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Docket No. 7061-U

DEC 16 1997

ORDER ESTABLISHING COST-BASED RATES EXECUTIVE SECRETARY GPSO

In re: **Review of Cost Studies, Methodologies, and Cost-Based Rates for Interconnection and Unbundling of BellSouth Telecommunications Services**

Record Submitted: September 19, 1997

Date Decided: October 21, 1997

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BY THE COMMISSION:

The Georgia Public Service Commission ("Commission") opened this proceeding in order to review cost studies and methodologies and establish cost-based rates applicable to BellSouth Telecommunications, Inc.'s ("BellSouth") interconnection and unbundling including the unbundled network elements, nonrecurring charges, collocation, and access to poles, ducts, conduits and rights-of-way. The setting of these rates concludes a substantial leg of the journey toward full competition in the telecommunications marketplace in Georgia. The Commission's stated goals were to adopt a preferred methodology, approve a cost study or set of cost studies, and determine the resulting cost-based rates for interconnection with and the unbundling of BellSouth's telecommunications services, pursuant to the federal Telecommunications Act of 1996 ("1996 Act"), especially Sections 251 and 252, and the Georgia Telecommunications and Competition Development Act of 1995 ("Georgia Act"), O.C.G.A. § 46-5-160 *et seq.* The Commission's review herein will enable the Commission to meet its responsibilities under both Acts.

In summary, the Commission has adopted the use of BellSouth's cost studies with specific adjustments. These adjustments include a lower cost of capital, lower depreciation rates, slightly higher fill factors, a corrected loop sample, and moving certain shared costs from nonrecurring charges to recurring rates. The adjustments result in a 2-wire analog unbundled loop recurring (monthly) rate of \$16.51. The nonrecurring charge associated with the 2-wire analog loop is \$42.54.¹ The Commission does not adopt BellSouth's proposed Residual Recovery Requirement. The Commission also determines that all features associated with the switch should be included with the unbundled switch port element.

As to collocation, the Commission adopts charges for the space preparation portion of the amounts charged to CLECs that are specified at \$100 per square foot, with a minimum 100-square foot space that a CLEC may order. Additional space may be ordered in 50-square foot increments. All other rates contained in the BellSouth "Collocation Handbook" are adopted. However, the CLEC will be allowed to elect wire mesh cage construction as an alternative to gypsum (plywood), with no change in the cost.

The remaining findings, conclusions and adjustments are detailed in this Order. These include adopting the FCC formula for computing pole rental (currently at a rate of \$4.20); revising the pricing structure for OSS electronic interface cost recovery to remove per-order charges; remaining with geographically averaged rates at this time; and reaffirming the Commission's previous decision in the arbitration proceedings that recombination of the loop and port elements to replicate BellSouth retail services shall be priced and treated as resale under the federal Telecommunications Act of 1996 ("1996 Act").

¹ As discussed later in this Order, the Commission did not adopt a separate disconnection charge of \$11.00 that would have been payable if and when the CLEC asks for disconnection of the loop.

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I. INTRODUCTION

A. Introductory Summary

The Commission stated in its initial Procedural and Scheduling Order that the Commission sought to determine appropriate methodologies and cost studies, and the resulting cost-based rate

amounts, for certain items. Following is that list of items, including a summary of the Commission's determination as to each item. Further detail is contained in the following sections of this Order.

1) The minimum set of unbundled network elements required to be offered on a non-discriminatory basis.

The Commission adopts a forward-looking approach for unbundled network element ("UNE") prices that recognizes BellSouth's existing network configuration and recalculates the associated costs using forward-looking technology. Consistent with this approach, the Commission does not allow BellSouth's proposed Residual Recovery Requirement ("RRR") because the RRR would cause the essentially forward-looking prices to revert back to historical, embedded-cost prices that are conceptually the same as rate of return or rate-based prices. The Commission also adopts specific adjustments to certain assumptions that BellSouth utilized, including cost of capital, depreciation, fill factors, shared costs for direct labor rates, and the loop sample used for BellSouth's cost study.

For non-recurring charges, the Commission adopts an adjustment to remove BellSouth's assumed shared cost associated with direct labor rates. The Commission also adopts a rate design change to remove the disconnection charges from the non-recurring service order charges. Finally, as discussed below, the per-order charges should not include cost recovery for the development of electronic interfaces to operational support systems ("OSS"). The Commission adopts a rate design for OSS cost recovery that includes volume discounts which should promote the usage of BellSouth's newly developed electronic interfaces. The Commission will also direct BellSouth to file for the Commission's review further information about the OSS costs, once BellSouth has implemented the long-term electronic interfaces that were scheduled by December, 1997.

2) The provision of access to such unbundled network elements.

The Commission establishes herein the prices all BellSouth's unbundled network elements. As a part of this, the Commission determines that switch vertical features should not be priced as individual elements but incorporated within the unbundled switch port element. This can be viewed as an aspect of UNE rate design; the port element should be available at one price that includes all the switch features.

3) Compensation for transport and termination of local telecommunications traffic.

The Commission establishes the rates for compensation for transport and termination of local telecommunications traffic, as a function of the BellSouth cost study pursuant to the adjustments the Commission has adopted. As to the rate design for compensation for transport and termination of local traffic, the Commission affirms the pricing policy it established in the MCI-BellSouth arbitration (Docket No. 6865-U).

4) Physical and virtual collocation.

Collocation occurs when a CLEC shares space with BellSouth in order to provide its services. For physical collocation rates, the Commission provides for the development of specified rates including those for space preparation, rather than the unspecified "individual case basis" ("ICB") approach that BellSouth submitted. The CLEC shall also be able to elect wire mesh cage construction as an alternative to gypsum (plywood).

5) The treatment of joint and common costs, including common costs that cannot be attributed directly to individual elements (see FCC rule, 47 C.F.R. Section 51.505).

As mentioned above, the Commission adopts an adjustment to remove BellSouth's assumed shared cost associated with direct labor rates within the non-recurring charges. This cost is then added back in a manner that slightly increases the recurring charges.

6) Any deaveraging, such as geographic deaveraging, that parties may propose.

The Commission does not adopt any geographic deaveraging at this time of the rates in this proceeding. Deaveraging of the cost-based rates should instead be determined in connection with universal service and/or Universal Access Fund considerations.

7) Any other aspect(s) of interconnection with and unbundling of BellSouth's telecommunications services.

The Commission adopts pole rental rates that reflect the FCC's current formula, under the category of access to poles, ducts, conduits and rights-of-way.

For OSS cost recovery, the Commission adopts a rate design different than proposed by BellSouth that will be more conducive to competition. This includes removal of OSS charges within the per-order service (non-recurring) charge, in order to avoid "chilling" the placing of orders, and adopting a rate design with volume discounts.

B. Jurisdiction

The 1996 Act includes at Sections 251 and 252(d) certain pricing standards and other requirements relating to interconnection and access to unbundled elements. Section 251(c)(3) provides, with respect to access to unbundled network elements such as unbundled loops, that each incumbent local exchange carrier ("ILEC") has the duty:

to provide . . . nondiscriminatory access to network elements on an unbundled basis . . . on rates, terms, and conditions that are just,

reasonable, and nondiscriminatory in accordance with the terms and conditions of the agreement and the requirements of this section and section 252 . . .

Section 252(d) contains pricing standards for interconnection and network element charges, and for charges for transport and termination of traffic. The former must be based upon the cost of providing the interconnection or network element. The latter must provide for the mutual and reciprocal recovery by each carrier of costs associated with the transport and termination on each carrier's network facilities of calls that originate on the network facilities of the other carrier; and the terms and conditions must determine such costs on the basis of a reasonable approximation of the additional costs of terminating such calls. These pricing standards, including rules of construction, are contained in Section 252(d)(1) and (2). Section 252(d)(1) provides the following pricing standard for the rates:

Determinations by a State commission of the just and reasonable rate for the interconnection of facilities and equipment for the purposes of subsection (c)(2) of section 251, and the just and reasonable rate for network elements for purposes of subsection (c)(3) of such section --

(A) shall be -

(i) based on the cost (determined without reference to the rate-of-return or other rate-based proceeding) of providing the . . . network element . . . , and

(ii) nondiscriminatory, and

(B) may include a reasonable profit.

The cost-based rates established in this docket will provide closure to the interim rates set in the Commission's arbitrations under Section 252 of the 1996 Act.² The Commission recognizes that the

² The Commission stated in the early Section 252 arbitration dockets (e.g., MFS-BellSouth, Docket No. 6759-U; AT&T-BellSouth, Docket No. 6801-U), as it did in the state-law proceedings on MFS' and MCI's petitions about BellSouth's interconnection rates in Dockets No. 6415-U/6537-U, that the generic cost study proceeding established in this docket would be necessary in order for the Commission to establish permanent rates for unbundled loops and other aspects of interconnection and unbundled network elements. The 1996 Act provides that the Commission may direct parties to provide such information as may be necessary for the Commission to reach a decision on unresolved issues in an arbitration. Section 252(b)(4)(B). Similarly, the Georgia Act vests the Commission with authority to obtain information necessary to carry out its responsibilities. These provisions supported the Commission's proceedings in this docket.

The permanent rates established in this docket will also be used in many instances as the basis for true-up mechanisms associated with interim rates (e.g., in the MFS-BellSouth arbitration, Docket No. 6759-U; AT&T-BellSouth arbitration, Docket No. 6801-U; MCI-BellSouth arbitration, Docket No. 6865-U; and Sprint-BellSouth arbitration, Docket No. 6958-U; as well as many of BellSouth's negotiated interconnection agreements).

The Commission also noted in its proceeding involving BellSouth's Revised Statement of Generally

rates established in this docket will also be applied to BellSouth's Revised Statement of Generally Available Terms and Conditions pursuant to the Commission's decision in Docket No. 7253-U.

In addition to its jurisdiction of this matter pursuant to Sections 251 and 252 of the federal Act, the Commission also has general authority and jurisdiction over the subject matter of this proceeding, conferred upon the Commission by Georgia's Telecommunications and Competition Development Act of 1995 (the "Georgia Act"), O.C.G.A. §§ 46-5-160 *et seq.*, and generally O.C.G.A. §§ 46-1-1 *et seq.*, 46-2-20, 46-2-21, and 46-2-23; and this proceeding shall be conducted in accordance with any relevant provisions of the Georgia Administrative Procedure Act, O.C.G.A. Ch. 13, Title 50, and the Rules and Regulations of the Commission, as such statutes and rules may be applicable to this proceeding.

The Georgia Act contains several provisions pertaining to interconnection and unbundling. All local exchange companies are required to permit reasonable interconnection with other certificated local exchange companies. This includes all or portions of such services as needed to provide local exchange services. The rates, terms, and conditions for such interconnection services shall not unreasonably discriminate between providers. O.C.G.A. § 46-5-164(a), (b). In the event that the parties cannot reach agreement through negotiation, the Commission shall determine the reasonable rates, terms, or conditions for the interconnection services. *Id.*, subsections (b), (c). Many interconnection agreements, especially between BellSouth and the smaller CLECs, already have been negotiated, filed with and approved by this Commission under the 1996 Act. In addition, four arbitrations have been conducted for larger CLECs, and BellSouth's proposed Statement of Generally Available Terms and Conditions in Docket No. 7253-U relied upon the interim rates subject to true-up according to the cost-based rates established in this docket. Those proceedings demonstrated that a full, generic review was necessary and invaluable in resolving the cost issues associated with interconnection and unbundling.

The Georgia Act provides further that interconnection services shall be provided for intrastate services on an unbundled basis similar to that required by the FCC for services under the FCC's jurisdiction. The Commission also has the authority to require local exchange companies to provide additional interconnection services and unbundling. O.C.G.A. § 46-5-164(d).

The Commission's jurisdiction under the Georgia Act includes the authority, among other matters, to establish reasonable rules and methodologies for performing cost allocations among the services provided by a telecommunications company. O.C.G.A. § 46-5-168(b)(9).³

Available Terms and Conditions (Docket No. 7253-U) that the established rates in this proceeding would provide the cost-based rates replacing the interim rates contained in that Revised Statement.

³ The Georgia Act also imposes certain cost and price-related obligations on telecommunications companies that elect alternative regulation. These include prohibitions against cross-subsidy of nonregulated or alternatively regulated services with revenue created by regulated services, and against anticompetitive acts

Moreover, pursuant to O.C.G.A. § 46-2-20(a), the Commission has general supervision of all telephone companies. *See also* O.C.G.A. § 46-2-21(b)(4); *Camden Tel. & Tel. Co. v. City of St. Marys*, 247 Ga. 687, 279 S.E.2d 200 (1981); *City of Dawson v. Dawson Tel. Co.*, 137 Ga. 62, 72 S.E. 508 (1911). Pursuant to O.C.G.A. § 46-2-20(b), the Commission is also authorized to perform the duties imposed upon it of its own initiative.

The Commission has access to the books and records of telecommunications companies as may be necessary to ensure compliance with the provisions of the Georgia Act and with the Commission's rules and regulations, and to carry out its responsibilities under the Georgia Act. O.C.G.A. § 46-5-168(e). The Commission also has the general authority, pursuant to O.C.G.A. § 46-2-20(e), to examine the affairs of all companies under its supervision and to keep informed as to their general condition, their capitalization, and other matters, not only with respect to the adequacy, security, and accommodation afforded by their service to the public and their employees but also with reference to their compliance with all laws, orders of the Commission, and charter requirements. Pursuant to subsection (f) of that section, the Commission has the power and authority to examine all books, contracts, records, papers, and documents of any person subject to its supervision and to compel the production thereof.

C. FCC Rules and Eight Circuit Decision

The Commission recognizes that certain rulings and decisions at the federal level have some bearing upon this proceeding. The Federal Communications Commission ("FCC") issued its First Report and Order (Order No. 96-325, CC Docket No. 96-98) on August 8, 1996, adopting rules that were to become effective on September 30, 1996 ("First Report and Order"). However, a number of those rules especially as to pricing were vacated by the Eighth Circuit Court of Appeals.⁴ The rules adopted by the FCC associated with its Report and Order remain in place except the following sections:

- Total Element Long Run Incremental Cost (TELRIC) pricing methodology, proxy prices for unbundled elements and other pricing rules (§§ 51.315(b-f), 51.501 through 51.515 (inclusive, except for Section 51.515(b) which the Court found to be a legitimate interim rate for interstate access charges), 51.601-51.611 (inclusive), 51.701-51.717 (inclusive, except for 51.701, 51.703, 51.709(b), 51.711(a)(1), 51.715(d), and 51.717, but only as they apply to Commercial Mobile Radio Service (CMRS) providers));

or practices such as price squeezing, price discrimination, predatory pricing, or tying arrangements. O.C.G.A. § 46-5-169(4), (5).

⁴ *See Iowa Utilities Board, et al. v. FCC*, No. 96-3321 (8th Cir., July 18, 1997), and *Iowa Utilities Board, et al. v. FCC*, Order on Petitions for Rehearing (8th Cir., Oct. 14, 1997)(vacating FCC Rule § 51.315(b-f)).

- The “pick and choose” rule (§ 51.809);
- The rural exemptions rule (§ 51.405);
- The FCC's authority under Section 208 to review and enforce agreements approved by state commissions (First Report and Order, ¶¶ 121-128);
- The rule requiring preexisting interconnection agreements that were negotiated before the enactment of the Act to be submitted for state commission approval (§ 51.303);
- The rule preempting any state policy that conflicts with an FCC regulation promulgated pursuant to Section 251 (First Report and Order ¶¶ 101-103, 180); and
- Portions of the FCC's unbundling rules (§§ 51.305(a)(4), 51.311(c), 51.315(c)-(f), and 51.317, and First Report and Order, ¶¶ 278, 281 (only to the extent that these provisions create a presumption that a network element must be unbundled if it is technically feasible to do so)).

The Court did not vacate the FCC Order in its entirety, and those portions of the FCC Order and rules that have not been vacated remain in force as valid regulations. In addition, the Eighth Circuit issued a subsequent Order on Petitions for Rehearing on October 14, 1997 clarifying its decision regarding the recombination or rebundling of unbundled network elements (which specifically vacated FCC Rule § 51.315(b-f)).

D. Statement of Proceedings

The Commission initiated this case in December 1996 in order to fully examine the costs for purposes of establishing rates associated with interconnection and unbundling of BellSouth's telecommunications services. BellSouth, AT&T and MCI submitted cost studies, and they and other parties submitted direct testimony, on April 30, 1997. Several prehearing conferences and workshops were conducted, and numerous data requests were served and answered by various parties. The Commission's Adversary Staff participated in the prehearing conferences and workshops and propounded several sets of data requests. Additionally, the parties were given the opportunity to conduct discovery depositions and availed themselves of that opportunity.

Supplemental, rebuttal, and surrebuttal testimony as well as revised and updated cost models and cost studies were subsequently submitted in this docket. The Commission conducted hearings September 15-19, 1997. All parties were given an opportunity to present testimony and cross-examine witnesses. Additionally, the prefiled testimony of several witnesses was admitted into evidence by stipulation of the parties. All the evidence of record and arguments have been reviewed and examined in detail.⁵

⁵ Certain documents and other information filed in this case were considered by the source of the information to be a “trade secret” under Georgia law, O.C.G.A. § 10-1-761(4), and were treated in conformance with the Rules of the Commission governing such information. See Rule 515-3-1-.11 Trade Secrets (containing rules for asserting trade secret status, filing both under seal and with public disclosure versions, use of protective agreements, petitioning for access, and procedures for challenging trade secret

II. UNBUNDLED NETWORK ELEMENTS

A. Cost Study Methodology and Major Assumptions

The Commission stated in its initial Procedural and Scheduling Order that it would presume that the cost study methodology should be forward-looking, consistent with the Total Element Long Run Incremental Cost ("TELRIC") approach previously approved by this Commission in Dockets No. 6415-U/6537-U.⁶ Therefore BellSouth was required to submit its filing using a TELRIC methodology. The Commission also recognized and stated that BellSouth (or any other party) may also submit - and was free to advocate - a different set of cost studies using a methodology different from TELRIC. BellSouth chose to submit one cost study (with several revisions and updates) that it labeled as using a TELRIC methodology.⁷

The only other cost study model submitted in the docket was the Hatfield model sponsored by AT&T and MCI, also labeled as using a TELRIC methodology. The primary difference between the two cost models was that BellSouth assumed its existing network configuration, while the Hatfield model uses a "scorched node" approach that assumes existing central (end) offices but essentially rebuilds the network using fully forward-looking configurations and assumptions. The second most substantial difference between the BellSouth cost study and the Hatfield model was BellSouth's application of a "Residual Recovery Requirement" ("RRR") factor to the unbundled loop and unbundled port rates. These two substantial differences between BellSouth and the Hatfield approach are discussed in subsequent subsections.

Generally, BellSouth performed cost studies for the following unbundled network elements: (1) unbundled local loops; (2) sub-loop unbundling; (3) unbundled local and tandem switching capabilities and local interconnection; (4) unbundled transport (interoffice and local channels, including shared transport and dedicated interoffice facilities) and local interconnection; (5) signaling

designations).

⁶ See Order, December 6, 1996, Docket No. 7061-U, at 3 of 9.

⁷ The Commission also required that any party submitting a cost study shall provide comprehensive and complete work papers that fully disclose and document the process underlying the development of each of its economic costs, including the documentation of all judgments and methods used to establish every specific assumption employed in each cost study. The work papers must clearly and logically present all data used in developing each cost estimate, and must be so comprehensive as to allow others initially unfamiliar with the studies to replicate the methodology and calculate equivalent or alternative results using equivalent or alternative assumptions. The work papers must be organized in such manner as to clearly identify and document all source data and assumptions, including investment, expense, and demand data and assumptions.

In addition, for each cost study, the party submitting the cost study was required to provide sensitivity analyses of study outputs to alternative input assumptions regarding the economic depreciation of facilities, the cost of capital, and fill factors and utilization assumptions.

network (common channel signaling - CCS7); (6) call-related databases and service management systems; (7) operations support systems ("OSS") functions; (8) operator functions; (9) directory assistance; (10) physical and virtual collocation; (11) service provider number portability (interim solutions); (12) dark fiber; and (13) access to poles, ducts, conduit, and rights-of-way. (Zarakas, Tr. 371.)

1. Existing Network Configuration v. "Scorched Node"

BellSouth's cost studies assumed the existence of its current wire centers and parts of its infrastructure, based on the premise that new telephone cables will be laid along the same roads and in the same rights-of-way as the current facilities are located. BellSouth then assumed the implementation of new technology, given this existing network configuration. (Caldwell, Tr. 442.) BellSouth modeled the network elements and used inputs from: (1) the Switching Cost Information System ("SCIS") model developed by Bell Communications Research, Inc. ("Bellcore") to establish switching costs; (2) various specialized price calculators; (3) a statistical sample of loops within the state; and (4) subject-matter experts with extensive expertise and knowledge about telecommunications in general and BellSouth's operations in particular. (Caldwell/Zarakas, Tr. 376-410.) The inputs from the various sources were used by BellSouth's "TELRIC Calculator©" to compute the cost of the UNEs.

The Hatfield model championed by AT&T and MCI uses a "scorched node" approach that assumes existing central (end) offices but essentially rebuilds the network using fully forward-looking configurations and assumptions. AT&T/MCI witness Wood argued that the scorched node approach is consistent with a forward-looking, long-run incremental cost methodology because in the long run, the network should be considered avoidable. In particular, AT&T and MCI argued that the structure of and inputs to the Hatfield Model 4.0 are appropriate because they adhere to four essential criteria: costs must be (1) long-run; (2) based on efficient use of least-cost, forward-looking technology currently available; (3) calculated assuming demand for the total quantity of the element being studied; and (4) based on the principle of cost-causation. (Wood, Supplemental/Rebuttal at 11.)

The Georgia Public Communications Association, Inc. ("GPCA") supported the use of the Hatfield Model Release 4.0, and urged rejection of the BellSouth model. The GPCA contended that BellSouth applied a distorted version of the FCC's TELRIC methodology in order to justify higher costs, primarily by allocating historic levels of overhead costs to its TELRIC results. By contrast, GPCA argued, Release 4.0 of the Hatfield Model satisfies the requirements for cost-based pricing in a competitive environment, using forward-looking methodology based on publicly available data. The GPCA added that its methodology creates competitively neutral and nondiscriminatory prices, and ensures that the UNEs are not subsidized by other service offerings or other customers of the incumbent LEC. (GPCA Brief at 1, 3.)

