BEFORE THE ARIZONA CORPORATION COMMISSION

WILLIAM A. MUNDELL
Chairman
JAMES M. IRVIN
Commissioner
MARC SPITZER
Commissioner

IN THE MATTER OF INVESTIGATION
INTO U S WEST COMMUNICATIONS, INC.'S COMPLIANCE WITH CERTAIN WHOLESALE PRICING REQUIREMENTS FOR UNBUNDLED NETWORK ELEMENTS AND RESALE DISCOUNTS

DOCKET NO. T-00000A-00-0194

POST-HEARING BRIEF
OF AT&T COMMUNICATIONS OF THE MOUNTAIN STATES, INC.
AND
XO ARIZONA, INC.

PUBLIC VERSION

Arizona Corporation Commission
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I. INTRODUCTION

After the passage of the Telecommunications Act of 1996 (the "Act") in February 1996, this Commission was among the first to adopt its own rules with respect to interconnection. This Commission was also one of the first to conduct hearings regarding the appropriate rates, terms and conditions that should apply to interconnection and unbundled network elements offered by Qwest Corporation (then U S WEST Communications, Inc.) ("Qwest"). Nevertheless, effective local competition has not even begun to develop in Arizona. Nor is Arizona alone – truly effective local exchange competition has taken hold in only pockets of the country. AT&T/WorldCom Ex. 1 (Gillan Direct), at 10-12. As a result, financial markets, as well as the incumbent local exchange companies ("ILECs") like Qwest, are further inhibiting the ability of competing local exchange companies ("CLECs") to provide any effective alternative source of telecommunications services. CLEC stock prices have plummeted, and sources of capital funding have all but disappeared. Id. at 4. CLEC after CLEC has been forced to scale back on network construction and expansion into new markets, requiring CLECs increasingly to rely on facilities provided by the ILECs to be able to offer services to their customers. Id.

For these reasons, the prices that this Commission establishes for the unbundled network elements ("UNEs") and services at issue in this docket will determine in large measure whether local exchange competition can ever emerge in this state. Many of the CLECs in this proceeding are facilities-based providers with an incentive to seek reasonable rates for unbundled network elements, since their own facilities will face competition from carriers who purchase UNEs from Qwest. Qwest, in contrast, has every incentive to maintain its monopoly by maximizing the rates it charges to CLECs. The starkly contrasting proposals of the parties in this proceeding reflect these incentives. Although Qwest witnesses provide lip service to the costing and pricing rules adopted by the FCC and this Commission, the cost studies Qwest relies upon in support of its
proposed rates time and time again ignore these principles. As Mr. Gillan has testified, not even Qwest could compete if required to pay the rates it proposed for unbundled network elements. AT&T/WorldCom Ex. 2 (Gillan Rebuttal). In contrast, the rates proposed by AT&T Communications if the Mountain States ("AT&T") and XO Arizona, Inc. ("XO") (together the "Joint Intervenors")\(^1\) are designed to comply with the FCC’s rules and the rules of this Commission. The Joint Intervenors request that these rates be adopted by the Commission so that Arizona consumers can at last begin to experience the benefits of competition promised long ago by the Act.

II. DISCUSSION

A. TELRIC Principles

The Act requires Qwest to provide interconnection and unbundled network elements at “rates, terms, and conditions that are just, reasonable, and nondiscriminatory.” 47 U.S.C. § 251(c)(2) and (3). Pricing standards adopted by the FCC in implementing the Act further require that prices based upon the forward-looking economic cost of providing the service or element. See 47 C.F.R. § 51.505. These costs must be measured “based on the use of the most efficient telecommunications technology currently available and the lowest-cost network configuration,” given the existing location of the incumbent LEC’s wire centers. Id. at § 51.505(b)(1). Such costs may not include embedded costs, retail costs, opportunities costs, or revenues to subsidize other services. Id. at § 51.505(d).

More specifically, costs must not be modeled based on a company’s “existing network design and technology that are currently in operation.” See In re Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC Docket No. 96-98, FCC 96-

\(^1\) WorldCom also joins in the Joint Intervenors’ pricing proposals, but is filing a separate post-hearing brief on certain issues.
325, First Report Order (released August 8, 1996) ("Local Competition Order"). At ¶ 684.

Prices that are based on existing network design and technology would enshrine the inefficiencies of existing networks. Id. The FCC has explicitly rejected this pricing methodology as contrary to TELRIC. Instead, the FCC’s total element long run incremental cost ("TELRIC") pricing methodology requires modeling of efficient practices and procedures in order to replicate the conditions of the competitive market. See Local Competition Order at ¶ 679.

The FCC’s rejection of any reliance upon embedded costs recognizes that attempting to set rates based upon historical investment cannot foster the type of efficiencies that would be experienced in a competitive marketplace. Pricing in a competitive market is driven to the level that can be achieved by the lowest cost provider. See, e.g., Local Competition Order at ¶ 620. In contrast, relying upon Qwest’s books as a basis for setting unbundled element prices, guarantees that the rates will not reflect the efficiencies that could be achieved if Qwest faced competition in providing those elements. Historical cost regulation gives incumbent carriers no “incentive . . . to control expenses” while instead sometimes providing the opposite incentive for a carrier to “gold plate” its networks, installing capacity far in excess of that currently required to provide regulated services. Rates for Dominant Carriers, 5 FCC Rcd. 6786, 6790 (¶ 29, n.30) (1990). Moreover, regulators using an embedded cost pricing methodology can never be assured of “obtaining accurate cost information as the carrier itself is the source of nearly all information about its costs.” Id. Indeed, it has recently come to light that the books of Qwest and other incumbent carriers contain many entries for equipment that either was never installed or has been discarded. See Continuing Property Records Audit, 14 FCC Rcd. 7019, 7019 (¶ 1) (1999).
Qwest agrees that it is obligated to comply with the FCC’s TELRIC standards in providing cost studies for the purposes of establishing prices in this proceeding. Tr. 453-54. In fact, the FCC’s rules place the burden of proof upon Qwest to “prove to the state commission that the rates for each element it offers do not exceed the forward-looking economic cost per unit of providing the element, using a cost study that complies with the methodology set forth in [the FCC’s rules].” 47 C.F.R.51.505(c). Nevertheless, Qwest has presented cost studies in this proceeding based not on forward-looking costs that would be incurred by an efficient provider, but rather upon costs Qwest incurs in its embedded network today. As will be demonstrated in more detail below with respect to individual elements, each of the models Qwest has proposed in this proceeding rely upon embedded costs. The models simply do not reflect the least-cost, most efficient assumptions required by TELRIC.

In contrast, the models that the Joint Intervenors have proposed are specifically designed to reflect least cost, efficient technology, practices and procedures. In those cases where the models proposed by the Joint Intervenors do not produce pricing for a specific element, the Joint Intervenors have made revisions to Qwest’s cost studies to bring those studies within a reasonable range of TELRIC. In every case, the Joint Intervenors’ proposal seeks to provide this Commission with pricing that realistically reflects prices that would be found if Qwest faced the pressures of the competitive market in providing the unbundled network elements and services at issue in this docket.

Qwest actually employs an exception to this general rule when use of its actual experience would result in lower costs to be reflected in its cost studies. For example, an efficient provider places distribution plant before the structures are in place that would interfere with placement. Qwest follows this procedure in the real world. Tr. 129-30, 920. Nevertheless, as discussed in Section II.C.2.c.i below, Qwest has assumed in its cost studies that it would place the distribution plant after all structures are in place. This results in significantly higher costs for the unbundled loop.
B. General Description of Cost Models

One of the challenges of this proceeding is the sheer number of cost elements at issue and the variety in models that have been presented to develop pricing for those elements. The Joint Intervenors rely upon two models. HAI Model 5.2a produces TELRIC pricing associated with the recurring charges for most unbundled network elements. For nonrecurring charges, the Joint Intervenors rely upon the AT&T/WorldCom Nonrecurring Cost Model.

Qwest relies upon its Integrated Cost Model ("ICM") to produce analog loop, switching and transport unbundled network prices on a recurring basis. Qwest has proposed its own nonrecurring cost model for nonrecurring costs. In addition, Qwest has presented several stand alone models for other unbundled network elements and services. Among the stand alone models are Qwest's Collocation Model for recurring and nonrecurring collocation charges and its Network Access Channel Model used to generate investment costs for high capacity DS1 and DS3 loops. The Joint Intervenors have not proposed their own models for collocation, high capacity loops and some of the other elements at issue here. Instead, the Joint Intervenors have adjusted Qwest's stand alone models in an effort to produce pricing within a reasonable range of TELRIC.

Qwest's models are each designed to first calculate the investment required to provide a particular element or service. Qwest then applies capital costs, maintenance and expense factors to develop the recurring or nonrecurring charge that it proposes for the element. Qwest Ex. 16 (Million Direct) at 9-10. The maintenance and expense factors are developed directly from the embedded books of the company. Id. at 23; see also Tr. 675. In contrast, the HAI Model and the AT&T/WorldCom nonrecurring cost model include forward-looking expenses that would be incurred by incurred by an efficient firm.
In the argument below, Joint Interveners first explain the development of the investment required for most of the elements and services at issue. The Joint Interveners then discuss in Section II.H below the operation of Qwest's expense factors module, describing in more detail why Qwest's expense factors fail to comply with the rules of the FCC and this Commission. The Joint Interveners also explain the basis for their pricing proposals in this proceeding.

