network elements to compete efficiently to provide local exchange

[1674] *See, e.g.*, ALTS reply at 8-11; AT&T comments at 70-71; CompTel reply at 37-40; DoJ reply at 13, 16-19; MCI reply at 18-20.

[1675] *See, e.g.*, AT&T comments at 49-50; Cable & Wireless reply at 24-25; MCI reply at 19. AT&T also notes that when U S West and BellSouth have been new entrants into markets, they have advocated a LRIC approach. AT&T comments at 50-51 n.72.

[1676] *See, e.g.*, Frontier reply at 14; MCI reply at 18-19.

[1677] *See, e.g.*, DoJ reply at 16-18.

[1678] DoJ reply at 16-18; MCI reply at 18.

[1679] *See, e.g.*, Jones Intercable reply at 16-17.

services. We believe that the prices that potential entrants pay for these elements should reflect forward-looking economic costs in order to encourage efficient levels of investment and entry.

673. In this section, we describe this forward-looking, cost-based pricing standard in detail. First, we define the terms we are using, explain how the methodology we are adopting differs from other costing approaches, and describe how it should be implemented. In particular, we explain that the price of a network element should include the forward-looking costs that can be attributed directly to the provision of services using that element, which includes a reasonable return on investment (*i.e.*, "profit"), plus a reasonable share of the forward-looking joint and common costs. Second, we address potential cost measures that must not be included in a TELRIC analysis, such as embedded (or historical) costs, opportunity costs, or universal service subsidies. Finally, we refute arguments that this methodology would violate the incumbent LECs' rights under the Fifth Amendment.

(a) Total Element Long Run Incremental Cost

674. *Definitions of Terms.* In light of the various possible definitions of a number of the critical economic terms used in this context, we begin by defining terms as we use them in this Order. Specifically, we provide definitions for the following terms: "incremental cost;" "economic cost;" "embedded or accounting cost;" "joint cost;" "common cost;" "long run incremental cost;" "total service long run incremental cost;" "total element long run incremental cost." In addition to defining these terms, we explain the economic rationale behind the concepts.

675. Incremental costs are the additional costs (usually expressed as a cost per unit) that a firm will incur as a result of expanding the output of a good or service by producing an additional quantity of the good or service.[1680] Incremental costs are forward-looking in the sense that these costs are incurred as the output level changes by a given increment.[1681] The costs that are considered incremental will vary greatly depending on the size of the increment. For example, the incremental cost of carrying an additional call from a residence that is already connected to the network to its end office is virtually zero. The incremental cost of connecting a new residence to its end office, however, is the cost of the loop. Forward-looking incremental costs, plus a portion of the forward-looking joint and common costs, are sometimes referred to as "economic costs." Embedded or accounting costs are costs that firms incurred in the past for providing a good or service and are recorded as past operating expenses and depreciation. Due to changes in input prices and technologies, incremental costs

[1680] *See* 1 Alfred Kahn *The Economics of Regulation* 66 (1971); William Baumol and Gregory Sidak, *Toward Competition in Local Telephony* 57 (1994).

[1681] William Baumol and Gregory Sidak, *Toward Competition in Local Telephony* 57 (1994).

may differ from embedded costs of that same increment. In competitive markets, the price of a good or service will tend towards its long-run incremental cost.

676. Certain types of costs arise from the production of multiple products or services. We use the term "joint costs" to refer to costs incurred when two or more outputs are produced in fixed proportion by the same production process (*i.e.*, when one product is produced, a second product is generated by the same production process at no additional cost). The term "common costs" refers to costs that are incurred in connection with the production of multiple products or services, and remains unchanged as the relative proportion of those products or services varies (*e.g.*, the salaries of corporate managers). Such costs may be common to all services provided by the firm or common to only a subset of those services or elements. If a cost is common with respect to a subset of services or elements, for example, a firm avoids that cost only by not providing each and every service or element in the subset. For the purpose of our discussion, we refer to joint and common costs as simply common costs unless the distinction is relevant in a particular context.

677. The term "long run," in the context of "long run incremental cost," refers to a period long enough so that all of a firm's costs become variable or avoidable.[1682] The term "total service," in the context of TSLRIC, indicates that the relevant increment is the entire quantity of the service that a firm produces, rather than just a marginal increment over and above a given level of production. Depending on what services are the subject of a study, TSLRIC may be for a single service or a class of similar services. TSLRIC includes the incremental costs of dedicated facilities and operations that are used by only the service in question. TSLRIC also includes the incremental costs of shared facilities and operations that are used by that service as well as other services.

678. While we are adopting a version of the methodology commonly referred to as TSLRIC as the basis for pricing interconnection and unbundled elements, we are coining the term "total element long run incremental cost" (TELRIC) to describe our version of this methodology. The incumbent LEC offerings to be priced using this methodology generally will be "network elements," rather than "telecommunications services," as defined by the 1996 Act.[1683] More fundamentally, we believe that TELRIC-based pricing of discrete network elements or facilities, such as local loops and switching, is likely to be much more economically rational than TSLRIC-based pricing of conventional services, such as interstate access service and local residential or business exchange service. As discussed in greater detail below, separate telecommunications services are typically provided over shared network

[1682] *See, e.g.*, William Baumol, *Economic Theory and Operations Analysis* 290 (4th ed. 1977) ("The very long run is a period so long that all of the firm's present contracts will have run out, its present plant and equipment will have been worn out or rendered obsolete and will therefore need replacement, etc.").

[1683] 47 U.S.C. §§ 3(29), 3(46).

facilities, the costs of which may be joint or common with respect to some services. The costs of local loops and their associated line cards in local switches, for example, are common with respect to interstate access service and local exchange service, because once these facilities are installed to provide one service they are able to provide the other at no additional cost. By contrast, the network elements, as we have defined them,[1684] largely correspond to distinct network facilities. Therefore, the amount of joint and common costs that must be allocated among separate offerings is likely to be much smaller using a TELRIC methodology rather than a TSLRIC approach that measures the costs of conventional services. Because it is difficult for regulators to determine an economically-optimal allocation of any such joint and common costs, we believe that pricing elements, defined as facilities with associated features and functions, is more reliable from the standpoint of economic efficiency than pricing services that use shared network facilities.