AT&T and MCI argued that the underlying logic of Hatfield Model 4.0 remains straightforward and understandable; that it applies generally-accepted engineering principles to

determine the amount of various network components required to meet a specified level and location of demand. The model assumes the location of existing wire centers, but otherwise calculates the least-cost, forward-looking cost of feeder, distribution, and other facilities (the "scorched node" approach). Applying user-adjustable cost data inputs, the model calculates a required level of investment. The level of investment is used to determine capital carrying costs and many operating expenses. It also contains a module that can be used to develop costs for universal service purposes. The net result is forward-looking prices for unbundled network elements intended to reflect the costs that an efficient provider which faces competition would incur to provide telecommunications services in the Georgia market. (AT&T Proposed Order at 11, citing Wood Direct at 29.)

MCI argued that the rates put forward by it and AT&T reflect truly forward-looking economic costs without reference to past Commission proceedings and thus are consistent with the 1996 Act and the FCC rules upheld by the Eighth Circuit, and will facilitate competition in Georgia's local exchange market. By contrast, MCI argued, BellSouth's rates are based on theories and cost models that incorporate embedded costs and rely on rate of return principles, and would continue the inefficiencies which result from monopoly markets. (MCI Reply Brief at 1-2.) MCI explained that the Hatfield Model used inputs that were highly specific to BellSouth's operating territory in Georgia, but were appropriately independent of BellSouth's embedded network and operations. MCI criticized BellSouth's cost studies as beginning with embedded or historical investments and network design, carrying forward the embedded characteristics of the network. MCI noted that BellSouth agreed during the hearings that in a valid long-run study, all costs are avoidable (Tr. 380-384), and argued that the BellSouth studies inappropriately applied a short-run assumption in which many embedded systems and work activity characteristics act as cost constraints. (MCI Brief & Proposed Order at 12.)

MCI also argued that the Hatfield Model is a fully "open" model which permits review and verification. MCI urged the Commission to base its decision on information that is part of the public record. MCI argued that the Hatfield Model's openness directly enhances the credibility of the model. The Hatfield Model has been subject to thorough cross examination in numerous regulatory proceedings; all detailed geographic and demographic data that the model uses can be viewed directly by the user; and it contains over 1,200 user-adjustable inputs that can be changed easily through a user interface. (MCI Brief & Proposed Order at 18, citing Wood, Tr. 1309.) Each of the inputs to the model and the basis for selecting the default values were described in the Hatfield Model Inputs Portfolio, attached to Mr. Wood's Direct Testimony as AT&T/MCI Joint Hearing Exhibit 3. Its results can be reproduced, all inputs and calculations can be directly reviewed by the user, and complete documentation was provided describing the basis for the model inputs. (MCI Brief at 35.)

MCI and several other intervenors criticized BellSouth's cost studies because they rely upon cost models that proprietary, in whole or in part, and thus not open to public scrutiny. This means, among other things, that a person reviewing the model cannot reproduce the results. (Wood testimony, Tr. 1359.) As a result, MCI pointed out, it is impossible to test the BellSouth loop model or to conduct a sensitivity analysis of its primary inputs. (MCI Brief at 33.) BellSouth's

methodology also relied upon the Switched Network Calculator ("SNC") and Switching Cost Information System ("SCIS"), which are intertwined so that they relate directly to one another; if one produces wrong results, so will the other. (MCI Brief at 33, citing Tr. 674-75.) These switching models are "closed" even tighter than the loop model, on the basis of protecting vendor proprietary information and the value of the model to BellCore for licensing purposes. The calculations and the important inputs and assumptions are hidden from the user. A proprietary version of BellSouth's SNC model, used to calculate its switching costs, does not allow the user to change key inputs. MCI stated that a similar situation was present in BellSouth's shared and common cost model, that key inputs were locked and could not be changed. (MCI Brief at 33-34.)

BellSouth cited a report by Arthur Anderson & Company to support the accuracy of the switching models it used. BellSouth witness Zarakas of Theodore Barry & Associates testified regarding his firm's review of BellSouth's application of SNC and SCIS in this case. MCI charged, however, that Mr. Zarakas relied heavily on the Arthur Anderson report for his evaluation, and that Arthur Anderson's work did not constitute an "audit." Nor was it a technical engineering review of equipment prices or capabilities. (MCI Brief at 34, citing Tr. 677-79, 681.) BellSouth did not submit the Arthur Anderson report as evidence in the record of this case.

Low Tech Designs, Inc. ("LTD") charged that the BellSouth cost studies failed to meet appropriate requirements because certain assumptions were "deeply embedded" in the cost study and not susceptible to easy modification. Consequently, LTD argued, the parties were not able to analyze adequately BellSouth's Advanced Intelligent Network ("AIN") cost studies. LTD stated that AIN capabilities are critical to differentiation of telecommunications services between carriers, and criticized BellSouth as not offering LTD the ability, via mediation, to interconnect third-party AIN SCPs or Intelligent Peripherals. LTD particularly recommended adoption of the AIN query cost proposed by AT&T witness Wayne Ellison. (LTD Brief at 2-3.)

BellSouth witness Varner criticized the Hatfield Model's scorched node assumption as a "start from scratch" approach that assumes technology never changes, no uncertainty exists, and no firm ever makes an investment without correctly predicting the future. According to Mr. Varner, basing prices on a hypothetical, idealized network would mean that every time a new cost-reducing technology is developed, BellSouth must reduce its price to that level even though its existing network isn't being modified to use it. (Varner Rebuttal at 11.)

BellSouth argued that the Hatfield cost studies bear no relationship to BellSouth's existing network, forward-looking or otherwise. According to BellSouth, because it is a hypothetical network belonging to a hypothetical carrier, the Hatfield Model severely underestimates the costs BellSouth will incur to provide service, no matter how efficiently it operates. BellSouth then questioned whether any savings from artificially low UNE prices would be passed on to the CLECs' customers. BellSouth concluded that setting UNE and interconnection prices below BellSouth's costs of providing service on a "going forward basis" would be unsound as a matter of public policy because it would: (1) provide an unwarranted subsidy to BellSouth's competitors; (2) destroy an incentive

for facilities-based competition; and (3) impose unwarranted business risks on BellSouth without offering any corresponding compensation. According to BellSouth, all of these factors weigh in favor of setting rates for UNEs and interconnection that fairly compensate BellSouth for the reasonable costs it will actually incur in providing service to CLECs, and this is consistent with the Commission's duty to ensure just and reasonable rates. (BellSouth Brief at 4-6, 23-26.) BellSouth also argued that Section 252(d)(1)(A)(ii) prohibits certain ratemaking methods, *i.e.*, traditional rate-of-return or rate base proceedings, but that it does not prohibit consideration of a company's actual or embedded costs. (BellSouth Brief at 9-11.)

BellSouth submitted various criticisms of the Hatfield Model relating to its data inputs, assumptions, methodological approach, differing versions, and results. (BellSouth Brief at 14-17.) BellSouth also criticized the intervenors' cost studies to the extent that they are premised upon BellSouth providing loop-port combinations that should be recognized as resale. (BellSouth Brief at 17-21.) BellSouth further repeated its criticism that the Hatfield Model determines the cost of UNEs and interconnection with little regard to the real-world experience of an efficient provider in the local exchange market. As BellSouth put it, the Hatfield Model's hypothetical provider comes into existence in a "snapshot" fashion with little history, and is assumed to be able to serve the entire current volume of demand for a network element even though no separate market for it exists today. With this level of demand, the Hatfield Model attempts to construct a network that recognizes current wire center locations but builds essentially every other aspect of the network from scratch, in one fell swoop. (BellSouth Brief at 21.)

MFS Communications Company, Inc. and WorldCom, Inc. (collectively "WorldCom") urged the Commission to reject BellSouth's loop cost study, and instead price loops with the same cost model that the Commission will use to establish Georgia's eligibility for federal universal service support, under rules of the FCC. (WorldCom Brief at 1, 2-5.) WorldCom premised its position on asserted inadequacies of BellSouth's study and the need to deal with loop costs, among other costs, in upcoming universal service proceedings. WorldCom stated that embedded costs which were incurred piecemeal do not recognize the kind of volume discount to which BellSouth would be entitled if it were reconstructing its network with a "scorched node" approach, which it asserted TELRIC requires, and added that BellSouth's embedded cable costs in the study and in the proposed RRR charge were based on purchasing much smaller size cable, for piecemeal installation, than BellSouth would buy when reconstructing its network. Finally, WorldCom stated that BellSouth's embedded costs do not reflect modern network design principles that tend to emphasize cost-saving techniques. (WorldCom Brief at 5, 7-10.)

The Staff recommended the adoption of BellSouth's approach of using the existing network configuration and making adjustments to reflect the costs of forward-looking technology. This approach recognizes BellSouth's existing network configuration, while recalculating the associated costs in order to reflect forward-looking costs. While the Staff recommended other adjustments to BellSouth's cost studies, the Staff agreed with BellSouth regarding this major assumption of the cost model methodology. The Staff also noted that the Hatfield model assumes the ability of CLECs to

recombine unbundled network elements in a manner that contradicts the Commission's previously decided policy, although the primary basis for the Staff's recommendation was that it is more reasonable to accept BellSouth's existing network configuration than to rebuild the network essentially overnight. The populations to be served grew over time as did BellSouth's network. Thus the Staff accepted the existing configuration, but repriced its costs in order to be forward-looking.⁸

Discussion

The Commission finds and concludes that the Staff's recommendation is reasonable. This will result in use of BellSouth's existing network configuration, while repricing its costs in order to be forward-looking. The Hatfield Model, by contrast with BellSouth's approach, ignores that BellSouth's network typically grows in discrete increments to meet demand growth as it materializes. The Commission is sensitive to the need for open models subject to public scrutiny, and does not intend to endorse the proprietary nature of BellSouth's models. The Commission adopts the Staff's recommendation because it is a reasonable approach that will result in reasonable rates.

The Commission does not reach any decision regarding whether BellSouth's assertions regarding proprietary aspects of the models are based upon valid trade secret claims as defined in O.C.G.A. § 10-1-76(4) and thus protectable from public disclosure under the Georgia Open Records Act, O.C.G.A. §§ 50-18-70 *et seq.*, and the Commission's Rule 515-3-1-.11. The Commission has previously expressed concern (e.g., Order Ruling on Arbitration at 12, November 8, 1996, Docket No. 6759-U) that cost models used as evidence for Commission decisions should be as open as possible. When a particular scientific procedure or technique is challenged, the decision-making body makes a determination whether the procedure or technique in question has reached a scientific stage of verifiable certainty, based upon evidence, expert testimony, treatises, or the rationale of cases in other jurisdictions. Orkin Exterminating Co. v. McIntosh, 215 Ga. App. 587, 452 S.E.2d 159 (1994).⁹ At the same time, the Commission is not bound by the strict rules of evidence, and may exercise such discretion as will facilitate its efforts to ascertain the facts bearing upon the right and justice of the matters before it. O.C.G.A. § 46-2-51. Although BellSouth's models are not fully open, BellSouth has afforded more discovery and review of various aspects of them than it previously afforded to other parties. At the same time, it remains evident that openness and availability for public scrutiny can only benefit the process of reviewing cost models and determining costs. In this case, the issue of openness of the models is not dispositive and instead, the Commission adopts its approach on the basis of the fundamental theoretical difference between "scorched node" and BellSouth's assumption of the existing network configuration.

⁸ BellSouth also repriced its network to develop forward-looking costs, but as discussed later, the Staff made additional adjustments to develop the most appropriate cost factors which this Commission has adopted.

⁹ See also Hubbard v. State, 207 Ga. App. 703, 429 S.E.2d 123 (1993); and "Exiting the Twilight Zone: Changes in the Standard for Admissibility of Scientific Evidence in Georgia," 10 Ga. St. U. L. Rev. 401 (1994).

The Commission does not endorse BellSouth's citation of traditional rate-of-return analysis in support of the BellSouth cost methodology approach. *See, e.g., Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591, 603 (1949); *Bluefield Waterworks & Improvement Co. v. Public Service Commission of West Virginia*, 262 U.S. 679, 692-693 (1923). While these cases may provide useful insight into the cost of capital to be applied for cost-based rates, as discussed later in this order, they involved traditional rate-of-return or rate base regulation that has been explicitly superseded pursuant to Section 252(d). While overarching constitutional principles remain in place to prohibit confiscation, the traditional rate-of-return analysis must yield to an approach consistent with a competitive environment. Moreover, BellSouth has explicitly elected alternative regulation under the Georgia Act, O.C.G.A. § 46-5-161 *et seq.*, in lieu of traditional regulation.

The Commission concludes that Section 252(d) does not preclude consideration of BellSouth's existing network configuration. Section 252(d) does not prohibit consideration of BellSouth's actual costs, and it also does not prohibit repricing the network in order to reflect forward-looking costs. Indeed, since Section 252(d)(1)(A)(ii) proscribes traditional rate-of-return or rate base methodologies, it certainly supports moving away from traditional recovery of all embedded costs. The fundamental BellSouth approach of determining the actual costs on a going-forward basis is reasonable under both Section 252(d) and under the Georgia Act, O.C.G.A. §§ 46-5-161 *et seq.*, 46-5-165. While the Hatfield approach urged by AT&T, MCI, and other intervenors may be sustainable under these statutory provisions, the Commission finds and concludes that the Staff approach of using the BellSouth methodology with further improvements in the cost adjustments is the most appropriate in this proceeding, will meet the statutory requirements, and will result in just, reasonable, and nondiscriminatory rates. In this sense, and given that the choice of inputs has more impact on the results than the choice of the model, the Commission concludes that the end result of cost-based rates is ultimately more important than strict adherence to a particular methodology.

2. BellSouth's Proposed "Residual Recovery Requirement"

BellSouth proposed a "Residual Recovery Requirement" ("RRR") factor as a surcharge to its TELRIC calculated costs for loops and local switching. The purpose of this RRR factor is to recover BellSouth's embedded costs, by adding the surcharge for the difference between forward-looking and embedded costs. BellSouth witness Caldwell described the RRR as a cost additive to reflect the differences between the "theoretical cost" and the "actual cost" of the unbundled network element (UNE). (Caldwell Direct (Panel) at 42.)

BellSouth contended that pricing that is completely forward-looking will not provide BellSouth with a reasonable opportunity to recover its investment in the plant and equipment currently in place and that will be used to provide service to customers. Thus BellSouth characterized the RRR as "the difference between what BellSouth would recover under a pure TELRIC price of a loop and port and the amount necessary to allow BellSouth to recover all of its embedded investment in the loop and port." (BellSouth Brief at 34.) BellSouth argued that nothing in the 1996 Act prohibits the consideration or recovery of "embedded," "sunk," "stranded" or "actual" costs. (*Id.*)

Indeed, BellSouth argued that not allowing the RRR would be a confiscation of BellSouth's property contrary to the Amendments V and XIV of the U.S. Constitution and Article I, Section 3, Paragraph 1 of the Georgia Constitution; citing also *FCC v. Florida Power Corp.*, 480 U.S. 245, 253, 107 S.Ct. 1107, 94 L.Ed.2d 282 (1987); *Provident Mutual Life Ins. Co. v. City of Atlanta*, 864 F. Supp. 1274, 1282 (N.D. Ga. 1994).

The Consumers' Utility Counsel pointed out that BellSouth approaches this docket from a seller's perspective, and begs the question: How would a CLEC building its own forward-looking network incur any historical costs? In addition, BellSouth's historical costs, when added to the TELRIC of UNEs, are such that competition in local exchange service would be unlikely if the total prices thus proposed were adopted. It does not follow, contended the CUC, from a policy perspective that CLECs should pay for BellSouth's historical costs. (CUC Brief at 10.) The CUC has always supported the concept of long-run incremental cost ("LRIC") and was an early supporter of total services long-run incremental cost ("TSLRIC"), upon which the FCC relied in developing the concept of TELRIC. Accordingly, the CUC cannot and does not support the RRR urged by BellSouth, or any embedded cost characteristics that BellSouth's models may contain. (CUC Brief at 10-11.)

AT&T witness Ellison criticized BellSouth's RRR proposal, pointing out that in the past and in other proceedings BellSouth has advocated the use of long-run incremental costs ("LRIC") instead of embedded costs to define both the price at which BellSouth is fully compensated and the cost that BellSouth believes should be the basis for interconnection prices. BellSouth has argued before state regulators for the ability to establish various service prices, particularly prices for competitive services, at or below incremental costs. For example, BellSouth sponsored a witness (Frank Kolb) before the Georgia Public Service Commission in Docket No. 5258-U who supported the use of long run incremental cost as the proper standard in computing a price floor and testing for a subsidy. Mr. Kolb further testified in that proceeding that fully distributed costs are inappropriate for competitive pricing and do not reflect the true economic costs associated with the decision to provide a service, because they do not reflect the current or prospective value of the capital investment used to provide the service, and are misleading because ongoing costs (maintenance, administration and other operating expenses) are not fixed at their past levels, nor are the methods of production unchanging. BellSouth also supported the use of LRIC for interconnection pricing in a March 1995 filing with the European Commission. Mr. Ellison also criticized BellSouth's RRR proposal as being anti-competitive, and testified that inflating the rates charged to new entrants would assure BellSouth of retaining its monopoly hold on a large proportion of Georgia consumers for years to come. (Ellison Supplemental-Rebuttal at 42-46.)

AT&T and MCI also sponsored witness Wood who explained that BellSouth's proposed Residual Recovery Requirement is a purely embedded cost component. (Wood Supplemental-Rebuttal at 35.) According to Mr. Wood, the RRR has three meanings in this proceeding: one conceptual, one practical, and one strategic. If BellSouth's TELRIC figures represent forward-looking economic costs (which Mr. Wood disputed), the RRR would quantify the amount by which

BellSouth's current costs exceed the costs that would be incurred by an efficient carrier serving the same geographic area. The practical meaning of the RRR is that it automatically ensures that all of BellSouth's historic costs are recovered (*i.e.* ensures that BellSouth is "made whole," even though it is no longer subject to traditional rate-of-return regulation in the traditional monopoly environment), and renders moot all of the loop and switch port cost studies that BellSouth presented. For example, BellSouth's proposed rate including the RRR was \$25.28; and if the TELRIC portion of this were adjusted downward by \$2.00, the RRR would automatically increase by \$2.00 to compensate, so BellSouth's proposed rate would remain \$25.28. (Wood Supplemental-Rebuttal at 36-40.)

Not least significant, Mr. Wood explained that the strategic aspect of the RRR is its proposed application only to the local loop and port elements (*see* BellSouth witness Caldwell Direct at 42). As Mr. Wood testified, this would make the RRR a tool for developing discriminatory rates in violation of Section 252(d)(1) of the 1996 Act. While BellSouth witness Ms. Caldwell stated that the loop and switching port elements comprise only 70 percent of the costs used to develop the RRR and the remaining 30 percent was created by other network elements, no part of the RRR was applied to such other network elements. Mr. Wood concluded that allowing the RRR would therefore have the additional unfortunate impact of providing BellSouth with additional monopoly power to extract unduly high prices for the essential loop and switch port elements from its competitors. (Wood Supplemental-Rebuttal at 41-42.)

AT&T/MCI witness Dr. Cabe testified regarding the basic economic underpinnings to the pricing standards of the Act. He stated that the requirement that the prices be "based on the cost (determined without reference to a rate-of-return or other rate-based proceeding)" should be interpreted to mean that prices should recover efficient economic costs, and nothing more. MCI argued that to do otherwise would create a barrier to entry in Georgia for companies who would compete in the local exchange markets, and that Dr. Cabe's testimony on this point was un rebutted. (MCI Brief & Proposed Order at 9, citing Cabe, Tr. 1581.)

The GPCA argued that historical costs should not be included in the rates for UNEs, and that the objective of any methodology should be to determine the rate at which BellSouth will be compensated for the costs that would be incurred by an efficient provider. The GPCA urged that the goal of this docket should not be to make BellSouth "whole," "whatever that may mean." (GPCA Brief at 2.) The GPCA stated that rates may be sufficient to recover direct costs, but may not allow recovery of more than an appropriate level of overhead costs or include historical pricing methodologies. The GPCA concluded that BellSouth's cost study did not satisfy the appropriate cost criteria, and that BellSouth should be allowed to recover TELRIC costs and nothing more. (GPCA Brief at 2.)

WorldCom also criticized the proposed RRR, stating that BellSouth should not recover embedded costs because they do not recognize the generally declining costs of technology that lead to lower costs of fiber optic cable and loop electronics, or forward-looking productivity. WorldCom

stated that BellSouth should have applied a factor for declining cost characteristics, and a forward-looking productivity factor. (WorldCom Brief at 5-6, citing Porter Testimony at 5-7)

Consistent with the forward-looking approach, the Staff recommended against allowing BellSouth's proposed Residual Recovery Requirement (RRR) because the RRR would cause the forward-looking prices to revert back to historical, embedded-cost prices that are conceptually the same as rate of return or rate-based prices.

Discussion

The Commission agrees with the Staff and certain intervenors that allowing BellSouth's proposed Residual Recovery Requirement would run counter to the goal of moving Georgia's telecommunications marketplace toward competition, and would contravene the directive of the 1996 Act at Section 252(d)(1)(A) that UNE prices are to be based on the cost "determined without reference to a rate-of-return or other rate-based proceeding." The proscription in Section 252(d)(1)(A)(ii) against traditional rate-of-return or rate base methodologies certainly supports, if not mandates abandoning the traditional method of establishing rates to recover all embedded costs. The Commission's previous Orders in this docket (December 6, 1996) and in Dockets No. 6415-U/6537-U (September 18, 1996) established a presumption that prices should be based upon TELRIC, as a forward-looking methodology. BellSouth was afforded in this docket an opportunity to show otherwise, but the Commission concludes that the forward-looking TELRIC methodology adopted herein is appropriate under the statutes and reasonable under all the circumstances.¹⁰

The Commission further concludes that BellSouth is not entitled to claim the RRR in order to be "made whole" under state law either, because BellSouth elected alternative regulation under the Georgia Act. Moreover, the forces of competition as well as the Georgia Act and 1996 Act have rendered traditional monopoly guarantees of embedded cost recovery obsolete. As the U.S. Supreme Court has stated, even the Due Process clause is only applied to prevent "governmental destruction of existing economic values. It has not and cannot be applied to insure values or to restore values that have been lost by the operation of economic forces." *Market Street Railway Co. v. Railroad Commission*, 324 U.S. 548, 567 (1945). BellSouth's proposed RRR would fluctuate in amount, depending upon the forward-looking TELRIC calculation, and simply adds to the TELRIC costs the amount that would result in full recovery of historical, embedded costs. Essentially the RRR would result in BellSouth recovering its embedded costs in a manner consistent with fully distributed costs under traditional rate-of-return or rate base regulation. The way in which BellSouth developed and

¹⁰ AT&T's Proposed Order filed October 20, 1997, indicates that AT&T considers the reasonable allocation of forward-looking joint and common costs to be separate from, and additional to, TELRIC costs. AT&T Proposed Order at 6-9. Although the Commission recognizes the basis of AT&T's view, this Commission does not make such a distinction in this case. Accordingly, in adopting a forward-looking TELRIC approach, this Commission also endorses the concept of a reasonable allocation of forward-looking joint and common costs.

proposed the RRR shows that even BellSouth does not consider the associated costs to be part of the forward-looking or economic cost approach under Section 252(d) for establishing cost-based rates for UNEs and interconnection. Thus the RRR falls under the category of values lost by the operation of market forces under the *Market Street Railway* analysis.