C. Development of Investment Used in Establishing Recurring Rates Network for Unbundled Network Elements

1. Analog Loop.

The parties' approach to developing pricing for the analog loop presents in full relief the contrast between the approach used by Qwest in this proceeding and that presented by the Joint Interveners. Qwest presents investments developed from the Loop Module version 2.0 incorporated within its ICM. After application of Qwest's Capital Cost and Expense Factors modules to the LoopMod investment, Qwest recommends an unbundled statewide average loop rate of $25.95, substantially above the rate now in effect in the State of Arizona. See Qwest Ex. 18 (Million Rebuttal) at 59. Qwest makes this outrageous proposal notwithstanding its own witness' assertion that the "most objective measure of loop costs in Arizona for Qwest's service territory" yields "a statewide average of $19.61." Tr. 1072-1073 (Fitzsimmons). In contrast, the Joint Interveners have recommended a statewide average loop rate of $10.10 based on the results of HAI Model 5.2a. The staff of the Commission has recommended a state-wide average unbundled loop rate of $12.35 – very close to that proposed by Joint Interveners. Other parties have also recommended unbundled loop pricing in the range of that proposed by the Joint Interveners. See Staff Ex. 32, Schedule WD-17. Sprint, for example, has provided evidence that its own rates in geographic areas similar to those served by Qwest average $10.77 per month for an analog loop. See Sprint Ex. 4 (Farrar Surrebuttal) at 2.
There is a reason that Qwest’s proposal is so far out of line even with its own witness’ testimony. Qwest has relied upon a cost model for unbundled loop pricing that ignores the requirement of the Act. This model, a prior version of which was rejected by the Commission in the first cost docket, is designed to produce costs that will prevent any entry by competitors into Qwest’s monopoly markets through the use of unbundled elements. For this reason, Qwest’s proposal should be rejected in favor of the rates proposed by Joint Interveners.


a. LoopMod.

Qwest’s LoopMod is a next generation version of the Regional Loop Cost Analysis Program ("RLCAP") rejected by the Commission in the last cost proceeding. Tr. 77 (Buckley). The Commission recognized in that proceeding that the U S WEST models were “based upon embedded costs and technology, and do not consider particular demographics and geology of the State of Arizona.” See Consolidated Cost Docket No. U-3021-96-448, et al., Decision No. 60635 (January 30, 1998) at 7 ("First Cost Docket Order"). RLCAP itself was derived from a cost model previously used by Qwest to provide pricing for Qwest’s retail service offerings. See First Cost Docket Order (Jennings, dissenting). When used by Qwest to support pricing for retail service offerings, the model produced an investment cost for a single loop ranging in the range of $400 to $700, close to the investment calculated by the HAI Model filed in this proceeding. Tr., pp. 77-78. Upon passage of the Act, however, Qwest revised its assumptions in the model, resulting in increased investment and an increased monthly recurring charge for the UNE loop. Id.; see also First Cost Docket Order (Jennings, dissenting).

Most of the concerns that led this Commission to reject the Qwest model in the prior proceeding still exist in Qwest’s LoopMod as presented here. The model is still an embedded cost analysis which does not consider the particular demographics and geology of this State. In
fact, the Model presents the worst possible mix of assumptions, relying on information from Qwest's embedded network when that information will increase the loop cost estimate and ignoring that information when it might lead to decreasing Qwest's proposed loop cost.

One of the ways LoopMod fails to consider the demographic and geological conditions in Arizona is in its failure to use actual customer locations in designing outside loop plant. The LoopMod presented here has incorporated one improvement over RLCAP in that it now does use some information about customer concentrations and their distance from Qwest's serving wire centers to develop its feeder plant design. Tr., pp. 81-82, Ex. AT&T/XO 1 at 1.4. Unfortunately, this information is not current information about Qwest customer locations, but rather dates from 1996. Id. Moreover, like RLCAP, LoopMod uses no information about actual customer locations in developing distribution investment. Instead, the model uses standardized distribution group designs common to every state in Qwest's 14-state region. Tr., p. 89.

LoopMod designs distribution plant by determining the number of customers and the size of each existing Qwest distribution area as of October 1998. Tr., p. 86. Each distribution area is then assigned to one of five standard distribution group designs. Each of the five standard designs, in turn, has a standard design profile indicating the total cable footages and equipment Qwest assumes will be required to serve the designs. Ex. AT&T/XO 1 at 1.8. For example, Distribution Group 3 ("DG3") is the designation used for Qwest's design of a typical residential subdivision. DG3 has the largest concentration of lines in the model. Tr. 89. LoopMod assumes that the distribution areas profiled by DG3 will serve approximately <PROP> customers using a <PROP> pair serving area interface, <PROP> buried distribution terminals, <PROP> aerial distribution terminals and cable sizes ranging from <PROP> pair to <PROP> pair. See Qwest Ex. 18 (Million Rebuttal), Ex. TKM-02R, LoopMod Inputs, Tab DG Print.
Qwest develops the investment required to serve each standard design profile by determining what costs will be associated with placing cable, serving area interface, terminals, and the other equipment assumed by the design profile. Ex. AT&T/XO 1 at 1.8. This results in an average investment per working line. Qwest then multiplies the average investment per working line by the number of lines within each of the 1998 distribution areas to develop total investment. Id. The distribution costs associated with serving any customer in a particular distribution group, therefore, are assumed to be identical for every customer in the same density group. Tr. 90-91. Moreover, because the standard designs are the same in every state, the costs for serving a line within any distribution group also may not vary significantly from state to state.³

Qwest has provided no evidence that these designs correspond to actual distribution areas, or that the designs adequately represent distribution areas within the State of Arizona. There is no evidence that these designs are the result of any application of least cost, forward looking criteria. There is no information within the model about actual customer locations or the costs of serving actual locations. Tr. 81. The model simply assumes that the application of average investments for each distribution group will somehow result in a reasonable approximation of TELRIC.

Qwest’s one-size-fits all model cannot be relied upon to provide a TELRIC analysis. The use of standardized distribution groups as applied to Qwest’s existing distribution areas ignores the possibility that more efficient designs might yield lower costs. See Ex. AT&T/WorldCom 8

³ Qwest has incorporated one improvement into LoopMod that does attempt to reflect some of the variations that should be expected in distribution across its region. In some of the standard designs, Qwest applies a cable multiplier that allows the cable lengths assumed by the standard design to vary based upon the actual size of an existing Qwest distribution area. Ex. AT&T/XO 1 at 1.8. This does lead to some variation in investment across the Qwest region.
For example, the largest cable size placed in any of the standard designs used by Qwest is <PROP> pair. See Ex. Qwest 18 (Million Rebuttal), Ex TKM – O2R, LoopMod Inputs, Tab DG Print. This ignores the possibility that it would be more efficient to increase the size of a distribution area using larger cables to capture economies of scale. See Ex. AT&T/WorldCom 8 (Weiss Direct/LoopMod) at 43.

Qwest used the same distribution group designs in its RLCAP model filed with this Commission in the prior cost docket. First Cost Docket Order at 19. Use of these standard designs necessarily means that the Qwest model cannot reflect what is actually required to serve customers as they exist today in the State of Arizona. For these reasons, the Commission should again reject Qwest’s proposed model.

b. HAI Model.

The HAI model 5.2A, in contrast, has benefited from this Commission’s prior review, as well as reviews of other state commissions in the FCC to improve its estimations of the cost of an unbundled loop using the TELRIC methodology.

The HAI model uses actual customer locations in Qwest’s Arizona service territory to the extent possible in designing efficient distribution areas, given the location of Qwest’s existing wire centers. See Ex. AT&T/WorldCom 3 (Denney Direct) at 11-12. Where actual customer locations are not available, the model uses surrogate customer locations placed uniformly along the roads within the census block in which the customers are located. Id. The model, thus, develops the distribution plant necessary to serve actual customers, rather than assuming some average investment based upon standardized designs.

c. Input Values.

Qwest compounds the problems with the LoopMod design by using inputs based upon Qwest’s embedded network, rather than upon efficient, forward-looking design assumptions.
Qwest has made assumptions regarding fill factors, placement costs, structure costs and structure sharing designed to increase costs to competitors rather than to reflect costs that would be incurred in a forward looking network. In its choice of each of these inputs to the model, Qwest has ignored prior directives both by this Commission and the FCC. The Commission should reject Qwest’s proposed loop prices based on its flawed input assumptions, as well as problems with the model itself.

i. Placement Costs.