679. *Description of TELRIC-Based Pricing Methodology.* Adopting a pricing methodology based on forward-looking, economic costs best replicates, to the extent possible, the conditions of a competitive market. In addition, a forward-looking cost methodology reduces the ability of an incumbent LEC to engage in anti-competitive behavior. Congress recognized in the 1996 Act that access to the incumbent LECs' bottleneck facilities is critical to making meaningful competition possible. As a result of the availability to competitors of the incumbent LEC's unbundled elements at their economic cost, consumers will be able to reap the benefits of the incumbent LECs' economies of scale and scope, as well as the benefits of competition. Because a pricing methodology based on forward-looking costs simulates the conditions in a competitive marketplace, it allows the requesting carrier to produce efficiently and to compete effectively, which should drive retail prices to their competitive levels. We believe that our adoption of a forward-looking cost-based pricing methodology should facilitate competition on a reasonable and efficient basis by all firms in the industry by establishing prices for interconnection and unbundled elements based on costs similar to those incurred by the incumbents, which may be expected to reduce the regulatory burdens and economic impact of our decision for many parties, including both small entities seeking to enter the local exchange markets and small incumbent LECs.[1685]

680. We note that incumbent LECs have greater access to the cost information necessary to calculate the incremental cost of the unbundled elements of the network. Given this asymmetric access to cost data, we find that incumbent LECs must prove to the state commission the nature and magnitude of any forward-looking cost that it seeks to recover in the prices of interconnection and unbundled network elements.

[1684] *See supra* Section V.

[1685] *See* Regulatory Flexibility Act, 5 U.S.C. §§ 601 *et seq.*

681. Some parties express concern that the information required to compute prices based on forward-looking costs is inherently so hypothetical as to be of little or no practical value.[1686] Based on the record before us, we disagree. A number of states, which ultimately will have to review forward-looking cost studies in carrying out their duties under section 252, either have already implemented forward-looking, incremental costing methodologies to set prices for interconnection and unbundled network elements or support the use of such an approach.[1687] While these states have applied somewhat different definitions of, and approaches to setting prices developed on, an incremental cost methodology, the record demonstrates that such approaches are practical and implementable.

682. We conclude that, under a TELRIC methodology, incumbent LECs' prices for interconnection and unbundled network elements shall recover the forward-looking costs directly attributable to the specified element, as well as a reasonable allocation of forward-looking common costs. Per-unit costs shall be derived from total costs using reasonably accurate "fill factors" (estimates of the proportion of a facility that will be "filled" with network usage); that is, the per-unit costs associated with a particular element must be derived by dividing the total cost associated with the element by a reasonable projection of the actual total usage of the element. Directly attributable forward-looking costs include the incremental costs of facilities and operations that are dedicated to the element. Such costs typically include the investment costs and expenses related to primary plant used to provide that element. Directly attributable forward-looking costs also include the incremental costs of shared facilities and operations. Those costs shall be attributed to specific elements to the greatest extent possible.[1688] For example, the costs of conduits shared by both transport and local loops, and the costs of central office facilities shared by both local switching and tandem switching, shall be attributed to specific elements in reasonable proportions. More broadly, certain shared costs that have conventionally been treated as common costs (or overheads) shall be attributed directly to the individual elements to the greatest extent possible. The forward-looking costs directly attributable to local loops, for example, shall include not only

[1686] *See, e.g.*, GVNW comments at 35; NYNEX comments at 54; USTA comments at 47-50.

[1687] *See, e.g.*, Louisiana Commission comments at 4; Texas Commission comments at 22; Washington Commission comments at 25; California Commission comments at 28-29; Colorado Commission comments at 35; Maryland Commission comments at 7-8; Oklahoma Commission comments at Attachment A (Oklahoma Corporation Commission Telephone Rules, OAC 165:55) pp. 10-11. The Wyoming and Florida commissions have indicated their support for such an approach. *See* Wyoming Commission comments at 27 (supporting uniform use of TSLRIC costing methods so long as details left to states); *see also* Florida Commission comments at 26 (TSLRIC may be appropriate to set cost standard for a price floor).

[1688] *Compare Telephone Company-Cable Television Cross-Ownership Rules*, CC Docket No. 87-266, Memorandum Opinion and Order on Reconsideration and Third Further Notice of Proposed Rulemaking, 10 FCC Rcd 244, 345-46 (1994).

the cost of the installed copper wire and telephone poles but also the cost of payroll and other back office operations relating to the line technicians, in addition to other attributable costs.

683. Forward-looking cost methodologies, like TELRIC, are intended to consider the costs that a carrier would incur in the future. Thus, a question arises whether costs should be computed based on the least-cost, most efficient network configuration and technology currently available, or whether forward-looking cost should be computed based on incumbent LECs' existing network infrastructures, taking into account changes in depreciation and inflation. The record indicates three general approaches to this issue. Under the first approach, the forward-looking economic cost for interconnection and unbundled elements would be based on the most efficient network architecture, sizing, technology, and operating decisions that are operationally feasible and currently available to the industry. Prices based on the least-cost, most efficient network design and technology replicate conditions in a highly competitive marketplace by not basing prices on existing network design and investments unless they represent the least-cost systems available for purchase. This approach, however, may discourage facilities-based competition by new entrants because new entrants can use the incumbent LEC's existing network based on the cost of a hypothetical least-cost, most efficient network.

684. Under the second approach, the cost of interconnection and unbundled network elements would be based on existing network design and technology that are currently in operation.[1689] Because this approach is not based on a hypothetical network in the short run, incumbent LECs could recover costs based on their existing operations, and prices for interconnection and unbundled elements that reflect inefficient or obsolete network design and technology. This is essentially an embedded cost methodology.

685. Under the third approach, prices for interconnection and access to unbundled elements would be developed from a forward-looking economic cost methodology based on the most efficient technology deployed in the incumbent LEC's current wire center locations. This approach mitigates incumbent LECs' concerns that a forward-looking pricing methodology ignores existing network design, while basing prices on efficient, new technology that is compatible with the existing infrastructure. This benchmark of forward-looking cost and existing network design most closely represents the incremental costs that incumbents actually expect to incur in making network elements available to new entrants. Moreover, this approach encourages facilities-based competition to the extent that new entrants, by designing more efficient network configurations, are able to provide the service at a lower cost than the incumbent LEC. We, therefore, conclude that the forward-looking pricing methodology for interconnection and unbundled network elements should be based on costs that assume that wire centers will be placed at the incumbent LEC's current wire center

[1689] *See, e.g.*; BellSouth reply at 37; Roseville Tel. reply at 8; USTA reply at 18-19.

locations, but that the reconstructed local network will employ the most efficient technology for reasonably foreseeable capacity requirements.

686. We agree with USTA, Bell Atlantic, and BellSouth that, as a theoretical matter, the combination of significant sunk investment, declining technology costs, and competitive entry may increase the depreciation costs and cost of capital of incumbent LECs. We do not agree, however, that TSLRIC does not or cannot account for risks that an incumbent LEC incurs because it has sunk investments in facilities. On the contrary, properly designed depreciation schedules should account for expected declines in the value of capital goods. Both AT&T and MCI appear to agree with this proposition.[1690] For example, AT&T states, "[i]n order to estimate TSLRIC, one must perform a discounted cash flow analysis of the future costs associated with the decision to invest . . . . One-time costs associated with the acquisition of capital goods are amortized over the economic life of the assets using the user cost of capital . . . , which requires accounting for both expected capital good price changes and economic depreciation."[1691] Moreover, we are confident that parties to an arbitration with TELRIC studies can propose specific depreciation rate adjustments that reflect expected asset values over time.