It should be noted, similarly, that BellSouth's proposed RRR represents only BellSouth's view of what it would be entitled to recover for its embedded costs. It is a matter of speculation as to whether, had the Commission conducted a traditional rate-of-return or rate base proceeding, the Commission would have agreed with the amount of and rate design for any such embedded cost recovery.

It is a well-established principle of statutory construction under both Georgia law and federal law that words generally bear their usual and common meaning and that the words in a statute should be given their ordinary meaning. *See Ardestani v. Immigration & Naturalization Service*, 502 U.S. 129, 130 (1991); O.C.G.A. § 1-3-1(b). Although Sections 251 and 252 of the Act are clear when read as a whole, it is equally important for the Commission to consider the intent of Congress in discharging its responsibilities under the Act. Although the evidence presented in this docket is quite voluminous, the application of the law to that evidence is not difficult. The pricing standards contained in the Act require that rates be based on cost, but not on historical or embedded costs. If set pursuant to this basic standard, such rates will act to promote competition in Georgia's local exchange market and satisfy the intent of the 1996 Act as well as the pertinent provisions of the Georgia Act.

The Commission does not agree with BellSouth's attempt to argue confiscation under the U.S. and Georgia constitutions. Numerous parties raised similar constitutional concerns in the appeal of the FCC's Interconnection Order. In its opinion on review of that Order, the U.S. Court of Appeals for the Eighth Circuit noted these concerns, but concluded that such claims were not yet ripe for review. *Iowa Utilities Board*, 120 F.2d at 818. There are several reasons why the confiscation argument does not apply to BellSouth's RRR. These include the *Market Street Railway* analysis; the fact that BellSouth is no longer subject to traditional regulation under the Georgia Act, and under Section 252(d); and not least, the fact that recovery of economic costs in UNE, interconnection, and for that matter collocation rates will adequately compensate BellSouth for the services which it must provide to CLECs under the Act.

In addition, the proposal of applying the RRR only to the loop and switch port element would artificially inflate the price of these elements relative to the price of other elements in a way that results in discriminatory rates in violation of Section 252(d)(1) of the 1996 Act. The Commission concludes that allowing BellSouth's RRR (which BellSouth priced at \$5.83 for the loop) would artificially inflate the prices that consumers must pay for local exchange services, would create a substantial barrier to entry, and would be discriminatory, contrary to both the 1996 Act and the purpose and letter of the Georgia Act.

B. User-Adjustable Input Assumptions

Each cost study includes major assumptions that can be adjusted. The following subsections of this Order contain discussions of certain major assumptions that have a significant impact upon the resulting UNE rates.

1. Cost of Capital

BellSouth must earn a reasonable return on its investment as a part of recovering the appropriate costs in this proceeding. A reasonable return, often referred to as "profit," should be considered part of the costs that an ILEC should receive because the cost of capital is a necessary part of making the investment that makes the unbundled network elements and other facilities available. Therefore, although BellSouth is no longer subject to traditional "rate of return" regulation, the cost of capital is one of the costs that must be considered in determining cost-based rates in this proceeding. The 1996 Act at Section 252(d)(1) provides that the rates for interconnection of facilities and equipment and for network elements shall be based on the cost, and "may include a reasonable profit." Classic economic theory holds that the cost of providing a good or service must necessarily include a reasonable return in order to enable the investment necessary to carry on the business. "[T]he rate of return includes profit (in the traditional sense), as well as interest on debt capital and dividends on preferred stock."¹¹

The Commission must make a determination with respect to the following three items: (1) what is the proper capital structure; (2) what is the proper cost of debt; and (3) what is the proper cost of common equity. In its analysis of the evidence and its determination of the appropriate capital structure, cost of debt and cost of equity the Commission should be guided by the principles set forth by the U.S. Supreme Court in *Bluefield Water Works and Improvement Co. v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923) and *Federal Power Commission v. Hope Natural Gas Company*, 320 U.S. 602 (1944). Essentially, these cases require that the return on common equity set by the Commission be commensurate with returns on investments and enterprises with similar risks; that the return is adequate to ensure the confidence of the financial markets; and is sufficient to allow the Company to maintain its credit worthiness and to allow it to attract capital as required on reasonable terms.

The U.S. Supreme Court has affirmed these standards in more recent decisions in *Federal Power Commission v. Memphis Light, Gas & Water Division*, 411 U.S. 458 (1973); *Permian Basin Rate Cases*, 390 U.S. 747 (1969); and most recently in *Duquesne Light Company and Pennsylvania Power Company v. Barasch*, 109 U.S. 609 (1989). Although this case does not involve traditional rate-of-return regulation, these standards remain an appropriate reference for purposes of determining cost of capital as a part of cost-based rates.

¹¹ Charles F. Phillips, Jr., *The Regulation of Public Utilities* (3rd Ed., Publ. Util. Rpts. 1993), at 375-376.

In this proceeding, the Commission received the expert testimony of three witnesses relating to the fair and reasonable rate of return on common equity. BellSouth's witness, Dr. Billingsly, did not submit direct testimony but did submit rebuttal testimony to the direct testimony of the other two witnesses, Dr. Cornell on behalf of AT&T/MCI, and Dr. Legler on behalf of the Staff. In his rebuttal testimony, Dr. Billingsly also testified to the reasonableness of the Company's proposed cost of capital including the cost of common equity, essentially presenting the Company's affirmative showing in this area. All of these financial experts presented detailed explanations of several methodological approaches to the determination of the cost of equity.

All three of the expert witnesses applied in various ways the three financial models generally found acceptable by the Commission over the years. BellSouth witness Billingsly applied the Discounted Cash Flow model, the Capital Asset Pricing Model (CAPM), and the Risk Premium approach. Although Dr. Billingsly set out to confirm the reasonableness of the Company's requested overall return, he concluded that the current cost of equity capital for BellSouth is within a range of 14.83% to 15.28%. His estimates included an adjustment for flotation costs. His DCF model results produced a range from 14.93% to 15.28%; his CAPM analysis produced a range from 14.83% to 14.93%; and his risk premium approach produced a range from 14.29% to 15.15% based on the overall equity market as measured by the Standard & Poor's 500 Index. (Billingsly Testimony, page 4, lines 10-21)

AT&T/MCI witness Cornell applied the DCF method and the CAPM method. Dr. Cornell estimated the cost of equity to be in a range from 10.64% to 11.05%. From this range he selected the midpoint, 10.85%, as his recommended cost of equity. His overall range reflects the midpoints of his estimates of the financial models. The actual DCF range was 8.56% to 11.91%. (Cornell Testimony, page 14, line 20), and the CAPM range was 10.97% to 11.14%. The Staff submits finds that it would be more accurate to characterize Dr. Cornell's range as from 8.56% to 11.14%, somewhat broader than he suggests.

Staff witness Legler utilized a Discounted Cash Flow analysis, a Risk Premium analysis, and a Capital Asset Pricing Model analysis. Dr. Legler recommended a cost of common equity of 11.3%, the midpoint of his range of 10.3% to 12.2%. Dr. Legler updated his original estimates in his rebuttal testimony filed on August 29, 1997. In contrast to Dr. Billingsly, Dr. Legler recommended that no flotation cost adjustment be applied. Dr. Legler applied the financial models to data for BellSouth, the Bell Regional Holding Companies, and a group of independent telecommunication companies. He reported his results for these groups of companies, and found considerably broader ranges of estimates than his recommendation would imply.

BellSouth asserted that the reference in 47 U.S.C. § 252(d)(1)(B) to a "reasonable profit" means a profit that is over and above the recovery of all costs, including the cost of capital. However, BellSouth stated, it has not specifically sought a profit in addition to its cost of capital. (BellSouth Brief at 52.) BellSouth stated that it accepted the FCC's "suggestion" at Paragraph 702 of Order 96-325 that the currently authorized rate of return at the federal or state level is a reasonable

starting point for TELRIC calculations, and thus based its cost studies on the currently authorized FCC return on investment of 11.25 percent. Based on a capital structure of 40 percent debt and 60 percent equity, this would translate to a return on equity of 13.42 percent and a cost of debt of 8 percent. (BellSouth Brief at 52.)

Discussion

The Commission adopts the cost of capital presented by Staff witness Dr. John B. Legler in this proceeding, including the mid-point of the range he presented for the cost of equity capital. Dr. Legler's analysis was forward-looking and took account of the changing risks in the increasingly competitive telecommunications marketplace in Georgia. Dr. Legler's analysis assessed investor expectations for telecommunications companies in general, and BellSouth in particular, in the current environment of increasing deregulation and competition. This market-determined approach incorporating investor expectations thus reflects investors' forward-looking requirements for return on equity capital.

The Commission does not accept BellSouth's assertion that the "reasonable profit" referred to in 47 U.S.C. § 252(d)(1)(B) means a profit over and above the costs including cost of capital. While this point may be moot since BellSouth did not seek such an explicit additional profit, the Commission notes that BellSouth's interpretation would run counter to established pricing principles that the reasonable profit is incorporated within the concept of cost of capital, precisely because that is the profit expected by investors - the "cost" to be covered - in return for committing capital.

The U.S. Supreme Court has made it clear that the setting of just and reasonable rates involves a balancing of the interests of investors and ratepayers. *Hope, supra*, 320 U.S. at 603. While these standards were established in the days of "traditional" ratemaking, they are still appropriate for a case such as this wherein the Commission must assess the appropriate return as a part of BellSouth's costs. The cost of debt and the cost of equity generally move in the same direction, though not necessarily in lock-step. The financial models employed by the expert witnesses are helpful in making the necessary determinations, but the results of these models must be tempered with reason and informed judgment. In this regard, the Commission must use its own expertise in judging the credibility and reliability of the testimony presented by the witnesses, and exercise its own expertise in evaluating the financial climate.

The Cost of Common Equity

As the Consumers' Utility Counsel succinctly put it, the question regarding cost of equity is how much the company must earn in order to induce investors to hold and to continue to buy its common stock. Although the Commission should not adhere to one particular theory or methodological application to determine the cost of equity, it should test the estimates and recommendations presented to it against the standards discussed above to determine the reasonableness of the approaches used by the witnesses. With these standards in mind, the

Commission may carry out its responsibilities to engage in a careful analysis of the evidence regarding the cost of equity.

The financial models were applied in different ways. For example, Dr. Cornell used a multi-stage version of the DCF model. While the multi-stage version of the DCF model has an apparent advantage in the degree of sophistication, ultimately judgment must be used in selecting the required growth rates. The Commission finds that this version of the model does not necessarily produce superior results compared to the more simple version of the model, nor is there less subjectivity in the selection of the growth rates. The Commission also notes that Dr. Billingsly used a version of the DCF model which takes into consideration the quarterly timing of dividend payments. Using the quarterly version of the DCF model will produce higher estimates of the cost of equity. However, it is not necessary for ratepayers, or in this case purchasers of services, to be required to provide that added or incremental return. Shareholders can obtain this increment to the return simply by investing the dividends they receive.

The Commission finds that Dr. Legler's recommended range is the result of sound judgment that reflects a forward-looking approach rather than the arithmetic averaging technique favored by the other witnesses. Having thoroughly reviewed the testimony of the witnesses, the Commission finds that the differences in the recommendations are based largely on the comparison or proxy groups chosen by the witnesses in the application of the financial models. Dr. Cornell and Dr. Legler chose to use telephone companies in their analyses. Dr. Billingsly chose to use a group of 20 companies from a population of 390 firms in his analysis. Dr. Billingsly used a method known as cluster analysis to select this group of companies. Dr. Billingsly stated that as a portfolio or group of companies, he believed that the group was of comparable risk to BellSouth. He acknowledged that individually the companies were not comparable in riskiness to BellSouth. But based on the measures of risk that he chose to use, these were the 20 companies closest in riskiness to BellSouth. No company could be substituted for one of the twenty and make the group more comparable. Therefore, these companies must be close to one another's riskiness. Companies comparable in riskiness should have reasonably comparable expected returns. But as shown on Exhibit No. RSB-3, of Dr. Billingsly's testimony, the individual results for the companies are not comparable or closely grouped around the averages he reports. The results based on ZACKS growth rates range from 11.61% for Chevron to 20.22% for Motorola. The Staff agreed with Dr. Cornell's statement that if we "were to accept the results of his cluster analysis, then one would have to believe that the risk of the network element leasing business was more similar to the risks faced by Coca Cola, McDonalds and WalMart stores, as examples, than to the risks faced by BellSouth's parent company BellSouth (which owns LEC's and the underlying network elements)." (Cornell, Surrebuttal Testimony, page 2, lines 13-17). The Staff disagreed with Dr. Billingsly's assertion that Dr. Cornell's and Dr. Legler's surrogates or proxies are inappropriate, and submitted in this case that telecommunications companies are a better comparison group to BellSouth than the group of predominately non-utility companies used by Dr. Billingsly.

Some of the testimony touched on "flotation cost" as being a factor to include in the cost of equity calculations. Flotation costs are such items as stock underwriting fees. The Consumers' Utility Counsel agreed with Staff witness Legler that if no new stock is issued, as has been the case with BellSouth since 1984, and none is planned, then no flotation factor is relevant. (CUC Brief at 34, citing Legler Direct at 42.) Further, the CUC pointed out, BellSouth is planning to eliminate stock through a billion dollar repurchase, thereby actually reducing the current float; and there is no reason to suggest that an equity issue will be made in the foreseeable future. (CUC Brief at 34.)

Based on all of the evidence on the record, the Commission adopts the recommendations of Staff witness Dr. Legler regarding the cost of common equity for BellSouth. Dr. Legler used two basic methods to estimate BellSouth Telecommunication's cost of equity capital: (1) applications of finance theory; and (2) the comparable earnings approach. Contrary to the CUC's suggestions (CUC Brief at 33-34), Dr. Legler's approach was inherently forward-looking and did not simply calculate an embedded or historical equity cost. In performing his analysis, Dr. Legler used three financial models acceptable to the Commission: the Discounted Cash Flow method, the Risk Premium method, and the CAPM. In applying these models, Dr. Legler used financial data for BellSouth, the Bell Regional Holding Companies, and a group of independent telephone companies. Based on these analyses, he recommended a range for the cost of common equity from 10.3% to 12.2%, with a midpoint of 11.3%. Dr. Legler recommended that the midpoint be used for purposes of calculating the overall cost of capital.

The Commission concludes that as a matter of fact, law, and regulatory policy, the Staff's recommendations regarding BellSouth's return on equity capital are reasonable, appropriate, reflect a forward-looking approach and will allow BellSouth the opportunity to earn a fair, just and reasonable return on equity for purposes of establishing cost-based rates in this proceeding. Therefore, the Commission adopts Dr. Legler's recommended midpoint of 11.3% as the Commission-authorized return on (*i.e.*, cost of) equity capital for purposes of computing the costs in this proceeding.

Cost of Debt

The Commission finds that the cost of debt should be consistent with the capital structure (discussed below). BellSouth's embedded cost of debt as of June 30, 1997 was 6.44%. The Consumers' Utility Counsel suggested that a forward-looking analysis should use only the current or most recent yield for BellSouth's bonds, rather than the embedded cost of debt. (CUC Brief at 32-33.) BellSouth claimed that the current forward-looking cost of debt would be at least 7.50%. (Billingsly Testimony, page 5, lines 12-13.)

However, singling out the current or most recent debt will not necessarily be the best forecast for forward-looking debt costs, since the cost of debt can be expected to vary over future years. BellSouth's current embedded cost of debt reflects a range of debt costs over time, so it represents a reasonable proxy for a range of debt costs over future years. From another point of view, it does

not appear necessary for BellSouth to issue new long-term debt in the amount implied by the adopted capital structure to finance the subject assets. Accordingly, any cost rate authorized in excess of the actual embedded cost of debt would flow to equity and increase the return to common equity. The Commission agrees with its Staff that this would not be just or reasonable, and concludes that the appropriate cost of debt to apply in this proceeding is the Company's current rate of 6.44%. The Commission notes that BellSouth's witness Dr. Billingsly used this rate in one of his tests of the reasonableness of the overall requested return of 11.25%. (Billingsly Testimony, page 5, lines 5-10.)

Capital Structure

The Commission recognizes that BellSouth's capital structure has reflected an increasing equity ratio over the last several years, which generally tends to increase the overall cost of capital, but there is no evidence that BellSouth has taken explicit actions to effect this change. For example, BellSouth has not issued additional common equity to increase the ratio represented by equity over debt. Furthermore, BellSouth did not seek to have market-based ratios used as a substitute for book values. The CUC suggested (CUC Brief at 34) that Staff witness Dr. Legler's use of BellSouth's current capital structure was consistent with an embedded cost approach, rather than a forward-looking approach. However, even if such a contention were theoretically valid, there is no clear evidence of how a forward-looking capital structure would vary from the current capital structure.

Based on the thorough review in this record, the Commission concludes that it is appropriate to use the most recent available actual capital structure, and finds that this capital structure adequately reflects what is likely to be a forward-looking capital structure. The Commission therefore adopts BellSouth's actual capital structure as of June 30, 1997, consisting of 41.68% debt and 58.32% equity, for purposes of calculating the weighted average cost of capital for this proceeding.

The Overall Cost of Capital

Using the Commission's conclusions, the overall rate of return is derived as computed in the following table:

	<u>OVERALL RATE OF RETURN</u>		
	<u>Ratio (%)</u>	<u>Cost (%)</u>	<u>Cost (%)</u>
Long-Term Debt	41.68%	6.44%	2.68%
Common Equity	58.32%	11.30%	6.59%
Total	100.00%		9.27%

Therefore the overall rate of return for computing costs in this proceeding is 9.27%.¹²

¹² This has the effect, by way of example, of reducing BellSouth's proposed 2-wire analog loop recurring (monthly) rate by \$1.81. These decreases in rates are stand-alone adjustments. This means that when

2. Depreciation

Depreciation expense is one of the major costs that must be considered in establishing the cost-based rates in this proceeding. Both of the cost models presented by the parties contain assumptions regarding depreciation expense, which in turn is a function of the length of the plant lives. The longer the plant life, the lower the depreciation rate and the lower the depreciation expense per year that is factored into the cost methodology.

AT&T and MCI submitted testimony recommending use of the projection lives underlying the depreciation rates prescribed by the FCC in its 1995 prescription of depreciation lives for BellSouth in Georgia. Further, their testimony stated that the FCC required that only forward-looking costs be used in the setting of plant lives and the calculation of costs must be based upon the expected economic lives of newly placed plant. The Staff stated that the FCC used statistical studies of the most recent prescribed factors and each carrier's most recent retirement patterns, carriers' plans, and current technological developments and trends. The FCC staff always used a forward-looking approach to setting depreciation rates and rarely uses historical data.

AT&T/MCI witness Majoris recommended the use of regional economic lives consistent with depreciation lives used for public reporting purposes. MCI noted that these financial book lives are conservatively biased to protect shareholders, not the interest of ratepayers. (MCI Brief & Proposed Order at 20, citing Majoris Direct at 12-13.) The Hatfield Model used projection lives and future net salvage percent prescribed for BellSouth in Georgia in 1993 by the FCC. MCI stated that the FCC's projection lives are of a forward-looking nature as confirmed by empirical tests. (*Id.*) These depreciation rates are also specific to Georgia.

BellSouth proposed depreciation lives consistent with those it uses for public reporting purposes and regulatory reporting in Georgia. (Caldwell/Zarakas Direct at 9.) The proposed lives used in BellSouth's TELRIC cost studies were based on BellSouth's 1995 and 1996 Depreciation Studies, which contain detailed explanations of methodology, data, and analysis that BellSouth contended support the asset lives and other depreciation parameters presented in the studies. (BellSouth Brief at 50, citing Cunningham Rebuttal at 6-8 and attached Depreciation Studies.) BellSouth claimed that the FCC depreciation lives for establishing depreciation rates are too long and anti-competitive because actual lives are shorter than those prescribed by the FCC and do not allow BellSouth to recover its investment. BellSouth further claimed that the FCC lives are too long because of normal equipment mortality, and that the FCC has not looked forward enough to properly assess the impact of technological evolution and increasing competition to determine appropriate

each adjustment is made singly (on a stand-alone basis) to BellSouth's study, it has the stated effect. However, when all the adjustments are made, the interactive effect results in a total unified adjustment that is different from the mere addition of the stand-alone adjustments. For example, the cost of capital adjustment itself tends to reduce the effect of all other stand-alone adjustments because it reduces the overall return associated with the capital investment portion of costs.

forward-looking lives. Finally BellSouth claimed that because of the Georgia Act at O.C.G.A. § 46-5-169(8), it is able to establish its own depreciation rates. (BellSouth Brief at 49-52.)

AT&T asserted that BellSouth's depreciation rates are not state-specific, would recover BellSouth's investment faster than a competitive market would permit, and thus would be discriminatory. AT&T/MCI witness Majoros testified that over a decade ago, the FCC directed its staff to put less emphasis on historic data in estimating productive lives, and to pay "closer attention to company plans, technological developments and other future-oriented analyses."¹³ Recently, he added, the FCC reaffirmed its forward-looking orientation in connection with the simplification of its depreciation prescription practices.¹⁴ Mr. Majoros also analyzed and presented evidence showing that the FCC's projection lives for depreciation have been forward-looking. (Majoros Direct at 4-7.)

Mr. Majoros also compared BellSouth-Georgia historical lives and retirement patterns to the FCC-prescribed lives and retirement patterns for the major accounts. He found that the FCC's prescribed projection lives are generally much shorter than the recent historical indications. Additionally, the FCC's prescribed retirement patterns are much more accelerated than indicated by recent historical experience. He concluded that the FCC's prescribed lives and retirement patterns as set forth in the FCC's most recent prescription of BellSouth-Georgia's depreciation rates are forward-looking, and recommended their use in this proceeding. (Majoros Direct at 8-9.)