Placement costs for buried cable comprise a substantial portion of the investment modeled for the unbundled loop in both Qwest’s LoopMod and in the HAI Model. Tr., p. 118. LoopMod and the HAI Model both develop placement costs by determining the costs that would be required to conduct various types of placement activities, such as trenching or boring, and then determining the frequency that each of these activities will be used in placing buried cable. There, however, the similarity between the two models ends. The HAI Model assumes that buried cable will be placed the way an efficient provider would place cable, by burying cable whenever possible before structures such as roads and landscaping are already in place. LoopMod, in contrast, designs a plant by first assuming that all physical structures are currently in place as they are today and then choosing placement activities that would be required to place cable under and around obstacles. Tr., p. 232. This assumption is directly contrary to a TELRIC methodology and requires rejection of the placement costs Qwest has proposed in this proceeding.

The FCC in its universal service proceeding recently analyzed inputs and assumptions appropriate for use in calculating the forward looking costs of constructing a wire line local telephone network. In the Matter of Federal-State Joint Board on Universal Service; CC Docket No. 96-45, FCC 99-304, Tenth Report and Order, (rel. Nov. 2, 1999) (“Inputs Order”).
Among the issues the FCC reviewed in that proceeding were the appropriate assumptions that should be made regarding the costs of installing cable in constructing a network on a forward looking basis using current technology. The FCC determined that the costs of small scale projects or costs associated with maintenance type projects would not be appropriate. Rather, the FCC determined that the costs that would “best reflect the cost that a LEC would incur today to install cable that were to construct a local telephone network using current technology” would be reflected by the costs of “growth projects for which expenditures were at least $50,000.” Inputs Order at ¶ 109. The FCC determined that use of costs incurred for “additions to existing plant or new construction” best represented “the cost today of building an entire new network using current technology.” Id. at ¶ 118.

As Qwest has admitted, the costs it has presented for placing buried cable in this proceeding do not meet these criteria. First, the placement costs for specific activities were not derived from large projects, but rather from contracts for “numerous small jobs or routine day-to-day work activities.” See AT&T/XO 12, § 1, p. 10 (2.1B). As Qwest witness Mr. Buckley admitted, Qwest bids out larger projects, in part to seek lower pricing. Tr., pp. 124-25. Qwest’s reliance on contract prices for small projects, therefore, is not a least-cost approach to modeling costs.

Qwest also admits that it has not sought to model the placement costs that would be achieved in placing cable in a growth environment as required by the FCC in its analysis of forward-looking costs. Tr. 129-30. Instead, Qwest has presumed that, for example, 65% of all buried cable in residential subdivisions will be placed using directional boring or cut-and-restore methods necessary to prevent or restore disruptions to existing structures or landscaping. This is not the way Qwest places plant today, and it is not the way an efficient company would place
cable in the future. As Qwest’s own witness admits, “nine times out of ten, Qwest goes right in with the road crew” and places plant before streets or other structures are in place. Tr., p. 889; see also p. 914. As Qwest also agrees, directional boring is simply not the most cost-effective placement technique for new developments. Id.

This Commission has previously rejected Qwest’s presumption that plant should be placed using a significant amount of high cost placement activities such as directional boring. See First Cost Docket Order, pp. 18-19. As this Commission rightly concluded, TELRIC must reflect “using the most efficient technology, rather than the method developed over history in a non-competitive environment.” Id. at 19. On this basis, the Commission in the prior docket “adopted the Hatfield Model’s method for calculating placement costs.” Id.

The same result should apply here. The HAI Model used in this proceeding calculates placement costs based upon reasonable assumptions regarding the placement activities that would be required to place cable efficiently in the State of Arizona. The model relies upon detailed geologic information regarding conditions that actually exist within the State that could impact the difficulty and cost of placement. See Ex. AT&T/WorldCom 3 (Denney Direct) at Ex. DKD-3. The placement costs developed in this matter are reasonable and specific to the State of Arizona.

ii. Fill Factors.

Another significant factor affecting the investment costs developed by the models presented in this proceeding are the fill factors assumed in distribution. In designing loop plant, network engineers necessarily include a certain amount of spare capacity to accommodate functions such as testing and repair and some expected amount of growth. As the FCC explained in its Inputs Order,
The percentage of the total useable capacity of cable that is expected to be used to meet current demand is referred to as the cable fill factor. If cable fill factors are set too high, the cable will have insufficient capacity to accommodate small increases in demand or service outages. In contrast, if cable fill factors are set too low, the network could have considerable excess capacity.

*Inputs Order* at ¶ 186. Qwest’s LoopMod does not use fill factors in the traditional sense for distribution in its model. Instead, Qwest assumes in its model that each customer location will have two or three cable pairs dedicated to the location. Tr., p. 93. Qwest’s standard distribution group designs, on this basis, include cables and other equipment sized to accommodate the two or three pair per location assumption. *Id.*

The FCC rejected a “pairs per location” approach in determining fill factors on a forward looking basis. *Inputs Order* at ¶ 197. Use of a pairs per location design reflects Qwest’s practice of building distribution plant to meet ultimate demand. Tr., p. 102. Use of this assumption means that the purchaser of an unbundled loop today will be required to pay the cost for all growth that may occur in the future within the network. *See* Ex. AT&T/WorldCom 3 (Denney Direct) at 38-39. The FCC determined that this was not an appropriate assumption. Instead, the FCC determined that distribution fill assumed by a TELRIC Model should be sized to meet current demand, including an amount of excess capacity to accommodate short term growth. *Inputs Order* at ¶¶ 199-201.

The FCC’s conclusion is supported by evidence of Qwest’s actual fill presented in this proceeding. Although Qwest models the use of three pairs per location for most locations assumed by LoopMod, Qwest’s actual additional line usage shows that current demand is approximately 1.2 lines per location. *See* Ex. AT&T/XO 5. On this basis, the Commission accepted the distribution fill factors proposed in the Hatfield Model presented in the prior proceeding. *First Cost Docket Order* at p. 16. The HAI Model 5.2a presented here uses
distribution fill factors that are even more conservative than those presented in the prior docket. See Ex. AT&T/WorldCom 3 (Denney Direct) at 38. These fill factors are reasonable and should be accepted by the Commission.

iii. Plant Mix.

Feeder and distribution facilities may be placed on aerial structures such as telephone poles, underground in conduit systems or simply buried in trenches. Placement costs will vary depending upon the mix of these various structures that is assumed by the model at issue. That is because the costs of placing aerial, buried and underground cable and structure vary significantly. Maintenance costs will also vary depending upon the structure mix. Tr. 1436-37.

The LoopMod used in this proceeding adopts Qwest’s default aerial placement percentage region-wide of 14%. Tr. 140. The actual percentage of aerial plant in Arizona at present is closer to <PROP> or <PROP>. Id. The HAI model assumes a somewhat larger percentage of aerial plant structure. The assumptions used in the HAI model come close to replicating Qwest’s aerial sheath mileage as reported in ARMIS. See Ex. AT&T/WorldCom 5 (Denney Rebuttal).

Qwest’s reliance upon its embedded, region-wide experience as support for its aerial structure assumptions is contrary to TELRIC. In contrast, the HAI model develops the appropriate structure assumptions based upon least cost analysis considering both the cost of placing plant and the costs of maintaining that plant. The HAI model assumptions are appropriate and should be adopted in this proceeding.
iv. Structure Sharing.

As the FCC determined in its *Inputs Order*:

Outside plant structure should generally be shared by LECs, cable operators, electric utilities, and others, including competitive access providers and interexchange carriers. To the extent that several utilities place cables in common trenches, or in common poles, it is appropriate to share the costs of these structures among the various users and assign a portion of the cost of these structures to the telephone company.

*Inputs Order* at ¶ 241.

As the FCC has further determined, in a TELRIC analysis, it is necessary to assume that the telephone industry will have at least the same opportunity to share the cost building plant when the plant was first built.

*Id.* at ¶ 244, n.867.

The structure sharing inputs proposed by Qwest in this proceeding do not meet the requirement to consider all of the potential ability of an incumbent LLC to share structure with other utilities. As set forth in Appendix B of the HAI Inputs Portfolio, these opportunities abound. See Ex. AT&T/WorldCom 3 (Denney Direct) at Ex. DKD-3. As Qwest itself admits, developers provide the trench for Qwest in residential areas. Tr. 186. In fact, as Qwest admits, if “you had a high growth market, and I looked at my total network placing activities, I might see a dramatic amount of developer-provided shared trench.” *Id.*

Numerous other potential sharing opportunities exist in the form of network overlaps between distribution cable, feeder cable, and interoffice cable, and even in the form of placing access facilities for future use. Tr. at p. 144-45, 901-02, 913, Ex. AT&T/WorldCom 3 (Denny Direct) at 43. This Commission has previously rejected Qwest’s assumptions that there will be only limited structure sharing in a forward looking network. Qwest has assumed only slightly more sharing in this proceeding than it presented in the prior docket. Compare *First Cost Docket*
Order at 20 to Ex. Qwest 1 (Buckley Direct), Ex. RJB-3. Qwest has provided no additional support for its proposals here. The HAI Model as presented includes reasonable assumptions regarding sharing of structure and should be adopted in this proceeding.

v. Drop Lengths.