687. As noted, we also agree that, as a matter of theory, an increase in risk due to entry into the market for local exchange service can increase a LEC's cost of capital. We believe that this increased risk can be partially mitigated, however, by offering term discounts, since long-term contracts can minimize the risk of stranded investment. In addition, growth in overall market demand can increase the potential of the incumbent LEC to use some of its displaced facilities for other purposes. Overall, we think that these factors can and should be captured in any LRIC model and therefore we do not agree that this requires a departure from the general principle of forward-looking cost-based pricing for network elements.

688. We are not persuaded by USTA's argument that forward looking methodologies fail to adjust the cost of capital to reflect the risks associated with irreversible investments and that they are "biased downward by a factor of three." First, USTA's argument unrealistically assumes that competitive entry would be instantaneous. The more reasonable assumption of entry occurring over time will reduce the costs associated with sunk investment. Second, we find it unlikely that investment in communications equipment is entirely irreversible or that such equipment would become valueless once facilities-based competition begins. In a

[1690] *See* Letter from Leonard S. Sawicki, Director, FCC Affairs, MCI Telecommunications Corp. to William F. Caton, Acting Secretary, FCC, July 24, 1996 at Attachment (Depreciation and Capital Recovery Issues: A Response to Professor Hausman), pp.1-3; *see also* Letter from Richard N. Clarke, AT&T, to William F. Caton, Acting Secretary, FCC, July 19, 1996 at Attachment (Capital Recovery Issues in TSLRIC Pricing: Response to Professor Jerry A. Hausman).

[1691] Letter from Richard N. Clarke, AT&T, to William F. Caton, Acting Secretary, FCC, July 19, 1996 at Attachment (Capital Recovery Issues in TSLRIC Pricing: Response to Professor Jerry A. Hausman), p.8.

growing market, there most likely would be demand for at least some embedded telecommunications equipment, which would therefore retain its value. Third, contractual arrangements between the new entrant and the incumbent that specifically address USTA's concerns and protect incumbent's investments during transition can be established.

689. Finally we are not persuaded that the use by firms of hurdle rates that exceed the market cost of capital is convincing evidence that sunk investments significantly increase a firm's cost of capital. An alternative explanation for this phenomenon is that the process that firms use to choose among investment projects results in overestimates of their returns. Firms therefore use hurdle rates in excess of the market cost of capital to account for these overestimates.[1692]

690. *Summary of TELRIC Methodology.* The following summarizes our conclusions regarding setting prices of interconnection and access to unbundled network elements based on the TELRIC methodology for such elements. The increment that forms the basis for a TELRIC study shall be the entire quantity of the network element provided. As we have previously stated, all costs associated with the providing the element shall be included in the incremental cost. Only forward-looking, incremental costs shall be included in a TELRIC study. Costs must be based on the incumbent LEC's existing wire center locations and most efficient technology available.

691. Any function necessary to produce a network element must have an associated cost. The study must explain with specificity why and how specific functions are necessary to provide network elements and how the associated costs were developed. Only those costs that are incurred in the provision of the network elements in the long run shall be directly attributable to those elements. Costs must be attributed on a cost-causative basis. Costs are causally-related to the network element being provided if the costs are incurred as a direct result of providing the network elements, or can be avoided, in the long run, when the company ceases to provide them. Thus, for example, the forward-looking costs of capital (debt and equity) needed to support investments required to produce a given element shall be included in the forward-looking direct cost of that element. Directly attributable costs shall include costs such as certain administrative expenses, which have traditionally been viewed as common costs, if these costs vary with the provision of network elements. Retailing costs, such as marketing or consumer billing costs associated with retail services, are not attributable to the production of network elements that are offered to interconnecting carriers and must not be included in the forward-looking direct cost of an element.

[1692] *See* Richard Thaler, *The Winner's Curse*, 2 J. Econ. Perspectives 201 (1988); Keith Brown, *Note on the Apparent Bias of Net Revenue Estimates for Capital Investment Projects*, 29 J. Fin. 1215-16 (1974); Daniel Kahneman and Daniel Lovallo, *Timid Choices, Bold Forecasts*, 39 Management Science 17, 28 (1993). In addition, we note that Hausman's arguments that TSLRIC method underestimate the true cost of an element apply only to the capital expense associated with an element and not to the operating expense.

692. In a TELRIC methodology, the "long run" used shall be a period long enough that all costs are treated as variable and avoidable.[1693] This "long run" approach ensures that rates recover not only the operating costs that vary in the short run, but also fixed investment costs that, while not variable in the short term, are necessary inputs directly attributable to providing the element.

693. States may review a TELRIC economic cost study in the context of a particular arbitration proceeding, or they may conduct such studies in a rulemaking and apply the results in various arbitrations involving incumbent LECs. In the latter case, states must replace any interim rates[1694] set in arbitration proceedings with the permanent rate resulting from the separate rulemaking. This permanent rate will take effect at or about the time of the conclusion of the separate rulemaking and will apply from that time forward.

694. *Forward-Looking Common Costs.* Certain common costs are incurred in the provision of network elements. As discussed above, some of these costs are common to only a subset of the elements or services provided by incumbent LECs. Such costs shall be allocated to that subset, and should then be allocated among the individual elements or services in that subset, to the greatest possible extent. For example, shared maintenance facilities and vehicles should be allocated only to the elements that benefit from those facilities and vehicles. Common costs also include costs incurred by the firm's operations as a whole, that are common to all services and elements (*e.g.*, salaries of executives involved in overseeing all activities of the business), although for the purpose of pricing interconnection and access to unbundled elements, which are intermediate products offered to competing carriers, the relevant common costs do not include billing, marketing, and other costs attributable to the provision of retail service.[1695] Given these common costs, setting the price of each discrete network element based solely on the forward-looking incremental costs directly attributable to the production of individual elements will not recover the total forward-looking costs of operating the wholesale network.[1696] Because forward-looking common costs are consistent with our forward-looking, economic cost paradigm, a reasonable measure of such costs shall be included in the prices for interconnection and access to network elements.

[1693] *See* 1 Alfred E. Kahn *The Economics of Regulation: Principles and Institutions* 70-71 (1988).

[1694] *See infra*, Section VII.C., discussing default proxy price ceilings and ranges.

[1695] *See infra*, Section VIII.B., describing "avoided costs" in the resale context.

[1696] *See, e.g.*, AT&T comments at 61-66; Teleport comments at 47-48.