The Staff recommended that for purposes of the assumptions contained in the cost studies in this proceeding, the Commission use the plant lives and depreciation rates as prescribed by the FCC for BellSouth's operations in Georgia. The Staff stated that these should be appropriate for the cost study methodology and model assumptions, unless and until such time as the FCC enters into any new rulemaking on the matter. The FCC is fully aware of the increasingly competitive telecommunications marketplace, as evidenced by the FCC's First Report and Order in the interconnection docket (CC Docket 96-98) dated August 1996, which followed lengthy proceedings. Certainly the 1996 Act, which was enacted in early 1996, was preceded by lengthy Congressional proceedings and much public discussion which included the FCC. Therefore the depreciation rates developed by the FCC for its 1995 proceedings included consideration of the increasingly competitive market. In addition, the FCC's orders and the evidence presented in this case show that the FCC-prescribed lives and rates are forward-looking and are reasonable for use in the cost studies in this proceeding. The Staff's recommendation has the effect of reducing BellSouth's proposed 2-wire analog loop recurring (monthly) rate by \$0.94.

¹³ *Report on Telephone Industry Depreciation, Tax and Capital/Expense Policy, Accounting and Audits Division, FCC (April 15, 1987) ("AAD Report")* at 8.

¹⁴ *In re Simplification of the Depreciation Prescription Process, CC Docket No. 92-296 ("Prescription Simplification" proceeding), Third Report and Order (Order 95-181, May 4, 1995)* at 6.

Discussion

For purposes of the assumptions contained in the cost studies in this proceeding, the Commission will use the plant lives and depreciation rates as prescribed by the FCC for BellSouth's operations in Georgia. These are appropriate for the cost study methodology and model assumptions, unless and until such time as the FCC enters into any new rulemaking on the matter. The FCC is fully aware of the increasingly competitive telecommunications marketplace, as evidenced by many FCC orders in recent years including the FCC's First Report and Order in the local competition docket (CC Docket 96-98) dated August 1996, which followed lengthy proceedings. Certainly the 1996 Act, which was enacted in early 1996, was preceded by lengthy Congressional proceedings and much public discussion which included the FCC. Therefore the depreciation rates developed by the FCC for its 1995 proceedings included consideration of the increasingly competitive market. In addition, the FCC's orders and the evidence presented in this case show that the FCC-prescribed lives and rates are forward-looking and are reasonable for use in the cost studies in this proceeding. This adjustment has the effect of reducing BellSouth's proposed 2-wire analog loop recurring (monthly) rate by \$0.94.

While BellSouth is correct that the Georgia Act at O.C.G.A. § 46-5-169(8) provides that a company electing alternative regulation (such as BellSouth) "shall not be required to seek regulatory approval of its depreciation rates or schedules," the Georgia Act does provide at O.C.G.A. § 46-5-168(b)(9) that the Commission has the authority to "[e]stablish reasonable rules and methodologies for performing cost allocations among the services provided by a telecommunications company." The very purpose of this docket is not to direct BellSouth what depreciation rates to use for pricing its retail business, but instead to establish the appropriate cost methodologies to be incorporated in the cost models to set unbundled network costs. Therefore O.C.G.A. § 46-5-168(b)(9) is the appropriate statutory reference under the Georgia Act.

Moreover, the statutory purpose in the Georgia Act for BellSouth not requiring this Commission's approval for depreciation schedules is to permit BellSouth the pricing flexibility afforded by alternative regulation under the Georgia Act for retail services. Alternative regulation, which BellSouth elected in July 1995, provides price caps for basic local services (residential and single-line business) and pricing flexibility for other local services. The Commission no longer has direct rate regulatory authority over those rates and therefore need not issue directives to BellSouth to specify the associated depreciation rates. However, the Georgia Act vests the Commission with new authority to require BellSouth to provide interconnection and unbundling, and if necessary (as in this proceeding) to determine the reasonable rates, terms and conditions. O.C.G.A. § 46-5-164(a), (c), (d) and (g). As a part of this process, the Commission must determine a reasonable cost methodology. Therefore this case does not involve BellSouth obtaining regulatory approval of its depreciation rates or schedules, but does require reasonable assumptions about the depreciation expenses to be included in the cost studies used for setting the rates subject to the Georgia Act and the 1996 Act.

Further, this proceeding is primarily conducted under Sections 251 and 252 of the federal 1996 Act. That Act and the FCC's implementing decision placed the authority and responsibility for selecting the depreciation lives to be used for cost-based rates under Sections 251 and 252 with this Commission.¹⁵

3. **Fill Factors**

Feeder and distribution cable fill factors are designed to recover BellSouth's investments in spare feeder and distribution facilities. BellSouth stated that utilization rates and fill factors mean the same thing. With respect to a facility that can support multiple users, these terms refer to the percentage of the facility's total capacity that is being used. The utilization rates and fill factors are important in cost studies because the cost of a facility is divided among the users. The fewer the users, the higher the cost per user. Therefore a higher utilization rate yields a lower cost per user, while a lower utilization rate yields a higher cost per user.

BellSouth contended that it complied with the FCC's directive in Paragraph 683 of FCC Order 96-325 that cost studies be based on "a reasonable projection of actual total usage." BellSouth based its calculations on an average utilization level for materials and equipment required in provisioning UNEs. (BellSouth Brief at 46, citing Caldwell, Tr. 37, 468-473.) BellSouth criticized intervenors for ignoring the projected actual usage and basing their studies on fill at relief levels. Fill at relief levels are the points at which, for engineering planning purposes, that a facility is so full that the company will install another facility. For example, if the fill at relief for a 1000-user switch is 78 percent, a company will plan to install an additional switch when the switch has 780 or more users. BellSouth argued that the fill at relief figures do not represent expected actual usage and should therefore be rejected. (BellSouth Brief at 47.)

BellSouth accounted for such costs in its studies by calculating the direct investment required to provide the feeder and distribution portions of the loop and then increasing the feeder and distribution investments to account for spare, by dividing the calculated direct investment by a utilization factor. For distribution cable, BellSouth used a factor of 43 percent. The 43 percent factor added an additional \$1.33 to each directly identified \$1.00 of distribution cable investment to account for spare, unused investment. The resulting investment used to compute costs was thus equal to 233 percent of directly identified investment.

AT&T described fill factors as multipliers which increase the investment in transmission facilities that are in use in order to take into account the fact that some spare capacity is needed in those facilities for administrative and maintenance purposes. Spare capacity also results from unavoidable mismatches between demand and available equipment sizes. The greater the spare capacity, the higher the cost. AT&T argued that BellSouth's fill factors are not forward-looking, are not consistent with the principle of cost causation, and would permit BellSouth to overcharge in

¹⁵ See FCC First Report and Order, ¶ 29.

significant amounts. (AT&T Proposed Order at 22, citing Wood, Supplemental/Rebuttal at 84-85.) AT&T charged that BellSouth provided no support to suggest that its use of unadjusted, historical fill factors represents the same factors an efficient competitor would compute on a going-forward basis. (AT&T Proposed Order at 22, citing Caldwell/Zarakas, Tr. 570.)

As AT&T described it, BellSouth admitted that it uses fill factors reflecting spare capacity for future customers unrelated to the UNEs bearing these costs. (AT&T Proposed Order at 23, citing Caldwell, Tr. 574-75.) Therefore BellSouth's fill factors assume that CLECs purchasing loops to serve existing customers will pay the entire costs of this growth capacity indirectly through the fill factor, and will also pay BellSouth a second time (directly) when the CLECs utilize any of the excess capacity. AT&T charged that this would impair the CLECs' ability to compete on a level playing field, and would result in over recovery from Georgia consumers. (AT&T Proposed Order at 23.)

AT&T witness Ellison criticized BellSouth's utilization factors, including feeder and distribution fill factors. Mr. Ellison testified that reasonable utilization factors are appropriate in order to recover BellSouth's administrative spare and lumpy investment requirements, but that BellSouth derived its utilization factors from inappropriate historical data reflecting not only spare requirements for current capacity but spare placed to meet future service demands. Mr. Ellison joined AT&T witnesses Wood and Dr. Cabe in arguing that this type of factor is inappropriate. Mr. Ellison stated that the extra costs associated with not-yet-used spare capacity should be the responsibility of future demand, not imposed on current demand. He advocated that the Commission require BellSouth to calculate utilization using one of two options: (1) to size a reconstructed network to meet only current demand and then divide by current demand; or (2) to determine unit prices that take the eventual higher demand into account. (Ellison Supplemental-Rebuttal at 36-38.)

AT&T/MCI witness Carter also criticized BellSouth's fill factors for digital loop carrier ("DLC") and multiplexer ("MUX") equipment. He presented a calculation of 79 percent compared to BellSouth's 64.6 percent and 53 percent for DLC and MUX. (Carter Rebuttal at 22-24.) Mr. Carter asserted that based on a 9.3 year life, an annual growth rate of 3 percent and 90 percent fill at relief, the average fill over the life of the DLC housing, hardware and common plug-ins would be 79.4 percent. Alternatively, based on sizing for 10 years' demand, an annual growth rate of 3 percent and 90 percent fill at relief, the average fill over the 10-year period for the DLC housing, hardware and common plug-ins would be 79.1 percent. These are substantially higher factors than BellSouth's 64.6 and 53 percent used in BellSouth's TELRIC cost study. (Carter Rebuttal at 24.)

MCI stated that the Hatfield Model correctly matched current demand and the size of the network facilities necessary to serve the current demand. According to MCI, where the fill rates result from a comparison of current working lines with total lines placed to serve current demand, an acceptable fill factor results. Similar, a sound fill factor would result from a comparison of a projection of future working lines to total lines placed to serve current and future demand. In both cases, MCI stated, the Commission would be making an apples-to-apples comparison. (MCI Brief & Proposed Order at 13.) The fill factor developed by the engineering team for the Hatfield Model

included some limited amount of spare for growth, so MCI argued that its default fill factor should be considered to represent the low end of an acceptable range, and consequently the cost calculated using these factors should be considered conservatively high. (MCI Brief & Proposed Order at 13, citing Wood, Tr. 1331-1332.)

MCI similarly criticized BellSouth's proposed fill factors as being too low. MCI cited the testimony of AT&T/MCI witness Carter who stated that utilization excluding anticipated growth, or "fill at relief," is the appropriate fill factor for TELRIC calculations. Mr. Carter recommended a "fill at relief" for copper feeder of 90 to 95 percent for assigned copper feeder pairs and 85 to 90 percent based on working pairs. (MCI Brief at 31, citing Tr. 2024.) Further, according to MCI, BellSouth acknowledged that 85 to 90 percent is the appropriate "fill at relief" for copper cables. (MCI Brief at 31, citing Tr. 2035 and BellSouth's response to Staff's Third Set of Data Requests, Item No. STF-3-11.)

WorldCom also contended that the fill factors in BellSouth's study were too low, and stated that principles of efficient network design call for setting the fill factors to provide only as much spare capacity as is needed "to accommodate expected line growth and replace facilities that malfunction (*i.e.*, breakage) over the relevant planning period." (WorldCom Brief at 10, citing Porter Testimony at 13-14; FCC First Report and Order at ¶ 677.) WorldCom endorsed Mr. Porter's testimony that a proper forward-looking fill for copper feeder cable would be 85 percent; and for fiber optic feeder cable, 90 percent. (WorldCom Brief at 11-12, citing Porter Testimony at 15.) Based on Mr. Porter's criticisms of BellSouth's 53 percent fill factor for "plug in" channel units, WorldCom recommended a fill factor for this item of 95 percent to encourage BellSouth to manage channel units in the most cost-effective manner. For DLC cabinets, where BellSouth used a 74 percent fill factor, WorldCom asked the Commission to use Mr. Porter's recommended 90 percent fill factor. (WorldCom Brief at 12-13.)

The Staff recommended moderate increases to the fill factors that BellSouth proposed in its cost study. The Staff recommended increases of 5 percent for both copper feeder and copper distribution, compared to BellSouth's figures. The basis for the Staff's recommendation was that allowing BellSouth's fill factors would result in charging the CLECs too much for the unused capacity in the feeder and distribution cable, which represents inappropriate cost causation and also would have an inhibiting effect on competition. There is evidence that BellSouth's access line growth during 1996 was approximately 1,000,000 in its nine-state region, or roughly 250,000 in Georgia. Such growth indicates that BellSouth's proposed fill factors were somewhat understated. Therefore the Staff recommended 69.5 percent for copper feeder, and 48 percent for copper distribution, while keeping BellSouth's 74 percent for fiber feeder. The effect of the Staff's adjustment on the 2-wire analog loop recurring (monthly) rate was to reduce BellSouth's proposed rate by \$0.99.

Discussion

The Commission finds that the parties raised valid concerns that BellSouth's proposed fill factors should be adjusted. To illustrate by way of example, under BellSouth's method, if BellSouth installs a cable costing \$100 per month that is intended to serve a current demand of 10 people and a projected future demand of 40 people (50 pairs total), the cost of the cable per pair per intended customer is \$2 per month. BellSouth's method would allocate the entire cost of the cable only to the current customers, resulting in charges of \$10 per month. Although the \$10 per month charge allows recovery of the entire cost of the cable, it also would erect significant barriers to entry by requiring CLECs to purchase UNEs at inflated prices. Every additional pair sold to CLECs would then permit BellSouth to over recover an additional \$10 per month above the cable costs; and BellSouth may also use some of the additional pairs to provide services to its own retail customers. CLECs would be forced to pay for plant they do not use, while BellSouth could over recover or could drop its retail price to its own customers below the cost being charged to the CLECs.

The Commission finds that the Staff's recommended increases to BellSouth's fill factors are moderate and reasonable. These increases are 5 percent for both copper feeder and copper distribution, compared to BellSouth's figures. The Commission agrees that allowing BellSouth's fill factors to remain would result in charging the CLECs too much for the unused capacity in the feeder and distribution cable. This represents inappropriate cost causation and would have an inhibiting effect on competition. Therefore the Commission adopts the Staff recommendation of 69.5 percent for copper feeder, 48 percent for copper distribution, and BellSouth's 74 percent for fiber feeder. The effect of this adjustment on the 2-wire analog loop recurring (monthly) rate is to reduce BellSouth's proposed rate by \$0.99.

4. Loop Sample

The lengths of the loops, and their types of construction, are major cost drivers. BellSouth used a sample of 400 loops to characterize the composite physical characteristics of all its Georgia loops. The sampled loop characteristics included loop length, typical cable sheath sizes and proportions, structure mix requirements, bridged tap requirement, and feeder/distribution interface location. BellSouth witnesses Caldwell and Zarakas testified to BellSouth's process which indicates the significance of the loop sample in the cost study. (Zarakas and Caldwell Panel at 8-9, 11-12.) BellSouth's Loop Model stores the specific characteristics of an average loop in Georgia, as well as a weighted vendor price table for components in the loop. This model was used to develop the material costs for narrowband loop and loop-related UNEs. (Zarakas and Caldwell Panel at 17.)

BellSouth witness Smith testified regarding the development of the loop sample. (Smith Direct at 4-10.) However, he admitted under cross-examination that although he included all types of loops in collecting his initial sample data, BellSouth omitted several types of loops from the sample it subsequently used for its cost study. The omitted loops included ESSX lines which tend to be substantially shorter than single-line business loops.

The CUC pointed out that the PBX and ESSX loops omitted from BellSouth's sample are among the shortest loops in the full panoply of loop types, and that it is logical to assume that the omitted categories of loops are more like the business stratum of loops retained in the study rather than the residential stratum. Business loops in general tend to be shorter than residential loops. Therefore, the recurring costs for the omitted types of loops should be less than the costs for loops retained in the loop studies. In addition, removing certain categories of loops from the sample indicated that BellSouth assumed CLECs will not use each type of loop in the same proportions used by BellSouth, but this assumption is unsupported. The loop omissions subject BellSouth's study to non-random bias, undermining its statistical support. (CUC Brief at 12-13.)

WorldCom witness Porter criticized BellSouth's loop sample. He stated that this 1995 loop survey predated the Commission's decision not to rely on class of service distinctions. Loops are no longer classified by business versus residential use; one may say that "a loop is a loop" without regard to its use. Therefore, the survey skews "average" loop length because BellSouth designed it for use with a cost study that emphasized class of service distinctions. (Porter Rebuttal at 11.) Mr. Porter concluded that BellSouth did not conduct the survey with an eye toward assessing the average loop length for the kinds of short, digital loops (*e.e.*, ISDN, ADSL, and HDSL) that CLECs will seek. He explained that the loop sample should have included Centrex, coin, PBX, and special access loops, many of which are among the shorter loops in BellSouth's network. (Porter Rebuttal at 12.)

ACSI witness Kahn also pointed out that BellSouth's loop model based its calculations on an incomplete loop sample. Often customers taking multi-line services such as PBX trunks and ESSX tend to be located in office buildings or in downtown locations where, on average, there is greater loop density and loops are shorter. (Kahn Rebuttal at 54-55.) Dr. Kahn recommend that the loop sample be broadened to include both PBX trunks and ESSX lines. He estimated that these loops average between 15 to 20 percent shorter than loops provided for single-line services. Including such loops in the sample would provide a set of costs more representative of the entire body of loops provisioned by BellSouth in Georgia and available on an unbundled basis to the CLECs. (Kahn Rebuttal at 58-59.)

AT&T witnesses Ellison, Carter, Heikes, and Wells criticized BellSouth's loop sample, arguing that it does not support geographically deaveraged rates, is not statistically valid, improperly adjusted the loop characteristics to be forward-looking, contains "phantom costs" for digital to analog conversion equipment, and only sampled 2-wire loops but is used to calculate costs for 4-wire, ISDN, HDSL, ADSL, and 56/64 KBPS loops. (*E.g.* Ellison Supplemental-Rebuttal at 28-31.) This proceeding is to establish a price for all BellSouth's Georgia loops, and in order to compile a valid representative sample of the costs of all Georgia loops, the sample must be drawn randomly from the entire population of BellSouth's loops in Georgia. (Heikes, Tr. 1836-37.)

BellSouth's loop sample was drawn from a universe that excluded approximately 20 percent of its loops. Almost one-half of the excluded loops consisted of ESSX and MultiServ loops. The remaining excluded loops consisted of various business service loops, primarily business trunks.

BellSouth actually drew loop samples for residence loops, single-line business loops, business trunks, public stations, semi-public stations, COCOT lines, toll terminals, ESSX stations, and alarm circuits. Omitting so many of these types of loops for the cost study contributed to overstating BellSouth's loop costs. (Ellison Supplemental-Rebuttal at 32-36.)

The Staff agreed that BellSouth's loop sample was not representative of its customer population. BellSouth should not have excluded ESSX (Centrex, MultiServ), coin, PBX trunks, and special access loops. Therefore the Staff recommended a specific adjustment to correct BellSouth's omission of the shorter multi-line business loops from the loop sample. The appropriate adjustment was described by Dr. Kahn and can accordingly be developed by mathematical calculation. This adjustment simply adds back into the loop sample the appropriate multi-line loops (ESSX lines and PBX trunks) using BellSouth's data, and recalculates the direct loop cost with this corrected sample. MultiServ refers to the same multi-line service as ESSX, which is an earlier version of such service. For purposes of making the calculation, the Staff found reasonable the testimony of ACSI witness Kahn who stated that the MultiServe (ESSX, PBX) loops average 15 percent shorter than the other business lines such as single-line business. The Staff stated that this is a conservative assumption that would not overstate the impact of the adjustment. Incorporating this assumption, the Staff's adjustment results in reducing BellSouth's 2-wire analog loop recurring (monthly) rate by \$0.25. The Staff's adjustment is mathematically set forth below:

Loop Sample Adjustment		
Default loop direct cost (per BellSouth cost study) = \$15.99		
BellSouth's residential weight	77.96 %	
BellSouth's business weight	22.04 %	
Residence loop cost (assuming residence = 100 % of loops) = \$ 17.27		
Business loop cost (assuming business = 100 % of loops) = \$ 11.05		
* CRIS Data Weightings:		
Residential lines	2,237,610	67.38 %
Business access lines ("small business")	632,422	19.04 %
Business (ESSX, PBX) ("large business")*	450,822	13.58 %
Total lines	3,320,854	100.00 %
Recalculation of loop sample cost:		
Residential line share	(0.7796) (\$ 17.27)	\$ 13.46
Business line share	(0.1287) (\$ 11.05)	\$ 1.42

Business (ESSX, PBX) line share	(0.0917) (0.85) (\$11.05)	\$ 0.86
Total		\$ 15.74
Adjustment: \$ 15.99 minus \$ 15.74 = \$0.25		
* See BellSouth response to Staff's Third Set of Data Requests, Item No. STF-3-5		
** Ratio of business access lines and business ESSX and PBX trunks to the total business weighting (22.04%) contained in BellSouth's cost study.		

Discussion

The Commission agrees that BellSouth's loop sample was not representative of its customer population, because it excluded ESSX (Centrex, MultiServ), coin, PBX trunks, and special access loops. Therefore the Commission adopts the Staff-recommended adjustment to correct the omission of the shorter multi-line business loops from the loop sample, as described above.¹⁶

5. Other Inputs and Assumptions

The parties also disagreed about other user-adjustable inputs and assumptions. These included drop wire length (AT&T Proposed Order at 24; BellSouth Brief at 27-28), structure sharing (BellSouth Brief at 28-29), bridge tap, cable size, and tapering (BellSouth Brief at 29-31), copper/fiber crossover, and loading factors (AT&T Proposed Order at 25, 26), switching issues (AT&T Proposed Order at 26-28), BellSouth Brief at 31-32), and shared and common costs (although the models calculated these allocations, the user could adjust the inputs and assumptions) (MCI Brief & Proposed Order at 16-17; BellSouth Brief at 48-49).

The defects WorldCom asserted in BellSouth's study include its failure to adopt a forward-looking or efficient network design, as well as its use of embedded costs of labor and materials; cost of capital that does not reflect accumulated depreciation; a "gross-up" for statutory federal and state tax rates rather than the effective tax rate BellSouth expects to pay; the application of factors for inflation and the Telephone Plant Index ("TPI") to costs of materials; the copper/fiber breakpoint (copper cable for loops up to 12,000 feet and mostly fiber optic cable with some copper thereafter); and the assumption of universal digital loop carrier ("UDLC") for every loop. (WorldCom Brief at 2, 8, 13-16.)

¹⁶ This adjustment results in reducing BellSouth's 2-wire analog loop recurring (monthly) rate by \$0.25. As discussed previously, this is a stand-alone adjustment.

