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ARIZONA CORPORATION COMMISSION

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AZ CORP COMMISSION  
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DATE: NOVEMBER 8, 2001

DOCKET NO: T-00000A-00-0194

TO ALL PARTIES:

Enclosed please find the recommendation of Administrative Law Judges Lyn Farmer and Dwight Nodes. The recommendation has been filed in the form of an Opinion and Order on:

**QWEST CORPORATION**  
*(INVESTIGATION INTO QWEST CORPORATION'S COMPLIANCE WITH CERTAIN WHOLESALE PRICING REQUIREMENTS FOR UNBUNDLED NETWORK ELEMENTS AND RESALE DISCOUNTS)*

Pursuant to A.A.C. R14-3-110(B), you may file exceptions to the recommendation of the Administrative Law Judge by filing an original and ten (10) copies of the exceptions with the Commission's Docket Control at the address listed below by 4:00 p.m. on or before:

NOVEMBER 28, 2001

**Qwest and other parties, including Staff, are also directed to review the recommended Opinion and Order and to jointly file, by no later than the date that exceptions are due, a schedule of prices that is compliant with the Recommended Opinion and Order.**

The enclosed is NOT an order of the Commission, but a recommendation of the Administrative Law Judge to the Commissioners. Consideration of this matter has tentatively been scheduled for the Commission's Working Session and Open Meeting to be held on:

TO BE DETERMINED

For more information, you may contact Docket Control at (602) 542-3477 or the Hearing Division at (602)542-4250.

Arizona Corporation Commission

**DOCKETED**

NOV 08 2001

BRIAN C. McNEIL  
EXECUTIVE SECRETARY

DOCKETED BY

1 **BEFORE THE ARIZONA CORPORATION COMMISSION**

2 WILLIAM A. MUNDELL  
CHAIRMAN  
3 JIM IRVIN  
COMMISSIONER  
4 MARC SPITZER  
COMMISSIONER  
5

6 IN THE MATTER OF THE INVESTIGATION  
7 INTO QWEST CORPORATION'S COMPLIANCE  
8 WITH CERTAIN WHOLESALE PRICING  
REQUIREMENTS FOR UNBUNDLED  
NETWORK ELEMENTS AND RESALE  
DISCOUNTS.

DOCKET NO. T-00000A-00-0194

DECISION NO. \_\_\_\_\_

**PHASE II**  
**OPINION AND ORDER**

9 DATES OF HEARING: July 16, 17, 18, 19, 20, 27, and 31, 2001  
10 PLACE OF HEARING: Phoenix, Arizona  
11 ADMINISTRATIVE LAW JUDGES: Lyn Farmer and Dwight Nodes  
12 IN ATTENDANCE: William A. Mundell, Chairman  
Marc Spitzer, Commissioner  
13  
14 APPEARANCES: Mr. Timothy Berg, FENNEMORE CRAIG, and Mr.  
John M. Devaney and Mr. Norton Cutler, PERKINS,  
15 COIE, LLP, on behalf of Qwest Corporation;  
16 Ms. Mary Steele, DAVIS, WRIGHT, TREMAINE,  
LLP, on behalf of AT&T Communications of the  
17 Mountain States, Inc. and XO Arizona, Inc.;;  
18 Mr. Thomas H. Campbell, LEWIS AND ROCA, LLP,  
and Mr. Thomas Dixon, Jr., on behalf of WorldCom,  
19 Inc.;;  
20 Mr. Michael W. Patten, ROSHKA, HEYMAN &  
DeWULF, PLC, on behalf of Cox Arizona Telecom,  
21 Inc., Z-Tel Communications and McLeodUSA  
Telecommunications Services, Inc.;;  
22 Mr. Eric Heath on behalf of Sprint Communications  
Co., LP.;;  
23 Mr. Thomas H. Campbell, LEWIS & ROCA, LLP, on  
24 behalf of Time Warner Telecom of Arizona, LLC; and  
25 Mr. Christopher C. Kempsey, Chief Counsel and Ms.  
26 Maureen A. Scott, Staff Attorney, Legal Division, on  
27 behalf of the Utilities Division of the Arizona  
28 Corporation Commission.

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1 **BY THE COMMISSION:**

2 This docket comes before the Arizona Corporation Commission ("Commission") for a  
3 decision pursuant to the Telecommunications Act of 1996, to establish unbundled network element  
4 and interconnection prices for Qwest Corporation in the State of Arizona.

5 **I. INTRODUCTION**

6 The Telecommunications Act of 1996 ("1996 Act") established requirements and obligations  
7 for incumbent local exchange carriers ("ILECs") and competitive local exchange carriers ("CLECs")  
8 with respect to interconnection, provision of telecommunications services on an unbundled basis, and  
9 offering of telecommunications services for resale at wholesale rates. Pursuant to Section 251(c) of  
10 the 1996 Act (47 U.S.C. § 251(c)), an ILEC must accommodate CLEC requests to interconnect with  
11 the ILEC's existing local network and to use the network to compete for the provision of local  
12 telephone service. The ILEC must also provide a requesting CLEC with access to the elements that  
13 make up the ILEC's network on an individual or unbundled basis, and must make its retail services  
14 available on a wholesale basis for resale by a requesting CLEC. Further, the ILEC must allow for  
15 physical collocation of equipment necessary for interconnection or access to unbundled elements at  
16 the ILEC's premises or, when physical collocation is not practicable, the ILEC must provide for  
17 virtual collocation.

18 Under the pricing standards set forth in Section 251(d) of the 1996 Act, the rates charged for  
19 interconnection and unbundled elements must be "based on the cost (determined without reference to  
20 a rate of return or other rate-based proceeding) of providing the interconnection or network element  
21 ... [they must be] nondiscriminatory ... and may include a reasonable profit."

22 The 1996 Act also required the Federal Communications Commission ("FCC") to formulate  
23 rules to give effect to the 1996 Act. Under rules established by the FCC, pricing for interconnection  
24 and unbundled network elements ("UNEs") must use a forward-looking cost methodology that is  
25 based on the ILEC's total element long-run incremental costs ("TELRIC"). Pursuant to 47 C.F.R.  
26 § 51.505(b), the costs must be determined using the ILEC's existing wire center locations, and using  
27 the most efficient technology available, regardless of the technology actually used by the ILEC. State  
28

1 commissions are also required to use TELRIC methodology for purposes of determining  
2 interconnection and UNE prices.

3 On January 30, 1998, the Commission issued an Opinion and Order<sup>1</sup> ("*First Cost Docket*  
4 *Order*" or "Decision No. 60635") setting permanent prices for interconnection and UNEs, as well as  
5 wholesale discounts, for U S West Communications, Inc., nka Qwest Corporation ("Qwest"). At the  
6 time Decision No. 60635 was issued, the FCC's local competition rules<sup>2</sup>, including pricing  
7 provisions, had been vacated by the Eighth Circuit Court of Appeals on jurisdictional grounds. *Iowa*  
8 *Utilities Board v. FCC*, 120 F.3d 753 (8<sup>th</sup> Cir. 1997). As a result of the United States Supreme  
9 Court's decision in *AT&T v. Iowa Utilities Board*, 119 S.Ct. 721 (1999), those rules were reinstated.  
10 The Eighth Circuit Court of Appeals subsequently vacated 47 C.F.R. §51.505. *Iowa Utilities Board*  
11 *v. FCC*, 219 F.3d 744 (8<sup>th</sup> Cir. 2000). However, the Eighth Circuit's decision has been stayed and is  
12 currently pending before the United States Supreme Court.

13 Decision No. 60635, as well as several of this Commission's original arbitration decisions,  
14 were appealed to the Federal District Court for the District of Arizona. In *U S West v. Jennings*, 46  
15 F.Supp.2d 1004 (D. Ariz. 1999), the court upheld certain of the Commission's determinations and  
16 remanded others back to the Commission for further consideration. Several of the Federal District  
17 Court's rulings were appealed to the Ninth Circuit Court of Appeals, where they are currently  
18 pending.

19 The docket in this case was opened in 2000 to address issues related to Qwest's pricing of  
20 wholesale products and services. Phase I of this proceeding went forward on an expedited basis in  
21 order to comply with the FCC's geographical deaveraging requirements set forth in 47 C.F.R.  
22 §51.507(f). On July 25, 2000, the Commission issued an Opinion and Order in this case ("*Phase I*  
23 *Order*" or "Decision No. 62753") adopting *interim* geographically deaveraged UNE rates.

24  
25  
26 <sup>1</sup> *In the Matter of the Petition of American Communications Services, Inc. and American Communications*  
27 *Services of Pima County, Inc. for Arbitration with US West Communications, Inc. of Interconnection Rates, Terms, and*  
28 *Conditions Pursuant to 47 U.S.C. §252(b) of the Telecommunications Act of 1996, Docket No. U-3021-96-448, et al.*  
(January 30, 1998).

<sup>2</sup> *In re Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket  
No. 96-98, *First Report and Order* (rel. August 8, 1996)("First Report and Order").

1 Phase II of this proceeding was designed to address issues raised by subsequent FCC orders  
2 and judicial decisions, and to establish *permanent* geographically deaveraged rates. On December  
3 14, 2000, a Procedural Order was issued which stated that Qwest's existing UNE rates would also be  
4 reviewed in Phase II. The Phase II hearing commenced on July 16, 2001 and concluded on July 31,  
5 2001. Initial post-hearing briefs were filed on August 31, 2001. Reply briefs were submitted on  
6 September 21, 2001.

## 7 II. OVERVIEW OF COST MODELS

8 In this proceeding, Qwest presented its Integrated Cost Model ("ICM") to support its  
9 proposed rates for recurring costs associated with the provision of UNEs. Qwest's ICM is comprised  
10 of the Loop Module ("LoopMod") program, the Transport Module, the Capital Cost Module, and the  
11 Expense Factors Module. As described in more detail below, the LoopMod develops investment for  
12 a subscriber loop and drop wire based on engineering loop designs, vendor prices, and placement  
13 costs. The Transport Module is used to estimate the investment in transmission and channel  
14 termination equipment needed to provide transport between switching offices. The transmission  
15 investment includes costs associated with fiber facilities and intermediate multiplexing equipment.  
16 The channel transmission investment includes electronic equipment at the switch location that  
17 converts electronic signals into optical signals (Qwest Ex. 16, at 18-19). The Capital Cost Module  
18 includes inputs for the cost of money and depreciation lives. In this proceeding, Qwest is proposing a  
19 rate of 9.61 percent for the cost of money, which was approved by the Commission as part of the  
20 settlement agreement in Qwest's last rate case (Docket No. T-01051B-99-0105, et al.) (Qwest Ex. 18,  
21 at 18-19). Qwest's model also employs the Commission's prescribed forward-looking depreciation  
22 lives (Qwest Ex. 16, at 35-36). Qwest's Expense Factor Module includes inputs that reflect Qwest's  
23 expenses and investments adjusted for inflation factors (*Id.* at 23-25). For nonrecurring costs, Qwest  
24 proposes using its own nonrecurring cost model.

25 The CLECs rely upon the HAI 5.2a Model to support their proposed recurring costs and, for  
26 nonrecurring costs, they rely upon the AT&T/WorldCom Nonrecurring Cost Model. Staff supports  
27 use of the HAI 5.2a Model as a starting point. Staff recommends using the inputs adopted in  
28

1 Decision No. 60635 and, where no inputs exist from that Decision, Staff recommends utilizing the  
2 FCC inputs for the costs.

3 **A. Recurring Costs**

4 Recurring costs are the ongoing costs associated with providing a service or UNE. The costs  
5 generally include both capital costs and operating expenses. Recurring costs are typically presented  
6 as a cost per month or per unit of usage. Under the 1996 Act, TELRIC is the primary cost  
7 methodology used for determining pricing of UNEs and interconnection.

8 **1. Qwest's LoopMod Model**

9 LoopMod is an investment development program designed by Qwest that produces the  
10 investment for a subscriber loop and drop wire that can be used by Qwest as a basis for costs used in  
11 pricing decisions (Qwest Ex. 1, at 2). LoopMod calculates the investment required for loop and drop  
12 wire based on standard engineering loop designs, vendor prices and placement cost estimates.  
13 According to Qwest witness Buckley, the investments considered in LoopMod include materials,  
14 construction, and engineering required to build loop plant from the central office to a subscriber. Mr.  
15 Buckley testified that LoopMod uses quantity of lines in service, prices charged by contractors for  
16 outside plant construction, and distribution area data that are unique to Arizona. He indicated that,  
17 after LoopMod calculates the investment required, the results can be converted to monthly costs that  
18 are used by Qwest to make pricing decisions for the unbundled loop (*Id.*).

19 Qwest claims that the two most important factors in developing an Arizona-specific loop plant  
20 investment are distance and population density. Mr. Buckley stated that feeder investments are  
21 directly affected by the distance between the central office and the end-user's premises because  
22 longer distances require installation of more feeder plant. In addition, the density of the distribution  
23 area affects costs because higher density areas use larger, more efficient feeder cables and shorter  
24 distribution cables (*Id.* at 3). According to Qwest, its cost studies are designed to yield the forward-  
25 looking replacement costs of reproducing its telecommunications network considering the most  
26 efficient, least-cost technologies that are currently available (Qwest Ex. 16, at 3).