The drop is the portion of the outside plant that extends from a distribution terminal to the actual customer location. Qwest has assumed drop lengths ranging from 70 feet to 300 feet in its development of loop investment. Ex. Qwest Ex. 1 (Buckley Direct), Ex. RJB-3 at 3. Qwest contends that these drop lengths are based upon a survey of its embedded drop structures in other states. Id. This survey, however, is so flawed that there is no basis for reliance upon the data represented. First, the survey excludes all multi-tenant dwellings. In addition, the estimates themselves are questionable. As shown on Exhibit AT&T/XO 14, the technicians performing the study were not requested to actually measure drop lengths. Instead, they were asked to make a visual estimate of the drop length or to walk it off. Tr. p. 149. This appears to have resulted in an upward bias to the estimates. For example, a number of the drop lengths shown on Exhibit 14 are long enough to extend around most of the circumference of the lot size for a given property indicated in the survey. This indicates that the technicians were either very poor at determining the length of the drop or the size of the lot. Tr. 150-51. In any event, Qwest’s purported support underlying the drop lengths by LoopMod appears to have no basis in reality.

d. IDLC Unbundling Charge.

After developing the cost to providing an unbundled loop used LoopMod, Qwest adds additional investment which it contends reflects costs that would be incurred to provide an unbundled loop carried on integrated digital loop carrier ("IDLC") to a competing carrier. In this proceeding, Qwest has requested that this “unbundling charge” of $1.60 should be added separately to the cost of each unbundled loop, except where an unbundled loop has provided with
in combination with a switch port as part of the unbundled network element platform. See Qwest Ex. 2 (Buckley Rebuttal) at 18-19.

LoopMod as presented in this proceeding, assumes that 44% of all loops, on a forward-looking basis will be carried over IDLC. Id. Because these loops appear at the central office as part of a DS1 equivalent of 24 loops, Qwest contends that it must assume a charge for equipment required to demultiplex loops carried on IDLC to a single analog loop at the central office. Id.

Qwest presently has substantially less than the 44% IDLC assumed by LoopMod in its network. See Exs. AT&T/XO 28-29. This means that Qwest is attempting to recover in its cost model for costs that it does not, in fact, incur in the real world. Moreover, on a forward looking basis, it is efficient to assume that CLECs would purchase loops in a fully integrated DLC system which would be fed directly into the CLEC switch without the need for demultiplexing at the central office. See Ex. AT&T/WorldCom 8 (Weiss Direct) at 32. Qwest’s proposed grooming charge, therefore, is unnecessary and anticompetitive.

3. Geographic Deaveraging.

Joint Intervenors have proposed deaveraging unbundled analog and high-capacity loops on a wire center basis. Under an optimization program developed by AT&T, the Joint Intervenors have proposed dividing the Qwest wire centers into three groups based upon the costs for serving loops within the wire center. The proposal, set forth in the direct testimony of Mr. Denny at pages 44-49 (Ex. AT&T/WorldCom 3), presents an objective, cost-based methodology for loop deaveraging.

Qwest now agrees with the proposal of the Joint Intervenors to deaverage loop rates on a wire center basis. Ex. Qwest 18 (Million Rebuttal) at 58-59. Qwest has also adopted the AT&T optimization program to perform the deaveraging analysis. Id. There are two differences remaining in the parties’ approaches to deaveraging. First, Qwest has performed the deaveraging
using results from LoopMod. *Id.* For all of the reasons set forth above, the Joint Intervenors believe this approach is inappropriate. Second, Qwest has used the AT&T optimization program for two of the three zones it proposes, but has arbitrarily derived a third zone by simply placing the two lowest cost wire centers into one zone. Qwest has provided no rationale for this approach. Qwest's approach is arbitrary and should be rejected.

4. **Joint Intervenors’ Pricing Proposal.**

The Commission should adopt the results of the HAM Model 5.2a for loop pricing, along with the geographic deaveraging optimization results set forth on Mr. Hydock's pricing proposal at AT&T/WorldCom Ex. 15, Ex. MH-1R.

5. **High Capacity Loops.**

Qwest's ICM does not develop costs for high capacity loops. Instead, Qwest uses its Network Access Channel ("NAC") Model to develop investment for DS1 and DS3 digital-capable loops. Ex. Qwest 16 (Million Direct) at 45. The model relies on a specialized version of Qwest's LoopMod to develop the cost of placing the copper or fiber loop facility between a Qwest-serving wire center and a customer location. Tr. 676. The NAC Model then develops the additional investment required for the optical-digital electronics and other equipment needed at the wire center and the customer location to allow digital transmission. Ex. Qwest 18 (Million Rebuttal), Ex. TKM-07R (NAC Program Documentation).

There are numerous problems with the investment costs derived using Qwest's NAC Model. These include the following:

- By using LoopMod to develop the investment required for the copper or fiber facility between the wire center and the customer, Qwest has overstated the investment required.
Qwest has relied upon contract prices from 1999 and thereby failed to reflect known and substantial decreases in the costs of the electronics required to provide digital-capable loops.

By relying upon experience in its embedded network, Qwest has understated its fill factors for the optical-digital electronic equipment assumed by the model, resulting in an overstatement of costs.

Qwest has used embedded, historical information to develop its loadings for installation labor and other loadings that make up its Total Installed Factor ("TIF") rather than reflecting efficient technology as required in a TELRIC analysis.

a. LoopMod.

Qwest relies upon a variation of its LoopMod to develop the investment required to place copper or fiber facilities from a Qwest serving wire center to the customer location. Tr. 676. For all of the reasons set forth in Section II.C.1 above, LoopMod substantially overstates the cost of installing loop facilities. By relying upon LoopMod, therefore, Qwest overstates the investment required to place a high capacity loop.

The HAI Model 5.2a includes investment for installing high capacity loops as part of the total universe of loops within the Qwest network. Qwest Ex. 29 (Fitzsimmons Rebuttal) at 34. One way to cure the problem with Qwest’s reliance upon LoopMod, therefore, would be to use the loop investment costs developed by the HAI Model, less the electronics costs required for providing an analog loop. Properly adjusted electronics costs developed by Qwest NAC Model could then be added to the HAI investment to develop appropriate high capacity loop prices. Alternatively, Qwest’s LoopMod could be rerun with assumptions that bring the model closer to
TELRIC. In either event, the investment developed would be significantly less than the prices now proposed by Qwest for high capacity DS1 and DS3 loops.

b. Overstated Equipment Prices.

In addition to overstating the investment for the loop facility, Qwest’s NAC Model also overstates the costs of providing the equipment necessary at the central office and at the customer premises to provision the high capacity loop. Qwest has contended that the actual current contract prices it is experiencing are the best reflection of forward-looking costs. See Tr. 613-14, 862, 870-71 (Million). Nevertheless, Qwest failed to use its most current pricing in the cost models it has presumed in this case. Id. A comparison of Qwest’s contract prices to those used within its NAC Model demonstrates that it currently purchases optical digital equipment for approximately 20% less than pricing used in the Model. Compare Exhibit AT&T/XO 22 to Ex. AT&T/XO 33 at 862.

Qwest has agreed that the NAC Model should rely upon the current prices Qwest is actually receiving rather than the 1999 prices used in the model as presented in this case. Tr. 862. The NAC Model operates by loading the materials costs derived from Qwest’s contract with utilization and TIF factors as described in Section II.C.5.c & d.i below. Tr. 633, 637. For this reason, any decrease in materials investment should result in a comparable decrease in the overall investment developed by the model. Running Qwest’s NAC Model using its substantially lower current pricing for optical-digital equipment, therefore, is likely to show a similar 20% decrease in the overall recurring costs for DS1 and DS3 loops.

4 In a TELRIC study, the materials investments should reflect the least cost pricing available to an efficient competitor. Because equipment manufacturers consider such pricing to be confidential, without better evidence, there may be no choice but to rely upon Qwest’s actual experience as a surrogate for pricing that may be available in the market. The current materials prices thus represent a conservative estimate of the investment required to provide digitally capable loops.
c. **Fill Factors.**

After determining the cost of the materials that will be required to provide a high capacity loop, Qwest’s cost models apply utilization or “fill” factors to determine the total materials investment required to provide a single high capacity loop. For example, one of the architectures used in the DS1 study is Qwest’s OC3-based Sonet Fiber MUX architecture. *See Ex. AT&T/WorldCom 6 (Weiss Direct)* at 46. Qwest has assumed a utilization rate of 37% in this architecture. This means that Qwest assumes that it will require almost three DS1s of capacity to provide one DS-1 to an end-use customer. *Id.* at 45. In effect, a CLEC purchasing a single DS1 for a customer will be required to pay for almost three DS1s in order to serve that customer.

Qwest’s utilization assumptions are based upon the opinions of subject matter experts in reliance upon Qwest’s actual present usage. *See Ex. Qwest 18 (Million Rebuttal), Ex. TKM-07R (NAC Program Documentation)*, at 46-47. According to Qwest, the average utilization factor “is a Qwest average and was developed from the TIRKS database and represents actual facility usage of carrier and fiber systems.” *Id.* In essence, Qwest has determined that its current usage for the architectures modeled in the NAC Program represents what Qwest could expect to achieve on a forward-looking basis.