The Consumers' Utility Counsel stated that they have not been able to identify scientifically valid averaged prices for loops, but that it is intuitively inherent in the evidence presented that those prices should be somewhere between the prices proposed by BellSouth on the one hand, and AT&T, MCI and other intervenors on the other hand. The CUC stated that the most scientific approach is for the Commission's Staff to combine those elements from both parties' studies that are scientifically verifiable and that, when utilized in the models presented, best protect the interests of consumers and assure reasonable cost for universal access to telecommunications services. (CUC Brief at 39.) The Commission recognizes the CUC's concerns and expressed goals, and believes that the approach used in this Order of adopting certain Staff-recommended adjustments is an appropriate one that will result in just, reasonable, and nondiscriminatory cost-based rates.

Therefore, the Commission has decided to adopt those Staff-recommended adjustments that are expressly described in this Order. The decision by the Commission not to adopt other adjustments should not be taken as a conclusive determination that no other adjustments would be meritorious or should be considered in future proceedings. However, the Commission does not choose to adopt such other adjustments at this time.

C. Rates for Unbundled Network Elements

The Commission's initial Procedural and Scheduling Order directed that the appropriate cost study must provide rates for the following:

1. Unbundled network elements (using the definitions stated in the FCC's rules at 47 C.F.R. Section 51.319):
 - (a) local loop
 - (b) network interface device
 - (c) local and tandem switching capability
 - (d) interoffice transmission facilities
 - (e) signaling networks, call-related databases, and service management systems
 - (f) operations support system functions
 - (g) operator services and directory assistance
2. Local call transport, i.e., the transmission and necessary tandem switching of local telecommunications traffic from the interconnection point to the terminating carrier's end office switch or equivalent facility that directly serves the called party.
3. Local call termination, i.e., the switching of local telecommunications traffic at the terminating carrier's end office switch and delivery of such traffic to the called party's premises.
4. Physical collocation and virtual collocation.

5. Common costs that cannot be attributed directly to individual elements or services (see FCC rule, 47 C.F.R. Section 51.505).

1. **Rate Design for Switch Features (Vertical Features)**

BellSouth witness Varner sponsored BellSouth's proposed prices for unbundled vertical features. (BellSouth Ex. 2.) BellSouth's proposed price for a 2-wire analog line port without any features was \$2.53, and for a port with vertical features, \$7.07. In recognition of the fact that over 90 percent of customers use only three features or fewer, BellSouth also proposed an option that would allow CLECs to purchase a package port and any three features of their choice for \$5.07. (*Id.*; Varner, Tr. 186.)

MCI criticized BellSouth's proposal. MCI stated that BellSouth used the Switching Cost Information System ("SCIS") model to develop individual and overall costs for only 30 of the more than 1,000 vertical features potentially available, separate and apart from the price of the port. MCI added that, while SCIS may be an appropriate model for developing individual retail source rates and features, it was designed to determine the appropriate price for lease of the capabilities of the switch. In acquiring the ability to offer vertical services, a CLEC is leasing all the features and functions of the switch, including individual vertical services. BellSouth has allocated a "getting started" cost, or a form of fixed up-front overhead, to the traffic-sensitive minute-of-use element for vertical features, which according to MCI clearly violates cost causation principles. MCI explained that these "getting started" costs do not vary with the number of features ordered by a CLEC. Instead, they are driven by the computer processing time necessary to set up the features in the switch. As long as the switch has adequate capacity, there will not be additional investments when a CLEC adds a feature. Therefore, MCI concluded, BellSouth's use of a separate recurring charge for vertical features would be inappropriate and would result in over-recovery for vertical features. (MCI Brief at 32-33.)

AT&T charged that BellSouth vastly overstated costs of vertical features, and made no attempt to prove otherwise. AT&T also argued that BellSouth's switch prices do not reflect the actual discounts BellSouth now experiences and can anticipate in the future in its contracts with switch vendors. (AT&T Proposed Order at 27, citing Petzinger, Rebuttal at 4-5, 12-13.) Further, AT&T argued, BellSouth's cost studies assumed that every digital switch requires additional, expensive equipment to convert an analog signal to a digital signal the switch can use; yet efficient competitors will rely heavily on digital loop technologies that will provide digital, not analog, outputs.

AT&T witnesses Guedel, Ellison, and Petzinger opposed BellSouth's proposal to establish separate or additional charges for the features, functions, and other capabilities of the local switch, in addition to the port and usage component. One criticism was that requiring new entrants to follow a request process each time a new feature is needed would be a significant practical barrier to competition. Mr. Ellison also testified that the Hatfield model includes all of the costs associated with switching features and functions in the cost estimates associated with the port and usage

components of the switch. (Guedel Direct at 17; Ellison Supplemental-Rebuttal at 51-52; Petzinger Supplemental-Rebuttal Testimony.)

AT&T stated that the primary driver of vertical services costs is the cost of the switch processor. The cost of this processor is not traffic sensitive, so AT&T argued it should be included in the non-traffic sensitive cost of the port. In other words, the one-time costs of the processor are not affected by the amount of vertical services usage imposed on the network. AT&T stated that BellSouth's own cost studies confirm this, indicating that on average BellSouth's switch processors are only 44 to 54 percent utilized even at the point at which BellSouth retires those switches. (AT&T Proposed Order at 27-28, citing Petzinger, Rebuttal at 25.) As a consequence, AT&T urged, vertical services should not be assigned separate costs above and beyond the costs of the port.

BellSouth witness Varner opposed the AT&T proposal, arguing that it understates the price of local switching. BellSouth proposed per-element recurring and non-recurring costs for local switching and individual vertical features, and had not proposed a total price for the local switching UNE including vertical features. However, Mr. Varner recognized that the Eighth Circuit decision confirmed requirements of the FCC and this Commission that the local switching element include all offered vertical features. His response was to recommend adding up BellSouth's proposed charges for all the vertical features and adding them to the port charge, yielding a significant increase in the price. Mr. Varner added that "[t]he Court's decision and FCC's Third Order on Reconsideration appear to redefine what BellSouth is obligated to offer under the Act. As a result of these orders, BellSouth is analyzing its obligations under the Act and what additional services it may want to offer in the marketplace." (Varner Rebuttal at 18-20.)

BellSouth criticized the analysis of AT&T witness Petzinger in two respects. First, it contended that Ms. Petzinger's analysis ignored the basic principle of cost causation and the requirement that cost studies should be based on the total output of service. (BellSouth Brief at 33, citing Caldwell, Tr. 479.) Second, it argued that her analysis also ignored the specialized hardware that is required for many features, as well as the need to pay right-to-use fees to the vendor in order to access the features. (BellSouth Brief at 33, citing Caldwell, Tr. 479-480.) BellSouth contended that its Switching Cost Information System (SCIS) model uses capacity cost methodology, and that vertical features use switch capacity and should bear their proportionate share of the costs. (*Id.*)

Low Tech Designs, Inc. ("LTD") argued that BellSouth provides vertical service features to its retail customers on a pay-per-use basis and therefore should be required to provide them to its competitors on such a basis. LTD claimed that BellSouth's approach imposes inappropriate costs on competitors, and asked that BellSouth be required to provide a separate pay-per-use vertical service code feature activation charge that reflects its actual cost of providing vertical services on a pay-per-use basis. (LTD Brief at 1-2.) LTD also suggested that the Commission open a separate docket to explore the cost associated with the Advanced Intelligent Network (AIN) in more detail. (LTD Brief at 3.)

The Staff recommended that switch vertical features should not be priced as individual elements but incorporated within the unbundled switch port element. According to the Staff, this can be viewed as an aspect of UNE rate design. The Staff stated that there are costs associated with the provisioning of vertical features in the switch, as compared with the basic switch functions. Therefore the Staff recommended a two-tiered port charge: the basic UNE charge for the port element with no switch features, and the same charge plus \$6.00 for the port element that includes all features that are actually available in the switch. For purposes of this charge, "all features actually available" means the features that BellSouth currently makes available to its customers through the switch, and features that BellSouth makes available in the future to its customers through the switch.

AT&T argued that using BellSouth's approach, the vertical services costs proposed by BellSouth and those proposed by the Staff, when combined with the port charge and the switch usage charges, dramatically exceed even BellSouth's total embedded switch costs. (AT&T Reply Brief at 14; AT&T Proposed Order at 28.)

Discussion

Section 153(20) of the federal Act defines "network element" as not only the facility or equipment" used in providing telecommunications services, but also the "features, functions, and capabilities that are provided by means of such facility or equipment." The Commission previously decided that there should be no additional, separate charges for switch features in the AT&T-BellSouth arbitration (Docket No. 6801-U). This is also consistent with rulings of the FCC¹⁷ and the recent Eighth Circuit decision. In its regulations upheld by the Eighth Circuit, the FCC defined "local switching capability network element" to include, among other things, "all . . . features that the switch is capable of providing, including but not limited to custom calling [and] custom local area signaling service features." 47 C.F.R. § 51.319(c)(1)(i)(C)(2); see FCC First Report and Order, ¶ 413. The FCC stated that when a CLEC purchases the local switching element at the cost-based rate set by this Commission, it is entitled to receive the vertical features of the switch as part of that cost. FCC First Report and Order, ¶¶ 412, 816.

The Commission affirms that switch vertical features should not be priced separately as individual elements, but should instead be incorporated within the unbundled switch port element. However, the Commission has concern about adopting the Staff's proposal of a two-tiered port charge with \$6.00 being added for the inclusion of all switch features with the port element. The basic port (switch) element rate as recommended by the Staff is \$1.85, and it is not clear that raising it by \$6.00 tracks with particularity any extra costs that may be associated with the inclusion of vertical features. In addition, the Commission does not adopt a pay-per-use charge for vertical service code feature activation. The Commission also does not adopt the request for a separate docket regarding AIN costs. The port (switch) element rate shall remain at the \$1.85 level and the

¹⁷ FCC's First Report and Order, CC Docket No. 96-98 (August 8, 1996), ¶ 423.

Commission will not adopt additional, separate charges for any vertical features that CLECs choose to order with or as a part of this port (switch) element.

2. Geographic Deaveraging

The parties disputed whether and how UNE rates should be geographically deaveraged. BellSouth witness Varner testified to BellSouth's belief that deaveraging of UNE prices, specifically for unbundled loops, would necessitate dramatic rebalancing of retail prices. He stated that deaveraging the loop prices without simultaneous rebalancing of retail local exchange service rates would make it difficult, if not impossible, for BellSouth to compete with CLECs providing service using BellSouth's loops. The deaveraged loop price would be lowest in Atlanta where local exchange prices are the highest. Conversely, the loops in rural Georgia would be the highest priced, where local exchange rates are the lowest. Mr. Varner added that a universal service plan is a necessary but insufficient means to remedy this problem, because rate rebalancing would still be required even with an appropriately designed universal service fund. He suggested that the CLECs' request for deaveraging of UNE prices without retail rate rebalancing is a ploy to arbitrage BellSouth's price structure, to the ultimate detriment of consumers. Mr. Varner concluded that until such time as an appropriate universal service plan and rebalancing of retail rates are accomplished that correct for the UNE/retail pricing anomaly, the Commission should not implement deaveraged loop rates. (Varner Rebuttal at 13-14.)

Although BellSouth does not support deaveraging for loop prices at this time, BellSouth did submit deaveraged loop prices calculated by the use of the Benchmark Cost Proxy Model ("BCPM"). BellSouth did not submit the BCPM itself in this case, but merely the results showing loop costs categorized into three "zones" based on its retail rate groups: for Zone A, \$16.81 (Rate Group 12); for Zone B, \$18.57 (Rate Group 7); and for Zone C, \$33.87 (Rate Groups 2 and 5). When BellSouth submitted its revised cost study, again using the BCPM for calculation purposes only, BellSouth showed deaveraged costs of \$15.99 for Zone A (Rate Group 12), \$17.66 for Zone B (Rate Group 7), and \$32.22 for Zone C (Rate Groups 2 and 5). As BellSouth noted, the residential basic exchange rate in urban areas (Zone A) is more than 44 percent higher than the same rate in rural areas (Zone C). The business basic exchange rate in urban areas is more than twice that rate in rural areas. Conversely, the deaveraged 2-wire loop cost computed by BellSouth for urban areas would be about 50 percent lower than the loop cost in rural areas. This underscores BellSouth's contention that deaveraging would necessitate rate rebalancing, at least in the absence of universal service support.

BellSouth witness Varner testified regarding BellSouth's Supplemental Response to Staff's First Set of Data Requests, Item 1-9 (CUC Ex. 1), regarding the limitations of BellSouth's models when considering universal service purposes and deaveraging. BellSouth stated that its Loop Model is not appropriate for universal service purposes because (1) the model only produces statewide average costs, as opposed to costs disaggregated by small areas; (2) the FCC has indicated it will consider only the Hatfield Model and the BCPM for universal service purposes; (3) it is inappropriate to add UNE costs together and conclude that the sum represents universal service costs, because

UNE costs are wholesale costs while universal service costs are retail; and (4) UNE costs are specific to a given company, while universal service costs represent the cost of any efficient provider in a given area.

The Consumers' Utility Counsel noted that although several of the CLEC's witnesses cited the FCC decision in the Ameritech case¹⁸ as mandating deaveraging, none cited the Eighth Circuit's decision in the *Iowa Utilities Board* decision with respect to that issue. The Eighth Circuit's July 18, 1997 decision voided the FCC's rule requiring at least three (3) geographically deaveraged zones in each state for the purpose of pricing UNEs. (CUC Brief at 19.) The CUC strongly urged the Commission not to deaverage loop prices until or unless there is a commitment to and implementation of an adequate system for high cost assistance. (CUC Brief at 19-21, 22-26.)

AT&T witness Ellison argued that state averaged loop prices would advantage BellSouth by allowing it to charge loop rates greatly in excess of its costs in the more densely populated urban and suburban areas. He argued that these "excessive rates" would effectively establish a price floor for BellSouth's competitors significantly above its costs. According to Mr. Ellison, BellSouth could then game this price floor to realize monopoly profits, engage in a price squeeze, or both. He asserted that BellSouth's arguments (by witness Scheye) for delaying deaveraging until local rates are rebalanced are misleading, and that the greatest initial harm from averaged rates would fall to residential and small business customers. Mr. Ellison stated that any imbalances that are identified can be dealt with in universal service reform proceedings by rate rebalancing, targeted explicit subsidies, or a combination of both. (Ellison Supplemental-Rebuttal at 24, 49-50.)

AT&T proposed that loop rates be geographically deaveraged according to loop density and distance patterns (distance from the local switch), at the wire center level. AT&T did not propose geographically deaveraged rates for other elements at this time because the cost information is not yet sufficiently disaggregated to support additional geographic deaveraging. AT&T witness Ellison testified that deaveraging at the wire center level would be a more practical alternative to deaveraging at the Census Block Group ("CBG") level, although he recommended that the Commission also institute proceedings to determine the feasibility of moving to CBG-specific pricing at a future date. (Ellison Supplemental-Rebuttal at 47-50.)

WorldCom argued that federal law requires deaveraged loop rates, on the basis of Section 252(d)(1) calling for pricing "based on the cost," and Section 254(f) pertaining to universal service mechanisms. With respect to the latter, WorldCom argued that the replacement of implicit with explicit subsidies requires the Commission not to geographically average loop rates that provide subsidies from the sale of service in urban areas to rural areas. (WorldCom Brief at 17-18.) WorldCom added that deaveraging loop rates is sound public policy, because otherwise BellSouth

¹⁸ *In the Matter of Application of Ameritech Michigan Pursuant to Section 271 of the Communications Act of 1934, as Amended, to Provide In-Region, InterLATA Services in Michigan*, Memorandum Opinion and Order No. 97-298 (released 8/19/97).

would enjoy a competitive advantage over new entrants and also receive additional profits from selling below-average-cost loops at average prices to its competitors. WorldCom challenged BellSouth's arguments against deaveraging, stating that the 1996 Act does not support BellSouth's attempt to link deaveraging to some potential future proceeding on retail rate rebalancing. (WorldCom Brief at 18-20.)

The Staff recommended that the Commission not require geographic deaveraging of the rates set in this proceeding. The Staff agreed that geographic deaveraging should not precede the development and implementation of specific, predictable universal service support mechanisms. The Staff stated that geographic deaveraging at this time would be premature, would hurt customers in rural areas, and would stymie competition (especially facilities-based competition) in rural areas.

The Staff recommended that the Commission not require geographic deaveraging of the rates set in this proceeding. The Staff stated that geographic deaveraging should not precede the development and implementation of specific, predictable universal service support mechanisms. Such mechanisms are being developed for intrastate purposes in Docket No. 5825-U with respect to the Universal Access Fund under the Georgia Act, and for interstate purposes by the FCC pursuant to Section 254 of the 1996 Act. However, neither of these proceedings is close to the final development and implementation of universal service support mechanisms.

Discussion

The Commission will not require geographic deaveraging of the rates set in this proceeding. The Commission agrees that geographic deaveraging should not precede the development and implementation of specific, predictable universal service support mechanisms. Such mechanisms are being developed for intrastate purposes in Docket No. 5825-U with respect to the Universal Access Fund under the Georgia Act, and for interstate purposes by the FCC pursuant to Section 254 of the 1996 Act. Neither of these proceedings is close to the final development and implementation of universal service support mechanisms. The Commission concludes that it would be premature, would hurt customers in rural areas, and would stymie competition (especially facilities-based competition) in rural areas, to geographically deaverage the UNE rates at this time.

The CUC is correct that the Eighth Circuit vacated the FCC's rule that would have required deaveraging of UNEs. Further, the Eighth Circuit has ruled subsequent to the FCC's Ameritech decision that the FCC may not attempt to impose pricing rules contrary to the Court's July 18, 1997 decision, so this further supports this Commission's determination that UNE prices should not be geographically deaveraged at this time.

3. Rates for Interim Number Portability

Although interim number portability was not specifically identified in the Commission's initial Procedural and Scheduling Order, and is the subject of a separate Commission docket (No. 5840-U),

there was some dispute among parties regarding the appropriate rates for interim number portability. AT&T proposed that there be no charge imposed by either BellSouth or new entrants for interim number portability. According to AT&T witness Ellison, having no charge would be consistent with the FCC's First Report and Order and Further Notice of Proposed Rulemaking in CC Docket No. 95-116 (released July 2, 1996), while BellSouth's proposal to charge the full costs on interim number portability to new entrants does not meet the FCC's requirements. (Ellison Supplemental-Rebuttal at 54.) Mr. Ellison cited the FCC's July 2, 1996 Order at paragraph 138 as follows:

[R]equiring the new entrants to bear all of the costs, measured on the basis of incremental costs of currently available number portability methods, would not comply with the statutory requirements of section 251(e)(2). Imposing the full incremental cost of number portability solely on new entrants would contravene the statutory mandate that all carriers share the cost of number portability.

(Ellison Supplemental-Rebuttal at 54-55.) Mr. Ellison added that the FCC established two criteria for competitive neutrality in cost recovery for number portability (at paragraphs 132 and 135 of the FCC's July 2, 1996 Order): (1) preventing one service provider from obtaining an appreciable, incremental cost advantage over another service provider; and (2) preventing a disparate effect on the ability of competing service providers to earn normal returns on their investment. He recommended that this Commission adopt the third of three alternatives suggested by the FCC. The suggested mechanisms included:

- (1) a distribution of costs based upon total working telephone numbers in an area;
- (2) a distribution of costs based upon total revenues minus carrier-to-carrier revenues; and
- (3) a mechanism that requires each carrier to pay for its own costs of currently available number portability measures.

To support adoption of the third suggestion, Mr. Ellison stated that the action only affects interim number portability (which will become obsolete within the next 12 to 18 months); the capability of providing interim number portability currently exists in the switching equipment of both the incumbent LECs and the new entrants (no additional investment should be required); and it is unlikely that significant revenues will be affected since demand for this service should grow slowly. (Ellison Supplemental-Rebuttal at 55-56.)

However, as a fallback position in the event the Commission prefers a mechanism requiring monetary payments, Mr. Ellison recommended a mechanism adopted by the New York commission (the Department of Public Service) for the New York metropolitan area: add switching plus transport costs, multiply by total ported minutes, and then divide by the total working telephone numbers provided by NYNEX. The charge per working telephone number times the number of ported

telephone numbers used by the new entrant would equal the charge per new entrant. The new entrant would charge the incumbent the same rate for similarly ported numbers. (Ellison Supplemental-Rebuttal at 56-57.)

The Staff recommended that the rate for interim number portability be that which resulted from the cost calculations produced by the BellSouth TELRIC model as adjusted for the Staff's recommendations.

Discussion

The Commission adopts the Staff's recommendation that the rate for interim number portability be that which results from the cost calculations produced by BellSouth's cost model, with the adjustments adopted by the Commission as discussed elsewhere in this Order. This produces a reasonable, cost-based rate for this proceeding.

4. Rates for Recombined Loop and Port UNEs

Some of the parties including AT&T and MCI renewed their request that the Commission allow UNE pricing when a CLEC requests the loop and port UNEs in order to provide a service that replicates BellSouth retail service, without adding any functions or capabilities of the CLEC's own (other than operator services). AT&T witness Ellison asked the Commission to eliminate its current restrictions regarding purchase of network element combinations. He argued that these restrictions greatly limit the scope of competition by effectively limiting competitive alternatives for most customers to resale, eliminate competition for the major elements of access service, eliminate effective regulation of BellSouth's prices and earnings, and ultimately greatly harm the consumer. (Ellison Supplemental-Rebuttal at 4-5, 6-16, 60-61.)

BellSouth witness Varner disagreed with the proposal by AT&T and MCI for a "UNE Platform" that would combine or recombine UNEs as an alternative to resale. BellSouth does not offer the "UNE Platform." Mr. Varner stated his view that the Eighth Circuit's July 1997 decision allowed CLECs to combine unbundled elements, but also made it clear that the ILEC is not required to do the combining. (Varner Rebuttal at 22.)

BellSouth charged that the intervenors' assumption that BellSouth will provide CLECs with a combined loop and port is legally flawed, ignoring this Commission's previous rulings on recombination as well as the Eighth Circuit's decision on the issue. BellSouth noted that this Commission has repeatedly held that if a CLEC combines unbundled network elements to create services identical to BellSouth's retail offerings, without adding any of its own functions or capabilities, the CLEC must pay the retail price less the applicable wholesale discount. In addition, BellSouth referred to the Eighth Circuit's decision in *Iowa Utilities Board v. FCC*, 120 F.2d at 813, to the effect that the incumbent is not obligated under the 1996 Act to combine network elements for

the CLECs. BellSouth also objected to the intervenors' raising the recombination issue in this proceeding. (BellSouth Brief at 17-21.)