27 In determining forward-looking costs, Qwest contends that its cost studies take into account  
28 what facilities are currently deployed in the network, as well as what is reasonably expected to be

1 deployed on a forward-looking basis (*Id.* at 5). Qwest claims that LoopMod considers the most  
2 efficient mix of copper, fiber and integrated facilities and, consistent with TELRIC, uses technologies  
3 that are commercially available and currently being deployed in the industry (*Id.* at 7). However,  
4 Qwest asserts that its model does not rely on unproven or state-of-the-art technologies because of  
5 uncertainty as to future availability of such facilities and inefficiencies inherent in deploying the  
6 technologies where utilization of facilities is low (*Id.* at 5-6).

7 Qwest witness Teresa Million testified that Qwest also uses market prices to determine the  
8 costs of equipment and materials included in the Company's studies. She asserts that placement costs  
9 for facilities are based on the expenditures that the network organization currently incurs to perform  
10 various functions, based on actual contracts with vendors that do work for Qwest in Arizona (*Id.* at  
11 7). Ms. Million testified that Qwest's studies include forward-looking operating expenses by  
12 adjusting the Company's recent expense information to develop annual cost factors that estimate  
13 forward-looking costs. Qwest uses historical information as a starting point, and adjusts expense  
14 factors to account for future efficiencies and expected inflationary/deflationary price impacts (*Id.* at  
15 8).

16 Qwest also claims that it attempts to validate the assumptions and inputs it uses. As an  
17 example, Qwest asserts that component prices are taken directly from actual network contracts with  
18 Arizona vendors and that assumptions are verified through discussions with internal experts about  
19 actual construction experiences. According to Qwest, its cost analysts also spend extensive time  
20 reviewing cost data for related UNEs, and for the same UNEs in other states, to ensure that the  
21 model's results are reasonable (*Id.* at 28).

22 The CLECs contend that Qwest's LoopMod is simply a next generation version of the  
23 Regional Loop Cost Analysis Program ("RLCAP") that was rejected by this Commission in Decision  
24 No. 60635. In that Decision, the Commission stated that the US West models were "based upon  
25 embedded costs and technology, and do not consider particular demographics and geology of the  
26 State of Arizona" (*First Cost Docket Order*, at 7). The CLECs claim that many of the concerns that  
27 caused the Commission to reject the RLCAP model in the prior proceeding still exist with respect to  
28 the LoopMod model. The CLECs argue that, similar to the rejected RLCAP model, LoopMod relies

1 on Qwest's embedded network when that information increases the loop cost estimate and rejects the  
2 embedded costs when it leads to a decrease in Qwest's proposed loop cost.

3 As an example of the alleged deficiencies in Qwest's model, the CLECs assert that LoopMod  
4 fails to use accurate customer locations in designing outside loop plant. The CLECs contend that,  
5 although LoopMod uses some information regarding customer locations, the information relied upon  
6 dates from 1996. Another criticism leveled at Qwest's model is that the use of standardized  
7 distribution groups, as applied to Qwest's existing distribution areas, ignores the possibility that more  
8 efficient designs might yield lower costs (AT&T/WorldCom/XO Ex. 8, at 43). The CLECs claim  
9 that Qwest's use of standardized designs in its model shows that the model does not reflect what is  
10 required to serve existing customers in Arizona. Therefore, the CLECs recommend that Qwest's  
11 LoopMod should be rejected.

12 Qwest responded to the CLECs' criticisms by asserting that LoopMod uses data relating to  
13 the density characteristics of actual Arizona distribution areas ("DAs") to develop state-specific  
14 distribution investment. Qwest claims that LoopMod's distribution network starts with standard  
15 distribution designs that account for the effect of natural and man-made obstacles, such as roads and  
16 buildings. Qwest states that LoopMod then applies a multiplier based on the individual DA densities  
17 to adjust the cable lengths in the standard design, resulting in cable lengths that are Arizona-specific  
18 (Qwest Ex. 2, at 24). Qwest argues that the use of actual Arizona DAs, current Arizona vendor prices  
19 and placement costs, and forward-looking architectures is consistent with TELRIC principles and is a  
20 least-cost approach to modeling the Company's network.

21 Qwest also contends that, in the *First Cost Docket Order*, the Commission did not adopt  
22 either the RLCAP or Hatfield model (which was sponsored by the CLECs), but used parts of each for  
23 determining the loop rate. Moreover, according to Qwest, there are many material differences  
24 between RLCAP and LoopMod that render criticisms of the prior model irrelevant. Qwest points out  
25 that differences between the models include: new design of the feeder network that is based on  
26 Arizona-specific wire centers; different weighting within the distribution network that reflects unique  
27 Arizona densities; disaggregation of placement costs by density groups and by urban/rural to reflect  
28

1 placement methods an engineer would choose; and reduction in the amount of directional boring  
2 assumed in LoopMod (Qwest Ex. 1, at 5, 8, and 13; Tr. 131-133).

3 Qwest asserts that these differences show that LoopMod specifically accounts for Arizona-  
4 specific demographics in the distribution network based on the unique density within each Arizona  
5 distribution area. Qwest adds that LoopMod does not rely on so-called "embedded" inputs but,  
6 rather, is based on forward-looking assumptions that reflect how networks are designed and operated  
7 in the real world. Accordingly, Qwest requests that the Commission adopt LoopMod as the most  
8 appropriate recurring cost model presented in this proceeding. Based on application of its model,  
9 Qwest recommends an unbundled statewide average loop rate of \$25.95 (Qwest Ex. 18, at 59), which  
10 is significantly higher than the rate of \$21.98 that is now in effect in Arizona.<sup>3</sup>

## 11 2. HAI Model

12 AT&T/WorldCom/XO (AT&T/WorldCom/XO may be generically referred to as "the  
13 CLECs") agree with Qwest that UNE prices should be established based on costs, but disagree with  
14 how those costs should be determined. The CLECs claim that, despite Qwest's repeated admonition  
15 that the Commission must rely on Qwest's real world costs in setting UNE rates, Qwest has failed to  
16 recognize that in the real world competition is almost non-existent in Arizona, even at the current  
17 UNE rates. The CLECs point out that Qwest has sold fewer than 23,000 unbundled loops in the  
18 entire state, resulting in a competitor penetration rate of only three percent of Qwest's voice market  
19 (AT&T/WorldCom/XO Ex. 1, at 8). CLEC witness Gillan testified that competitive carriers are  
20 scaling back plans to enter the competitive carrier market or abandoning the market altogether (*Id.*).  
21 Although the CLECs agree that UNEs must be cost-based, they contend that Qwest's proposed costs  
22 do not comply with controlling TELRIC principles.

23 The HAI 5.2a Model ("HAI Model"), which was previously known as the Hatfield Model,  
24 was sponsored by AT&T/WorldCom/XO. The CLECs argue that the Commission should base its  
25 decision regarding recurring costs on the results produced by the HAI Model. According to the  
26 CLECs, the HAI Model has the benefit of this Commission's prior review, as well as review by other  
27

28 <sup>3</sup> The current Zone 1 loop rate of \$18.96 encompasses approximately 90 percent of Qwest's access lines.

1 state commissions and the FCC. The CLECs claim that the HAI Model is preferable to Qwest's ICM  
2 because the HAI uses actual customer locations in Qwest's Arizona service area to the extent  
3 possible. Where actual customer locations are not available, the HAI Model uses surrogate customer  
4 locations placed uniformly along the roads in the census blocks where customers are located. The  
5 CLECs claim, therefore, that the HAI Model develops the distribution plant necessary to serve actual  
6 customers, as opposed to assuming an average investment based upon standardized designs  
7 (AT&T/WorldCom Ex. 3, at 11-12).

8 Qwest's models are designed to calculate the investment required to provide a specific  
9 element or service. The Company then applies capital costs, and maintenance and expense factors to  
10 develop the recurring or nonrecurring charge that it proposes for the particular element (Qwest Ex.  
11 16, at 9-10). The CLECs contend that, while Qwest's maintenance and expense factors are based on  
12 the Company's embedded books, the HAI Model is based on forward-looking expenses that are  
13 consistent with a TELRIC analysis.

14 Based on application of the HAI Model, the CLECs advocate adoption of a statewide average  
15 loop rate of \$10.11. The CLECs note that Staff's proposed statewide average loop rate is \$12.35,  
16 which is close to the loop rate recommended by the CLECs (Staff Ex. 32, Sched. WD-17). The  
17 CLECs argue that Qwest's proposal is so far out of line with the CLECs' and Staff's recommendation  
18 because Qwest relies on a model that is designed to produce costs that will prevent entry by  
19 competitors through the use of unbundled elements.

20 The CLECs also assert that the HAI 5.2a Model provides rates for unbundled loops that  
21 comply with the FCC's TELRIC rules. The CLECs point out that the HAI Model has been reviewed  
22 in both state and federal proceedings and many portions of the model have been accepted by the FCC  
23 for estimating the forward-looking costs of providing universal service (AT&T/WorldCom/XO Ex. 3,  
24 at 16-19).

25 With respect to the placement of distribution plant the CLECs claim that the HAI Model  
26 places customers where they are actually located. Where actual customer locations are not known,  
27 the model uses the U.S. Census Bureau's location of residential households by census block (*Id.* at  
28 20). Mr. Denney stated that, because this census block information places customers uniformly along

1 roadways, it likely overestimates the actual dispersion of customers and therefore likely overstates  
2 the amount of the distribution plant needed to serve the customers, thereby addressing Qwest's  
3 concern (*Id.* at 21).

4 As indicated above, Staff recommends adoption of the HAI 5.2a Model in this proceeding.  
5 Staff witness Dunkel testified that because TELRIC studies are intended to be forward-looking in  
6 nature, they should be based on expected costs on a forward-looking basis for an efficient provider,  
7 using current commercially available technology. Mr. Dunkel claims that the Commission must be  
8 cognizant of the fact that it is in the ILEC's interest to make charges for UNEs, collocation, and  
9 interconnection as high as possible. According to Mr. Dunkel, ILECs benefit from higher prices for  
10 these services because such charges are imposed on the ILEC's competitors thereby raising the  
11 competitive LECs' cost of doing business (Staff Ex. 30, at 4-5).

12 Although Mr. Dunkel advocates adoption of the HAI Model, he stated that the model  
13 sponsored in this case by the CLECs did not use, in some cases, the inputs specified by the  
14 Commission in the *First Cost Docket Order*. Mr. Dunkel recommends that the Commission adopt  
15 the HAI 5.2a Model, but that the Commission utilize the inputs previously approved in the *First Cost*  
16 *Docket Order*. Where the Commission did not address a specific input in that Order, Mr. Dunkel  
17 proposes using inputs adopted by the FCC (*Id.* at 72).

### 18 **3. Conclusion on Recurring Cost Models**

19 In the *First Cost Docket Order*, we declined to accept either Qwest's model or the CLECs'  
20 Hatfield Model in its entirety. After considering the evidence submitted in this proceeding, we find  
21 that the HAI 5.2a Model relied upon by the CLECs and Staff, provides the most appropriate measure  
22 of determining TELRIC-compliant, forward-looking costs and prices for UNEs, when used as a  
23 starting point and subject to the determination of specific inputs as discussed below. We agree with  
24 Staff and the CLECs that Qwest's model is based primarily upon its embedded network and costs and  
25 that Qwest's model fails to adequately incorporate efficiencies that should be recognized in a  
26 TELRIC environment.

27 Reliance on an incumbent LEC's embedded costs clearly does not recognize the efficiencies  
28 that would likely be experienced in a truly competitive environment. As discussed below in greater

1 detail, in evaluating the specific inputs contained in the models we must take into account whether  
 2 the components of the model reflect the least-cost, most efficient assumptions that are required under  
 3 a TELRIC analysis. Although each of the issues discussed below is evaluated independently, we  
 4 believe that, subject to the adjustments described herein, the HAI Model properly recognizes the  
 5 TELRIC methodology that is required for assessing Qwest's costs and UNE prices.

6 **a. Specific Recurring Cost Issues**

7 **i. Placement Costs**

8 As used in both the HAI Model and Qwest's LoopMod, placement costs are those costs  
 9 associated with placing cable, including costs for trenching or boring, and the frequency that those  
 10 placement methods will be used in placing buried cable. Placement costs for buried cable make up a  
 11 significant portion of the investment for the unbundled loop in both the HAI Model and Qwest's  
 12 LoopMod.

13 Qwest argues that, in a competitive market, placement costs must be based on the actual costs  
 14 that would be incurred by a carrier in placing facilities. For example, Qwest claims that  
 15 consideration must be given to costs associated with navigating around many types of obstacles,  
 16 including streets, highways, sidewalks, buildings, and yards. Absent consideration of these types of  
 17 factors, Qwest asserts that the inputs will not produce accurate results that are reflective of conditions  
 18 in a competitive environment. Qwest also contends that LoopMod maintains consistency in its  
 19 assumptions by including shorter lengths of cable that would occur in a replacement network, while  
 20 recognizing that such a replacement network would require a significant amount of boring and  
 21 trenching (Qwest Ex. 1, at 16). Qwest disputes the CLECs' and Staff's contention that cable will not  
 22 often have to be placed around and through landscaping.

23 According to the CLECs and Staff, Qwest exaggerates placement costs because Qwest  
 24 assumes that a high percentage of installation jobs would require cutting and restoration of concrete,  
 25 asphalt, or sod. The CLECs contend that, in its *inputs Order*,<sup>4</sup> the FCC determined that basing costs  
 26 on small scale projects is not appropriate and the most reflective method of estimating construction of  
 27

28 <sup>4</sup> *Tenth Report and Order, In the Matter of Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, FCC 99-304 (rel. Nov. 2, 1999).