Qwest has attempted to justify its position by pointing to fill factors achieved in distribution cable that have been approved by the FCC in reviewing § 271 applications in New York, Kansas and Massachusetts. *Ex. Qwest 18 (Million Rebuttal)*, at 29-30. As Distribution fills, however, bear no relationship to fill factors that may be achieved in optical-digital equipment that is significantly easier to install than loop facilities. *Id.; See also Ex. AT&T/WorldCom 6 (Weiss Direct)* at 48-49.

This Commission has previously reviewed and rejected Qwest’s reliance on historical actual fill as inconsistent with a forward looking, least-cost, efficient network. *First Cost Docket*
Order at 16-17. As Mr. Weiss has explained in his testimony, the fill rates Qwest has used do not provide a reasonable projection of what Qwest would experience in total demand on a forward-looking basis. Ex. AT&T/WorldCom 6 (Weiss Direct) at 47-50. It appears that Qwest has considered only the capacity that Qwest itself supplies to end users, rather than all demand for the element. Id. In some instances, the fill factors Qwest has assumed for electronic facilities in its high capacity loop studies are absurdly low. Id. This Commission has previously approved a 51% distribution cable fill factor, recognizing that this provided sufficient room for growth even in distribution cable which is difficult to replace. Optical-digital equipment, in contrast, can easily be replaced when it is close to exhaustion (100 percent fill) using just in time inventory practices Id. In these circumstances, Qwest’s adoption of fill factors as low as 37% cannot reflect least cost, most efficient network practices.

The effect of these unrealistic fill factors is to significantly increase the element rates proposed by Qwest. The Joint Invervenors’ proposals reflect fill factors that should be achieved in a competitive environment. Qwest’s cost studies must be revised to reflect the reasonable utilization factors proposed by Mr. Weiss.

d. Total Installed Factor.

Qwest has also inflated its investment by applying TIFs that are substantially higher than those which would be achieved by an efficient provider. TIFs are applied to material investments by Qwest to inflate those investments to account for costs such as installation, transportation, warehousing, power and taxes. Qwest calculates these factors based upon embedded costs. It uses its book expenses to calculate a ratio of the amount it presently expends to accomplish tasks like warehousing as compared to the amount expended in the same account for material investments. See Ex. Qwest 18 (Million Rebuttal) at 20. Although Qwest contends that it uses its “most current” expenditures in calculating the TIFs, some of the calculations
presented in this proceeding were based upon information dating as far back as 1997. See Ex. AT&T/XO 34. Most rely upon 1998 booked expenses. Id.

Because Qwest's TIFs are based upon its booked expenditures, these TIFs necessarily reflect Qwest's existing practices and procedures rather than the forward-looking, most efficient practices and procedures required by a TELRIC analysis. The Joint Intervenors have presented evidence of the TIFs that should be achieved by an efficient provider of local telecommunication services. See Ex. AT&T/WorldCom 6 (Weiss Direct) at 55-59. These TIFs are significantly less than those calculated based upon Qwest's 1997 and 1998 procedures. As an example, as Mr. Weiss has testified, Qwest's TIFs inflate the cost of materials such as circuit equipment mountings by as much as implying that it costs more to install a simple digital electronic circuit than it costs to purchase the circuit itself. Id. at 55. In contrast, Mr. Weiss's experience with other telecommunications carriers indicates that appropriate TIFs are more in the range of 1.14 to 1.34 times material costs. Id. at 59. Mr. Weiss has adjusted Qwest's proposals to reflect more efficient practices. A TELRIC methodology requires the adoption of these more representative TIFs rather than the inflated, embedded TIFs used by Qwest in this proceeding.

e. Joint Intervenors' Pricing Proposal.

Joint Intervenor witness Mr. Weiss has adjusted the Qwest model to reflect the utilization factors in TIFs that would be experienced by an efficient provider in recommending prices for high capacity loops in this proceeding. Because Qwest failed to provide its contracts regarding material investments until shortly before the hearing, Joint Intervenors had no opportunity to make the adjustment required to reflect Qwest's current contract pricing. Joint Intervenors have

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5 Given how dated the Qwest TIFs used in this proceeding are, these factors do not even incorporate any recent efficiencies Qwest may have adopted as a result of the limited competition that has taken hold in some segments of the telecommunications industry.

6 AT&T requested these materials as early as April 2001 in discovery. Qwest responded that it
also not completed any adjustment to the investment developed by LoopMod to ensure TELRIC pricing for the loop facility itself.

After making adjustments to reflect forward-looking utilization and TIFs, along with the application of appropriate expense factors as discussed in Section II.H below, the Joint Intervenors recommended a statewide average DS1 loop rate of $43.35 and a DS3 statewide average rate of $516.73. Given the substantial reduction in contract pricing, revealed by Qwest’s late-produced contracts, as well as the significant overstatement of loop placement costs as used within LoopMod, making the additional necessary corrections would likely result in an additional decrease of more than 30% from the prices recommended in Joint Intervenors’ testimony. Joint Intervenors propose that a reasonable range for the DS1 loop rate would be $30, while a reasonable DS3 statewide average loop rate would be approximately $350.

6. Transport.

A digitally capable loop like that described in Section II.C.2 above is a transmission path between a Qwest end office and a customer. Similarly, dedicated transport is simply a transmission path between two Qwest central offices, between an end office and a tandem office, or between a Qwest end office and the end office of a competing local carrier. The Transport Module used to calculate transport investment in Qwest’s ICM, therefore, makes many of the same assumptions regarding the equipment used, fill factors, and TIFs made by the NAC Model that Qwest uses in calculating high capacity loop pricing. For this reason, all of the criticisms that apply to Qwest NAC Model also apply to the Transport Module.

Unlike Qwest’s NAC Model, Qwest’s Transport Module does not identify the specific optical-digital equipment assumed by the model. This effect of Qwest’s failure to specify the equipment is that none of the parties can do a direct comparison of the equipment prices used in the module to Qwest’s current contracts. The Transport Module technical description, however, states that the equipment investment used in the Module reflects 1998 equipment prices, rather than prices currently available to Qwest. See Qwest Ex. 18 (Million Rebuttal) at Ex. TKM-02R (Transport Module Technical Description) at 5. Because the same types of equipment are used in providing both transport and high capacity digital loops, there is every reason to believe that Qwest has obtained the same reductions in optical-digital prices as reflected in its current contracts underlying the NAC Model. Qwest has the burden to prove that it has proposed pricing based on TELRIC. See 47 CFR § 51.505(e). Qwest’s reliance upon 1998 equipment prices, in the face of substantial evidence that it has obtained substantially lower prices for the same or similar equipment demonstrates that Qwest has not met its burden of proof.

b. Fill Factors and TIFs.

Qwest’s Transport Module also makes the same fill factor assumptions and uses the same TIF factors used in its NAC model. See Ex. Qwest 18 (Million Rebuttal) at Ex. TKM-02R (Transport Module Technical Description) at 11. Mr. Weiss’s adjustments to Qwest’s transport costs utilized the fill factors and TIFs he has proposed for use with Qwest’s NACM Model and are appropriate for the same reasons discussed above. Qwest’s proposed fill factors in TIFs are based upon embedded costs and are inappropriate for use in the TELRIC Model.

c. Joint Intervenors’ Pricing Proposal.

By using the fill factor and TIF adjustments proposed by Mr. Weiss, along with expense factor adjustments explained in more detail below, the Joint Intervenors have proposed
unbundled dedicated interoffice transport rates ranging from $12.40 for a DS0 UDIT for DS0 up to eight miles along with a $.06 per mile charge to $1,665.13 as the fixed charge for an OC12 UDIT along with an additional per mile charge. These prices, however, do not account for the further decrease in investment required to account for Qwest’s reduced optical-digital equipment investment. Joint Intervenors believe that this reduction would require further reductions of approximately 20% in the prices previously proposed.

One additional adjustment is required to the prices proposed by Qwest. Qwest has proposed different pricing for unbundled local transport depending upon whether that transport is between two Qwest serving wire centers (unbundled dedicated interoffice transport, or “UDIT”) or whether it is between a Qwest serving wire center and a CLEC central office (extended UDIT, or “E-UDIT”). Qwest provides distance sensitive rates for UDIT between Qwest wire centers while it intends to charge for E-UDIT between a Qwest wire center and a CLEC central office on a flat rated basis. There is no basis for this distinction. As Qwest admits, the same physical facilities are used to provide both UDIT and EUDIT. Tr. 348-49.

The Arizona staff has recently recommended to the Commission in the Qwest SGAT proceeding that Qwest should not be permitted to differentiate between UDIT and E-UDIT. See In the Matter of Qwest Corporation’s Section 271 Application, ACC Docket No. T-00000A-97-0238, Final Report on Qwest’s Compliance with Checklist Item No. 5 at ¶ 8. The Colorado hearing Commissioner has also recently determined in reviewing this precise issue that

In the pricing of network elements, ILECs “must recover costs in a manner that reflects the way they are incurred.” Local Competition Order at ¶ 440. This is interpreted as a blanket rule. The average rate proposed by Qwest for EUDIT is a discriminatory restriction that has no place in the pricing scheme the FCC has mandated for network elements.

The same result is required here. There is no basis for Qwest's discriminatory attempt to differentiate between transport elements in its rate structure. All transport should be provided using the rate structure Qwest has proposed for UDIT.