695. The incumbent LECs generally argue that common costs are quite significant,[1697] while several other parties maintain that these amounts are minimal.[1698] Because the unbundled network elements correspond, to a great extent, to discrete network facilities, and have different operating characteristics, we expect that common costs should be smaller than the common costs associated with the long-run incremental cost of a service. We expect that many facility costs that may be common with respect to the individual services provided by the facilities can be directly attributed to the facilities when offered as unbundled network elements. Moreover, defining the network elements at a relatively high level of aggregation, as we have done,[1699] should also reduce the magnitude of the common costs. A properly conducted TELRIC methodology will attribute costs to specific elements to the greatest possible extent, which will reduce the common costs. Nevertheless, there will remain some common costs that must be allocated among network elements and interconnection services. For example, at the sub-element level of study (*e.g.*, identifying the respective costs of 2-wire loops, 4-wire loops, ISDN loops, and so on), common costs may be a significant proportion of all the costs that must be recovered from sub-elements. Given the likely asymmetry of information regarding network costs, we conclude that, in the arbitration process, incumbent LECs shall have the burden to prove the specific nature and magnitude of these forward-looking common costs.

696. We conclude that forward-looking common costs shall be allocated among elements and services in a reasonable manner, consistent with the pro-competitive goals of the 1996 Act. One reasonable allocation method would be to allocate common costs using a fixed allocator, such as a percentage markup over the directly attributable forward-looking costs. We conclude that a second reasonable allocation method would allocate only a relatively small share of common costs to certain critical network elements, such as the local loop and collocation, that are most difficult for entrants to replicate promptly (*i.e.*, bottleneck facilities). Allocation of common costs on this basis ensures that the prices of network elements that are least likely to be subject to competition are not artificially inflated by a large allocation of common costs. On the other hand, certain other allocation methods would not be reasonable. For example, we conclude that an allocation methodology that relies exclusively on allocating common costs in inverse proportion to the sensitivity of demand for

[1697] *See, e.g.*, PacTel reply at 27-28; *see also* Cincinnati Bell reply at 10; USTA comments at Attachment 1 (Affidavit of Jerry A. Hausman), p.4 n.1.

[1698] *See, e.g.*, Competition Policy Institute comments at 19; MCI comments at 66; Texas Public Utility Counsel comments at 24.

[1699] *See supra*, Section V., discussing unbundling requirements.

various network elements and services may not be used.[1700] We conclude that such an allocation could unreasonably limit the extent of entry into local exchange markets by allocating more costs to, and thus raising the prices of, the most critical bottleneck inputs, the demand for which tends to be relatively inelastic. Such an allocation of these costs would undermine the pro-competitive objectives of the 1996 Act.

697. We believe that our treatment of forward-looking common costs will minimize regulatory burdens and economic impact for all parties involved in arbitration of agreements for interconnection and access to unbundled elements, and will advance the 1996 Act's pro-competitive objectives for local exchange and exchange access markets.[1701] In our decisionmaking, we have considered the economic impact of our rules in this section on small incumbent LECs. For example, although opposed to the use of a forward-looking, economic cost methodology, small incumbent LECs favor the recovery of joint and common costs in the event the Commission adopts forward-looking cost methodology. We are adopting such an approach. Moreover, the cost-based pricing methodology that we are adopting is designed to permit incumbent LECs to recover their economic costs of providing interconnection and unbundled elements, which may minimize the economic impact of our decisions on incumbent LECs, including small incumbent LECs. We also note that certain small incumbent LECs are not subject to our rules under section 251(f)(1) of the 1996 Act, unless otherwise determined by a state commission, and certain other small incumbent LECs may seek relief from their state commissions from our rules under section 251(f)(2) of the 1996 Act.[1702]

698. We further conclude that, for the aggregate of all unbundled network elements, incumbent LECs must be given a reasonable opportunity to recover their forward-looking common costs attributable to operating the wholesale network. In no instance should prices exceed the stand-alone cost for a specific element, and in most cases they should be below stand-alone costs. Stand-alone costs are defined as the forward-looking cost that an efficient entrant would incur in providing a given element or any combination of elements. No price higher than stand-alone cost could be sustained in a market from which entry barriers were completely absent. Where there are few common costs, there is likely to be only a minimal difference between the forward-looking costs that are directly attributable to the particular element, which excludes these costs, and stand-alone cost, which includes all of them. Network elements should not, however, be priced at levels that would enable the incumbent

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[1700] *See* Frank P. Ramsey, *A Contribution to the Theory of Taxation*, 37 Econ. J. 47 (1927); *see generally* Kenneth E. Train, *Optimal Regulation: The Economic Theory of Natural Monopoly* 115-40 (1992) (discussing efficiency properties of Ramsey prices); Bridger M. Mitchell & Ingo Vogelsang, *Telecommunications Pricing: Theory and Practice* 43-61 (1991). The sensitivity of demand is measured by the elasticity of demand, which is defined as the percentage change in the quantity of a service demanded for a one per cent change in price.

[1701] *See* Regulatory Flexibility Act, 5 U.S.C. §§ 601 *et seq.*

[1702] 47 U.S.C. § 251(f).

LEC to recover the same common costs multiple times from different elements. Any multiple recovery would be unreasonable and thus in violation of the statutory standard. Further, we note that the sum of the direct costs and the forward-looking common costs of all elements will likely differ from the incumbent LEC's historical, fully distributed costs.

699. *Reasonable Return on Investment and "Profit."* Section 252(d)(1) states that rates for interconnection and access to unbundled elements "may include a reasonable profit."[1703] We find that the TELRIC pricing methodology we are adopting provides for such a reasonable profit and thus no additional profit is justified under the statutory language. We note there are two types of profit. First, in plain English, profit is defined as "the excess of returns over expenditure in a transaction or a series of transactions."[1704] This is also known as a "normal" profit, which is the total revenue required to cover all of the costs of a firm, including its opportunity costs.[1705] Second, there is "economic" profit, which is any return in excess of normal profit.[1706] Thus, for example, if the normal return in an industry is 10 percent and a firm earns a return of 14 percent, the economic profit for that firm is 4 percent. Economic is also referred to as "supranormal" profit. We conclude that the definition of "normal" profit is embodied in "reasonable profit" under Section 252(d)(1).

700. The concept of normal profit is embodied in forward-looking costs because the forward-looking cost of capital, *i.e.*, the cost of obtaining debt and equity financing, is one of the forward-looking costs of providing the network elements. This forward-looking cost of capital is equal to a normal profit. We conclude that allowing greater than normal profits would not be "reasonable" under sections 251(c) and 252(d)(1).[1707] Thus, contrary to the

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[1703] 47 U.S.C. § 252(d)(1).

[1704] *Webster's New Collegiate Dictionary* 931 (10th ed. 1994).

[1705] *See* David W. Pearce, *The MIT Dictionary of Modern Economics* (1994) at 310.

[1706] *Id.* at 415.

[1707] We note that our interpretation is consistent with existing Supreme Court precedent concerning what constitutes a reasonable rate of return for a regulated public utility. For example, in *Bluefield Water Works*, the Court stated:

> A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties; but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures.

arguments put forth by several incumbent LECs, we find that adding an additional measure of profit to the risk-adjusted cost of capital[1708] in setting the prices for interconnection and access to unbundled elements would violate the requirements of sections 251(c) and 252(d)(1) of the 1996 Act.