1 a local telephone network is for projects with expenditures over \$50,000 (*Id.*, ¶109). The CLECs  
2 state that Qwest's placement costs used in its model are based on "numerous small jobs or routine  
3 day-to-day work activities" (AT&T/WorldCom/XO Ex. 10, §1, p. 10). The CLECs and Staff argue  
4 that, in the real world, Qwest most often places facilities in the ground before obstructions are built.  
5 Staff also asserts that, even in urban environments, cutting and restoration of asphalt and concrete are  
6 often not necessary because cable is placed in existing underground conduits (Tr. 914-919).  
7 Accordingly, Staff and the CLECs allege that Qwest's pricing overstates the actual costs that would  
8 be incurred in constructing plant using a TELRIC analysis.

9 We agree that Qwest's LoopMod inputs overstate the costs attributable to placement of buried  
10 cable in a forward-looking environment. Applying a forward-looking TELRIC analysis, we agree  
11 with the CLECs and Staff that an appropriate cost model should assume efficient placement  
12 techniques being used by the ILEC and should assume that some, but not the majority of placement  
13 activities would require that streets, sidewalks, and landscaping would need to be cut and restored or  
14 bored. Compared to the LoopMod assumptions, the HAI Model relies upon the more reasonable  
15 assumption that, in a forward-looking environment, cable will be placed efficiently without the  
16 requirement of extensive boring and cutting. Therefore, we will adopt the HAI Model's assumptions  
17 on this issue.

18 **ii. Structure Sharing**

19 Structure sharing is included in the models as a percentage of the time it is assumed that  
20 outside plant facilities will be shared by the ILEC, cable operators, electric utilities or others,  
21 including CLECs and interexchange carriers. Staff and the CLECs contend that Qwest's model  
22 inputs underestimate the amount of sharing that will occur in a forward-looking environment. The  
23 CLECs argue that Qwest's sharing assumptions do not reflect that Qwest will have the same sharing  
24 opportunities that existed when its plant was built. Instead, according to the CLECs, Qwest's study  
25 assumes that its telecommunications facilities will be rebuilt in areas where electric and cable  
26 company facilities are already in place.

27 Qwest argues that, to share in placing buried cable, there must be a need for multiple  
28 providers to access a given area at approximately the same time. Qwest witness Buckley stated that,

1 in new subdivisions, trenching activities can often be coordinated and the trenching costs shared  
2 among multiple utility providers (Qwest Ex. 1, at 24). However, Mr. Buckley contends that a rebuild  
3 of the network will not involve sharing among multiple providers because the other providers already  
4 have facilities in place. LoopMod assumes that Qwest will pay 50 percent of the costs of placing  
5 aerial cable, 80 percent of the costs of placing buried cable, and 95 percent of the costs of placing  
6 underground cable (*Id.* at 25-26). Qwest contends that the data from the Company's buried  
7 placement records for the years 1995 to 1999 demonstrates that the Company has been able to trench  
8 for approximately 18 percent of the buried sheath placed. Mr. Buckley asserts that this data  
9 conservatively verifies Qwest's LoopMod assumption that there will be opportunities to share  
10 trenching costs with other utilities no more than 20 percent of the time (*Id.* at 27).

11 Staff contends that Qwest's proposed sharing cost for buried cable is similar to the level that  
12 was proposed by Qwest in the prior cost docket and rejected by the Commission (Decision No.  
13 60635, at 20). Staff argues that Qwest's proposed structure sharing percentages are based upon  
14 historical or embedded cost data and bear no relationship to the least-cost forward-looking TELRIC  
15 standard required under the 1996 Act and FCC rules.

16 The CLECs add that the FCC's *Inputs Order* requires that sharing assumptions in a TELRIC  
17 model should reflect that the telephone industry will have at least the same opportunity to share the  
18 cost of building plant as existed when the plant was built.<sup>5</sup> The CLECs argue that Qwest's model  
19 inputs for sharing ignore this standard and, instead, assume that telecommunications plant will be  
20 rebuilt in areas where other utility providers are already in place (Qwest Ex. 29, at 50). The CLECs  
21 also point out that many communities require or encourage cooperation among providers in placing  
22 trenches, and that many developers provide the trench to utilities at no cost (Tr. 913-914).

23 In the last cost docket, US West claimed that it had paid for placement of facilities, for both  
24 distribution and feeder, in the following percentages: 50 percent for aerial; 100 percent for  
25 underground; and 83 percent for buried cable (Decision No. 60635, at 20). The Commission rejected  
26 US West's facilities sharing proposal and established the sharing percentages as 50 percent each for  
27

28 <sup>5</sup> *Inputs Order*, ¶244.

1 aerial, underground, and buried cable (*Id.*). Staff recommends that the same sharing percentages be  
2 maintained in this case while the CLECs propose adoption of the HAI Model's assumptions.

3       The structure sharing assumptions included in the HAI model are similar to those approved in  
4 the *First Cost Docket Order*, which we found in that Decision to be more reflective of a forward-  
5 looking network than the sharing assumptions proposed by US West. When facilities are initially  
6 being placed in a high growth market there will be a significant amount of developer-provided trench  
7 and thus, in a forward-looking model, costs should be reduced by substantial sharing. Moreover, as  
8 the CLECs and Staff point out, Qwest's proposed structure sharing assumptions are similar to the  
9 percentages that were rejected by this Commission in the *First Cost Docket Order* and Qwest has not  
10 convinced us that those assumptions have any more merit in this proceeding. We will, therefore,  
11 accept the sharing assumptions adopted in Decision No. 60635 of 50 percent each for aerial,  
12 underground, and buried cable, as proposed by Staff.

13                               **iii. Plant Mix**

14       Plant mix refers to the relative percentage of facilities that are buried, placed in underground  
15 conduit, and placed on telephone poles. Qwest witness Buckley stated that conduit systems are  
16 typically used in areas where there are multiple cables and where there is a need for easy access to the  
17 cables, such as areas with high population density. In less densely populated areas, trenching and  
18 plowing is often used for cable placement. Mr. Buckley indicated that aerial cable placement has  
19 declined in recent years because it is subject to higher maintenance costs, and because many  
20 municipalities and homeowners groups now require buried cable for aesthetic reasons (Qwest Ex. 1,  
21 at 28). Placement costs will be affected by the mix of these various structures because the cost of  
22 placing aerial, buried, and underground cable varies substantially.

23       LoopMod assumes underground placement for cable within certain distances from the central  
24 office, depending on the size of the wire center. The model's breakpoint between underground and  
25 buried cable is 1,000 feet for very small wire centers, 7,000 feet for small wire centers, 14,000 feet  
26 for medium wire centers, and 20,000 feet for large wire centers. The default aerial input in the model  
27 is 14 percent, which Qwest states is based on a Qwest company-wide summary of cable sheath miles  
28 in service. Mr. Buckley testified that a 2000 report shows that aerial comprises 13.8 percent,

1 compared to 14.5 percent in 1996. Qwest asserts that this data shows a decreasing trend in use of  
2 aerial cable and that it is highly unlikely that a forward-looking network would result in an increase  
3 in aerial cable (*Id.* at 29).

4 The CLECs contend that the actual percentage of aerial cable in Arizona is approximately 19  
5 to 20 percent (Tr. 140). The HAI model assumed an even higher percentage of aerial cable, which  
6 Mr. Denney testified comes close to replicating Qwest's aerial sheath mileage as reported to ARMIS  
7 (AT&T/WorldCom/XO Ex. 5). The CLECs argue that Qwest's reliance on its embedded structure  
8 for aerial structure assumptions is contrary to TELRIC. The CLECs urge the Commission to adopt  
9 the HAI assumptions, which they claim are based on a least-cost analysis that considers the cost of  
10 placing and maintaining the plant.

11 We agree with Qwest that the trend in decreased use of aerial cable should be reflected in a  
12 forward-looking cost model. It is inconsistent for the CLECs to argue, on the one hand, that cost  
13 inputs should not reflect Qwest's embedded network while, on the other hand, advocating the use of  
14 historical data for purposes of determining plant mix. The evidence shows that the use of aerial cable  
15 has been declining in recent years and that its use is likely to decline into the future. However,  
16 Qwest's proposed use of a system-wide percentage fails to recognize that aerial cable is used in a  
17 higher frequency in Arizona. Since Qwest's witness testified that the Company's aerial cable  
18 percentage in Arizona is currently at 19 to 20 percent, we will adopt an aerial cable ratio of 19  
19 percent to give recognition to the declining trend in the use of such cable. Adoption of this  
20 percentage reflects a forward-looking network on an Arizona-specific basis while, at the same time,  
21 reducing the CLECs' HAI default values which are higher.

22 **iv. Fill Factors**

23 The FCC's TELRIC methodology, as set forth in its *First Report and Order*, requires that per-  
24 unit costs should be determined from total costs by using reasonably accurate "fill" or "utilization"  
25 factors. These fill factors represent estimates of the proportion of a facility that will be filled with  
26 network usage. The FCC stated that the per-unit costs are derived "by dividing the total cost  
27 associated with an element by a reasonable projection of the actual total usage of the element" (*Id.*,  
28 ¶682). FCC Rule 505 provides that the TELRIC cost of an element "should be measured based on

1 the use of the most efficient technology currently available and the lowest cost network  
2 configuration, given the existing location of the incumbent LEC's wire centers." 47 C.F.R. §51.505.

3 The FCC stated in its *Inputs Order*, at Paragraph 186, that:

4           The percentage of the total useable capacity of cable that is expected to  
5           be used to meet current demand is referred to as the cable fill factor. If  
6           cable fill factors are set too high, the cable will have insufficient  
7           capacity to accommodate small increases in demand or service outages.  
8           In contrast, if cable fill factors are set too low, the network could have  
9           considerable excess capacity.

10           Qwest's LoopMod assumes that living units will have two or three cable pairs, depending on  
11 the density group in which the living unit is located. Qwest's two or three pair assumption per living  
12 unit is based on its claim that it is less costly to place multiple pairs at once instead of later  
13 reinforcing facilities as demand increases. Qwest witness Buckley testified that although in Arizona  
14 there are currently approximately 1.17 working lines per residence, the Company's proposed fill  
15 factors are economically efficient and consistent with the goal of providing service on demand and  
16 minimizing held orders (Qwest Ex. 1, at 32).

17           The CLECs contend that Qwest's fill assumption of two to three pairs per household is  
18 inconsistent with the FCC's cable fill standards. The CLECs argue that the FCC has rejected a "pairs  
19 per location" approach in determining fill factors on a forward-looking basis. AT&T/WorldCom/XO  
20 witness Denney stated that Qwest's fill assumption would require the purchaser of an unbundled loop  
21 to pay the cost for all growth that may occur in the future within the network (AT&T/WorldCom/XO  
22 Ex. 3, at 38-39). The CLECs assert that the FCC requires distribution fill in a TELRIC model to be  
23 sized to meet current demand, including an amount of excess capacity to accommodate short-term  
24 growth.<sup>6</sup> The CLECs point out that, although Qwest's models assume three pairs for most locations,  
25 actual line usage demand is far less (AT&T/XO Ex. 5). The CLECs contend that this disparity  
26 between US West's and the CLECs' fill assumptions in the prior cost docket led the Commission to  
27

28 <sup>6</sup>           FCC *Inputs Order*, ¶¶199-201.

1 adopt the HAI model's fill factors.<sup>7</sup> The CLECs also claim that, because the HAI 5.2a fill factors  
 2 used in this docket are even more conservative than those previously adopted by the Commission, the  
 3 CLECs' proposed fills should be adopted in this docket.

4 We agree with the CLECs that the HAI model's use of a 75 percent cable sizing factor for  
 5 distribution plant, resulting in an average actual fill factor of 48.8 percent (or slightly more than 2  
 6 lines per household), is appropriate (AT&T/WorldCom/XO Ex. 3, at 38). As the CLECs point out,  
 7 Qwest's model develops the investment required to serve some unidentified "ultimate demand" and  
 8 spreads the cost of serving that ultimate future demand over only current demand (Tr. 100;  
 9 AT&T/XO Ex. 5). We believe that, consistent with the FCC's *Inputs Order*, adoption of the HAI fill  
 10 factors recognizes fills that are sized to meet current demand, including an amount of capacity to  
 11 meet additional demand. Qwest's modeling of three pairs per location for most density group  
 12 locations far exceeds current actual demand of less than 1.2 lines per location. As we stated in the  
 13 *First Cost Docket Order*, "the use of achievable average fill factors of the Hatfield Model would be  
 14 more representative of a forward-looking, least cost, efficient network."<sup>8</sup> Further, the fills advocated  
 15 by the CLECs in this docket are actually lower than those adopted in the prior docket. The CLECs'  
 16 proposed fill factors will be adopted.

17 v. **Drop Lengths**

18 The drop wire is the outside plant facility that extends from a distribution terminal to the  
 19 actual customer premises. Qwest breaks the lengths of the drop facilities out by aerial versus buried  
 20 and by distribution density group. In Qwest's model, only density groups 3, 4, and 5 use drops, while  
 21 groups 1 and 2 utilize an entrance facility as opposed to a drop wire (Qwest Ex. 1, at RJB-3, page 3).  
 22 Qwest's drop length proposal is based on data from seven Qwest states which produces an average  
 23 drop length of approximately 150 feet. When applied to the state specific mix of density groups, the  
 24 data produce a statewide average drop length of approximately 110 to 120 feet, which Qwest has  
 25 proposed to be used for this proceeding (*Id.*).