7. Shared Transport.

The facilities used to provide shared transport include tandem switching and the same facilities that are used to provide transport elements. The cost of shared transport, therefore, is developed directly from the costs that apply to the switching and transport elements as calculated by Qwest. Ex. AT&T/WorldCom 6 (Weiss Direct) at 74-75.

The Qwest calculation is based upon an allocation of tandem switching investment derived from its switching cost model and transport facilities investment derived from the transport module. Although switching costs have been deferred to a later proceeding, these costs are a minor portion of the costs Qwest has proposed for switched transport. Joint Intervenors propose that the Commission establish pricing now, subject to adjustment at the conclusion of the next phase of this proceeding.

It is clear that Qwest proposed costs for shared transport are overstated, even without considering switching issues. Qwest has used the same improper assumptions in developing shared transport rates that it proposes for transport rate elements. These assumptions to do comply with TELRIC and must be rejected. Joint Intervenors propose that the assumptions they have recommended for the development of transport pricing be used in determining TELRIC pricing for shared transport.
8. **Unbundled Network Element Combinations.**

Qwest has proposed that recurring charges for unbundled network element combinations, including the unbundled network element platform and enhanced extended loops, should be based upon the sum of the recurring rates applicable to the underlying elements. Joint Intervenors do not take issue with this proposal, except to the extent that they dispute the specific recurring rates proposed by Qwest for the underlying elements at issue.

**D. Development of Investment for Use in Determining Nonrecurring Charges for Unbundled Network Elements**

1. **In General.**

Nonrecurring charges are the one-time charges Qwest proposes to impose when a CLEC orders an unbundled element to allow the CLEC to serve its own retail customer. As the FCC has recognized, nonrecurring charges may pose barriers to entry. *Local Competition Order* at ¶¶ 747, 749. The FCC requires, therefore, that nonrecurring charges must be developed using the same TELRIC principles used in developing recurring rates. See 47 U.S.C. § 51.507(e). In addition, a state commission may require an ILEC to recover nonrecurring costs through recurring charges to reduce barriers to entry for competing local carriers. *Id.*

This Commission has also recognized that nonrecurring charges can act as barriers to competition, particularly when the charge exceeds the charge that Qwest recovers from its own retail customer. Because a new entrant’s “ability to compete” could be compromised by excessive non-recurring charges, this Commission has required that Qwest recover only what it seeks to recover from its own retail customers, less the appropriate avoided cost discount. *First Cost Docket Order* at 28-29.

The cost studies used by Qwest to develop the investment for nonrecurring charges adopt the same flawed assumptions that make its recurring investment models noncompliant with the
FCC’s TELRIC rules. Qwest has assumed that it will be required to use manual processing and provisioning for nearly all unbundled elements based upon its current outdated, inefficient procedures. In contrast, the non-recurring cost study submitted by the Joint Intervenors assumes the use of operational support systems ("OSSs") that are forward-looking. Joint Intervenors have provided supporting documentation for this study setting forth the basis for each assumption.

The model generates nonrecurring costs that reflect costs that would be experienced by an efficient carrier as required by TELRIC. Only the Joint Intervenors’ proposed nonrecurring cost model meets the standards established by the FCC for determining nonrecurring unbundled network element charges.

a. Qwest Studies.

Qwest’s nonrecurring cost studies are nothing more than a list of the task that Qwest contends will be required to establish each particular service or element and the amount of time that Qwest alleges will be required to perform each task. The study then multiplies the time estimates by an estimate of the probability that the task will be performed and by Qwest’s fully loaded labor rates for the task.

All of the information used in the studies comes from Qwest’s “subject matter experts” using assumptions based on Qwest’s current OSS systems. Tr. 653. Qwest has made no adjustments to reflect the efficiencies that would be achieved by forward-looking OSS systems, except to the extent that Qwest anticipated productivity increases for its existing systems at the time the initial estimates were made. *Id.* Many of these initial estimates appear to date from as early as 1998. *See* Ex. 36.

Qwest provided no support for the tasks, probabilities, times, or even the labor rates that make up its nonrecurring cost studies and the evidence that it presented to this Commission. For this reason, AT&T requested that Qwest provide all of its support for these studies in the course
of discovery. Representative samples of Qwest’s supporting documentation are found in Ex. AT&T/XO 36. This documentation demonstrates that Qwest’s estimates are little more are back-of-the-envelope guesses.

The Qwest studies presume that manual processing will be required a substantial portion of the time both in processing an order from a CLEC and in provisioning the order after it is processed. For example, Qwest presumes that only a limited subset of unbundled elements qualify for electronic processing of an order received from a CLEC without costly manual intervention. Even for those unbundled elements that are eligible for electronic order processing, Qwest presumes that as many as PROPRIETARY of the orders will fail to “flow through” the ordering system, requiring manual intervention. See, e.g., Ex. AT&T/XO 35 at p. 62 of 573.

Qwest then presumes that a substantial percentage of order will also require manual provisioning processes. Id. These presumptions, based upon nothing more than the unverified opinions of Qwest’s “subject matter experts,” do not represent the way orders would be processed in a forward-looking network. As the Minnesota commission determined in reviewing Qwest’s nonrecurring cost studies, these assumptions are not forward-looking. See In the Matter of a Generic Investigation of U S WEST Communications, Inc.’s Cost of Providing Interconnection and Unbundled Network Elements, OAH Docket No. 12-2500-10956-2, Report of the Administrative Law Judge (November 17, 1998) at ¶ 285 (“Minnesota Report”). This provides a substantial basis for rejecting Qwest’s model.

There is an additional problem with the structure of Qwest’s non-recurring cost study that affects all elements. Qwest has bundled together both connection charges and disconnection charges and proposes to impose both charges upon CLECs at the time a CLEC orders an unbundled element. As Qwest admitted during the course of the hearing, there is no way to
know when a service is initiated when that service will be disconnected. Tr. 662. In most circumstances where Qwest is providing unbundled network elements, there will never be a basis for a disconnect charge. For example, if the service being provided by certain elements is transferred from a new entrant to Qwest, there, in many circumstances, will be no need to disconnect the elements and no basis for any charge to the new entrant. Given that this is the case, Qwest’s inclusion of disconnection charges in its nonrecurring rates is nothing more than a barrier to entry that should not be permitted.

2. AT&T/WorldCom Nonrecurring Cost Model.

The model proposed by the Joint Intervenors for nonrecurring costs develops nonrecurring charges for activities associated with the installation, disconnection and migration of a customer from one carrier to another using unbundled network elements. The model assumes the efficient use of forward-looking OSS. See Ex. AT&T/WorldCom 6 (Weiss Direct) at Ex. THW-14. The model does allow for some manual intervention in both order processing and provisioning. The model assumes, however, that manual processing will be kept to a minimum by forward-looking systems. The Joint Intervenors have provided a manual as an exhibit to Mr. Weiss’ testimony setting forth the basis for each assumption made by the model and the support for that assumption. Id. The Minnesota commission, in the same proceeding discussed above, determined that the model proposed by the Joint Intervenor here should be adopted for determining nonrecurring charges to be imposed for unbundled network elements provided by Qwest. Minnesota Report at 285. The Commission determined that the assumptions made by the Model regarding manual processing, with limited exceptions, appropriately reflected what would be experienced in a forward-looking environment. Id. at 286-87. This Commission should adopt the same conclusion. The AT&T/WorldCom Model is the only nonrecurring cost model filed in this docket that complies with TELRIC.
3. **Nonrecurring Charges for Specific Elements.**

To prevent extending this brief beyond any reasonable length, the Joint Interveners will not address each of the nonrecurring charges Qwest has proposed in this proceeding. A few examples should suffice to demonstrate how Qwest has inflated the nonrecurring charges it intends to impose upon new entrants beyond any reasonable level.

**a. Unbundled Analog Loops.**

As was the case in the initial cost proceeding in this state, Qwest has proposed nonrecurring charges for installing unbundled loops that substantially exceed the charges by Qwest to its own retail customers for service installation. For example, Qwest has proposed installation charges for analog loops ranging from $88.29 to $232.25. Qwest’s own nonrecurring charges for basic service installation to its retail customers range from $35.00 for flat-rated residential customers to $56.00 for flat-rated business customers. See *Qwest Exchange Network Services Tariff,* ¶ 5.2.4.