701. Possible accounting losses from the sale of interconnection and unbundled network elements using a reasonable forward-looking cost-based methodology do not necessarily indicate that incumbent LECs are being denied a "reasonable profit" under the statute. The use of a forward-looking, economic, cost-based pricing methodology, including a reasonable allocation of legitimate joint and common costs, will permit incumbent LECs the opportunity to earn a reasonable return on their investment in network elements. Finally, contrary to PacTel's argument, and as discussed below in detail, we conclude that our forward-looking cost-based pricing methodology is consistent with the Fifth Amendment and is not confiscatory.

702. Based on the current record, we conclude that the currently authorized rate of return at the federal or state level is a reasonable starting point for TELRIC calculations, and incumbent LECs bear the burden of demonstrating with specificity that the business risks that they face in providing unbundled network elements and interconnection services would justify a different risk-adjusted cost of capital or depreciation rate. These elements generally are bottleneck, monopoly services that do not now face significant competition. We recognize that incumbent LECs are likely to face increased risks given the overall increases in competition in this industry, which generally might warrant an increased cost of capital, but note that, earlier this year, we instituted a preliminary inquiry as to whether the currently authorized federal 11.25 percent rate of return is too high given the current marketplace cost

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Bluefield Water Works & Improvement Co. v. Public Service Comm'n of West Virginia, 262 U.S. 679, 692-93 (1923). Similarly, in *FPC v. Hope Natural Gas*, the Court stated:

> . . . it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock . . . By that standard the return to the equity owner should be commensurate with risks on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital.

Federal Power Comm'n v. Hope Natural Gas Co., 320 U.S. 591, 603 (1994) (*Hope Natural Gas*). *Cf.*, Charles F. Phillips, Jr., *The Economics of Regulation* 260 (Rev. ed. 1965) (". . . a regulated company must be afforded the opportunity not only of assuring its financial integrity so that it can maintain its credit standing and attract additional capital as needed, but also for earnings comparable to those of other companies having corresponding risks.").

[1708] *See supra*, this Section, for a discussion of risk-adjusted cost of capital.

of equity and debt.[1709] On the basis of the current record, we decline to engage in a time-consuming examination to determine a new rate of return, which may well require a detailed proceeding. States may adjust the cost of capital if a party demonstrates to a state commission that either a higher or lower level of cost of capital is warranted, without that commission conducting a "rate-of-return or other rate based proceeding."[1710] We note that the risk-adjusted cost of capital need not be uniform for all elements. We intend to re-examine the issue of the appropriate risk-adjusted cost of capital on an ongoing basis, particularly in light of the state commissions' experiences in addressing this issue in specific situations.

703. We disagree with the conclusion that, when there are mostly sunk costs, forward-looking economic costs should not be the basis for pricing interconnection elements. The TELRIC of an element has three components, the operating expenses, the depreciation cost,[1711] and the appropriate risk-adjusted cost of capital. We conclude that an appropriate calculation of TELRIC will include a depreciation rate that reflects the true changes in economic value of an asset and a cost of capital that appropriately reflects the risks incurred by an investor. Thus, even in the presence of sunk costs, TELRIC-based prices are an appropriate pricing methodology.

(b) Cost Measures Not Included in Forward-Looking Cost Methodology

704. *Embedded Costs.* We read section 252(d)(1)(A)(i) to prohibit states from conducting traditional rate-of-return or other rate-based proceedings to determine rates for interconnection and access to unbundled network elements. We find that the parenthetical, "(determined without reference to a rate-of-return or other rate-based proceeding),"[1712] does not further define the type of costs that may be considered, but rather specifies a type of proceeding that may not be employed to determine the cost of interconnection and unbundled network elements. The legislative history demonstrates that Congress was eager to set in motion expeditiously the development of local competition and intended to avoid imposing the costs and administrative burdens associated with a traditional rate case. Prior to the joint conference, the Senate version

[1709] *See Common Carrier Bureau Sets Pleading Schedule in Preliminary Rate of Return Inquiry*, Public Notice, 11 FCC Rcd 3651 (Com. Car. Bur. 1996).

[1710] 47 U.S.C. § 252(d)(1)(A)(i).

[1711] Depreciation is the method of recognizing as an expense the cost of a capital investment. Properly calculated economic depreciation is a periodic reduction in the book value of an asset that makes the book value equal to its economic or market value.

[1712] 47 U.S.C. § 252(d)(1)(A)(i).

of the 1996 Act contained the parenthetical language.[1713] In addition, the Senate version of the 1996 Act eliminated rate-of-return regulation,[1714] as did the House version.[1715] Conferees removed the provisions eliminating rate-of-return regulation, but retained the parenthetical.

705. Section 252(d)(1)(A)(i) does not specify whether historical or embedded costs should be considered or whether only forward-looking costs should be considered in setting arbitrated rates. We are not persuaded by incumbent LEC arguments that prices for interconnection and unbundled network elements must or should include any difference between the embedded costs they have incurred to provide those elements and their current economic costs. Neither a methodology that establishes the prices for interconnection and access to network elements directly on the costs reflected in the regulated books of account, nor a price based on forward looking costs plus an additional amount reflecting embedded costs, would be consistent with the approach we are adopting. The substantial weight of economic commentary in the record suggests that an "embedded cost"-based pricing methodology would be pro-competitor -- in this case the incumbent LEC -- rather than pro-competition.[1716] We therefore decline to adopt embedded costs as the appropriate basis of setting prices for interconnection and access to unbundled elements. Rather, we reiterate that the prices for the interconnection and network elements critical to the development of a competitive local exchange should be based on the pro-competition, forward-looking, economic costs of those elements, which may be higher or lower than historical embedded costs. Such pricing policies will best ensure the efficient investment decisions and competitive entry contemplated by the 1996 Act, which should minimize the regulatory burdens and economic impact of our decisions on small entities.[1717]

[1713] S. 652, 104th Cong., 1st Sess. § 251(d)(6)(A) (1995) ("the charge (A) shall be (i) based on the cost (determined without reference to a rate-of-return or other rate-based proceeding) of providing the unbundled element . . . .").

[1714] *Id.* at § 301(a)(3) ("Rate of Return Regulation Eliminated -- (A) In instituting the price flexibility required under paragraph (1) the Commission and the States shall establish alternative forms of regulation for Tier 1 telecommunications carriers that do not include regulation of the rate of return earned by such carrier . . . .").

[1715] H.R. 1555, 104th Cong., 1st Sess. § 248(b) (1995) ("Abolition of Rate-of-Return Regulation -- Notwithstanding any other provision of law, to the extent that a carrier has complied with sections 242 and 244 of this part, the Commission, with respect to rates for interstate or foreign communications, and State commissions, with respect to rates for intrastate communications, shall not require rate-of-return regulation.").