26  
 27  
 28 <sup>7</sup> *First Cost Docket Order*, at 16.

<sup>8</sup> *Id.* at 17.

1 Qwest argues that the average drop length of approximately 66 feet produced by the CLECs'  
2 HAI Model is unreasonably short. According to Qwest, its average drop length was produced from  
3 an empirical study of thousands of samples across its service area, whereas the CLECs' HAI model is  
4 based on national default values. Qwest claims that, because Arizona and many other states in  
5 Qwest's region have a large percentage of highly rural areas, the average drop lengths should be  
6 expected to be longer than the national average.

7 The CLECs contend that Qwest's analysis is flawed because its survey of drop lengths  
8 excludes all multi-tenant dwellings. The CLECs also assert that the technicians performing the  
9 survey did not measure actual drop lengths, but were simply asked to perform a visual estimate of the  
10 drop length or to walk off the distance. According to the CLECs, a number of the drop lengths  
11 contained in the Qwest study are long enough to extend around most of the circumference of the lot  
12 for a given property included in the survey (AT&T/XO Ex. 14). The CLECs claim that these faults  
13 undermine the validity of Qwest's drop length inputs.

14 Staff also argues that the HAI drop lengths should be used. Staff claims that Qwest's regional  
15 study improperly excludes states with large urban areas, like Arizona and Colorado. Staff points out  
16 that, in Decision No. 60635, the Commission adopted the Hatfield model's calculation of drop costs,  
17 thus implicitly adopting the Hatfield drop length. Staff asserts that Qwest has not provided any  
18 compelling, Arizona-specific data to justify overruling the Commission's decision in the *First Cost*  
19 *Docket Order*.

20 After reviewing the evidence presented on this issue, we believe that the drop lengths  
21 advocated by Qwest, Staff, and the CLECs have deficiencies. On the one hand, we agree with Qwest  
22 that the CLECs' national default values fail to recognize that much of Qwest's service area, including  
23 portions of Arizona, are highly rural and require longer drops to implement service. On the other  
24 hand, we are concerned that Qwest's study failed to include multi-tenant units that would  
25 significantly reduce the results of the drop length average. In addition, Qwest's analysis fails to  
26 recognize that many of the "rural" areas in Arizona are uninhabited and thus not served by any  
27 telephone service provider. We also note that Qwest's service area in Arizona includes the  
28 metropolitan Phoenix and Tucson areas, where a significant number of the drop lengths would likely

1 be shorter than average. Given our concerns with the two extremes of drop lengths presented for our  
2 consideration, we believe that an Arizona statewide average drop length of 90 feet is a reasonable  
3 middle ground that gives recognition to the flaws of both proposals. This drop length of 90 feet shall,  
4 therefore, be adopted in this docket.

5 **vi. IDLC Unbundling Costs**

6 Qwest claims that it incurs costs when it separates individual unbundled loops from integrated  
7 digital loop carrier ("IDLC") systems. Because DLC systems use high bit rate circuits (DS-1 or OC-  
8 3) to transport multiple low bit rate circuits from the remote electronics to the central office, when a  
9 CLEC orders an unbundled loop that is carried on IDLC, Qwest must "groom" or unbundle the loop  
10 to permit it to be terminated on an intermediate distribution frame and then cross-connected to a  
11 CLEC's equipment. Grooming is not required for copper loops or for loops derived from universal  
12 DLC systems (Qwest Ex. 2, at 18-19). Qwest contends that, because grooming is only necessary for  
13 IDLC loops, it assumes in Arizona that 44 percent of the loops are on IDLC (*Id.*).

14 The CLECs argue that Qwest's assumption that 44 percent of all loops will be carried over  
15 IDLC is unsupported. The CLECs claim that Qwest currently has substantially less than 44 percent  
16 IDLC unbundled loops. The CLECs assert that the result of this disparity is that Qwest's proposal  
17 seeks recovery of costs that it does not incur in the real world. The CLECs further contend that, in a  
18 forward-looking network, it should be assumed that CLECs could purchase loops in a fully-integrated  
19 DLC environment that would not require de-multiplexing at the central office (AT&T/WorldCom Ex.  
20 8, at 32). Staff also argues that because Qwest has removed the tap and bridge coils on many loops,  
21 CLECs should not be required to pay grooming charges on any loops included in Qwest's bulk  
22 deloading project in Arizona. Staff further asserts that a recurring fee is improper because loop  
23 grooming is a one-time activity. The CLECs and Staff claim, therefore, that the proposed grooming  
24 charge is unnecessary and anticompetitive and should be rejected.

25 Although Qwest discounts the CLECs' contention that in a forward-looking environment  
26 there would be no need for grooming IDLC loops, the Company's proposed assumption of 44 percent  
27 IDLC loops significantly overstates its actual experience (*See*, AT&T/WorldCom Exs. 28 and 29).  
28 We agree with the CLECs that in a "forward-looking" network no loops will need to be groomed and,

1 thus, no charges should be imposed on IDLC loops. However, the CLECs fail to recognize that the  
 2 purchase of IDLC loops likely will increase on a going-forward basis, and that those loops that are  
 3 not universal LDC will need to be groomed to provide service to purchasing CLECs. There is wide  
 4 disparity in the positions taken by Qwest and the CLECs, and we do not believe that either position is  
 5 appropriate. We conclude that an input of 10 percent IDLC loops will properly recognize the  
 6 likelihood of increased purchases and use of IDLC loops on a forward-looking basis.

7 **vii. Overhead Costs**

8 Qwest argues that the CLECs' HAI model employs an unreasonably low overhead rate of  
 9 10.4 percent, which is based on AT&T's own overhead from 1994. Qwest claims that the use of  
 10 AT&T's overhead is inappropriate because interexchange carriers collect a large amount of revenue  
 11 from their customers that is passed on directly to local exchange carriers in the form of access  
 12 charges. According to Qwest, because these revenues are not generated by AT&T's network, they  
 13 are not properly attributable to AT&T in the calculation of overhead (Qwest Ex. 9, at 58-59). Dr.  
 14 Fitzsimmons points out that the HAI model's 10.4 percent overhead factor has been rejected by at  
 15 least one other state commission<sup>9</sup> which adopted an overhead factor of 13.6 percent. He also stated  
 16 that because AT&T's long distance business is very different from Qwest's local telecommunications  
 17 business, direct cross-company comparisons are meaningless. Dr. Fitzsimmons claims that Qwest's  
 18 overhead values for 1999 and 2000 were 13.3 and 12.9 percent, respectively (*Id.* at 61). Dr.  
 19 Fitzsimmons recommends that an overhead factor of 13.0 percent should be adopted, resulting in an  
 20 increase of \$0.44 for the unbundled loop cost (*Id.*).

21 The HAI model assumes an overhead factor of 10.4 percent, which is based on AT&T's own  
 22 operations (Qwest Ex. 29, at 58-59; Tr. 1452). In his direct testimony, AT&T/WorldCom/XO  
 23 witness Denney included a table comparing Qwest's ARMIS data for the corporate overhead  
 24 accounts to Qwest's operating revenues. The table shows that Qwest's five-year average corporate  
 25 overhead factor, from 1996 through 2000, was 10.4 percent. From this data, Mr. Denney concluded  
 26 that the HAI model's default overhead factor of 10.4 percent is reasonable (AT&T/WorldCom/XO  
 27

28 <sup>9</sup> Before the Iowa Utilities Board, *Final Decision and Order*, Docket No. RPU-96-9 (April 23, 1998), at 24.

1 Ex. 3, at 36-37). Mr. Denney conceded on rebuttal that his calculation of Qwest's corporate overhead  
2 factor should have subtracted corporate overhead expense from operating revenues in his calculation  
3 (AT&T/WorldCom/XO Ex. 5, at 6). However, his recalculation of Qwest's five-year average of 11.6  
4 percent does not change his recommendation that the HAI model's default 10.4 percent factor is  
5 reasonable (*Id.*).

6 We agree with the CLECs that Qwest's proposed overhead factor of 13.0 percent significantly  
7 overstates the overhead that should be assumed for an efficient carrier in a forward-looking  
8 environment. As Mr. Denney shows in his rebuttal testimony, compared to other Regional Bell  
9 Operating Companies ("RBOCs"), Qwest consistently has the highest corporate operations  
10 percentages. Mr. Denney testified that the RBOC average for the year 2000 was 8.3 percent, which is  
11 less than even the HAI model's default value, and substantially less than the 13.0 percent factor  
12 advocated by Qwest (*Id.*). Based on the record presented in this proceeding, we believe that the HAI  
13 default value is reasonable and should be adopted.

14 **viii. MST Function**

15 The HAI model uses a right-angle routing feature called Minimum Spanning Tree ("MST") to  
16 take account of groups of customers within a cluster group. CLEC witness Denney states that the  
17 MST is used by the FCC in the FCC Synthesis Model (AT&T/WorldCom/XO Ex. 5, at 2). He noted,  
18 however, that the MST function can overestimate required distribution cable because it uses right  
19 angle routing, rather than minimum distance routing. Mr. Denney claims that the MST likely spreads  
20 customers out further than they are in reality, thereby overestimating required cable (*Id.*).

21 Qwest is critical of the HAI Model's MST function because, according to Qwest, real world  
22 customers are not on a blank page and a real world network must be placed around natural and man-  
23 made obstructions such as buildings and lakes (Qwest Ex. 29, at 36). Dr. Fitzsimmons contends that  
24 the MST function results in understated distribution cable requirements in low-density rural areas (*Id.*  
25 at 37). Qwest requests that, if the Commission adopts the HAI model, the MST function should be  
26 turned off to mitigate the understatement Qwest alleges results from deployment of the HAI model.  
27 Dr. Fitzsimmons states that turning off the MST function would result in an increase in the loop  
28 investment per line by \$31 and the per month unbundled loop cost by \$0.76 (*Id.* at 39).

1 We believe that the HAI Model's MST function properly reflects legitimate network design  
2 inputs for modeling distribution plant. As Mr. Denney suggests, the surrogate customer location  
3 methodology employed by the MST is likely to overstate distribution requirements because the model  
4 assumes a uniform spacing of customer locations along roads and does not recognize clusters of  
5 customers that often exist in small towns (AT&T/WorldCom/XO Ex. 3, at 24). Therefore, contrary  
6 to Qwest's assertions, we believe that the HAI model provides a reasonable estimate of the actual  
7 distribution distances required and that the model produces sufficient distribution plant to serve  
8 customers on a forward-looking basis.

9 **ix. Depreciation Values for Drops, NIDs and SAIs**

10 Qwest contends that the depreciation values used in the HAI model for serving area interfaces  
11 ("SAIs"), network interface devices ("NIDs"), and drops are inappropriate because they are much  
12 longer than those for comparable classes of outside plant (Qwest Ex. 29, at 61). Ms. Gude claims  
13 that, although the HAI model appears to isolate investments associated with NIDs, SAIs, and drops,  
14 the capital carrying costs for the investments should still reflect the depreciation parameters for the  
15 proper investment accounts as they were authorized by the Commission in its most recent  
16 depreciation order (Qwest Ex. 27, at 38). She asserts that the HAI model uses an adjusted  
17 depreciation "projection life" of 19 years for NIDs, SAIs, and drops, rather than employing the  
18 Commission's designated depreciation life and related "adjusted projection life" values of 11.21  
19 years for 45C, Account 2423 – Buried Cable Metallic; 9.45 years for 52C, Account 2421 – Aerial  
20 Cable Metallic; and 14.15 years for 5C – Account 2422 – Underground Cable Metallic. Ms. Gude  
21 asserts that these substantial departures from Commission-approved depreciation rates in the HAI  
22 model results in improper reductions to the interconnection and unbundled element cost outputs (*Id.*).

23 No party rebutted Qwest's proposed adjustments to these depreciation elements and, on brief,  
24 the CLECs stated that they do not contest Qwest's proposed corrections (AT&T/XO Reply Brief at  
25 21). We will, therefore, adopt Qwest's position on this issue and adjust the NID, SAI, and drop  
26 depreciation parameters in accordance with Qwest's recommendation.



1 information contained significant anomalies that Dr. Fitzsimmons was unable to explain on cross-  
2 examination (*See*, Tr. 1038-1041).

3 We agree with the CLECs that, whenever possible, it is important to rely on publicly available  
4 data and information. We are likewise concerned that Qwest's own witness was unable to explain  
5 why the line counts relied upon by Qwest contained numbers that Dr. Fitzsimmons was unable to  
6 reconcile with the number of digital facilities assumed by Qwest's calculations. Moreover, the FCC  
7 has not accepted the modifications recommended by Qwest. Accordingly, we find that Qwest has  
8 failed to sustain its burden of proof on this issue and we therefore reject Qwest's proposed  
9 modifications to the digital line counts assumed in the HAI model. We conclude that the CLECs'  
10 proposed input is reasonable and appropriate.

11 **xi. General Support Assets**

12 "General support" costs refer to Qwest's investment and expenses related to furniture, office  
13 equipment, general purpose computers, motor vehicles, garage work equipment, and other work  
14 equipment. Qwest argues that the HAI model artificially reduces these costs by over 50 percent by  
15 applying "allocators" to both estimated investment and expenses for these assets (Qwest Ex. 27, at  
16 43). Ms. Gude claims that the documentation supporting the HAI model provides no explanation for  
17 applying these allocators, which she claims reduces costs for investment and expenses by 50.33  
18 percent and 54.22 percent, respectively. Ms. Gude states that the HAI model's reductions to these  
19 costs should be rejected by the Commission (*Id.*).