AT&T also attempted to raise new arguments that BellSouth's cost studies seek to force CLECs to undertake recombination of the UNEs on BellSouth's terms under the "most inefficient conditions imaginable." (AT&T Proposed Order at 16.) AT&T cited the example of BellSouth insisting that all loops must undergo expensive conversion from a digital signal to an analog signal when no CLEC will require such conversion. Further, argued AT&T, BellSouth's proposal would require that CLECs erect buildings or purchase collocated space each time they want to recombine UNEs, when the nonrecurring costs related to collocation alone could represent many thousands of dollars. AT&T also expressed concern that BellSouth's definition of the network elements effectively limits the choices CLECs have regarding the efficient recombination of these elements. (AT&T Proposed Order at 16-18.)

The Consumers' Utility Counsel took no position on the merits of whether "rebundling" or the combination of UNEs should be leased at UNE prices or treated as resale, other than to observe that the Commission should conform with the Eighth Circuit's rulings on the issue. (CUC Brief at 29-31.)

The Staff recommended that the Commission affirm its previous decision in the arbitration dockets on this issue. AT&T, MCI, and Sprint raised this same argument to the Commission in those proceedings, and the Commission ruled against them that the recombination of BellSouth UNEs in a manner that replicates BellSouth's services, without adding any CLEC functions or capabilities (other than operator services), should be treated as resale.

Discussion

The Commission affirms its decision in the arbitration dockets on this issue (AT&T-BellSouth, Docket No. 6801-U; MCI-BellSouth, Docket No. 6865-U; Sprint-BellSouth, Docket No. 6958-U). The Commission's most recent discussion of this issue occurred following the Eight Circuit decision, and was recorded in the Sprint-BellSouth arbitration docket as follows:

The Commission reaffirms its previous decision in the AT&T-BellSouth arbitration, Docket No. 6801-U, that establishing different pricing methodologies for resold services and for UNEs is consistent with the Act, the FCC's valid regulations, and the intent of Congress in adopting the Act. The Commission's decision was not to deny recombined or rebundled UNEs to CLECs, but merely to adopt appropriate pricing and related terms and conditions when recombined UNEs are essentially resale because they replicate the incumbent LEC's retail services without adding any CLEC functions or capabilities (other than operator services).

Congress provided different pricing mechanisms for the two distinct ways to enter local markets – through resale, or through the CLEC's own facilities which can also combine with the incumbent LEC's unbundled network elements. When the new entrant provides its customers with service identical to BellSouth's services by using only BellSouth's network elements, it is essentially reselling BellSouth's services. For such a situation, Congress directed that the reseller pay BellSouth's retail rates minus a wholesale discount based on the costs BellSouth can avoid as a result of selling to the reseller. 47 U.S.C. § 252(d)(3).

The Commission also reaffirms its corollary decision in the Order Ruling on Arbitration in GPSC Docket No. 6801-U that it shall conduct a generic proceeding to develop appropriate long-term pricing policies regarding recombination of unbundled network elements.

Following the Commission's decision at the July 15, 1997 Administrative Session to approve the arbitrated agreement as filed, over Sprint's objections, the Eighth Circuit Court of Appeals issued its decision in *Iowa Utilities Board, et al. v. FCC*, No. 96-3321 (8th Cir., July 18, 1997). The Court vacated the FCC's pricing rules primarily on the ground that pricing authority for resale and UNEs is delegated to the states, not the FCC. The Court also stated that the incumbent LEC should not be required to perform the function of rebundling UNEs. This implies that if the incumbent LEC does perform the rebundling function for the CLEC, the price to the CLEC may be different from the mere total of the underlying UNE prices. The Commission concludes that the Eighth Circuit's decision does not preclude, and is consistent with the previous arbitration decisions affirmed in this Order.

Order Approving Arbitration Interconnection Agreement, Docket No. 6958-U (August 7, 1997), at 10-11. Moreover, the Eighth Circuit issued its Order on Petitions for Rehearing on October 14, 1997 affirming that ILECs have no duty to provide unbundled network elements on a rebundled or recombined basis to new entrants, and vacating FCC Rule § 51-315(b-f) on this point. The Court stated:

[Section] 251(c)(3) does not permit a new entrant to purchase the incumbent LEC's assembled platform(s) of combined network elements (or any lesser existing combination of two or more elements) in order to offer competitive telecommunications services. To permit such an acquisition of already combined elements at cost based rates for unbundled access would obliterate the careful distinctions Congress has drawn in subsections 251(c)(3) and (4) between access to unbundled network elements on the one hand and the purchase at wholesale rates of an incumbent's telecommunications retail services for resale on the other.

In light of the rulings by the Eighth Circuit Court of Appeals, this Commission adopts no change in its previously stated policy on this issue.

Indeed, the Commission notes that this proceeding is not, and was not intended to be the "generic proceeding" to develop appropriate long-term pricing policies regarding recombination of unbundled capabilities that was envisioned in the Commission's December 4, 1996 Order Ruling on Arbitration in Docket No. 6801-U. The Commission's December 6, 1996 Procedural and Scheduling Order did not identify recombination as an issue to be considered in this case, and following a pre-hearing conference on December 16, 1996, the Hearing Officer held that recombination would not be an issue in this proceeding. Therefore the Commission need not consider any newly-raised allegations pertaining to the method(s) of recombining the UNEs, and it would not be appropriate for the Commission to reconsider its policy on the recombination issue in this proceeding, especially given the Eighth Circuit's recent decisions.

III. OTHER COST-BASED RATES

A. Nonrecurring Costs

Nonrecurring costs ("NRCs") are one-time charges associated with UNEs and are incurred, for example, when a CLEC orders a loop and a BellSouth service technician must take action to provision the order. Thus costs associated primarily with the ordering and provisioning of UNEs are reflected as nonrecurring charges for each such element. BellSouth divided its costs into recurring and nonrecurring costs, taking steps to allocate costs consistent with cost-causation principles. (Caldwell/Zarakas, Tr. 397-410.) BellSouth criticized the models sponsored by intervenors (the Hatfield, NRC, and Collocation models) on the basis that they apparently have not undergone even cursory review to ensure consistency in the treatment of recurring and nonrecurring costs. (BellSouth Brief at 8, citing Walsh, Tr. 2738.)

BellSouth witness Mr. Reid testified that BellSouth's approach for including forward-looking shared and common costs in its TELRIC cost studies utilized cost causative principles, as prescribed in the Cost Allocation Manual ("CAM") used by BellSouth, to develop appropriate shared and common costs factors. (Tr. 1032.) BellSouth's methodology, among other things, applied shared costs to nonrecurring activities through the use of the shared labor factor.

To develop its shared labor factor, BellSouth calculated the relationship by work force group between various shared costs which were attributed on the basis of salaries and wages by the total salary and wages for a Company work group. The resulting shared labor factor was used as a component in the TELRIC labor rate. (Reid Surrebuttal at 23-25.) BellSouth witness Mr. Reid argued that this methodology is an appropriate procedure, and asserted that AT&T merely disagreed with BellSouth's approach for recognizing costs associated with certain nonrecurring activities on a cost-causative basis.

The Consumers' Utility Counsel stated that BellSouth's proposed NRCs for UNE provisioning appear to severely inhibit the development of competition, and to discriminate against CLECs. (CUC Brief at 26.)

AT&T offered into evidence the rebuttal testimony of witness Art Lerma who criticized BellSouth's shared and common cost model as an unreliable and unacceptable means for calculating the shared and common costs for the shared labor rates used to establish prices for BellSouth's unbundled network elements. First, he stated that the model is not forward-looking, because it was based largely upon the embedded historical costs of BellSouth's current network. Next, Mr. Lerma questioned the accuracy of the outputs of the model. He asserted that many of the inputs are based on untested and unsupported data inputs and overall criticizes the complexity of the model. Finally, he stated that BellSouth's shared and common cost model contained numerous methodological errors. Specifically, he stated, these relate to the improper treatment of recurring costs as nonrecurring in the shared labor factors, improper attribution bases for assigning shared and common costs, and overstatement of expected costs for a local carrier service center and inadequate data to support the expected costs. (Lerma Rebuttal at 5-6.)

AT&T alleged that BellSouth erred in its methodology for calculating shared labor factors in that its model includes recovery for recurring costs. AT&T further stated that BellSouth's shared labor factors were used to determine a portion of shared costs that BellSouth believes should be recovered via the TELRIC labor rates used to price out nonrecurring costs. (Lerma Rebuttal at 30.) According to Mr. Lerma, "BST improperly assumed that recurring wholesale expenses in account/cost pools that are attributed based on salary and wages should be recovered via the shared labor rate factors and subsequently, the labor rates applied to calculate non-recurring prices." (Lerma Rebuttal at 30-31.)

AT&T also criticized the CAM attribution approach used by BellSouth to determine the portion of shared and common costs attributable to the sale of UNEs. AT&T stated that BellSouth's approach resulted in wholesale expenses for specified account/cost pools being recovered through shared labor factors as nonrecurring costs without any showing that recurring expenses have been excluded. (Lerma Rebuttal at 31.) Mr. Lerma recognized that some of the costs in the specified account/cost pools may include some increment of nonrecurring costs, however, BellSouth failed to provide supporting documentation to determine the increment of nonrecurring costs that may be attributable to certain cost pools. Because of the lack of sufficient data, AT&T proposed an adjustment to the shared labor rate factors in BellSouth's model to reflect alternative attribution bases for those cost pools attributed using salary and wages. (Lerma Rebuttal at 33.) The resulting attribution basis shifted recovery from the shared labor rate factors to the shared cost factors used to calculate recurring TELRIC rates. This adjustment reduced the shared labor rate factors to zero.

AT&T witness Ellison stated that BellSouth's proposed service order charges for loops and ports, taken together, would result in a nonrecurring charge of \$104.73 to new entrants for migrating the combined existing network element combinations of an individual customer. He calculated that

these charges would “unnecessarily” add \$6.97 to AT&T’s equivalent monthly costs of serving the typical residence (assuming the customer remained with AT&T for 15 months). He asked the Commission to approve instead a cost of 23 cents (\$0.23) as proposed by AT&T witness Walsh. (Ellison Supplemental-Rebuttal at 28.)

AT&T witnesses Ellison, Walsh and Hyde also supported alternative approaches to certain NRCs based upon a nonrecurring cost model and based upon critique of BellSouth’s nonrecurring cost studies. Some of that critique addresses BellSouth’s proposal to include cost recovery for OSS electronic interface development within NRCs, which is an issue discussed in the next section. In general, Mr. Ellison stated, the Commission must not foreclose through excessive nonrecurring rates the otherwise viable competition that could result through efficiently priced recurring rates for network elements. (Ellison Supplemental-Rebuttal at 58.)

MCI argued that the Non-Recurring Cost Model (“NRCM”) sponsored by it and AT&T is consistent with the 1996 Act’s pricing standards at Sections 251(c) and 252(d) and would promote competition in Georgia’s local exchange markets. MCI and AT&T developed the NRCM using a forward-looking cost methodology and a “bottoms up” estimate of the costs. (MCI Brief at 36-37, citing Tr. 2647-48.) Their NRCM assumed that pre-ordering, ordering, provisioning, repairs, maintenance, and billing processes are handled electronically through OSS in a highly automated, accurate and rapid manner with little or no human intervention. A major driver of high NRCs is labor time, with time-consuming human intervention. MCI stated that on a forward-looking basis, well-managed OSS should provide a minimal “fallout” rate, so the NRCM assumed a “conservative” fallout rate of 2 percent. MCI also suggested that OSS investment results in efficiency gains, and that in some cases no recovery in recurring or nonrecurring rates is necessary. (MCI Brief at 37-39, citing Tr. 2568-60, 2648-51, 2650).

MCI also argued that the NRCM incorporated the efficiencies of Local Digital Switches, Integrated DLC with a GR-303 interface, Digital Cross-Connect Systems and Synchronous Optical Network (“SONET”) rings for transport, which provide for the maximum electronic flow-through for provisioning. MCI charged that BellSouth’s nonrecurring cost model did not incorporate these efficiencies and hence overestimated manual intervention costs. (MCI Brief at 39.) MCI also stated that the NRCM recognizes, wherever possible, migrations¹⁹ and installations²⁰ as mechanized. While BellSouth modeled installation NRCs to include the cost of disconnection, the NRCM separates installation and disconnection for costing and pricing purposes. AT&T/MCI witness Richard Walsh testified that the rationale is twofold: (1) it recognizes that BellSouth should only receive disconnection revenues at the time of disconnection, which also eliminates a “time value of money”

¹⁹ Migration occurs when a customer with existing service requests a change of local service provider. (Tr. 2665-67.)

²⁰ Installation is the establishment of any new (or additional) service for an existing customer. (Tr. 2665-67.)

concern; and (2) the disaggregation of installation and disconnection costs and prices also allows the new entrant to benefit from long-standing, efficient practices with respect to Dedicated Inside Plant ("DIP") and Dedicated Outside Plant ("DOP"). (MCI Brief at 39-40, citing Tr. 2660.) MCI stated that the DIP and DOP processes allow for rapid activation or de-activation of services at an end user location without the need for physical disruption of the facility because a command from the OSS to the network element will either activate or de-activate the service. MCI added that BellSouth's current disconnect policy adheres to this principle, and urged that new entrants obtain the same benefits from the DIP and DOP processes as BellSouth. (MCI Brief at 40.)

MCI argued that BellSouth's NRC cost study did not use forward-looking, least-cost, most efficient technology and network architecture, and thus overstated necessary work functions, travel times, fallout of orders, and time necessary to complete other tasks. For example, MCI stated, BellSouth assumed manual intervention at the Local Customer Service Center ("LCSC") rather than least-cost, most-efficient OSS modeling assumptions despite FCC requirements regarding electronic interfaces. (MCI Brief at 40-, citing Tr. 2563, 2654-61, 2667, 2881-83.)

WorldCom asserted that BellSouth's NRC study yielded overstated results because it assumed that BellSouth must: (1) perform a circuit layout for every loop; (2) dispatch a technician into the field to provision every loop order; (3) treat every loop, in many respects, as if it is ordered alone; (4) perform expensive testing on every loop; (5) allow for a 20 percent "fallout" rate; and (6) apply a coordination charge to "new," in addition to existing loops. (WorldCom Brief at 20-

BellSouth countered intervenor arguments that high NRCs are a barrier to entry by stating that all business ventures carry the necessity for assuming some degree of risk and investment, and that the AT&T/MCI attempt to eliminate all but a small amount of NRCs is a ploy to shift the risk of investment associated with their entry onto BellSouth's shoulders. (BellSouth Brief at 36-37.)

BellSouth also criticized the Nonrecurring Cost Model advocated by AT&T and MCI on various grounds, including the "most central assumption" that UNE orders would automatically flow through the ordering and provisioning process using currently available OSS, processes and procedures with little or no manual intervention. According to BellSouth, this "dream may perhaps some day materialize" using Bellcore's Telecommunications Management Network ("TMN") architecture. BellSouth acknowledged that, taken at face value, the TMN architecture is not in fact assumed in the AT&T/MCI study; but stated that the study does assume that current OSS will lead to the same automatic flow-through as a theoretical system that BellSouth characterized as "pie in the sky." (BellSouth Brief at 37.) BellSouth also criticized the AT&T/MCI Nonrecurring Cost Model for its assumptions regarding dedicated facilities, and testing. (BellSouth Brief at 39-41.)

The Staff concurred with AT&T that BellSouth used improper attribution bases for attributing the shared costs. The Staff agreed that BellSouth did not provide the Commission with sufficient information to allow a determination of the amount, if any, of nonrecurring costs in specific cost pools. Therefore the Staff recommended removal of the shared costs associated with labor rates for

purposes of the nonrecurring charges (NRCs). Shared costs are not directly implicated when a technician takes action with respect to the provisioning of a UNE, and furthermore, higher NRCs tend to create more of an economic obstacle to competition, especially facilities-based competition, and in particular create an impediment on ordering the essential loop rates.

The Staff's removal of these shared costs from the NRCs caused them to be reflected instead in the shared cost factors for the recurring UNE costs. In turn, this increase in the shared cost factors for recurring costs caused a decrease in the Staff's recommended common cost factors for the recurring UNE costs. In conclusion, the Staff recommended the removal of the shared costs associated with labor rates in the nonrecurring charges which resulted in a corresponding slight increase in the recurring UNE costs. This increased BellSouth's proposed 2-wire analog loop recurring (monthly) loop rate by \$0.28, but reduced the nonrecurring charge. The Staff's recommended NRC associated with the 2-wire analog loop was \$42.54. However, the Staff noted that this also included the result of the Staff's recommendation that this NRC not include the disconnection portion of the charge, which was \$11.00 (which the Staff recommended be collected from the CLEC at the time of disconnection by the CLEC).

Discussion

Based on the evidence in the record, it appears that all parties agree on the use of some factor to attribute shared and common costs to the appropriate UNEs. The attribution and allocation of costs between recurring and nonrecurring costs is not an exact science; it requires the application of judgment. In many instances, in both regulated and market-based pricing, costs that could be considered one-time ordering and provision costs are recovered through recurring prices. At the other extreme are situations in which a customer pays a high one-time fee and enjoys very low recurring prices. Therefore this exercise requires first a consideration of attributing and allocating the costs, and then a consideration of how to develop appropriate rates to recover those costs.

The Commission finds that BellSouth used improper attribution bases for attributing these costs, and did not provide sufficient information to allow a determination of the amount, if any, of nonrecurring costs in specific cost pools. Therefore the Commission endorses the removal of the shared costs associated with labor rates for purposes of the nonrecurring charges. Only direct costs should be included in the NRCs, and shared costs are not directly implicated when a technician takes action with respect to the provisioning of a UNE. Furthermore, higher NRCs tend to create more of an economic obstacle to competition, especially facilities-based competition, and in particular create an impediment to ordering the essential unbundled loops. This would counter both the Georgia Act's and the 1996 Act's legislative goals of increasing competition, especially facilities-based competition.

Removal of these shared costs associated with labor rates from the NRCs causes them to be reflected instead in the shared cost factors for the recurring UNE costs. In turn, this increase in the shared cost factors for recurring costs causes a decrease in the common cost factors for the recurring

UNE costs, with a corresponding slight increase in the recurring UNE rates. This increases BellSouth's proposed 2-wire analog loop recurring (monthly) loop rate by \$0.28, but reduces the nonrecurring charge. The NRC associated with the 2-wire analog loop becomes \$42.54.

The Staff had recommended that BellSouth's disconnection portion of the NRC charge, in the amount of \$11.00, be removed from the up-front NRC and only charged at the time of any subsequent disconnection. BellSouth's proposal had been to calculate costs for the prospective disconnection of the UNE and charge those as part of the NRC applied at the time of connection. The Commission is not convinced that BellSouth has made an adequate showing that imposing the disconnection portion of the charge would be fair and nondiscriminatory. In various situations such as with residential customers, BellSouth does not impose a disconnection charge. Moreover, when a disconnection occurs, it is most likely that the customer is switching providers rather than entirely disconnecting (or that another customer is taking the place of the old customer), so it could be double-recovery to charge for work involved in disconnecting which occurs at the time of the new connection for the new CLEC or new customer, because there will be a new NRC for that new connection. There was also evidence (Tr. 2660) that in many instances, de-activation of services at the end user's location does not require physical disruption of the facility. The Commission does not adopt BellSouth's proposed disconnection charge within the nonrecurring charges, which means the Commission also does not adopt the Staff recommendation of collecting the disconnection charge as a nonrecurring charge later at the time of disconnection.

The following table reflects the Commission's adoption of the Staff's recommendation regarding the shared costs associated with labor rates for purposes of the nonrecurring charges:

Shared Labor Factors

Work Force Group Factors	BellSouth	AT&T	Advocate Staff
Address & Facility Inventory (AFIG)	0.4858	0	0
Installation & Maintenance Center (IMC)	0.4858	0	0
Installation & Maintenance Spec Svcs	0.4858	0	0
CO Installation & Maintenance - Circ. & Fac.	0.2752	0	0
Trunk & Carrier Group (TCG)	0.4569	0	0
Circuit Provisioning Group (CPG)	0.2752	0	0
Access Customer Advocate Center (ACAC)	0.4280	0	0
Work Management Center (WMC)	0.4304	0	0
Network Plug-in Administration (PICS)	0.2752	0	0
Outside Plant Engineering	0.4858	0	0
Customer Point of Contact - ICSC	0.4437	0	0
Network Services Clerical	0.4851	0	0
OSPC	0.4858	0	0
OPAC	0.4858	0	0
CRT	0.4858	0	0
COIM - SW. EQ.	0.2752	0	0
RCMAG	0.2752	0	0

SW/TRK BASED TRANS	0.2752	0	0
COIMA-SFTWR	0.2752	0	0
NRC	0.4304	0	0
PAR	0.4304	0	0
EBAC	0.4304	0	0
BRC	0.4304	0	0
RRC	0.4304	0	0
FG10	0.2092	0	0
FG20	0.4304	0	0
CABS Acctg	0.4437	0	0
POTS OP	0.3106	0	0
DA OP	0.3106	0	0
Coin Coll	0.4437	0	0
Coll Rep - Res	0.4437	0	0
Coll Rep - Bus	0.4437	0	0
BO Svc Rep - Res	0.4437	0	0
BO Svc Rep - Bus	0.4437	0	0
Compt Cler	0.4437	0	0
Acct Exec	0.4437	0	0
Systems Des	0.4437	0	0
Svc Cons	0.4437	0	0
Total IOT & OSP	0.4858	0	0
Total COE	0.2752	0	0
Other than IOT, COE & OSP	0.4859	0	0

B. Electronic Interface (OSS) Cost Recovery

BellSouth proposed cost recovery of electronic interface costs associated with operational support systems ("OSS"). BellSouth's proposed rate design would require each CLEC to pay an initial \$100.00 charge, and a recurring charge of \$50.00 per month, plus a nonrecurring charge of \$10.76 for each order placed.

The Consumers' Utility Counsel, as part of its concern that BellSouth's proposed NRCs appear to inhibit competition, stated that as a policy matter the Commission should move as many as possible of the reasonable costs of OSS to the recurring charges. (CUC Brief at 26-27.)