[1716] *See, e.g.,* Ad Hoc Telecommunications Users' Committee reply at Appendix A (Interconnection Pricing Standards for Monopoly Rate Elements in a Potentially Competitive Local Telecommunications Market), p.4; ALTS comments at Attachment B (Competitive Pricing of Interconnection, Unbundled Elements, and Collocation), pp.28-29; AT&T reply at Appendix B (Reply Affidavit of William J. Baumol, Janusz A. Ordover, and Robert D. Willig), pp.3-5; Competition Policy Institute comments at 18-19; DJ comments at 30-31.

[1717] *See* Regulatory Flexibility Act, 5 U.S.C. §§ 601 *et seq.*

706. Incumbent LECs contend generally that, in order to ensure they will recover their total investment costs and earn a profit, they must recover embedded costs. These costs, they argue, were incurred under federal and regulatory oversight and therefore should be recoverable.[1718] We are not convinced by the incumbent LECs' principal arguments for recognizing embedded cost in setting section 251 pricing rules. Even if the incumbent LECs' contention is correct, increasing the rates for interconnection and unbundled elements offered to competitors would interfere with the development of efficient competition, and is not the proper remedy for any past under-depreciation. Moreover, contrary to assertions by some incumbent LECs, regulation does not and should not guarantee full recovery of their embedded costs. Such a guarantee would exceed the assurances that we or the states have provided in the past.[1719] We have considered the economic impact of precluding recovery of small incumbent LECs' embedded costs.[1720] We do not believe that basing the prices of interconnection and unbundled elements on an incumbent LEC's embedded costs would advance the pro-competitive goals of the statute. We also note that certain small incumbent LECs are not subject to our rules under section 251(f)(1) of the 1996 Act, unless otherwise determined by a state commission, and certain other small incumbent LECs may seek relief from their state commissions from our rules under section 251(f)(2) of the 1996 Act.[1721]

707. We acknowledge that some incumbent LECs may have incurred certain embedded costs reasonably before the passage of the 1996 Act, based on different regulatory regimes. Some incumbent LECs may assert that they have made certain historical investments required by regulators that they have been denied a reasonable opportunity to recover in the past and that the incumbent LECs may no longer have a reasonable opportunity to recover in the new environment of the 1996 Act. The record before us, however, does not support the conclusion that significant residual embedded costs will necessarily result from the availability of network elements at economic costs. To the extent that any such residual consists of costs of meeting universal service obligations, the recovery of such costs can and should be considered in our ongoing universal service proceeding.[1722] To the extent a significant residual exists within the interstate jurisdiction that does not fall within the ambit of section 254, we intend that to address that issue in our upcoming proceeding on access reform.

[1718] *See, e.g.*, Ameritech reply at 31; BellSouth comments at 57; Lincoln Tel. comments at 16-17.

[1719] *See In the Matter of the Applications of Pacific Bell*, Order and Authorization, 10 FCC Rcd 12448, 12502-12503 (1995).

[1720] *See* Regulatory Flexibility Act, 5 U.S.C. §§ 601 *et seq.*

[1721] 47 U.S.C. § 251(f).

[1722] *See Universal Service* NPRM at para. 32.

708. *Opportunity Cost -- Efficient Component Pricing Rule.* A number of incumbent LECs advocate using the "efficient component pricing rule" (ECPR) to set the prices that incumbent LECs charge new entrants for inputs required to produce the same retail services the incumbent produces. Under the ECPR, the price of an input should be equal to the incremental cost of the input plus the opportunity cost that the incumbent carrier incurs when the new entrant provides the services instead of the incumbent. The opportunity cost, which is computed as revenues less all incremental costs, represents both profit and contribution to common costs of the incumbent, given the existing retail prices of the services being sold.

709. We conclude that ECPR is an improper method for setting prices of interconnection and unbundled network elements because the existing retail prices that would be used to compute incremental opportunity costs under ECPR are not cost-based. Moreover, the ECPR does not provide any mechanism for moving prices towards competitive levels; it simply takes prices as given. The record indicates that both incumbents and new entrants agree that retail prices are not based on costs. Incumbents generally argue that local residential retail prices are below costs while new entrants contend that they exceed competitive levels.[1723] In either case, application of ECPR would result in input prices that would be either higher or lower than those which would be generated in a competitive market and would not lead to efficient retail pricing.

710. In markets where retail prices exceed competitive levels, entry would take place if network element prices were set at efficient competitive levels. The ECPR, however, will serve to discourage competition in these very markets because it relies on the prevailing retail price in setting the price which new entrants pay the incumbent for inputs. While ECPR establishes conditions for efficient entry given existing retail prices, as its advocates contend, the ECPR provides no mechanism that will force retail prices to their competitive levels. We do not believe that Congress envisioned a pricing methodology for interconnection and network elelments that would insulate incumbent LECs' retail prices from competition. Instead, Congress specifically determined that input prices should be based on costs because this would foster competition in the retail market. Therefore, we reject the use of ECPR for establishing prices for interconnection and unbundled elements.

711. As discussed above, the record in this docket shows that end user prices are not cost-based. In *Open Video Systems*, in contrast, we did not find that there would be a problem with the determination of end user prices.[1724] We concluded that "[u]se of [an ECPR] approach is appropriate in circumstances where the pricing is applicable [sic] to a new market entrant (the open video system operator) that will face competition from an existing incumbent provider (the incumbent cable operator), as opposed to circumstances where the pricing is used to establish a

[1723] *See, e.g.*, Ameritech comments at 62.

[1724] *Implementation of Section 302 of the Telecommunications Act of 1996 -- Open Video Systems*, CS Docket No. 96-46, Second Report and Order, FCC 96-249 (rel. June 3, 1996) (*Open Video Systems*).

rate for an essential input service that is charged to a competing new entrant by an incumbent provider."[1725] In addition, in *Open Video Systems*, we concluded that the ECPR is appropriate because it encourages entry for open video system operators and also enhances the availability of carriage for unaffiliated programmers.[1726] The ECPR generally protects the provider's profits and provides opportunities for third parties to use the provider's inputs. The ECPR does not provide a mechanism to drive retail prices to competitive levels, however. In *Open Video Systems*, we wanted to encourage entry by open video system providers and to encourage them to have incentives to open their systems to unaffiliated programmers. Here, our goal is to ensure that competition between providers, including third party providers using interconnection and unbundled elements, will drive prices toward competitive levels and thus use of the ECPR is inappropriate.

712. *Universal Service Subsidies.* We conclude that funding for any universal service mechanisms adopted in the universal service proceeding may not be included in the rates for interconnection, network elements, and access to network elements that are arbitrated by the states under sections 251 and 252. Sections 254(d) and 254(e) of the 1996 Act mandate that universal service support be recovered in an equitable and nondiscriminatory manner from all providers of telecommunications services.[1727] We conclude that permitting states to include such costs in rates arbitrated under sections 251 and 252 would violate that requirement by requiring carriers to pay specified portions of such costs solely because they are purchasing services and elements under section 251. Section 252(d)(1) requires that rates for interconnection, network elements, and access to network elements reflect the costs of providing those network elements, not the costs of supporting universal service.