As this Commission determined in the prior docket, nonrecurring charges like Qwest’s proposed unbundled analog loop charges that are substantially in excess of the charges Qwest assesses to its own end users will necessarily “act as barriers to competition.” *First Cost Docket Order* at 28. Qwest purports to support these inflated charges by assuming substantial manual processing in the ordering and provisioning of unbundled loops. For example, Qwest has established what it calls an “Interconnect Service Center” to process CLEC orders. Qwest assumes that this Interconnect Service Center will be required manually process <PROP> percent of all unbundled loop orders that Qwest receives electronically from a CLEC. See Exhibit 35, p. 62 of 573. This means that Qwest assumes that one its own service order representatives will actually review the order received electronically from a competitive local carrier and type that order into Qwest’s service order processor, even though a CLEC has already
presented the order in an electronic format suitable for direct processing. Qwest further assumes that some CLEC orders will be received by facsimile and includes the cost of processing these facsimile orders in the provisioning charge. *Id.*

Once an order has actually been submitted through Qwest’s Interconnect Service Center for processing, Qwest assumes further manual intervention. For example, Qwest contends that it will be required spend more than <PROP> minutes processing requests for manual assistance in its loop provisioning center on <PROP> percent of all unbundled loop orders. *Id.* The only support Qwest provides for this assumption is a 1998 memo indicating that in 1999, Qwest assumed that <PROP> percent of all special services orders would flow through its systems. See Exhibit 35, Tab 19. There is no indication of how this assumption was derived, upon what the assumption is based, or why this assumption is appropriate for application to an order for an unbundled loop. Qwest further assumes substantial manual procedures will be required for designing the unbundled loop product, for providing cross-connects, and for revising Qwest’s records and notifying customers of completion of provisioning. *Id* at 62-63. Many of these procedures could be accomplished electronically by forward-looking systems. See Ex. AT&T/WorldCom 6 (Weiss Direct) at 83-84. Qwest’s assumption of these time-intensive manual processes is not appropriate in a forward-looking cost model. *Id.*

In contrast, the cost model for nonrecurring charges provided by the Joint Intervenors assumes that unbundled loops can often be provisioned using mechanized processes. For example, all of the recurring cost models provided in this proceeding assume that unbundled loops will be provided using IDLC a substantial percentage of the time. Tr. 154. Loops provisioned using IDLC can be unbundled for a new entrant electronically without the need for any physical cross connection activity by Qwest. See Ex. AT&T/WorldCom 6 (Weiss Direct),
Ex. THW 14, at 68-70. This eliminates the need for much of the manual work assumed in the Qwest study.


The assumptions made by Qwest in producing its proposed charges for high capacity loops are, if anything, more egregious than those it makes in the charges it proposes for analog loops. Qwest high capacity loop installation charges range from $144.15 for basic installation to more than $300 for coordinated installation and testing. Qwest uses many of these same assumptions found in its analog loop installation cost study in proposing charges for installing DS1 and DS3 loops. Compare Ex. 35, pp. 62 and 63 of part 73, to Ex. Qwest 18 (Million Rebuttal) Ex. TKM-03R (Arizona NRC study work papers – DS1 capable loop and DS3 capable loop basic install.) The principal difference between the studies is that Qwest assumes every high capacity loop order will be reviewed by the Qwest Interconnect Service Center and input into Qwest’s service order processing systems by Qwest personnel. In essence, Qwest assumes that there will be no electronic flow-through into the Qwest provisioning systems for these types of orders. Id.

Qwest’s assumption that CLECs will never be permitted to submit an order for a high capacity loop without manual intervention by Qwest discriminates against new entrants. As the Minnesota Commission has determined:

Requiring that CLECs use a system requiring 100% follow-up is, by definition, discriminatory.

Minnesota Report at ¶ 261. In a forward looking system, a CLEC would be able to input its orders directly to the Qwest systems without manual intervention. Id. at ¶ 263. By failing to use forward looking assumptions, Qwest’s cost studies for nonrecurring charges on high capacity
loops fail to comply with the FCC's TELRIC methodology and do not meet Qwest's burden of proof to show that it has presented prices based upon forward looking economic costs.

E. Unbundled Network Element Platform

Qwest has proposed a variety of nonrecurring charges for the unbundled network element platform, ranging from a 68¢ charge for conversion of an existing basic POTS service to $82.49 for manual UNE-P POTS connection. In proposing these charges, Qwest has made many of the same assumptions regarding the necessity of manual work used in its loop proposals. For example, Qwest has assumed that many UNE-P order will also require manual intervention in Qwest's Interconnect Service Center. See, e.g., Ex. AT&T/XO 35, p. 501 of 573 (UNE-P ISDN PRI service, p. 505 of 573 (UNE-P ISDN PRI, DSS per DS1 facility, UNE-P POTS first line manual, new service, p. 517 of 573.) Qwest has assumed significant manual provisioning even in cases where a mechanized order does flow through. See, e.g., Id., p. 511 of 573. For example, Qwest intends to charge $55.56 even for a mechanized provisioning of UNE-P POTS service unless the CLEC's customer is already a customer of Qwest. As part of its support for this exorbitant charge, Qwest relies upon the same 1998 document used to support the Loop Provisioning Center charge used in its unbundled loop nonrecurring study. See Ex. AT&T/XO 36, Tab 112. Qwest assumes that manual work will be required as much as <PROP> of the time for certain tasks assumed by the study. See Ex. AT&T/XO 35, p. 511 of 573.

The nonrecurring cost study proposed by the Joint Intervenors in this proceeding assumes that plant will be dedicated to a premises and left in place after the end user service has been deactivated, suspended or terminated. See Ex. AT&T/WorldCom 6 (Weiss Direct), Ex. THW 14 at 37-38. In both current industry practice and in a forward looking environment, it is most efficient to leave connections place for future re-use, avoiding the labor cost involved in dismantling and subsequently reconnecting the facility to the same customer premises. Id. This
practice, sometimes known as warm dial tone, is used by Qwest, as indicated by the "idle
dedicated" lines in its network reflected in Qwest's recurring loop study. See Ex. AT&T/XO 6.
This means that there should be no requirement for substantial manual work even when a new
customer seeks to activate service at a premise formerly served by Qwest. The presumption in
Qwest's nonrecurring cost study that substantial manual work will be required, therefore, is not a
forward looking assumption and must be rejected.

1. Miscellaneous Nonrecurring Charges.

   Qwest has included proposals for nonrecurring charges with respect to various aspects for
   providing access to poles, ducts, conduits and rights of way in its nonrecurring cost study. The
   AT&T/WorldCom nonrecurring cost model focuses on charges for unbundled network elements
   and does not provide costs for these elements. It is clear from a review of Qwest charges,
   however, that the Qwest proposal has no sufficient basis and should be rejected.

   Qwest proposes to charge for field verification for conduit occupancy. This charge
   allegedly compensates Qwest for the costs it incurs to physically inspect each manhole along
   with the proposed route of conduct to ensure that sufficient space exists to accommodate a
   requesting CLEC's fiber. No such activity should be necessary. Qwest reviews its own records
to ensure that sufficient space exists, and Qwest is compensated for that records review through a
separate conduit occupancy inquiry fee. See WorldCom Ex. 1, p. 15 of 15-10.7.2. An additional
field inspection to verify the accuracy of Qwest's record should not be necessary, and CLECs
should not be responsible for paying Qwest to verify its own records. See Ex.

   AT&T/WorldCom 12 (Knowles Direct) at 17.

   Even if the Commission decided that Qwest may appropriately charge for a field
verification of Qwest's own records, Qwest should not be permitted to charge for this work at the
inflated fee it now proposes of more than $450 per manhole. Qwest’s nonrecurring cost study upon which this cost is based indicates that Qwest assumes more than <PROP> hours will be required to enter each manhole, to determine whether spare conduit exists in the manhole and to take notes correcting Qwest’s records. See Ex. Qwest 18 (Million Rebuttal) at Ex. TKM-03R, A2 Docket Details 601. Joint Intervenors believe, however, that no more than two hours should be required perform the necessary tasks. See Ex. AT&T/WorldCom 12 (Knowles Direct) at 18. Moreover, CLEC should not be required to pay for verification activities that Qwest does not need to conduct. Qwest proposes to charge for each manhole along the conduit route that the CLEC has requested to occupy. Qwest has provided no evidence that it actually performs such verifications or that it needs to perform the verifications for which it proposes to charge. Qwest should only be entitled to charge for field verifications in those manholes necessary to verify that sufficient conduit space is available.

b. Loop Conditioning.

Qwest has also proposed additional nonrecurring charges for loop conditioning in the amount of $652.83. This substantially exceeds the $557.12 nonrecurring charge proposed by Qwest in the prior proceeding which this Commission rejected as “significantly overstated.” First Cost Docket Order at 26. In fact, in a forward-looking network, there is no basis for a loop conditioning charge. See Ex. AT&T/WorldCom 14 (Hydock Direct) at 21-23. Bridge taps and load coils are not placed in a forward-looking network and Qwest should not be permitted to charge to bring its own network up to standards required to provide advanced services. Id. Moreover, such costs may be recovered in recurring rates, raising the possibility of double recovery if an additional non-recurring charge is imposed. Id. at 23.

Even if the Commission decided to impose a charge for loop conditioning, the proposal by Qwest here remains “significantly overstated” and must be rejected. Qwest has assumed
<PROP> hours for engineering for each line conditioning operation and additional time of almost <PROP> hours to perform the deloading. See Ex. AT&T/XO 35, p. 60 of 573. The only support for this estimate is found on a single page in Ex. AT&T/XO 36, Tab 17. There is no indication of the basis for the estimate provided. Moreover, the times provided are for unloading an entire 24-pair binder group. Nevertheless, Qwest intends to charge for deloading even if a CLEC asks for only a single pair to be deloaded. These proposed charges, like the other nonrecurring charges Qwest has proposed in this proceeding, are nothing more than barriers to entry that should be rejected by the Commission.