AT&T requested that the Commission not address recovery of electronic interface costs associated with operational support systems (OSS) in the current proceeding, but in a separate proceeding that can address the details of BellSouth's cost estimates, determine what is being provided in BellSouth's proposal, and examine the extent to which such charges should apply to BellSouth and the new entrants. AT&T witness Ellison testified that the BellSouth cost submissions in this proceeding require extensive analysis by examiners experienced in the design and costing of computer operations support systems. However, he added that if the Commission does address these charges in the current proceeding, it should reject BellSouth's proposed cost recovery method and should closely examine BellSouth's costs and arrangements. Mr. Ellison criticized as an exercise of "monopoly power" BellSouth's proposal of recovering the one-time costs for developing interfaces

directly and solely from requesting carriers in the form of special nonrecurring charges. Mr. Ellison's recommended alternative would be a sharing of the costs in a "competitively neutral" manner on the basis of relative use, *i.e.* by calculating unit charges to carriers by spreading the costs across all lines (all demand), including the lines still served by BellSouth. (Ellison Supplemental-Rebuttal at 58-60.)

AT&T argued that the Commission's Supplemental Order in Docket No. 6352-U provided that the costs of "gateway" OSS interfaces be recovered from the industry, and that recovery of all OSS-related costs solely from CLECs would be contrary to this ruling and poor public policy besides. AT&T added that BellSouth has failed to present sufficient evidence to show what portion of the OSS costs it seeks are allowable.

BellSouth witness Varner testified in rebuttal to a proposal by AT&T/MCI witness Cabe who proposed that such costs must simply be borne by the carrier incurring the cost, as "a sort of ante required to enter the new local exchange market" (Cabe Direct at 36). Mr. Varner stated that BellSouth should not be required to absorb costs such as OSS costs, and that if these costs are not recovered from the CLECs who cause them, then they will have to be recovered from other customers. He argued that the CLECs are the primary beneficiaries of these systems and as such they would provide for the cost recovery. Mr. Cabe had suggested (Cabe Direct at 37) that ILECs have a strong incentive to misuse cost information and impose OSS costs on new entrants that serve as a barrier to entry, and Mr. Varner responded that BellSouth's incentive to provide and encourage the use of efficient OSSs rather than to impose costs that serve as a barrier to entry. (Varner Rebuttal at 15-18.)

The Staff agreed that the CLECs should be required to pay for at least some portion of BellSouth's costs of developing the OSS electronic interfaces, but noted that little documentation was provided in the record regarding the reasonableness of the total amounts now sought to be recovered. The Staff also expressed concern regarding the rate design that BellSouth proposed. The Staff therefore recommended a different rate design that would be more conducive to competition. The Staff recommended removing the OSS charges from within the per-order service (nonrecurring) charges, in order to avoid "chilling" the placing of orders. The Staff also recommended review of the proposed OSS cost recovery amounts, and any further review of the associated rate design, after BellSouth has implemented the long-term electronic interfaces that are currently projected for completion by December 1997.

Specifically, the Staff recommended an initial charge of \$200 per CLEC, and a monthly charge of \$550.00 per CLEC, for the use of electronic interfaces. The monthly \$550.00 charge would include up to 1,000 orders. There would also be an additional monthly charge of \$110.00 per thousand orders above the first 1,000. There would be no OSS charge within the per-order service (nonrecurring) charge.

Discussion

The Commission addressed the question of cost recovery for BellSouth's development of electronic interfaces for OSS in its Supplemental Order in Docket No. 6352-U. The Commission ruled therein that all costs incurred by BellSouth to implement these interfaces shall be recovered from the industry; although the Commission added that it would resolve any disputes regarding this matter. The Commission concludes that the CLECs should be required to pay for at least some portion of BellSouth's costs of developing the OSS electronic interfaces. However, it is true that little documentation was provided in the record regarding the reasonableness of the total amounts now sought to be recovered. The Commission will direct BellSouth to file further information on its proposed OSS cost recovery amounts, so that the Commission and its Staff may further review these costs and the associated rate design, after BellSouth has implemented the long-term electronic interfaces that were projected for completion by December 1997. The Commission Staff may make a recommendation to the Commission as to whether any further proceedings would be appropriate, following such review.

The Commission also agrees that a different rate design for the CLECs would be more conducive to competition. Thus for the rates to be charged at this time, OSS charges shall be removed from the per-order service (nonrecurring) charge, in order to avoid "chilling" the placing of orders. The initial charge for recovering OSS interface costs to be paid by each CLEC that uses the OSS interfaces shall be \$200, and there shall also be a monthly charge of \$550.00. The monthly \$550.00 charge includes up to 1,000 orders. There shall also be an additional monthly charge of \$110.00 per thousand orders above the first 1,000 each month.

C. Collocation

Collocation occurs when a CLEC shares space with BellSouth in order to provide its services. Collocation can be either physical collocation, when the CLEC uses space on BellSouth's premises, or virtual collocation which incorporates use of the CLEC's off-site equipment. In physical collocation, the CLEC uses space belonging to the ILEC to place equipment necessary for interconnection or access to unbundled network elements. 47 U.S.C. § 251(c)(6). Virtual collocation is the process by which the CLEC obtains this access when space limitations prohibit actual use of ILEC property for the placing of CLEC equipment.

The parties presented sharply differing views regarding physical collocation costs. In particular, the parties debated the construction and costs for space preparation which BellSouth proposed should be handled on an "Individual Case Basis" ("ICB") with individually negotiated charges. BellSouth proposed that a CLEC submit an inquiry, and then a BellSouth planner will verify the floor plan, and confer with the Network Capacity Management department about the projected two-year growth of BellSouth equipment. Collocators have the option of providing for their own two-year growth by requesting or reserving this additional space with their Bona Fide Firm Order. The planner will consider the ingress / egress so that, optimally, CLECs can reach their space without

passing through BellSouth equipment space. (Redmond Surrebuttal at 8-9.) The collocating CLEC would subsequently submit a Bona Fide Firm Order along with a fee, and pay half of the quoted charges prior to occupying the physical collocation space. The remaining half of the charges would be due within 30 days thereafter.

BellSouth also argued that the cost-based pricing rules apply to UNEs and interconnection service, but that there is no mandate that collocation rates be cost-based. (BellSouth Brief at 9, 42.) BellSouth also criticized AT&T and MCI's collocation model for using assumptions that the model developers did not verify as being valid in Georgia. (BellSouth Brief at 14.)

AT&T/MCI witness Crockett criticized BellSouth's collocation methods and procedures, particularly with respect to the construction of physical collocation space. For example, using wire mesh rather than gypsum as BellSouth proposed would yield substantial cost savings. Mr. Crockett pointed out that a number of ILECs throughout the rest of the country, such as Bell Atlantic, are allowing and already have built collocation enclosures using wire mesh, without any apparent safety or transmission problems. (Crockett Rebuttal at 9.) MGC witness English also testified that physical collocation is accomplished in California (with both GTE and Pac Bell) via a wire cage. (English Direct at 3.)

AT&T and MCI also sponsored a Collocation Model to determine the investment and operating costs that would be incurred by an efficient ILEC to provide collocated space in a central office, using forward-looking technology that is currently available. (MCI Brief at 45-47.) This Collocation Model recognized that it would be most efficient for ILECs to locate space for multiple collocators together, but that large blocks of space are unlikely to be available within a central office or may be located several floors away from the existing ILEC cross-connect systems. AT&T/MCI witness Klick testified that the Collocation Model assumes designing and equipping of a 550-square foot area that would provide four 100-square foot collocation areas. (Klick Direct at 9.)

AT&T/MCI's Collocation Model does not include the costs of retrofitting the central office to meet asbestos removal or ADA (Americans with Disabilities Act) requirements, nor other costs associated with repairing or remodeling existing building space, on the basis that such costs would not be consistent with the forward-looking, least-cost approach. Its "Central Office Model Layout" assumes the central office is equipped with an automated security card reading system. The investment required to construct the collocation space was separated into three categories: (1) assets shared by the four potential CLEC collocators and the ILEC; (2) assets shared by the four potential collocators but not the ILEC; and (3) assets used exclusively by one CLEC. The total cost for collocation space depends upon the requirements for elements such as connectivity, usage of power, and number of cages required by a CLEC at a particular location. For example, a CLEC may request a combination of copper connectivity such as voice grade and DS-1 (DSX), or only voice grade service. Mr. Klick testified that it would be inaccurate to sum all of the recurring costs to arrive at a grand total, because several alternative costs are presented for elements such as Power Delivery and Circuitry. He presented the results of the Collocation Model for Georgia as a printout in his Exhibit

JCK-2, and the electronic version of the model itself on diskette as his Exhibit JCK-3. (Klick Direct at 9-11.)

MCI criticized BellSouth's proposed collocation rates as overstated and inflated, creating a barrier to new entrants attempting to enter the local market. MCI cited the example of MGC, whose witness Michael English submitted prefiled testimony that was stipulated into evidence. MGC was quoted \$317,221 in NRCs by BellSouth for collocation in three central offices, half of which must be paid up front before the collocation build-out begins. (MCI Brief at 47, citing English Testimony at 3.) MCI also specifically criticized proposal to construct collocation space using middle stud and drywall construction with space at the top and base of each wall for ventilation. MCI asserted that the use of metal cage materials would provide a considerably less costly, flexible, and more consistent ambient environment for physical collocation, and provide other benefits such as appropriate grounding requirements, and increased security due to increased visibility. MCI added that physical collocation areas established in other territories incorporate the use of wire mesh cages with lighting, AC/DC power, required heating, ventilation and air conditioning ("HVAC"), and grounding. (MCI Brief at 48, citing Crockett Direct at 11-12.) MCI further argued that the use of drywall requires additional unnecessary processes and costs, and that BellSouth's proposed materials costs were excessive. MCI charged that it seeks a spartan but practical collocation space, but that BellSouth would insist on charging for a "luxury collocation condo." (MCI Brief at 48-50.)

BellSouth argued that the Collocation Model sponsored by AT&T and MCI is inconsistent with BellSouth's obligations under the FCC's collocation rules, contains unreasonable assumptions designed to "wish away" the legitimate costs incurred to fulfill a collocation request by a CLEC, and is unreliable given that even AT&T and MCI are unsure what BellSouth should build out even if it were to follow the model. (BellSouth Brief at 45.)

BellSouth witness Redmond disagreed with several aspects of the Collocation Model sponsored by AT&T and MCI. She described it as assuming a new urban central office designed for up to 150,000 lines, with 36,000 square feet in the form of three 12,000-square foot equipment floors plus a below-ground cable vault. In addition there would be 3,000 square feet on each floor, and an entire basement, for building support and administrative offices. This would equate to 15,000 square feet for four floors totaling 60,000 gross square feet. She noted that the model proponents maintain that such an office is consistent with facilities that have been constructed within the past five years. (Redmond Surrebuttal at 3-4.)

Ms. Redmond argued that such a model central office is not a realistic representation of BellSouth urban central offices, stating that no new urban central offices have been built in Georgia in over five years. She stated that BellSouth urban central offices are typically very large facilities that were built when telecommunications switches required greater footprints of floor space. Installation of today's more space-efficient switches does free up large amounts of space, but as large pockets of space have come available that space has been renovated for use as administrative offices. Ms. Redmond explained that BellSouth's method of planning physical collocation space differs from

the Collocation Model sponsored by AT&T and MCI. (Redmond Surrebuttal at 5-6; BellSouth Brief at 43-44.)

In particular, Ms. Redmond argued that the Collocation Model is not practical for real collocation arrangements for various reasons. She testified that only a very few CLECs, to date, have placed Bona Fide Firm Orders for physical collocation arrangements of 100 square feet (18.4 percent). She recognized that the model could easily be converted to two 10-foot by 20-foot cages with a center aisle, allowing for another 44.9 of the CLECs, but asserted that the model would not work for the remaining 36.7 percent of the collocators at all. Ms. Redmond also asserted that the model's placement of the POT bay and BDFB's in the center aisle is not practical. BellSouth believes that one large, commonly shared collocation space is more practical and economical for such reasons as the sharing of HVAC, lighting, alarms, controls, electrical distribution, etc. Therefore BellSouth concludes that the facilities and the spaces within them are so unique that individual planners should carefully evaluate each facility upon inquiry, for the best overall plan. (Redmond Surrebuttal at 6-7.)

Ms. Redmond also testified that out of 191 central offices in Georgia, only 45 have electronic security card systems as the Collocation Model assumes, because they cost \$10,000 per door. This is why placing collocation areas in space where ingress / egress renovations are minimal is very important to BellSouth's planning process. (Redmond Surrebuttal at 9.)

In addition, whereas the Collocation Model refers to competitive bidding for reducing construction costs, BellSouth does not bid collocation projects because that would unduly lengthen the time frame for meeting a Bona Fide Firm Order for physical collocation. Contracts with several CLECs and at least one state commission provide that this time frame will be as short as 90 days maximum, therefore, Ms. Redmond stated, projects to construct physical collocation arrangements must be negotiated with general contractors under a BellSouth master agreement. She explained that samples of projects below \$100,000 were submitted to multiple contractors in Florida, Louisiana, North Carolina and South Carolina for bids. The result was the guarantee of cost plus a percentage lower than standard for jobs of this size on negotiated projects below \$100,000. This figure was then used to negotiate the same deal with contractors in the other five BellSouth states, including Georgia. Projects of over \$100,000 are always bid unless time is a factor, in which case the project will be negotiated under the cost-plus agreement just mentioned. When time is a factor in very large projects (for example, one million dollars), the master agreement includes negotiating the cost-plus fee down as low as 4 percent. BellSouth believes that this process is cost-efficient and provides assurance, through repetition with a small number of contractors, a technical proficiency for working in BellSouth facilities. (Redmond Surrebuttal at 9-11.)

Ms. Redmond also took issue with AT&T and MCI's use of the R.S. Means data book for building construction costs. She agreed that it is perhaps the best estimating tool of its type on the market, but cautioned that it must be used in the proper context. Using a "mean" number when estimating can be misleading and can be skewed from reality, she testified; although BellSouth uses the R.S. Means occasionally, it does so only when data from previous jobs or from contractor

invoices and estimates are not available. (Redmond Surrebuttal at 12.) Ms. Redmond also criticized the AT&T/MCI approach to barriers and enclosure walls, and testified that BellSouth must use precautionary measures during construction and ensure safety through the placement of a gypsum board wall with rigid security fencing at the top to separate BellSouth equipment spaces from collocators' equipment spaces. BellSouth will use the same wall, minus the security fencing, to separate the collocators from each other when an enclosure is requested. Ms. Redmond specifically criticized the use of wire mesh fencing on the basis that it would be too easy for a maintenance worker to contact the wire fence. Further, she argued that CLECs should bear such costs as those associated with the Americans with Disabilities Act, demolition and asbestos removal when necessary, code-required upgrades, etc. Ms. Redmond concluded that the construction and the costs represented by BellSouth's estimates are fair and reasonable, and will compensate BellSouth for the legitimate expenses incurred when preparing space for physical collocation. (Redmond Surrebuttal at 14-16, 17-20.)

The Staff noted that BellSouth's cost proposal for the construction of space enclosures is \$45 per square foot. However, for space preparation BellSouth proposed an Individual Case Basis ("ICB"), which the Staff submitted is an obstacle to competition because it introduces unnecessary uncertainty into the process of obtaining physical collocation. This represents a significant economic barrier to physical collocation, and ultimately facilities-based competition. Both the Georgia Act and the 1996 Act indicate strong legislative goals of fostering greater competition, especially facilities-based competition. On the other hand, the AT&T/MCI Collocation Model assumes that the CLEC will not bear any space preparation charge, which does not appear to be reasonable. Therefore the Staff recommended that a specific, albeit reasonable charge be adopted for space preparation in order to encourage physical collocation.

In order to develop a reasonable space preparation charge on a per-foot basis, the Staff reviewed the actual experience of a CLEC, specifically MGC. MGC witness English, President of MGC's eastern region, presented testimony showing that the combined cost for space preparation for three Atlanta metropolitan locations (Buckhead, Dunwoody, and Sandy Springs) total \$317,221. Thus the average space preparation fee per location is \$105,740. (English Direct at 3.) BellSouth's collocation agreements on file with the Commission reflect that MGC has purchased 100 square feet per central office. This yields an average cost of \$1057.40 per square foot for space preparation. The Staff concluded that a reasonable specific charge of \$100 per square foot should be adopted for space preparation, and that this would be in line with BellSouth's \$45 per square foot charge for space enclosure construction. The Staff's proposed \$100 per square foot space preparation charge would be correlated to the actual enclosed collocation space. When a CLEC submits an application for physical collocation, the initial minimum amount of space would be 100 square feet, and extra space would be calculated in 50-square foot increments.

The Staff also recommended that a CLEC be able to construct a wire cage, at the CLEC's option. Therefore a CLEC should not be limited to the gypsum (plywood) as proposed by BellSouth. The Staff stated that the same rates should apply to either the wire cage or gypsum (plywood).

Discussion

The Commission agrees that approving a specific price of \$45 per square foot for the construction of space enclosures, but allowing an Individual Case Basis ("ICB") for space preparation would be an obstacle to competition because it introduces unnecessary uncertainty into the process of obtaining physical collocation. This represents a significant economic barrier to physical collocation, and ultimately facilities-based competition. Both the Georgia Act and the 1996 Act indicate strong legislative goals of fostering greater competition, especially facilities-based competition. The Commission agrees that a specific, albeit reasonable charge should be adopted for space preparation to encourage physical collocation.

The Commission notes BellSouth's argument that the cost-based pricing rules of Section 252(d) do not apply to collocation. However, Section 251(c)(6) provides that collocation be provided at rates, terms, and conditions that are just, reasonable, and nondiscriminatory. Allowing collocation rates that are reasonably based upon cost will be consistent with this statutory mandate.

The Commission has reviewed the Staff's approach to developing a reasonable, per-square foot space preparation charge, and finds it just, reasonable, and nondiscriminatory. The Commission concludes that \$100 per square foot is a reasonable specific charge for space preparation, which also comports with BellSouth's \$45 per square foot charge for space enclosure construction. The \$100 per square foot space preparation charge must be correlated to the actual enclosed collocation space. When a CLEC submits an application for physical collocation, the initial minimum amount of space should be 100 square feet, and extra space should be calculated in 50-square foot increments.

A collocating CLEC shall be permitted to have a wire cage, at the CLEC's option. Therefore a CLEC should not be limited to the gypsum (plywood) alternative, although the same rates should apply to either the wire cage or gypsum (plywood).

D. Rates for Access to Poles, Ducts, Conduits, and Rights-of-Way

Most of the parties focused more attention on other aspects of this proceeding than on the rates for access to poles, ducts, conduits, and rights-of-way. However, they generally recognized that the FCC has established formulas for computing such rates in an appropriate manner. The FCC rate for pole rental is currently \$4.20 per year. BellSouth submitted information on its computations supporting a higher rate (up to approximately \$20), but indicated that it would not seek approval for such a higher rate at this time. The Staff recommended that the Commission adopt the current rate according to the FCC formula, which produces a pole rental rate of \$4.20.

The Cable Television Association of Georgia ("CTAG") criticized BellSouth's proposed rates on the basis that they advance two inherently contradictory positions regarding pole attachments and other rights-of-way. On the one hand, stated CTAG, BellSouth proposed that rates currently in effect in numerous license agreements and interconnection agreements be used as permanent rates. (CTAG

Brief at 1, citing BST witness Scheye Direct at 18, Tr. 95.) However, BellSouth also proposed that, pending completion of the FCC rulemaking on pole attachments,²¹ the Commission may designate new rates and that this potential change in rates could be defined in the Commission's order. (Scheye Direct at 19, Tr. 96.) BellSouth's cost study calculated a recurring annual cost of \$20.46 per foot for access to poles, \$0.56 per foot for access to conduit, and \$0.44 per foot for access to inner duct. The CTAG pointed out that BellSouth's proposed cost calculations suggest an increase of 387 percent over BellSouth's current tariffed rates for access to poles at \$4.20 per foot per year, according to the FCC's formula. (CTAG Brief at 2.) The CTAG cited the testimony of Ms. Kravtin who calculated two different sets of cost results to compare with the BellSouth analysis, both of which resulted in dramatically lower cost calculations. (CTAG Brief at 7-9, citing Kravtin Testimony at 22-29, Tr. 2247-2254.)

According to the CTAG, BellSouth's cost study contained several errors in input assumptions underlying the calculation of usable and non-usable space on the pole. The CTAG contended that there is no basis in support of these key input assumptions. Moreover, the CTAG argued that BellSouth's attribution of unusable space directly conflicts with Section 224(e)(2)(3) of the 1996 Act, which provides that "a utility shall apportion the cost of providing space on a pole, duct, conduit, or right-of-way other than the usable space among entities so that such apportionment equals two-thirds of the costs of providing space other than the usable space that would be allocated to such entity under an equal apportionment of such costs among all attaching entities." The CTAG stated that BellSouth's cost study improperly apportioned 100 percent of the costs of unusable space among attaching entities, and furthermore would revise the costs prior to the FCC's planned schedule. The BellSouth formula also differs from the FCC's proposed pole attachment formula with respect to the 40 inches of safety space required under the National Electric Safety code ("NESC Clearance") as unusable space. (CTAG Brief at 4-7.)

The CTAG urged the Commission to continue to rely on the rates and terms established according to the FCC formula, rather than adopt the rates suggested by the BellSouth cost study. This formula has stood the test of time, the CTAG argued, conforms with the mandates of the 1996 Act, and promotes competition, as will any successor FCC formula that becomes applicable. (CTAG Brief at 10-11.) The FCC's current formula in setting the maximum rate for pole attachments multiplies the net (investment) cost of a bare pole by the percentage of usable space that an attachment occupies on an average pole (*i.e.*, the ratio of space occupied by the attachment to total usable space on the pole). Total usable space on the pole is defined as the space on the utility pole above the minimum grade level that is usable for the attachment of lines, cables, and related equipment. The FCC has developed over the years a number of presumptions used in the formula's calculation, including the ratio of space occupied by the attachment to total usable space, which is

²¹ Mr. Scheye's direct testimony (at 19) referenced the FCC's Notice of Proposed Rulemaking (NPRM) issued March 14, 1997 (CS Docket 97-98); Tr. 96. The FCC subsequently issued a NPRM on August 12, 1997 in CS Docket 97-151 regarding pole attachment matters incorporated by reference the comments filed in response to the NPRM cited by Mr. Scheye.

the key determining factor of the maximum rate. (CTAG Brief at 2-3, citing Kravtin Rebuttal at 8, Tr. 2233, and FCC NPRM, CS Docket 97-98, March 14, 1997, at ¶ 8 citing 47 C.F.R. § 1.14004, and FCC NPRM, CS Docket 97-151, August 12, 1997, at ¶ 16 citing Second Report and Order, 72 FCC at 69, 47 C.F.R. § 1.1402(c).) The CTAG concluded that the matter of pole attachment costs is most efficiently and fairly dealt with by the FCC, but if the Commission takes jurisdiction over pole attachment costs, that it should reject BellSouth's faulty analysis and instead adopt a formula and underlying input values that are fully consistent with those adopted by the FCC.