713. Section 254(f) provides that a state may adopt equitable, nondiscriminatory, specific, and predictable mechanisms to advance universal service within that state.[1728] If a state collects universal service funding in rates for elements and services pursuant to sections 251 and 252, it will be imposing non-cost based charges in those rates. Including non-cost based charges in the rates for interconnection and unbundled elements is inconsistent with our rules implementing sections 251 and 252 which require that these rates be cost-based. It is also inconsistent with the requirement of section 254(f) that telecommunications carriers contribute to state universal service on a nondiscriminatory basis, because telecommunications carriers requesting interconnection or access to unbundled network elements will be required to make contributions to universal service

[1725] *Id.* at 127.

[1726] *Id.*

[1727] Joint Explanatory Statement at 131 ("In keeping with the conferees' intent that universal service support should be clearly identified, [section 254(e)] states that such support should be made explicit . . .").

[1728] 47 U.S.C. § 254(f).

support through such surcharges.[1729] States may not, therefore, include universal service support funding in the rates for elements and services pursuant to sections 251 and 252, nor may they implement mechanisms that have the same effect. For example, states may not fund universal service support by imposing higher rates for interconnection, unbundled elements, or transport and termination on carriers that offer service to different types of customers or different geographic areas. To the extent that New York's "pay or play" system funds universal service in this manner, it violates sections 251, 252, and 254 of the 1996 Act. Nothing in the 1996 Act or in this Order, however, precludes a state from adopting a universal service funding mechanism, whether interim or otherwise, if such funds are collected in accordance with section 254(f) on an "equitable and nondiscriminatory basis" through "specific, predictable, and sufficient mechanisms that do not rely on or burden Federal universal service support mechanisms."[1730]

714. Our decision here does not exempt carriers purchasing elements or services under section 251 from contributing to (or possibly receiving) universal service support. Rather, the recovery of universal service support costs from telecommunications carriers, including carriers requesting unbundled network elements, will be governed by section 254 of the 1996 Act. Federal universal service support mechanisms will be determined by our decisions reached in CC Docket 96-45, based on the recommendations of the Federal/State Universal Service Joint Board, and states may adopt additional universal service support mechanisms consistent with section 254(f).

715. We are mindful that the requirements of the 1996 Act may be disruptive to existing state universal service support mechanisms during the period commencing with this order and continuing until we complete our universal service proceeding to implement section 254. As discussed in the subsection immediately below, we permit incumbent LECs to continue to recover certain non-cost-based interstate access charge revenues for a limited period of time, largely because of concerns about possible deleterious impacts on universal service. We also authorize incumbent LECs, for a similar limited period of time, to continue to recover explicit intrastate universal service subsidy revenues based on intrastate access charges. This mechanism minimizes any possibility that implementation of sections 251 and 252 will unduly harm universal service during the interim period prior to completion of our universal service and access reform proceedings. Because we conclude this action should adequately provide for the continuation of a portion of existing subsidy flows during a transition period until completion of our proceeding implementing section 254, we decline to permit any additional funding of universal service support through rates for interconnection, unbundled elements, and transport and termination during the interim period.

[1729] *See infra*, Section VII.D.3., discussing discrimination.

[1730] 47 U.S.C. § 254(f).

716. *Interim Application of Access Charges to Purchasers of Unbundled Local Switching Element.* In the introduction of this Order, we emphasize that implementation of section 251 of the 1996 Act is integrally related to both universal service reform as required under section 254, and to reform of the interstate access charge system.[1731] In order to achieve pro-competitive, deregulatory markets for all telecommunications services, we must create a new system of funding universal service that is specific, explicit, predictable, sufficient, and competitively neutral. We also must move access charges to more cost-based and economically efficient levels. We intend to fulfill both of these goals in the coming months, by completing our pending universal service proceeding to implement section 254 by our statutory deadline of May 1997, and by addressing access charge issues in an upcoming access reform proceeding. The 1996 Act, however, requires us to adopt rules implementing section 251 by August 1996. We are concerned that implementation of the requirements of section 251 now, without taking into account the effects of the new rules on our existing access charge and universal service regimes, may have significant, immediate, adverse effects that were neither intended nor foreseen by Congress.

717. Specifically, as we conclude above, the 1996 Act permits telecommunications carriers that purchase access to unbundled network elements from incumbent LECs to use those elements to provide telecommunications services, including the origination and termination of interstate calls. Without further action on our part, section 251 would allow entrants to use those unbundled network facilities to provide access services to customers they win from incumbent LECs, without having to pay access charges to the incumbent LECs. This result would be consistent with the long term outcome in a competitive market. In the short term, however, while other aspects of our regulatory regime are in the process of being reformed, such a change may have detrimental consequences.

718. The access charge system includes non-cost-based components and elements that at least in part may represent subsidies, such as the carrier common line charge (CCLC) and the transport interconnection charge (TIC). The CCLC recovers part of the allocated interstate costs for incumbent LECs to provide local loops to end users. In the universal service NPRM, we observed that the CCLC may result in higher-volume toll users paying rates that exceed cost, and some customers paying rates that are below cost. We sought comment on whether that subsidy should be continued, and on whether and how it should be restructured.[1732] The nature of most of the revenues recovered through the TIC is unclear and subject to dispute, although a portion of the TIC is associated with certain costs related to particular transport facilities. Although the TIC was not created to subsidize local rates, some parties have argued in the *Transport* proceeding and elsewhere that some portion of the revenues now recovered through the TIC may be

[1731] *See supra*, Section I.B.

[1732] *Universal Service* NPRM at paras. 113-14.

misallocated local loop or intrastate costs that operate to support universal service.[1733] In the forthcoming access reform proceeding, we intend to consider the appropriate disposition of the TIC, including the development of cost-based transport rates as directed by the United States Court of Appeals for the District of Columbia Circuit in *Competitive Telecommunications Association v. FCC* (*CompTel v. FCC*).[1734]

719. Without a temporary mechanism such as the one we adopt below, the implementation of section 251 would permit competitive local service providers that also provide interstate long-distance service to avoid totally the CCLC and the TIC, which in part represent contributions toward universal service, by serving their local customers solely through the use of unbundled network elements rather than through resale. We believe that allowing such a result before we have reformed our universal service and access charge regimes would be undesirable as a matter of both economics and policy, because carrier decisions about how to interconnect with incumbent LECs would be driven by regulatory distortions in our access charge rules and our universal service scheme, rather than the unfettered operation of a competitive market. Because of our desire to err on the side of caution where universal service may be implicated, we conclude that some action is needed during the interim period before we complete our access reform and universal service proceedings.