20 AT&T/XO argue that the HAI model properly allocates general support expenses between  
21 wholesale and retail. The CLECs claim that HAI reduces these expenses to recognize that they are  
22 incurred primarily for the benefit of Qwest's retail operations. The CLECs contend that retail  
23 expenses must be excluded from the TELRIC model in accordance with FCC rules.<sup>11</sup> The CLECs  
24 assert that Qwest's run of the HAI model which included all general support expenses, without a  
25 corresponding reduction for the furniture, office equipment, general purpose computers, and other  
26 equipment used by Qwest's retail operations, was inappropriate.

27

28 <sup>11</sup> 47 C.F.R. §51.505(d).

1 We agree with the CLECs that it is improper for Qwest to include these general support  
2 expenses as part of the wholesale rate structure. Qwest's inclusion of clearly retail expenses in its  
3 alternative model run is inconsistent with TELRIC principles and will be rejected. As the CLECs  
4 point out, the HAI model produces an allocation of such expenses between wholesale and retail costs.  
5 We will, therefore, adopt the CLECs' position on this issue.

6 **xii. Network Operations Expenses**

7 The network operations factor includes expenses associated with providing network  
8 administration, testing, plant operations, administration, and engineering. Qwest contends that the  
9 HAI model's default input for this factor assumes that Qwest could immediately cut its network  
10 operations expense in half in a forward-looking TELRIC environment (Qwest Ex. 29, at 55). Dr.  
11 Fitzsimmons testified that, if the Commission were to adopt the HAI model's network operations  
12 factor, it would send a message to Qwest that it needs to perform network operations functions with  
13 only 50 percent of the resources it uses currently. Dr. Fitzsimmons explained that, although network  
14 operations expenses declined between 1995 and 1997, since that time these expenses have remained  
15 relatively flat (*Id.* at 56-57). Qwest requests that the Commission reject the HAI model's 50 percent  
16 reduction assumption and reset the network operations expense factor to its year 2000 level.

17 The CLECs argue that the deployment of forward-looking technologies will necessarily lead  
18 to expense reductions. Therefore, the HAI model uses a network operations factor of 50 percent,  
19 applied to Qwest's Arizona actual network operations expenses, to recognize Mr. Denney's assertion  
20 that these expenses are incurred on an antiquated network (AT&T/WorldCom/XO Ex. 3, at 37-38).  
21 As an example, the CLECs claim that the deployment of SONET-based transport lessens the  
22 likelihood of outages, which in turn lessens network administration expenses. The CLECs further  
23 contend that retail expenses must be removed from Qwest's network operations expenses to develop  
24 appropriate TELRIC pricing. The CLECs claim that the per-line network operations expense factor  
25 developed by the HAI model in this docket is very close to the per-line expense developed by the  
26 FCC in its *Inputs Order* (Tr. 1440-1447). Accordingly, the CLECs assert that the HAI model's  
27 network operations expense reduction should be adopted by the Commission.

28

1 We do not believe that it is realistic to assume that Qwest's costs for this expense would be 50  
2 percent less, even under the application of a forward-looking TELRIC methodology. Although the  
3 CLECs contend that the HAI default results in a per-line factor that is close to the FCC's per-line  
4 expense, the CLECs' witness was not aware that the FCC also allocates an additional \$1.05 for  
5 special access (Tr. 1447-1448). We do not believe that the CLECs have adequately supported the  
6 HAI model's default factor that results in a 50 percent reduction to Qwest's actual Arizona network  
7 operations expense. On the other hand, we agree with the CLECs that some recognition should be  
8 given to the likelihood that forward-looking technologies will ultimately reduce Qwest's network  
9 operations expenses. Accordingly, we will maintain the 85 percent factor adopted in the *First Cost*  
10 *Docket Order* (See, AT&T/WorldCom/XO Ex. 5, at 5). Adoption of the current 85 percent factor  
11 recognizes that forward-looking technologies will likely have an effect in reducing network  
12 operations expenses while, at the same time, not imposing on Qwest the unrealistic assumption that  
13 these expenses should be immediately reduced by 50 percent.

14 **b. Geographic Deaveraging**

15 In Phase I of this docket (Decision No. 63753), the Commission approved US West's  
16 proposed methodology for establishing three geographically deaveraged rates. We noted that,  
17 although the proposals advocated by Staff and AT&T reflected costs more accurately than US West,  
18 the Commission's retail rate setting policy also needed to be considered. We indicated that to do  
19 otherwise could result in retail rates that were not cost-based competing with wholesale rates that are  
20 cost-based. Accordingly, we approved US West's geographically deaveraged rates for UNEs of  
21 \$18.96 for the base rate area (which includes approximately 90 percent of access lines); \$34.94 for  
22 zone one; and \$56.73 for zone two (*Phase I Order*, at 5-7). Qwest's current statewide average loop  
23 rate is \$21.98. We also stated that these rates were interim, and subject to refund at the time  
24 permanent rates are established in Phase II. the proceeding that is the subject of this Decision (*Id.* at  
25 8).

26 In this docket, Qwest originally sought to deaverage loops by calculating loop costs at the  
27 wire center level and assigning wire centers to deaveraged zones based on costs. In response to  
28 AT&T/WorldCom/XO witness Denney's testimony, Qwest revised its recommendations and now

1 proposes to deaverage loops by calculating loop costs at the wire center level and assigning wire  
2 centers to deaveraged zones using an optimization program proposed by Mr. Denney. This  
3 optimization program has been adopted in Washington and Minnesota (Qwest Ex. 18, at 57). Under  
4 its revised recommendation, Qwest proposes to group the two lowest cost wire centers in Arizona  
5 (Phoenix Main and Tempe) into Zone 1 and to use the deaveraging optimization program to  
6 determine the appropriate breaking point between Zones 2 and 3. Qwest's proposal results in the  
7 following three-zone UNE rates: Zone 1 - \$16.89 (5.6 percent of access lines); Zone 2 - \$22.57 (63.1  
8 percent of access lines); and Zone 3 - \$34.34. (31.3 percent of access lines). Qwest's revised  
9 recommendation produces a statewide average loop rate of \$25.95 (*Id.* at 59).

10 As indicated above, the CLECs have proposed deaveraging unbundled analog and high-  
11 capacity loops on a wire center basis, and applying the optimization program that divides the Qwest  
12 wire centers into three groups based on the costs for serving loops within the wire center  
13 (AT&T/WorldCom/XO Ex. 3, at 44-49). The CLECs acknowledge that Qwest has revised its  
14 position and Qwest now agrees with the CLECs' methodology, including the optimization program.  
15 However, the CLECs argue that Qwest's analysis improperly applies the methodology by using  
16 results from Qwest's LoopMod model. The CLECs also criticize Qwest's recommendation because  
17 Qwest utilizes the AT&T optimization program for two of the three zones, but then develops a third  
18 by simply placing the two lowest cost wire centers into one zone. The CLECs claim that Qwest  
19 provided no rationale to support this approach and that it should be rejected by the Commission. The  
20 CLECs' proposed statewide average loop rate is \$10.11. This average is produced as a result of the  
21 following proposed CLEC zone structure: Zone 1 - \$7.34 (68.1 percent of access lines); Zone 2 -  
22 \$11.23 (24.6 percent of access lines) and Zone 3 - \$32.06 (7.3 percent of access lines).

23 Staff argues that its proposed statewide average loop rate of \$12.35 was derived from  
24 application of the HAI model as a starting point, along with input values recommended by Staff.  
25 Staff then recommends deaveraging the statewide average loop rate as follows: Zone 1 - \$9.93; Zone  
26 2 - \$14.60; and Zone 3 - \$35.41. Staff recommends using the same zone structure proposed by the  
27 CLECs (*i.e.*, 68.1 percent of access lines in Zone 1, 24.6 percent in Zone 2, and 7.3 percent in Zone  
28 3). Staff indicates that its proposed statewide average rate is very close to the proxy rate of \$12.85

1 originally proposed by the FCC for Arizona in its *Local Competition Order*.<sup>12</sup> Staff's proposed  
2 deaveraging incorporates the CLECs' concept of minimizing the deviation between the average cost  
3 for a zone and the individual wire center costs in those zones (Staff Ex. 30, at 74). Mr. Dunkel  
4 testified that this program groups the wire centers so as to make as small a difference as possible  
5 between the cost of each wire center, and the average cost for the zone which includes that wire  
6 center. Mr. Dunkel stated that this procedure is less arbitrary than other methods that divide wire  
7 centers between zones (*Id.*). Staff compares to Qwest's current loop rates (where approximately 90  
8 percent of access lines are in the base rate area at loop rate of \$18.96) with Qwest's proposal here  
9 (where only 5.6 percent of access lines are in the base rate area at a loop rate of \$16.89). Staff points  
10 out that Qwest's proposal in this docket results in a substantial rate increase for more than 80 percent  
11 of wholesale access lines. Accordingly, Staff recommends that the Commission reject Qwest's  
12 geographic deaveraging proposal.

13 As indicated in the *Phase I Order* (Decision No. 62753), the purpose of geographic  
14 deaveraging is to recognize "geographic cost differences" while "minimiz[ing] implicit subsidies"  
15 (*Id.* at 3). We also stated in that Decision that "Commission policy" must be considered "in setting  
16 geographic deaveraged UNE rates" (*Id.* at 5). As Staff points out, the best way to reflect geographic  
17 price differences is to group the majority of low-cost urban loops in Zone 1. Indeed, this is precisely  
18 what the Commission did, at the request of US West, in establishing the interim deaveraged rates  
19 with a Zone 1 that included approximately 90 percent of access lines (*Id.* at 3).

20 We agree with Staff and the CLECs that Qwest should not be permitted to adopt the  
21 optimization program utilized in Washington and Minnesota, on the one hand, and then apply the  
22 program only where it is beneficial to the Company. Under Qwest's recommendation, Zones 2 and 3  
23 would utilize the optimization program, while a Zone 1 is arbitrarily created by Qwest for the two  
24 lowest cost wire centers. These two wire centers would make up the entirety of Qwest's Zone 1, and  
25 would include only 5.6 percent of the Company's access lines. If, as Qwest concedes, the  
26 optimization program is a legitimate approach to deaveraging, it should be used across all zones and  
27

28 <sup>12</sup> 47 C.F.R. §51.513.

1 not simply to effect an increase for the vast majority of Qwest's wholesale access lines. Accordingly,  
2 we will adopt Staff's geographic deaveraging recommendation.

### 3 **III. NONRECURRING COSTS**

4 Nonrecurring costs are the one-time charges Qwest proposes to impose when a CLEC orders  
5 an unbundled element to allow the CLEC to serve its own retail customer. Qwest states that these  
6 costs usually arise from specific activities or transactions that Qwest performs to fill a CLEC order  
7 for service or for a UNE. In this proceeding, Qwest has presented its Enhanced Nonrecurring Cost  
8 Studies ("ENRC"), which is a collection of cost studies developed by Qwest to estimate the  
9 nonrecurring TELRIC for UNEs and interconnection services (Qwest Ex. 16, at 26). Ms. Million  
10 testified that the ENRC calculates nonrecurring costs for provisioning and installation activities based  
11 on time estimates and probabilities of occurrence associated with performing the necessary tasks  
12 (*Id.*). Ms. Million stated that the ENRC calculates the direct nonrecurring costs for each UNE and  
13 interconnection service based on time estimates and labor rates associated with each job function.  
14 The ENRC next applies expense factors to the direct nonrecurring costs to provide the TELRIC for  
15 each UNE and interconnection service, followed by an allocation of common costs to each  
16 nonrecurring cost element (*Id.* at 72).

17 According to Qwest, the studies used by the Company in this process are based on the actual  
18 provisioning of services in place today, or scheduled to be implemented, and include charges  
19 anticipated by subject matter experts. Ms. Million claims that component and placement prices  
20 associated with these costs are taken directly from vendor quotes, and that the assumptions contained  
21 in the cost studies are verified through discussions with these internal experts (*Id.* at 28).

22 According to the FCC's *Local Competition Order*, nonrecurring charges may pose barriers to  
23 entry.<sup>13</sup> The CLECs assert that the FCC's rules require that nonrecurring charges must be developed  
24 using the same TELRIC principles used in developing recurring rates, and that a state commission  
25 may require an ILEC to recover nonrecurring costs through recurring charges in order to reduce  
26 barriers to entry for competitive carriers.<sup>14</sup> The CLECs also point to this Commission's *First Cost*

27 \_\_\_\_\_  
28 <sup>13</sup> *Local Competition Order*, ¶¶747, 749.

<sup>14</sup> 47 U.S.C. §51.507(e).

1 *Docket Order*, wherein we stated that the proposed nonrecurring charges (“NRCs”), if approved,  
2 “would act as barriers to competition,”<sup>15</sup> and that US West’s proposed NRCs “could significantly  
3 affect its [a CLEC’s] ability to compete” (*Id.*). The Commission therefore approved, on an interim  
4 basis, Qwest’s tariffed retail charges for NRCs, less an 18 percent avoided cost discount (*Id.* at 28-  
5 29). On review, however, the federal court for Arizona reversed and remanded the Commission’s  
6 decision on this issue, holding that the Commission “must price NRCs on the basis of forward-  
7 looking costs without regard to the retail price.”<sup>16</sup>

8 Qwest contends that, contrary to the CLECs’ assertions, it has presented in this case  
9 documentation that supports the times and probabilities, as well as labor rates, used in the Company’s  
10 nonrecurring cost studies (Qwest Ex. 18, at TKM-3R). Qwest also claims that its proposed NRC  
11 studies are forward-looking, as evidenced by its assumed flow-through rate of 85 percent for UNE-P  
12 products and a flow-through rate of 60 percent for most other loop products. Qwest disputes the  
13 CLECs’ contention that, for POTS loops, there can be a flow-through of 98 percent with no manual  
14 processing activity. Qwest argues that, in the real world, orders placed by CLECs often require some  
15 amount of manual processing.