Discussion

The Commission concludes that it is most appropriate to adopt the current pole rental rate according to the FCC formula, which produces a rate of \$4.20 per foot per year. The Commission is cognizant that the FCC is reviewing potential revisions to the current pole attachment formula applicable to telecommunications carriers, pursuant to the 1996 Act, and released a NPRM on August 12, 1997 in CS Docket 97-151 proposing revisions that would permit the incumbent LEC to apportion costs among attaching entities so that each entity is allocated two-thirds of the amount it would be allocated under an equal apportionment of the costs of usable space among all entities attaching. The revisions are not to become effective until February 8, 2001, and any subsequent increases in rates for pole attachments would be phased in with equal annual increments over a period of five years. In the meantime, the current FCC formula has proven to be a reasonable, cost-based approach to setting pole rates.

The Commission accepts the remaining rates proposed in this docket by BellSouth with respect to access to poles, ducts, conduits, and rights-of-way. However, the Commission notes that the rate for dark fiber as an unbundled network element must be charged on a per-foot basis, and not limited to charging on a per-mile basis, consistent with the Commission's previous rulings (e.g. Dockets No. 6801-U and 6865-U) regarding rate design for this element.

IV. CONCLUSION AND ORDERING PARAGRAPHS

The Commission finds and concludes that the rates, terms and conditions as discussed in the preceding sections of this Order should be adopted for the interconnection with and unbundling of BellSouth's telecommunications services in Georgia, pursuant to Sections 251 and 252 of the Telecommunications Act of 1996 and Georgia's Telecommunications and Competition Development Act of 1995. These will result in a balanced set of rates and charges for BellSouth's interconnection including collocation, unbundled network elements, and access to poles, ducts, conduits, and rights-of-way.

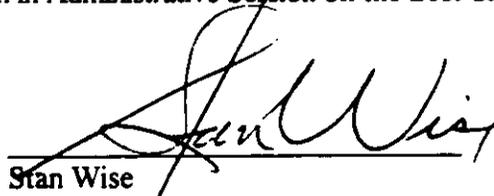
WHEREFORE THE COMMISSION ORDERS that:

- A. The cost-based rates determined by the Commission in the preceding sections of this Order, and set forth in the Price Schedule in Appendix A hereto, are established as the rates for BellSouth's interconnection, collocation, access to poles, ducts, conduits, and rights-of-way, and unbundled network elements. BellSouth shall submit such compliance filings as are necessary to reflect and implement the rates established by this Order.
- B. Following its implementation of long-term electronic interfaces for OSS functions that were scheduled for the end of December 1997, BellSouth shall submit a detailed report of its electronic interface costs for the Commission's review.
- C. All statements of fact, law, and regulatory policy contained within the preceding sections of this Order are hereby adopted as findings of fact, conclusions of law, and conclusions of regulatory policy of this Commission.
- D. A motion for reconsideration, rehearing or oral argument or any other motion shall not stay the effective date of this Order, unless otherwise ordered by the Commission.
- E. Jurisdiction over these matters is expressly retained for the purpose of entering such further Order or Orders as this Commission may deem just and proper.

The above by action of the Commission in Administrative Session on the 21st day of October, 1997.



Terri M. Lyndall
Executive Secretary



Stan Wise
Chairman

December 16, 1997
Date

12-16-97
Date

GEORGIA PUBLIC SERVICE COMMISSION		DOCKET NO. 7061-U - APPENDIX A TO ORDER ESTABLISHING COST-BASED RATES (ISSUED DECEMBER 16, 1997)									
Cost Element		Recurring	Non-Recurring	First	Additional	Initial	Subsequent				
A.0	Unbundled Local Loop										
A.1	2-Wire Analog Voice Grade Loop										
A.1.1	2-Wire Analog Voice Grade Loop - Service Level 1	\$16.51		\$42.54	\$31.33						
A.1.2	2-Wire Analog Voice Grade Loop - Service Level 2	\$19.57		\$104.17	\$78.10						
A.1.3	2-Wire Analog Voice Grade Loop - Service Level 1 - Manual Order Coordination			\$36.48	\$38.46						
A.1.4	2-Wire Analog Voice Grade Loop - Service Level 1 - Order Coordination for Specified Conversion Time			\$34.22							
A.1.5	2-Wire Analog Voice Grade Loop - Service Level 2 - Order Coordination for Specified Conversion Time			\$34.22							
A.2	Sub-Loop 2-Wire Analog										
A.2.1	Loop Feeder Per 2-Wire Analog Voice Grade Loop	\$8.58		\$208.44	\$170.05						
A.2.2	Loop Distribution Per 2-Wire Analog Voice Grade Loop	\$9.12		\$207.01	\$171.32						
A.2.3	Loop Concentration - Channelization System - (Outside C.O.)	\$313.11		\$651.23	\$284.99						
A.2.4	Loop Concentration - Remote Terminal Cabinet (Outside C.O.)	ICB									
A.2.5	Loop Concentration - Remote Channel Interface - 2-Wire Voice Grade (Outside C.O.)	\$0.8836		\$9.41	\$9.36						
A.2.6	NID Per 2-Wire Analog Voice Grade Loop	\$1.10		\$2.10	\$2.10						
A.2.7	Loop Concentration - Channelization System - Incremental Cost - Manual Svc Order vs. Electronic			\$18.94	\$8.42						
A.2.8	Sub-Loop Feeder - Order Coordination for Specified Conversion Time			\$34.22							
A.2.9	Sub Loop Distribution - Order Coordination for Specified Conversion Time			\$34.22							
A.3	Loop Channelization and Co-Interface (Inside CO)										
A.3.1	Loop Channelization System - Digital Loop Carrier	\$281.76		\$308.13	\$78.33						
A.3.2	CO Channel Interface - 2-Wire Voice Grade	\$0.9018		\$20.67	\$20.74						
A.3.3	Loop Concentration - Channelization System - Incremental Cost - Manual Svc Order vs. Electronic			\$18.94	\$8.42						
A.4	4-Wire Analog Voice Grade Loop										
A.4.1	4-Wire Analog Voice Grade Loop	\$25.86		\$208.85	\$170.57						
A.4.2	NID Per 4-Wire Analog Voice Grade Loop	\$1.21		\$2.10	\$2.10						
A.4.3	4-Wire Analog Voice Grade Loop - Order Coordination for Specified Conversion Time			\$34.22							
A.5	2-Wire ISDN Digital Grade Loop										
A.5.1	2-Wire ISDN Digital Grade Loop	\$25.43		\$233.38	\$180.35						
A.5.2	NID Per 2-Wire ISDN Digital Grade Loop	\$1.10		\$2.10	\$2.10						
A.5.3	2-Wire ISDN Digital Grade Loop - Order Coordination for Specified Conversion Time			\$34.22							
A.6	2-Wire Asymmetrical Digital Subscriber Line (ADSL) Compatible Loop										
A.6.1	2-Wire Asymmetrical Digital Subscriber Line (ADSL) Compatible Loop	\$13.05		\$359.73	\$325.15						
A.6.2	NID Per 2-Wire Asymmetrical Digital Subscriber Line (ADSL) Loop	\$1.10		\$2.10	\$2.10						

Cost Element					Recurring	Non-Recurring	Additional	Initial	Subsequent
A.6.3	2-Wire ADSL Loop - Order Coordination for Specified Conversion Time						\$34.22		
A.7	2-Wire High Bit Rate Digital Subscriber Line (HDSL) Compatible Loop								
A.7.1	2-Wire High Bit Rate Digital Subscriber Line (HDSL) Compatible Loop				\$9.15		\$359.73	\$325.15	
A.7.2	MID Per 2-Wire High Bit Rate Digital Subscriber Line (HDSL) Loop				\$1.10		\$2.10	\$2.10	
A.7.3	2-Wire HDSL Loop - Order Coordination for Specified Conversion Time						\$34.22		
A.8	4-Wire High Bit Rate Digital Subscriber Line (HDSL) Compatible Loop								
A.8.1	4-Wire High Bit Rate Digital Subscriber Line (HDSL) Compatible Loop				\$12.07		\$378.98	\$344.28	
A.8.2	MID Per 4-Wire High Bit Rate Digital Subscriber Line (HDSL) Loop				\$1.21		\$2.10	\$2.10	
A.8.3	4-Wire HDSL Loop - Order Coordination for Specified Conversion Time						\$34.22		
A.9	4-Wire DS1 Digital Loop								
A.9.1	4-Wire DS1 Digital Loop				\$64.52		\$429.88	\$288.18	
A.9.2	4-Wire DS1 Loop - Incremental Cost - Manual Svc Order vs. Electronic						\$18.94	\$8.42	
A.9.3	4-Wire DS1 Loop - Order Coordination for Specified Conversion Time						\$34.52		
A.10	4-Wire 88 or 64 Kbps Digital Grade Loop								
A.10.1	4-Wire 56 or 64 Kbps Digital Grade Loop				\$29.92		\$348.55	\$241.20	
A.10.2	MID Per 4-Wire 56 or 64 Kbps Digital Grade Loop				\$1.21		\$2.10	\$2.10	
A.10.3	4-Wire 56 or 64 Kbps Digital Grade Loop - Order Coordination for Specified Conversion Time						\$34.22		
A.11	Unbundled Loops - Incremental Cost - Manual Svc Order vs. Electronic								
A.11.1	Unbundled 2-Wire Loops - Incremental Cost - Manual Svc Order vs. Electronic						\$18.94	\$8.42	
A.11.2	Unbundled 4-Wire Loops (Excluding DS1) - Incremental Cost - Manual Svc Order vs. Electronic						\$18.94	\$8.42	
A.11.3	MID Per 2-Wire Loops - Manual Svc Order vs. Electronic						\$18.94	\$8.42	
A.11.4	MID Per 4-Wire Loops - Manual Svc Order vs. Electronic						\$18.94	\$8.42	
B.0	Unbundled Local Exchange Ports and Features								
B.1	Exchange Ports (All vertical features are included in port charge)								
B.1.1	Exchange Ports - 2-Wire Analog Line Port (Res., Bus.)				\$1.95		\$17.18	\$17.18	
B.1.2	Exchange Ports - 4-Wire Voice Grade Port				\$8.47		\$17.18	\$17.18	
B.1.3	Exchange Ports - 2-Wire DID Port				\$11.35		\$61.91	\$61.91	
B.1.4	Exchange Ports - 4-Wire DID Port				\$120.80		\$89.44	\$52.48	
B.1.5	Exchange Ports - 2-Wire ISDN Port				\$13.47		\$47.37	\$47.37	
B.1.6	Exchange Ports - 4-Wire ISDN DS1 Port				\$183.18		\$188.80	\$188.80	
B.1.7	Exchange Ports - 2-Wire Analog Line Port (PBX)				\$1.85		\$17.18	\$17.18	
B.1.8	Exchange Ports - Coin Port				\$2.05		\$17.18	\$17.18	
B.1.9	Exchange Ports - 2-Wire Analog Line Port (Res., Bus.) - Incremental Cost - Manual Svc Order vs. Electronic						\$18.94	\$8.42	
B.1.10	Exchange Ports - 4-Wire Analog Voice Grade Port - Incremental Cost - Manual Svc Order vs. Electronic						\$18.94	\$8.42	
B.1.11	Exchange Ports - 2-Wire DID Port - Incremental Cost - Manual Svc Order vs. Electronic						\$18.94	\$8.42	
B.1.12	Exchange Ports - 4-Wire DID Port - Incremental Cost - Manual Svc Order vs. Electronic						\$18.94	\$8.42	
B.1.13	Exchange Ports - 2-Wire ISDN Port - Incremental Cost - Manual Svc Order vs. Electronic						\$39.98	\$39.98	

Cost Element						Recurring	Non Recurring	Additional	Initial	Subsequent
E.1	800 Access Ten Digit Screening									
E.1.1	800 Access Ten Digit Screening, Per Call					\$0.0004868				
E.1.2	800 Access Ten Digit Screening, Reservation Charge Per 800 Number Reserved							\$6.57		
E.1.3	800 Access Ten Digit Screening, Per 800 # Established W/O POTS Translations							\$12.81		
E.1.4	800 Access Ten Digit Screening, Per 800 # Established With POTS Translations							\$12.81		
E.1.5	800 Access Ten Digit Screening, Customized Area of Service Per 800 Number							\$4.46		
E.1.6	800 Access Ten Digit Screening, Multiple InterLATA CXR Routing Per CXR Requested Per 800 #							\$5.22		
E.1.7	800 Access Ten Digit Screening, Change Charge Per Request							\$7.33		
E.1.8	800 Access Ten Digit Screening, Call Handling and Destination Features							\$4.72		
E.1.9	800 Access Ten Digit Scrmg, Reserve Chrg Per 800 # Reserved-Incrm Cost-Manual Svc Order vs. Electr							\$4.46		
E.1.10	800 Access Ten Digit Scrmg, Per 800 # Esfd w/o POTS Transl.-Incrm Cost-Manual Svc Order vs. Electr							\$18.94		
E.1.11	800 Access Ten Digit Scrmg, Per 800 # Esfd with POTS Transl.-Incrm Cost-Manual Svc Order vs. Electronic							\$18.94		
E.1.12	800 Access Ten Digit Scrmg, Chng Chrg/Request-Incrm Cost-Manual Svc Order vs. Electronic							\$18.94		
E.2	Line Information Data Base Access (LIDB)									
E.2.1	LIDB Common Transport Per Query					\$0.0000336				
E.2.2	LIDB Validation Per Query					\$0.0105974				
E.2.3	LIDB Originating Point Code Establishment or Change							\$50.30		
E.2.4	LIDB Incremental Cost-Manual Svc Order vs. Electronic							\$18.94		
E.3	CCS7 Signaling Transport									
E.3.1	CCS7 Signaling Connection, Per 56Kbps Facility					\$17.05		\$131.98		
E.3.2	CCS7 Signaling Termination, Per STP Port					\$133.99				
E.3.3	CCS7 Signaling Usage, Per Call Setup Message					\$0.0000354				
E.3.4	CCS7 Signaling Usage, Per TCAP Message					\$0.0000870				
E.3.5	CCS7 Signaling Usage Surrogate, Per 56Kbps Facility, Per LATA Per Month					\$340.87				
E.3.6	CCS7 - Incremental Cost - Manual Svc Order vs. Electronic							\$18.94		
F.0	Operational Support Systems (Account Establishment Charge)							\$200.00		
F.1	Operational Support Systems									
F.1.1	OSS Electronic Interface, Per First 1,000 Orders					\$500.00				
F.1.2	OSS Electronic Interface, Next 1,000 Orders					\$110.00				
G.0	Operator Services and Directory Assistance									
G.1	Operator Call Processing									
G.1.1	Oper. Call Processing - Oper. Provided Cost Per Min. - Using BST LIDB					\$0.9660286				
G.1.2	Oper. Call Processing - Oper. Provided Cost Per Min. - Using Foreign LIDB					\$1.02				
G.1.3	Oper. Call Processing - Fully Automated Cost Per Call - Using BST LIDB					\$0.0778409				
G.1.4	Oper. Call Processing - Fully Automated Cost Per Call - Using Foreign LIDB					\$0.0976884				
G.1.5	Loading Expense Per Announcement For Branded Announcement								\$253.87	\$253.87
G.1.6	Recording Expense Per Announcement for Branded Announcement								\$17.54	\$17.54

Cost Element	Description	Recurring	Non-Recurring	First	Additional	Initial	Subsequent
G.2	Inward Operator Services						
G.2.1	Inward Operator Services - Verification, Per Minute	\$0.9210833					
G.2.2	Inward Operator Services - Verification and Emergency Interrupt, Per Minute	\$0.9210833					
G.3	Directory Assistance Call Completion Access Service (DACC)						
G.3.1	Directory Assistance Call Completion Access Service (DACC), Per Call Attempt	\$0.0348712					
G.4	Number Services Intercept Access Service						
G.4.1	Number Services Intercept Per Query	\$0.0097497					
G.5	Directory Assistance Access Service						
G.5.1	Directory Assistance Access Service Calls, Cost Per Call	\$0.2124568					
G.5.2	Loading Expense Per Announcement For Branded Announcement			\$358.15	\$312.89		
G.5.3	Recording Expense Per Announcement For Branded Announcement			\$147.07	\$111.75	\$253.67	\$253.67
G.6	Directory Transport					\$17.54	\$15.43
G.6.1	Directory Transport - Local Channel DS1	\$38.38					
G.6.2	Directory Transport - DS1 Level Interoffice Per Mile	\$0.4523					
G.6.3	Directory Transport - DS1 Level Interoffice Per Facility Termination	\$78.47					
G.6.4	Switched Common Transport Per DA Access Service Per Call	\$0.0002908					
G.6.5	Switched Common Transport Per DA Access Service Per Call Per Mile	\$0.0000186					
G.6.6	Access Tandem Switching Per DA Access Service Per Call	\$0.0019152					
G.6.7	Directory Transport - DA Interconnection Per DA Service Call						
G.6.8	Directory Transport - Installation NRC, Per Trunk or Signaling Connection			\$704.23	\$4.42		
G.6.9	Directory Transport Local Channel DS1 - Incremental Cost - Manual Service Order vs. Electronic			\$44.72			
G.6.10	Directory Transport Interoffice DS1 - Incremental Cost - Manual Service Order vs. Electronic			\$18.94	\$18.94		
G.7	Directory Assistance Data Base Service (DADS)						
G.7.1	Directory Assistance Data Base Service Cost Per Listing	\$0.0445					
G.7.2	Directory Assistance Data Base Service, Monthly Recurring Cost	\$95.50					
G.8	Direct Access to Directory Assistance						
G.8.1	Direct Access to Directory Assistance Service, Per Month	\$5.254					
G.8.2	Direct Access to Directory Assistance Service, Per Query	\$0.0469018					
G.8.3	Direct Access to Directory Assistance Service, Service Establishment Charge		\$788.24				
G.9	Selective Routing (Interim Solution Line Class Codes)						
G.9.1	Selective Routing Per Unique Line Class Code Per Request Per Switch		\$180.62				
G.9.2	Selective Routing - Incremental Cost - Manual Svc Order vs. Electronic		\$18.94				
H.0	Collocation						
H.1	Physical Collocation						
H.1.1	Physical Collocation - Application Cost		\$3,850.00				

Cost Element				Recurring	Recurring	First	Additional	Initial	Subsequent
I.2.3	Service Provider Number Portability - DID, Per Service Order, Per Location					\$2.10	\$2.10		
I.2.4	Service Provider Number Portability - DID, Per Trunk Termination, Initial			\$10.73		\$135.47			
I.2.5	Service Provider Number Portability - DID, Per Trunk Termination, Subsequent			\$10.73		\$39.53			
I.3	Service Provider Number Portability - Manual Svc Order vs. Electronic								
I.3.1	Service Provider Number Portability - Incremental Cost - Manual Svc Order vs. Electronic					\$18.94	\$18.94		
J.0	Other								
J.1	Dark Fiber								
J.1.1	Dark Fiber, Per Four Fiber Strands, Per Route Mile or Fraction Thereof			\$44.22		\$1,355.29	\$273.69		
J.2	Access to Poles, Ducts, Conduits and Rights of Way								
J.2.1	Access to Poles Per Pole, Per Foot, Per Year			\$4.20					
J.2.2	Access to Conduits, Per Foot, Per Year			\$0.6019520					
J.2.3	Access to Inverduct, Per Foot, Per Year			\$0.4155351					
K.0	Advanced Intelligent Network (AIN) Services								
K.1	BellSouth AIN SMS Access Service								
K.1.1	AIN SMS Access Service - Service Establishment, Per State, Initial Setup					\$90.25			
K.1.2	AIN SMS Access Service - Port Connection - Dial/Shared Access					\$29.66			
K.1.3	AIN SMS Access Service - Port Connection - ISDN Access					\$29.66			
K.1.4	AIN SMS Access Service - User Identification Codes - Per User ID Code					\$64.43			
K.1.5	AIN SMS Access Service - Security Card, Per User ID Code, Initial or Replacement					\$35.44			
K.1.6	AIN SMS Access Service - Storage, Per Unit (100 Kilobytes)			\$0.0023					
K.1.7	AIN SMS Access Service - Session, Per Minute			\$0.0795604					
K.1.8	AIN SMS Access Service - Company Performed Session, Per Minute			\$2.08					
K.2	BellSouth AIN Toolkit Service								
K.2.1	AIN Toolkit Service - Service Establishment Charge, Per State, Initial Setup					\$66.74			
K.2.2	AIN Toolkit Service - Training Session, Per Customer					\$6,348.00			
K.2.3	AIN Toolkit Service - Trigger Access Charge, Per Trigger, Per DN, Term: Attempt					\$19.13			
K.2.4	AIN Toolkit Service - Trigger Access Charge, Per Trigger, Per DN, Off-Hook Delay					\$114.80			
K.2.5	AIN Toolkit Service - Trigger Access Charge, Per Trigger, Per DN, Off-Hook Immediate					\$19.13			
K.2.6	AIN Toolkit Service - Trigger Access Charge, Per Trigger, Per DN, 10-Digit PODP					\$70.06			
K.2.7	AIN Toolkit Service - Trigger Access Charge, Per Trigger, Per DN, CDP					\$70.06			
K.2.8	AIN Toolkit Service - Trigger Access Charge, Per Trigger, Per DN, Feature Code					\$70.06			
K.2.9	AIN Toolkit Service - Query Charge, Per Query			\$0.0209223					
K.2.10	AIN Toolkit Service - Type 1 Node Charge, Per AIN Toolkit Subscription, Per Node, Per Query			\$0.0053137					
K.2.11	AIN Toolkit Service - SCP Storage Charge, Per SMS Access Account, Per 100 Kilobytes			\$1.46					
K.2.12	AIN Toolkit Service - Monthly Report - Per AIN Toolkit Service Subscription			\$15.96		\$22.64			
K.2.13	AIN Toolkit Service - Special Study - Per AIN Toolkit Service Subscription			\$0.0861109		\$22.64			
K.2.14	AIN Toolkit Service - Call Event Report - Per AIN Toolkit Service Subscription			\$15.87		\$22.64			
						Non		Non-Recurring	

Cost Element					Recurring	Recurring	First	Additional	Initial	Subsequent
K.2.15	AIN Toolkit Service - Call Event Special Study - Per AIN Toolkit Service Subscription				\$0.0028704	\$22.84				