720. We conclude that we should establish a temporary transitional mechanism to help complete all of the steps toward the pro-competitive goal of the 1996 Act, including the implementation of a new, competitively-neutral system to fund universal service and a comprehensive review of our system of interstate access charges. Therefore, for a limited period of time, incumbent LECs may recover from interconnecting carriers the CCLC and a charge equal to 75 percent of the TIC for all interstate minutes traversing the incumbent LECs' local switches for which the interconnecting carriers pay unbundled local switching element charges. Incumbent LECs may recover these charges only until the earliest of: (1) June 30, 1997; (2) the effective date of final decisions by the Commission in both the universal service and access reform proceedings; or (3) if the incumbent LEC is a BOC, the date on which that BOC is authorized under section 271 of the 1996 Act to offer in-region interLATA service. The end date for BOCs that are authorized to offer interLATA service shall apply only to the recovery of access charges in those states in which the BOC is authorized to offer such service.

[1733] *Transport Rate Structure and Pricing*, CC Docket No. 91-213, Report and Order and Further Notice of Proposed Rulemaking, 7 FCC Rcd 7006, 7065-7066 (1992) (*First Transport Order*). *Cf.* Letter from Bruce K. Cox, Government Affairs Director, AT&T, to William F. Caton, Acting Secretary, FCC, September 7, 1995 (filed in CC Docket No. 91-213) (suggesting that TIC revenues not allocable to specific transport facilities may represent misallocated common line costs).

[1734] *Competitive Telecommunications Association v. FCC*, No. 96-1168 (D.C. Cir. July 5, 1996).

721. We tentatively concluded in the NPRM that purchasers of unbundled network elements should not be required to pay access charges. We reaffirm our conclusion above in our discussion of unbundled network elements that nothing on the face of sections 251(c)(3) and 252(d)(1) compels telecommunications carriers that use unbundled elements to pay these charges, nor limits these carriers' ability to use unbundled elements to originate or terminate interstate calls, and that payment of rates based on TELRIC plus a reasonable allocation of common costs, pursuant to section 251(d)(1), represents full compensation to the incumbent LEC for use of the network elements that telecommunications carriers purchase. Because of the unique situation described in the preceding paragraphs, however, we conclude, contrary to our proposal in the NPRM, that during a time-limited period, interconnecting carriers should not be able to use unbundled elements to avoid access charges in all cases. As detailed below, this temporary mechanism will apply only to carriers that purchase the local switch as an unbundled network element, and use that element to originate or terminate interstate traffic.[1735] We are applying these transitional charges to the unbundled local switching element, rather than to any other network elements, because such an approach is most closely analogous to the manner in which the CCLC and TIC are recovered in the interstate access regime. Currently, the CCLC and TIC apply to interstate switched access minutes that traverse incumbent LECs' local switches. Applying the CCLC and 75 percent of the TIC to the unbundled local switching element is consistent with our goal of minimizing disruptions while we reform our universal service system and consider changes to our access charge mechanisms. Moreover, the CCLC and the TIC are recovered on a per-minute basis, and the local switch is the primary point at which incumbent LECs are capable of recording interstate minutes for traffic associated with end user customers of requesting carriers.

722. We have crafted this short-term continuation of certain access charge revenue flows to minimize the possibility that incumbent LECs will be able to "double recover" through access charges the facility costs that new entrants have already paid to purchase unbundled elements. For that reason, we do not permit incumbent LECs to assess on purchasers of the unbundled local switching element any interstate access charges other than the CCLC and 75 percent of the TIC. The other access charges are all designed to recover the cost of particular facilities involved in the provision of interstate access services, such as local switching, dedicated interoffice transport circuits, and tandem switching. Imposition of these facility-based access charges in addition to the cost-based charges for comparable network elements established under Section 252 could result in double recovery. The mechanism we establish will ensure that incentives created by non-cost-based elements of access charges do not result in harmful consequences prior to completion of access reform and our universal service proceeding. Imposition of additional access charges is therefore not necessary. We note that this mechanism serves to minimize the

[1735] As discussed *infra*, carriers that choose to enter a local market through resale of an incumbent LEC's intrastate local exchange service will pay interstate and intrastate access charges to originate and terminate toll traffic for end user customers that purchase that resold local exchange service.

potentially disruptive effects of our decisions on incumbent LECs, including small incumbent LECs.[1736]

723. For the same reason, we permit incumbent LECs to recover only 75 percent of the TIC. Some portion of the TIC recovers revenues associated with specific transport facilities. To the extent that these costs can be identified clearly, they should not be imposed on new entrants through the TIC. Incumbent LECs will be fully compensated for any transport facilities that new entrants purchase from them through the unbundled element rates states establish under 252(d)(1), which, as we have stated, must be based on economic cost rather than access charges. In our interim transport rate restructuring, we explicitly set the initial tandem switching rate at 20 percent of the interstate revenue requirement, with the remainder included in the TIC.[1737] In addition, certain costs of upgrading incumbent LEC networks to support SS7 signaling were allocated to transport through then-existing separations procedures. In our interim transport rate restructuring, we did not create any facility-based charges to recover these costs,[1738] so the associated revenues presumably were incorporated into the TIC. There may also be other revenues associated with transport facilities that are recovered today through the TIC. While we are uncertain of the precise magnitude of these revenues, in our best judgment, based on the record in the *Transport* proceeding and other information before us, we find that it is likely that these revenues approach, but probably do not exceed 25 percent of the TIC for most incumbent LECs. Thus, we believe that 25 percent is a conservative amount to exclude from the TIC to ensure that incumbent LECs do not double recover revenues associated with transport facilities from new entrants. Moreover, the Court in *CompTel v. FCC* remanded our *Transport* decision, in part, because of the inclusion of tandem switching revenues in the TIC rather than in the rate element for tandem switching. We find that excluding 25 percent of the TIC represents a reasonable exercise of our discretion to prevent revenues associated with the tandem switching revenue requirement from being recovered from purchasers or unbundled local switching.

724. We strongly emphasize that these charges will apply to purchasers of the unbundled switching element only for a very limited period, to avoid the possible harms that might arise if we were to ignore the effects on access charges and universal service of implementation of section 251. BOCs shall not be permitted to recover these revenues once they are authorized to offer in-region interLATA service, because at that time the potential loss of access charge revenues faced by a BOC most likely will be able to be offset by new revenues from interLATA services. Moreover, although we do not prejudge the conditions necessary to grant BOC petitions under section 271 to offer in-region interLATA service, we do decide that BOCs should not be able to charge the CCLC and the TIC, which are not based on forward-looking economic costs, to

[1736] *See* Regulatory Flexibility Act, 5 U.S.C. §§ 601 *et seq.*

[1737] *First Transport Order*, 7 FCC Rcd at 7019.

[1738] *First Transport Order*, 7 FCC Rcd at 7019.