16 Qwest also claims that the CLECs’ NRC model omits a number of nonrecurring costs that  
17 Qwest will incur to provide interconnection services and access to UNEs. For example, Qwest  
18 asserts that the CLEC’s NRC model does not produce any nonrecurring costs or rates for entrance  
19 facilities, DS1 and DS3 trunk rearrangements, DS1 and DS3 channel regeneration, and loop  
20 installations. In addition, Qwest contends that the CLECs’ NRC model fails to include any costs  
21 associated with Qwest’s interconnect service center (“ISC”). The personnel at Qwest’s ISC perform  
22 tasks necessary to process CLEC UNE orders, including the provision of corrective measures for  
23 orders that are submitted incorrectly and do not “flow-through” automatically. According to Qwest,  
24 it is unreasonable to assume that the activities performed by the ISC would never be required and that  
25 no human interaction would ever be required to process orders. Qwest also criticizes the CLEC’s  
26 NRC model because it assumes that certain nonrecurring costs will be recovered through recurring

27  
28 <sup>15</sup> *First Cost Docket Order*, at 29.

<sup>16</sup> *US West Communications v. Jennings*, 46 F. Supp 2d 1004, 1013 (D. Ariz. 1999).

1 rates. Qwest claims that the CLECs' exclusion of these costs leaves a gap between the costs Qwest  
2 recovers in its recurring rates and the activities the Company performs to accommodate CLEC orders  
3 and provisioning.

4 The CLECs take a different approach to the determination of nonrecurring costs. The CLECs'  
5 nonrecurring cost model assumes that manual processing of orders will be kept to a minimum by the  
6 implementation of forward-looking OSS systems (AT&T/WorldCom/XO Ex. 6, at THW-14). The  
7 CLECs cite to a decision by an ALJ at the Minnesota Commission wherein the same model proposed  
8 by the CLECs in this case was adopted on the basis that it reflected what would be experienced in a  
9 forward-looking environment.<sup>17</sup>

10 The CLECs argue that Qwest's NRC studies simply take a list of tasks Qwest claims will be  
11 necessary to establish each service, multiplied by an estimate of the probability that the task will be  
12 performed and by Qwest's labor rates. The CLECs contend that Qwest's studies are derived from  
13 estimates provided by the Company's subject matter experts based on Qwest's current OSS systems.  
14 The CLECs claim that Qwest has failed to take into consideration the efficiencies that forward-  
15 looking OSS systems achieve. The CLECs also claim that the Minnesota Commission, in the same  
16 decision cited above, rejected Qwest's NRC studies on the basis that they did not include forward-  
17 looking assumptions (*Minnesota Report*, ¶285).

18 The CLECs are also critical of Qwest's proposed imposition of both connection charges and  
19 disconnection charges at the time a CLEC orders an unbundled element. According to the CLECs, in  
20 most circumstances where Qwest is providing UNEs there is no basis for imposing a disconnection  
21 charge because most often there is no need to disconnect elements when service by a new entrant is  
22 terminated.

23 As an example of the alleged unreasonableness of Qwest's proposed NRCs, the CLECs point  
24 to Qwest's installation charges for UNE analog loops, which range from \$88.29 to \$232.25,  
25 compared with Qwest's own nonrecurring charges for basic service installation to retail customers of  
26

27 <sup>17</sup> *In the Matter of a Generic Investigation of US Qwest Communications, Inc.'s Cost of Providing Interconnection*  
28 *and Unbundled Network Elements*, OAH Docket No. 12-2500-10956-2, Report of the Administrative Law Judge  
(November 17, 1998) at ¶285 ("*Minnesota Report*"). The Minnesota Public Utilities Commission affirmed the ALJ's  
decision by Order issued May 3, 1999.

1 \$35.00 for residential customers and \$56.00 for flat-rate business customers. The CLECs assert that  
2 this wide disparity between such inappropriate and unsupportable wholesale prices and the  
3 corresponding retail prices will necessarily result in a "barrier to competition." The CLECs complain  
4 that Qwest supports these prices by assuming significant manual intervention is required to process  
5 and provision unbundled loops. The CLECs criticize Qwest's Interconnect Service Center because  
6 Qwest assumes, for example, that the ISC will be required to manually process 15 percent of all  
7 unbundled loop orders that are received electronically. The CLECs contend that their NRC model  
8 more appropriately assumes that, in a forward-looking environment, there will be minimal manual  
9 interaction needed to process CLEC orders.

10 For high capacity loops, the CLECs claim that Qwest's NRC assumptions are even more  
11 egregious. Qwest proposes installation charges for these services ranging from \$144.15 for basic  
12 installation to more than \$300 for coordinated installation and testing. The CLECs assert that it is  
13 unreasonable for Qwest to assume that all high capacity loop orders will be reviewed by the Qwest  
14 ISC because such an assumption discriminates against new entrants. The CLECs claim that, in a  
15 forward-looking system, a CLEC would be able to place orders directly to Qwest's OSS without  
16 manual intervention.

17 As the CLECs point out, Qwest's NRC studies are comprised of a list of tasks that are alleged  
18 by Qwest's subject matter experts to be necessary to perform a number of tasks, multiplied by labor  
19 rates associated with performing such tasks. Qwest's studies fail to recognize efficiencies that would  
20 likely be realized with a fully mechanized OSS system.

21 For example, the Qwest studies that developed these costs make assumptions that manual  
22 processing will often be required to provision a CLEC UNE order and that only a limited number of  
23 UNEs will be able to be processed electronically. Qwest's studies are based on its current OSS  
24 system and therefore do not reflect efficiencies that will occur in a forward-looking environment.  
25 The HAI model, on the other hand, assumes that manual processing should be kept to a minimum in a  
26 forward-looking environment. We believe that the CLEC-sponsored NRC model properly recognizes  
27 the efficiencies that will occur in a forward-looking network and we, therefore adopt the CLEC  
28 model in this proceeding.

1 **A. Specific NonRecurring Cost Issues**

2 **1. Access to Conduits**

3 Another issue raised by Qwest's nonrecurring cost studies relates to access to conduits.  
4 Qwest's NRCs include proposed charges for this service requested by CLECs. Although the CLECs'  
5 NRC study does not develop costs for this element, the CLECs claim that Qwest's proposed charges  
6 for this item are unsupported and should be rejected.

7 As an example, the CLECs point to Qwest's proposed charge for "field verification for  
8 conduit occupancy," which would impose a charge for inspecting each manhole along the proposed  
9 route to ensure that sufficient space is available to accommodate the CLECs' fiber. The CLECs  
10 contend that no such activity should be necessary because Qwest can review its existing records for  
11 such information. In addition, the CLECs claim that Qwest is compensated for the records review  
12 through a separate conduit occupancy inquiry fee.

13 The CLECs argue that, even if it were appropriate for Qwest to assess a field verification  
14 charge, the proposed fee of \$450 per manhole is excessive. The CLECs claim that this charge  
15 assumes that more than 6.5 hours will be required to enter each manhole to determine whether spare  
16 conduit exists. According to the CLECs, this task should take no more than 2 hours to perform. The  
17 CLECs contend that, in any event, Qwest has not produced evidence that it actually performs the  
18 verifications for which it proposes to charge CLECs.

19 Qwest asserts that it has presented documentation that supports the times and probabilities  
20 used in its nonrecurring studies (Qwest Ex. 18, TKM-3R). Qwest claims that the submitted  
21 documentation includes assumptions that underlie the studies and memoranda from subject matter  
22 experts. Qwest contends that, while the CLECs challenged some of the work times used in Qwest's  
23 studies, they did not challenge many others. Qwest states that the absence of challenges to many of  
24 the assumptions in Qwest's studies in effect validates those assumptions.

25 We agree with the CLECs that Qwest's underlying assumptions for this charge appear to be  
26 excessive. A charge of \$450 for Qwest to discover whether its own network has sufficient space  
27 available to serve CLECs is not appropriate in a forward-looking environment and will contribute to  
28 erecting barriers to competition. We believe that, in a TELRIC model, it should be assumed that

1 Qwest has sufficient information available to verify whether conduit is available to accommodate  
2 CLEC cable requirements.

3       However, if we assume that some facilities verification activity is necessary, a significantly  
4 reduced charge should be assessed. CLEC witness Knowles testified that Qwest does not inspect  
5 every manhole along the proposed CLEC route but, instead, inspects only the manholes on either end  
6 of the route (AT&T/WorldCom/XO Ex. 12, at 18). Therefore, we will reduce Qwest's charges for  
7 conduit occupancy verification to no more than two hours of engineering time, and the charge should  
8 apply to no more than half of the manholes along the conduit route requested by the CLEC.

9       **2.     Loop Conditioning**

10       ILECs, including Qwest, have in the past installed devices such as "load coils" and "bridge  
11 taps" on longer loops to ensure an adequate quality signal for voice communications. Digital services  
12 such as DSL will not function over a loop with load coils and bridge taps and such devices must,  
13 therefore, be removed prior to provisioning digital services over the loop. This removal process is  
14 referred to as "loop conditioning." Qwest contends that, if a CLEC requests that load coils and  
15 bridge taps be removed in order to serve a migrating customer, Qwest should be entitled to recover  
16 the costs incurred in removing the devices. Qwest has proposed a nonrecurring charge of \$652.83 for  
17 loop conditioning, whether the CLEC orders 1 or 25 conditioned loops at a given location (Qwest Ex.  
18 18, at 11; Attach. TKM-01R, at 8).

19       The CLECs argue that there is no basis for a loop conditioning charge because bridge taps and  
20 load coils are not placed in a forward-looking network and, therefore, Qwest should not be permitted  
21 to charge CLECs to bring its network up to standards necessary to provide advanced services. The  
22 CLECs also contend that such costs may already be recovered in Qwest's recurring rates, thereby  
23 raising the possibility of double recovery with the imposition of a nonrecurring charge for loop  
24 conditioning (AT&T/WorldCom Ex. 14, at 21-23). The CLECs claim that, even if the Commission  
25 were to impose a loop conditioning charge, Qwest's proposal is excessive. The CLECs point out that  
26 the Commission, in Decision No. 60635 (at pages 25-27), found Qwest's proposed loop conditioning  
27 charge of \$557.12 was "significantly overstated." Finally, the CLECs assert that Qwest has failed to  
28

1 support its estimated charges for deloading the loops. They claim that Qwest's proposal is a barrier  
2 to entry for competitors and should be rejected.

3 Staff and Sprint concede that Qwest should be permitted to recover a fee for load coil and  
4 bridge tap removal. However, both Staff and Sprint agree that Qwest's proposed charge is excessive.  
5 Sprint witness Farrar testified that in North Carolina, where Sprint operates as an ILEC, its cost study  
6 produced a cost for loop conditioning of less than \$40 for loops under 18,000 feet and \$64.28 for  
7 loops greater than 18,000 feet. Mr. Farrar stated that Qwest's proposed loop conditioning costs are  
8 overstated because the Qwest study contains excessive engineering and work time, Qwest fails to  
9 recognize the lower incremental cost of performing additional unloadings at the same time and  
10 location, and Qwest's studies include excessive allocations of shared and common costs (Sprint Ex.  
11 2, at 11-14).

12 Staff witness Dunkel agreed with Sprint that Qwest's proposed conditioning charges are  
13 excessive. Mr. Dunkel stated that it is not efficient for Qwest to send a person out to unload a single  
14 loop at a time. Mr. Dunkel proposed a rate of \$40 per loop to remove load coils or bridge taps under  
15 18,000 feet; \$70 per location for aerial and buried loops over 18,000 feet; and \$400 per location for  
16 underground loops. For loops over 18,000 feet, Mr. Dunkel would also impose a \$2 charge for each  
17 additional coil or tap at the same time, location, and cable (Staff Ex. 30, at 51-52; Sched. WD-8).

18 The FCC has stated that an ILEC has the right to recover costs associated with conditioning  
19 existing loops. When a CLEC seeks to provide digital loop functionality, such as DSL, the ILEC  
20 must condition the loop to permit the transmission of digital signals if it is technically feasible to do  
21 so. The requesting CLEC must, however, "bear the cost of compensating the incumbent LEC for  
22 such conditioning."<sup>18</sup> We agree that Qwest is entitled to compensation for conditioning a loop under  
23 the circumstances described in the FCC's Order. However, as we indicated in Decision No. 60635,  
24 Qwest's proposed conditioning cost is "significantly overstated." We believe that Staff witness  
25 Dunkel's proposal will appropriately compensate Qwest for its loop conditioning costs when an  
26 unbundled loop is requested by a CLEC. As indicated by Staff and Sprint, it is not reasonable for  
27

28 <sup>18</sup> *First Report and Order*, ¶682.