F. Development of Investment Used in Determining Charges for Collocation

Appropriate recurring and nonrecurring charges for collocation are discussed in the brief filed by Joint Intervenor WorldCom. AT&T and XO join in the arguments made in that brief.

G. Development of Investment Used in Determining Charges for Interconnection

Qwest has proposed interconnection charges in this proceeding for entrance facilities, direct trunk transport, multiplexing, local traffic, transit traffic, trunk nonrecurring charges, interconnection tied pairs and channel regeneration. It is Joint Intervenors' understanding that call termination rates will be determined in conjunction with the switching issues to be considered in the next phase of this Docket. Channel regeneration and certain aspects of transit traffic are discussed in the post-hearing brief filed by WorldCom in this matter. The other interconnection elements are discussed below.

1. Entrance Facilities.

It is Joint Intervenors' understanding that Qwest has withdrawn its request to impose interconnection charges for entrance facilities. If Joint Intervenors' understanding is incorrect, Joint Intervenors will address this issue in their reply memorandum.
2. **Direct Trunk Transport.**

Qwest's proposed direct trunk transport rates are equal to and developed in the same manner as its proposed rates for UDIT. All of the criticisms made by Joint Intervenors to these proposed rates are set forth in Section II.C.6 above.

3. **Trunk Nonrecurring Charges.**

Qwest's trunk nonrecurring charges are developed in the same manner as its other proposed nonrecurring rates. *See Ex. AT&T/XO 36.* All of the concerns raised by Joint Intervenors above concerning Qwest's nonrecurring cost proposals have the same applicability to its proposals for nonrecurring interconnection charges. The AT&T/WorldCom Nonrecurring Cost Model develops appropriate rates for these elements and should be adopted.

**H. Expense Factors**

After Qwest develops investment related costs using the cost models described above, it then loads those costs with the shared and common expenses that it contends it should be permitted to recover from CLECs as part of the cost of unbundled elements and other services. Qwest compounds the embedded nature of its investment cost development by further applying expense factors developed directly from the embedded costs of the company. This Commission has permitted a 10% addition to TSLRIC costs to recognize the shared and common costs that must be recovered from network elements. *A.C.C. R14-2-1310(B).* Qwest’s shared and common costs as proposed, however, add more than 30% to the cost of each network element.

Qwest derives these inflated expense figures directly from the books of the company. Qwest makes only limited adjustments to its actual costs, here based on end-of-year 1999 figures, in deriving the expense factors to be applied. For example, the expenses included within these factors include all of the costs related to Qwest’s involvement in Section 271 SGAT proceedings. *Tr. 389.* Other categories of cost Qwest seeks to recover include network support...
assets such as motor vehicles and aircraft, land and buildings, office equipment, general support
computers, legal expenses, general reference libraries, food services, and public relations
expenses. Ex. Qwest 18 (Million Rebuttal) at Ex. TKM-03, (Expense Factors Module Users
Manual) at 34-37. Qwest makes no adjustment to these factors as listed to take into account
costs more appropriately assigned to retail functions that have no place in a wholesale TELRIC
analysis. *Id.*

By relying upon its own embedded experience, Qwest ignores the requirement of
TELRIC that costs be based on those that would be experienced by an efficient firm. In fact,
Qwest itself has admitted to productivity gains of more than 20% since the 1999 experience used
in its cost studies. *See* Ex. AT&T/XO 39. Qwest also has advised this Commission that it
anticipates substantial productivity gains as a result of its merger. These gains are not reflected
in the expense figures Qwest seeks to apply in this proceeding. Tr. p. 681.

Because of these deficiencies, Mr. Weiss has recommended substantial revisions to the
Qwest proposed expense factors, to the extent that the Commission is required to modify the
Qwest cost studies in deriving prices in this proceeding. For example, Mr. Weiss has
recommended an additional productivity adjustment to reflect the merger efficiencies Qwest
promised this Commission when seeking approval of its merger. *See* Ex. AT&T/WorldCom 6
(Weiss Direct) at pp. 30-31. Mr. Weiss has also recommended that the cost reflected in many of
Qwest’s factors should be eliminated to prevent the recovery of embedded and retail costs as
required by the FCC’s TELRIC rules. *Id.* at pp. 32-40. These recommended changes bring the
Qwest expense factors closer to the costs that might be expected in a competitive market.7

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7 It is interesting to note that many of Qwest’s proposed wholesale factors in fact exceed the
factors that Qwest applies when calculating retail prices. *See* Ex. AT&T/XO 37. This
demonstrates Qwest’s failure to appropriately apply TELRIC principles in developing its factors.
The HAI Model, in contrast, uses TELRIC principles in determining the expenses that should be considered in network element pricing. For certain expense categories, such as network operations and general support categories, the HAI Model begins with Qwest’s year 2000 costs as reported in ARMIS. Thereafter, however, the model adjusts to remove expenses associated with Qwest’s retail operations and decreased expenses that would be expected in a forward-looking network. For other corporate overhead accounts, the HAI Model uses a 10.4% factor that reflects overhead that would be expected from a firm in a competitive market. This factor, in fact, exceeds the corporate overhead experience of most Bell operating companies at present. See Ex. AT&T/WorldCom 4 (Denney Rebuttal).8

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8 The Commission in its prior order and staff expert, Mr. Dunkel, adjusted the HAI overhead figure to 15%. It appears, however, this was based upon a misunderstanding of the expenses included within overhead in the HAI model. Qwest itself has acknowledged that the 15% figure is overstated and that its actual experience in the overhead accounts (the 6700 Series accounts) included within the HAI 10.4% figure is only approximately 12.9%. See Ex. Qwest 27 (Gude Rebuttal) at 39. It appears that the Commission may have intended the 15% overhead figure to also include network operations expenses and other corporate expenses that are included in other aspects of the HAI model.
III. CONCLUSION

For all the reasons set forth above, Joint Intervenors request that Commission reject the pricing proposals made by Qwest in this proceeding and adopt the pricing proposal made by AT&T and XO.

Dated this 31st day of August, 2001.

AT&T COMMUNICATIONS OF THE MOUNTAIN STATES, INC.

By:  
Mary B. Tribby  
Richard S. Wolters  
1875 Lawrence Street, #1500  
Denver, Colorado 80202  
303-298-6741 Phone  
303-298-6301 Facsimile  
rwolters@att.com E-mail

Mary E. Steele  
DAVIS WRIGHT TREMAINE LLP  
1501 Fourth Avenue  
2600 Century Square  
Seattle, WA 98101-1688  
206-628-7772  
206-628-7699 (Facsimile)

Attorneys for AT&T of the Mountain States, Inc. and XO Arizona, Inc.
CERTIFICATE OF SERVICE
ACC Docket No. T-00000A-00-0194

I hereby certify that on the 31st of August 2001, the original and ten copies of the Post-Hearing Brief of AT&T Communications of the Mountain States, Inc. and XO Arizona, Inc., in the above-referenced matter, was sent for filing via hand delivery, to:

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<th>Steve Olea, Acting Director</th>
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</thead>
<tbody>
<tr>
<td>Fennemore Craig, P.C.</td>
<td>John M. Devaney</td>
</tr>
<tr>
<td>3003 North Central Avenue, Suite 2600</td>
<td>Perkins Coie LLP</td>
</tr>
<tr>
<td>Phoenix, AZ 85012-2913</td>
<td>607 Fourteenth Street, NW, Suite 800</td>
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</tr>
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<td>Phoenix, AZ 85007</td>
</tr>
<tr>
<td>Name</td>
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<td>Sprint Communications Co.</td>
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<tr>
<td>110 Stony Point Rd., Suite 130</td>
<td>1850 Gateway Drive, 7th Floor</td>
</tr>
<tr>
<td>Santa Rosa, CA 95401</td>
<td>San Mateo, CA 94404-2467</td>
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<th>Jon Poston</th>
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<tr>
<td>McLeodUSA Telecommunications Services</td>
<td>Arizonans for Competition</td>
</tr>
<tr>
<td>6400 C Street, S.W.</td>
<td>in Telephone Service</td>
</tr>
<tr>
<td>Cedar Rapids, IA 52406</td>
<td>6733 E. Dale Lane</td>
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<td></td>
<td>Cave Creek, AZ 85331-6561</td>
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</tr>
<tr>
<td>9100 E. Mineral Circle</td>
<td>5818 N. 7th Street, Suite 206</td>
</tr>
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<tr>
<th>Deborah A. Verbil</th>
<th>Raymond S. Heyman</th>
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<td>Senior Counsel</td>
<td>Randy Warner</td>
</tr>
<tr>
<td>SBC Telecom, Inc.</td>
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</tr>
<tr>
<td>5800 Northwest Parkway, Suite 125</td>
<td>Two Arizona Center, Suite 1000</td>
</tr>
<tr>
<td>Room 1-T-20</td>
<td>400 North 5th Street</td>
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</tr>
<tr>
<td>P.O. Box 5159</td>
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</tr>
<tr>
<td>3000 Columbia House Blvd., Suite 106</td>
<td>Oakland, CA 94612</td>
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