1 Qwest to assume that only a single loop will be unloaded when a technician is sent to provision the  
2 CLEC's order. Rather, an efficient provider should unload the entire binder group when the binder is  
3 opened by the technician and, accordingly, the costs associated with performing the conditioning  
4 function will be spread over a greater number of loops than the single loop assumed by Qwest. We  
5 believe Staff's proposal fairly recognizes the costs incurred by Qwest and we, therefore, adopt Staff's  
6 position on this issue.

#### 7 IV. COLLOCATION

8 Collocation in a Qwest central office is the means by which CLECs are able to place their  
9 telecommunications equipment for purposes of interconnecting to Qwest's network and purchasing  
10 UNEs from Qwest. In order to collocate within Qwest's central office, CLECs are assessed charges  
11 for costs incurred by Qwest to provide the necessary space. In a physical collocation arrangement,  
12 the CLEC pays the ILEC for the use of the central office space and is permitted to enter the central  
13 office to install, maintain and repair collocated equipment (AT&T/WorldCom/XO Ex. 13, at 22).

14 Qwest's collocation cost estimates are based on the Company's analysis of 41 cageless  
15 collocation jobs that were performed by Qwest. According to Qwest witness Fleming, Qwest  
16 assembled averages of the cost of all the tasks needed to install collocation sites, after removing the  
17 jobs with the highest and lowest costs. The tasks necessary for installing a collocation site include  
18 engineering, installing HVAC ductwork and cable racking, and running power cables to the  
19 collocated equipment. Where necessary, Qwest made additional adjustments to the cost data from  
20 the cageless jobs to include costs for caged jobs (Qwest Ex. 8, at 53). Qwest claims that because  
21 demand for collocation has fluctuated in its service areas, the Company assumed that outside  
22 contractors would be used for a substantial portion of the collocation preparation work. Qwest's  
23 study assumed the use of 50 percent outside vendor installations and 50 percent internally installed  
24 sites by Qwest employees.

25 The CLECs contend that Qwest's collocation study produces inflated costs because none of the  
26 41 jobs in the study were located in Arizona central offices. AT&T/WorldCom/XO witness Rex  
27 Knowles stated that Qwest's study is also unreliable because all of the jobs were for cageless  
28 collocation and thus cannot be used to support the Company's cost estimates for entrance facilities or

1 cage construction (AT&T/WorldCom/XO Ex. 11, at 4.). WorldCom also criticizes Qwest's studies  
2 because they are based on the current office technology, rather than being forward-looking. As an  
3 example, WorldCom argues that Qwest's existing central offices accommodate new technologies by  
4 adding floors or extending buildings horizontally, rather than using forward-looking strategies that  
5 minimize the overall, long-term requirement for equipment space (AT&T/WorldCom/XO Ex. 13, at  
6 27). According to WorldCom, these practices result in central offices that have congested cable  
7 racking and require cable lengths for CLECs that are longer than necessary (*Id.*). WorldCom asserts  
8 that a forward-looking central office would be fully air-conditioned and would be prepared to accept  
9 CLEC telecommunications equipment, thereby eliminating the need for additional space preparation  
10 or conditioning. WorldCom is also critical of Qwest's studies based on 41 cageless collocation jobs  
11 because the invoices from the jobs lack the detail necessary to determine the reasonableness of the  
12 costs.

13 Staff criticized Qwest's collocation study for being unrepresentative of Qwest's actual  
14 experiences for collocation installations. Staff claims that Qwest's study should reflect the fact that  
15 the majority of Qwest's collocation installations are performed by Qwest's own personnel, at a cost  
16 that is much less than that required for the outside vendors included in Qwest's study. Staff points  
17 out that in the year 2000, Qwest's internal installation affiliate, QTI, completed 79 percent of the  
18 collocation jobs in Arizona while only 21 percent of the jobs were performed by outside vendors  
19 (Staff Ex. 11). For the year 2001 in Arizona (as of July), 83 percent of the collocation jobs were  
20 performed by QTI and 17 percent by outside vendors (*Id.*). Despite these actual experiences, Qwest  
21 continues to maintain that the 41 jobs it relied upon in its study are reflective of the Company's actual  
22 collocation costs.

23 We agree with Staff and the CLECs that Qwest's allegedly "actual" collocation costs are not  
24 representative for purposes of establishing TELRIC-based costs in this proceeding. Contrary to  
25 Qwest's claims, the 41 collocation jobs relied upon in its cost study do not reflect its actual  
26 experience, especially in Arizona. Accordingly, we find that Staff's calculation using 80 percent  
27 labor provided by QTI and 20 percent provided by contract labor is consistent with Qwest's  
28 experiences in Arizona, and with a forward-looking network, and should be adopted in this case.

1 Each of the specific price elements associated with Qwest's other proposed collocation rates is  
2 addressed below.

3 **A. Specific Collocation Costs**

4 **1. Entrance Facilities**

5 Entrance facilities refer to the fiber connectivity between the first manhole outside the ILEC's  
6 central office and the CLEC's equipment (AT&T/WorldCom/XO Ex. 13, at 23). Qwest initially  
7 assumed that a separate utility hole dedicated to collocation would be placed outside of every central  
8 office. Qwest later revised its studies to assume that a separate collocation manhole would be needed  
9 only when network congestion requires a separate facility, which the Company estimates will be 10  
10 percent of the time (Qwest Ex. 8, at 31-32).

11 The CLECs argue that Qwest's revised assumption remains unsupported and therefore a zero  
12 percent assumption of separate manholes should be used by Qwest for collocation purposes.  
13 WorldCom also contends that Qwest overestimated the total demand for cable racking because Qwest  
14 ignores the fact that CLEC cables share cable racking with Qwest cables, especially when they share  
15 the same manholes. WorldCom further asserts that Qwest's studies assume that the manholes,  
16 conduit, and cable racking will be dedicated to the use of only three CLECs, rather than being shared  
17 with additional CLECs and Qwest. WorldCom claims that all of these deficiencies in Qwest's  
18 studies cause the Company's studies to result in excessive costs.

19 We agree with WorldCom that Qwest has not adequately supported its claims on this issue. In  
20 a forward-looking environment, Qwest should assume that an entrance enclosure is part of the  
21 Company's central office that is shared by all occupants and not just collocators. Further, Qwest  
22 should not assume that cable racking is used exclusively by collocators but, rather, that CLEC cables  
23 share cable racking and support with Qwest's cables. For these reasons, we will adopt the CLECs'  
24 position on this issue.

25 **2. Quote Preparation Fee**

26 When a CLEC inquires about available collocation in a central office, Qwest assesses the  
27 CLEC a "quote preparation fee" which is a "non-refundable, non-recurring charge for the work  
28 required to verify space, power, cable terminations, review design requested, and develop a price

1 quote for the total costs to the CLEC” (Qwest Ex. 5, at 18). As a result of the prior wholesale cost  
2 docket (Decision No. 60635), Qwest was authorized to charge a \$1,381.54 quote preparation fee to  
3 perform these services (AT&T/WorldCom/XO Ex. 13, at 43). In this case, Qwest’s proposed quote  
4 preparation fee has more than tripled to \$4,763.06 for caged collocation and \$4,380.68 for cageless or  
5 virtual collocation (*Id.*).

6 Qwest argues that its quote preparation fee is based on time estimates of Qwest personnel  
7 involved in processing the quotes. The Company states that each task was identified and assigned  
8 time requirements, with appropriate labor rates applied to the time requirements. Qwest claims that  
9 the quote preparation fee is necessary to guard against cancellations of collocation orders. In order to  
10 accomplish this goal, Qwest proposes to credit the quote preparation fee against the space  
11 construction charge once the CLEC proceeds with the collocation job (Qwest Ex. 7, at 7).

12 As WorldCom points out, the document supporting the proposed quote preparation fee  
13 includes a number of items that, on their face, appear unreasonable (WorldCom, Ex. 7). For  
14 example, the quote preparation fee includes, among other things, one hour for making copies, one  
15 hour for preparing a form letter, and multiple hours for preparing a chart (*Id.*). Based on the record,  
16 we believe that Qwest should maintain its quote preparation fee at its current rate of \$1,381.54, and  
17 should credit the fees against the space construction charge if the CLEC proceeds with the collocation  
18 job.

19 WorldCom also requests that a separate “augment” fee should be identified by Qwest for  
20 collocation requests that seek only to add power to connectivity cabling to an existing collocation  
21 arrangement. As explained by Mr. Lathrop, such requests do not require the same extent of  
22 information verification or design review and, therefore, a separate reduced charge should apply. We  
23 agree with WorldCom that requests for collocation “augments” should have a separate reduced price.  
24 Qwest’s rate for this service should be no more than \$345, or approximately one-fourth of the price  
25 established for the full quote preparation fee for new collocation requests.

### 26 **3. Engineering Costs**

27 Qwest also assesses charges for collocation engineering tasks. For caged and cageless  
28 collocation, the engineering charges are based on an average from the 41 least expensive jobs

1 (AT&T/WorldCom/XO Ex. 13, at 44-45). Qwest claims that these engineering costs amount to  
2 approximately \$10,000 (*Id.* at 2). Qwest contends that its engineering charges are unfairly criticized  
3 by the CLECs and Staff. Qwest claims that the costs are derived from estimates by experienced  
4 subject matter experts who have been involved in provisioning numerous collocation and similar  
5 central office jobs (Qwest Ex. 8, Attach. 6).

6 WorldCom claims that Qwest's documentation does not support its proposed engineering  
7 charges. WorldCom asserts that Qwest's engineering costs included within the space construction  
8 charge are unreasonably high and should not exceed \$2,000. Although Qwest claims that the  
9 engineering costs were derived from its actual costs in the collocation model, Mr. Knowles testified  
10 that Qwest simply averaged the costs for engineering from its 41-job study, but did not provide  
11 documentary support for how the costs were incurred. Mr. Knowles also noted that Qwest's  
12 proposed engineering costs are several times higher than the collocation engineering rate of \$1,129  
13 that Verizon charges in Washington (AT&T/WorldCom/XO Ex. 11, at 12).

14 We agree with the CLECs that Qwest's proposed engineering charges for collocation requests  
15 appear to be excessive. Mr. Lathrop testified that Qwest's claimed engineering costs are not  
16 specifically supported on a per-activity basis and that Qwest's charges for engineering are inefficient  
17 because they assume that caged and cageless collocation arrangements will be engineered one job at a  
18 time rather taking into account efficiencies that are likely to occur as Qwest gains experience  
19 (AT&T/WorldCom/XO Ex. 13, at 45-46). Although Qwest discounts the relevance of comparisons  
20 to other states, we believe that the engineering costs identified in Washington, which are many times  
21 less than those proposed by Qwest in this docket, warrant some consideration as a check on the  
22 reasonableness of Qwest's charges. We will, therefore, adopt Mr. Lathrop's recommendation to  
23 reduce Qwest's proposed collocation engineering charge by one-half. We believe that adoption of  
24 this recommendation allows Qwest to recover a reasonable amount for costs associated with these  
25 engineering activities.

#### 26 4. Floor Space Rental Cost

27 Qwest also proposes to assess collocators a charge of \$3.96 per square foot for floor space  
28 rental. In developing this cost, Qwest used the *RS Means Construction Cost Data Book*, a text widely

1 used in the construction industry for estimating costs. Qwest used the median value from *RS Means*  
2 and added costs for architectural fees, land costs, site work, landscaping, and Qwest's project  
3 management. Mr. Lathrop stated that these additional costs account for almost 30 percent of the total  
4 investment developed by Qwest (AT&T/WorldCom/XO Ex. 13, at 48).

5 WorldCom argues that, although *RS Means* states it does not *generally* include architectural  
6 costs, land costs, or site work, Qwest has improperly assumed that *RS Means never* includes such  
7 costs (*Id.*). WorldCom recommends that Qwest's proposed per foot space rental charge should be  
8 reduced by 10 percent to account for potential double counting of these costs. Mr. Lathrop also  
9 asserts that Qwest failed to justify why it changed from a three-zone rate structure proposed in the  
10 last cost docket, ranging from \$2.06 to \$2.75 per square foot, to one-zone structure in this case at a  
11 rate of \$3.96.

12 Qwest claims that no duplication of charges is contained in its proposed floor space rental  
13 charge. According to Mr. Fleming, Qwest affirmed that *RS Means* provides legitimate cost  
14 information and, ultimately, made adjustments to remove duplicative costs from the floor space rental  
15 fee (Tr. 435-437).

16 We do not believe that Qwest has provided adequate justification for the significant increase  
17 in floor space rental cost from the last cost docket, which was conducted only three years ago.  
18 Although Qwest contends that its proposed charge is based on objective cost criteria, it is not clear  
19 that all duplicative costs for HVAC, electrical, architectural fees, land costs, site work, landscaping,  
20 and Qwest project management were removed from its proposed charge. Accordingly, we will adopt  
21 WorldCom's recommendation to reduce Qwest's proposed floor space rental charge by 10 percent to  
22 account for duplicative costs and to keep the cost closer to the amount that was approved less than  
23 three years ago. Qwest should adjust its collocation floor space rental charge to no more than \$3.56  
24 per square foot.

## 25 **5. Power Costs**

26 Qwest proposes to charge collocators \$15.00 or \$18.73 per amp, in addition to the power  
27 cabling charges (see discussion below), depending on whether the usage is less than 60 amps or  
28 greater than 60 amps (WorldCom Ex. 1, §8.1.3). Qwest's power usage charge includes the cost of

1 purchasing power from the electric company and the cost of the power plant and maintenance to  
 2 provide power to the CLEC equipment (Qwest Ex. 16, Attach. TRM-06, page A-10).

3 Mr. Lathrop stated that Qwest's proposal is excessive, given that Qwest's FCC power charges  
 4 range from \$8.70 to \$12.66 in Arizona and that, generally, other ILEC power charges are less than  
 5 \$10.00 per amp (AT&T/WorldCom/XO Ex. 13, at 56). Mr. Lathrop testified that Qwest did not  
 6 provide sufficient information to determine whether the proposed power investments are  
 7 representative of power plants that would be installed in the Company's Arizona central offices. Mr.  
 8 Lathrop recommends that, given the range of central office sizes, it would be more appropriate to  
 9 develop an average of the investments for different sized central offices (*Id.* at 57).

10 Qwest argues that WorldCom's comparisons have different structures and vintages and are  
 11 not appropriate for comparison. Qwest claims that its FCC tariff for virtual collocation relies on a  
 12 completely different power charge system. Qwest contends that some other ILECs charge for "fused  
 13 amps," which are up to 100 percent higher than the "amps-used" number charged by Qwest.

14 On August 16, 2001, Sprint filed a Motion to Strike certain testimony that had been admitted  
 15 during the hearing due to alleged inconsistencies between Qwest witness Fleming's testimony and  
 16 Qwest's actual practices. Attached to the motion was an affidavit of David Stahly that Sprint  
 17 requested be admitted in the event that the Commission denies the Motion to Strike<sup>19</sup>. Sprint claims  
 18 that Mr. Fleming erroneously indicated that Qwest bills CLECs for actual power usage over 60 amps  
 19 because, according to Mr. Stahly's affidavit, Qwest does not measure power usage at any level.  
 20 Sprint contends that Qwest charges CLECs per amp ordered regardless of whether the CLEC's power  
 21 cable is fed from the central office's power board or the battery distribution fuse board ("BDFB").

22 Qwest argues on brief that Sprint misunderstood Mr. Fleming's testimony and is confused  
 23 about the difference between fused amps and load amps. According to Qwest, it bills for load amps  
 24 which can be more than the amount actually used, but corresponds to the amount ordered. Fused  
 25 amps, on the other hand, reflect the maximum capacity of the cabling, which usually exceeds the load

26 \_\_\_\_\_  
 27 <sup>19</sup> Qwest filed a response to the motion on September 6, 2001 opposing Sprint's request to strike Mr. Fleming's  
 28 testimony, but agreeing that Mr. Stahly's affidavit may be admitted into the record. Based on Qwest's response, Sprint  
 withdrew its Motion to Strike on the condition that the Commission admits Mr. Stahly's affidavit. Since admission of the  
 affidavit is not opposed by Qwest, we shall admit it into the record of this proceeding.

1 amps by 50 percent. Qwest claims that it does not bill for fused amps or redundant feeds and that,  
 2 although Sprint's bills may not reflect the new collocation rate structure, Sprint can opt into the new  
 3 system if it is approved by the Commission.

4 We agree with Qwest that WorldCom's comparisons are not appropriate in this instance.  
 5 Although Qwest's proposed power costs exceed the rates cited by WorldCom, Qwest explained the  
 6 reasons why the comparisons are not valid. Therefore, we will adopt Qwest's proposed power costs.  
 7 As a final matter, we note that Qwest agreed during the hearing to remove the cost of the BDFB<sup>20</sup>  
 8 from the per amp cost developed for power fees in excess of 60 amps (Tr. 386-387). With respect to  
 9 Sprint's issue, we believe Qwest has adequately explained how it intends to bill CLECs for power  
 10 costs. Therefore, Qwest's proposal on this issue is adopted.

#### 11 **6. Power Cabling Costs**

12 WorldCom also believes that Qwest's proposed costs for power and grounding cable are  
 13 excessive. WorldCom asserts that the industry guides, *RS Means* and *Cobra Wire & Cable*, show  
 14 material costs ranging from several percent less for power cable to 10 to 15 percent less than Qwest's  
 15 proposals for grounding cable (Tr. 711-714; World Com Exs. 9 and 10). WorldCom contends that  
 16 Qwest's cost study shows the actual Phoenix cost for ground wire was below the average but Qwest  
 17 chose to use the average cost, thereby increasing the cost for Arizona CLECs. WorldCom  
 18 recommends that the Commission adopt an average of the two quotes using the industry guides for  
 19 power and grounding cable costs. WorldCom claims that such an approach is reasonable given the  
 20 probability that Qwest's costs are even lower due to the Company's ability to negotiate volume  
 21 discounts (AT&T/WorldCom/XO Ex. 13, at 58-59).

22 WorldCom also argues that Qwest's power cable lengths are overstated and inconsistent.  
 23 WorldCom claims that, according to Qwest witness Fleming, the average cable length in Arizona is  
 24 177 feet (Qwest Ex. 8 at 31). WorldCom points out that in Qwest's space rent study, using a typical  
 25 central office, Qwest only includes 70 feet as a standard length for cabling (WorldCom Ex 6, App. At  
 26

27  
 28 <sup>20</sup> The battery distribution fuse board is essentially an intermediate circuit breaker, for runs of 60 amps or less  
 (AT&T/WorldCom/XO Ex. 11, at 10).

1) WorldCom recommends, therefore, that the lower number used in the space rent study should be used in this proceeding.

Qwest argues that WorldCom has misconstrued the data and that the data Qwest relies upon was taken directly from the 41 jobs in Qwest's study. According to Qwest, the costs contained in the *RS Means* and *Cobra Cable & Wireless* manuals are not necessarily reflective of rates in Arizona. Mr. Fleming testified that actual costs of the cables used in constructing a particular facility is a better gauge of costs than a price list in a manual (Qwest Ex. 8, at 78). Mr. Fleming also disagreed with WorldCom's assertions regarding cable lengths. Mr. Fleming stated that the average length of cables in Arizona running directly to the power board is 177 feet and the average cable length running to a BDFB is 80 feet. He indicated that, because the average lengths used in Qwest's model are 183 feet and 83 feet, respectively, the model's results are reasonably reflective of actual results in Arizona (*Id.* at 79).

We agree with WorldCom that an average of the *RS Means* and *Cobra Cable & Wireless* manuals is a more appropriate measure of proper cabling costs, especially since Qwest's estimates are not Arizona specific but were developed based on a sample of five non-Arizona central offices. Although the cost manuals cited by WorldCom are not specific to Arizona, they provide an objective measure of costs for cabling. As recommended by Mr. Lathrop, Qwest should use an average of the *RS Means* and *Cobra Cable & Wireless* manuals for calculating power cabling costs.

#### 7. Fencing Costs

WorldCom argues that the fencing component of the standard space construction charge for caged collocation is overstated. According to Mr. Lathrop, Qwest used a multi-state average for developing fencing costs, despite the fact that the Arizona specific costs in the study are significantly less than the average (AT&T/WorldCom/XO Ex. 13, at 31-32). WorldCom also claims that the cage costs contained in the Qwest rent study (WorldCom Ex. 6) are derived from the *RS Means* cost manual and include 16 percent for general overhead profit, 13 percent for consulting fees, and 5 percent for real estate project management. WorldCom points out that, despite these significant additional costs, the *RS Means* costs are approximately one-half the costs used by Qwest in its cost

1 study (AT&T/WorldCom/XO Ex. 13, at 53; WorldCom Ex. 8). WorldCom requests that the  
2 Commission use the *RS Means* data for determining Qwest's caged fencing costs.

3 We agree that, for caged collocation fencing costs, Qwest should use the *RS Means* cost  
4 guidelines identified in Mr. Lathrop's testimony. As Mr. Lathrop indicated, Qwest's cage  
5 construction estimates are based on an average of quotes obtained from 13 vendors, but no evidence  
6 was presented to verify whether these quotes took into account cost reductions related to installing  
7 multiple adjacent cages. Nor did Qwest present evidence that the cage estimates excluded activities  
8 such as demolition and reconstruction (AT&T/WorldCom/XO Ex. 13, at 53). We believe the *RS*  
9 *Means* data fairly represents a reasonable cost for cage construction.

#### 10 **8. Terminations**

11 Terminations are the elements needed to connect a CLEC's collocated equipment with ILEC  
12 unbundled loops, including DS-1 and DS-3 loops (AT&T/WorldCom/XO Ex. 11, at 13). A  
13 termination is located between a CLEC collocation arrangement and Qwest's intermediate  
14 distribution frame ("IDF"), and one element of the termination is the termination block. Mr.  
15 Knowles testified that Qwest's proposed termination rates are significantly higher than comparable  
16 rates approved for Verizon by the Washington Utilities and Transportation Commission. Mr.  
17 Knowles claims that the nonrecurring charges for 100 DS-0 terminations for Verizon total \$622.24,  
18 which is less than half of what Qwest has proposed in this case. For 28 DS-1 terminations, the  
19 Verizon rates in Washington total \$595.32, again less than half the rate proposed by Qwest (*Id.* at  
20 14). Mr. Knowles recommends that the Commission adopt the Verizon rates approved in  
21 Washington as a ceiling on Qwest's rates.

22 Qwest argues that the CLECs have failed to provide any supporting evidence as to Verizon's  
23 rate structure in Washington. Accordingly, Qwest contends that without adequate information upon  
24 which to base a valid comparison, the Commission should not rely on the comparisons posed by Mr.  
25 Knowles. Qwest claims that its actual expenditures are a better gauge of costs than the CLECs'  
26 recommendation. According to Mr. Fleming, Qwest's termination costs were developed on the basis  
27 of its 41 collocation job study, which is a much more accurate assessment of Qwest's costs than costs  
28 approved in another state for a different company (Qwest Ex. 8, at 81).

1 We agree with the CLECs that Qwest's proposed termination rates are excessive and should  
2 be reduced. As noted by Mr. Knowles, Qwest's supporting information for its proposed rates does  
3 not provide sufficient data to adopt its proposal. We further agree that, as a benchmark, Qwest's  
4 rates for collocation termination should, at this time, be set at no more than the rates identified in Mr.  
5 Knowles's testimony (AT&T/WorldCom/XO Ex. 11).

#### 6 **9. Regeneration**

7 A regenerator, or repeater, is a type of circuit equipment that amplifies or regenerates  
8 electronic digital signals as they travel along cables within the central office. AT&T/WorldCom/XO  
9 witness Lathrop described the circumstances when such equipment is required. He stated that, when  
10 DS1 and DS3 circuit lengths exceed 650 feet and 450 feet, respectively, a repeater is used to  
11 regenerate the signal (AT&T/WorldCom/XO Ex. 13, at 62). Mr. Lathrop testified that, although  
12 Qwest has identified regeneration costs as optional, collocators should not be assessed any charges  
13 for this service because the collocators have no control over where in the central office their  
14 equipment is placed (*Id.*). He indicated that the FCC has specifically precluded ILECs from charging  
15 regeneration costs. Mr. Lathrop recommended that if a collocator requires regeneration as a  
16 consequence of where its equipment is located within a central office, the service should be provided  
17 without charge (*Id.* at 63).

18 We agree with the CLECs that if regeneration is required for DS1 and DS3 circuit lengths  
19 over 650 feet and 450 feet, respectively, the service should be provided without charge. As the  
20 CLECs point out, Qwest controls where in its central offices a CLEC's collocated equipment will be  
21 located. Therefore, CLECs should not bear the costs associated with provisioning an adequate signal  
22 over these lengths. This conclusion is consistent with the FCC policy.<sup>21</sup>

#### 23 **10. Cable Racking**

24 WorldCom contends that Qwest's proposed cable racking charges are excessive because,  
25 while Qwest and CLECs share virtually all cable racking in the central office, Qwest assumes that  
26 100 percent of the caged and 50 percent of the cageless collocation arrangements require new cable

27 <sup>21</sup> See, *In the Matter of Local Exchange Carrier's Rates, Terms and conditions for Expanded Interconnection*  
28 *Through Physical Collocation for Special Access and Switched Transport*, CC Docket No. 93-162 (rel. June 13, 1997),  
§117.

1 racking aerial support (AT&T/WorldCom/XO Ex. 13, at 36). According to WorldCom, the amount  
2 of cable racking dedicated to any one collocator would be minimal if Qwest placed CLEC equipment  
3 in the same manner in which Qwest places its own equipment. WorldCom claims that, if Qwest  
4 decides to place all collocators in a separate area of the central office, instead of utilizing available  
5 pockets of space, more cable racking is required unnecessarily (*Id.*). Mr. Lathrop recommends that,  
6 because Qwest has the ability to minimize the amount of cable racking used for CLECs, no cable  
7 racking or aerial support should be included in the costs for cageless collocation. For caged  
8 collocation, Mr. Lathrop claims that the percentage of jobs requiring major cable racking and aerial  
9 support should be set at 10 percent and the percentage of jobs requiring any cable racking and aerial  
10 support should be set at 20 percent (*Id.* at 37).

11 We disagree with WorldCom's arguments on this issue. As discussed in the preceding section  
12 on regeneration, Qwest generally has discretion with respect to the location of collocation equipment.  
13 Qwest may also have legitimate reasons for grouping collocators in a separate area of the central  
14 office, such as for security and ease of collocation construction. We do not believe that Qwest should  
15 be required to place collocators in any available pocket of central office space simply to  
16 accommodate a CLEC's desire to minimize cable racking costs. However, Qwest should make every  
17 effort to accommodate CLECs in locating both caged and cageless equipment as close as possible to  
18 Qwest's switching facilities, without jeopardizing Qwest's legitimate and nondiscriminatory location  
19 policies.

#### 20 **11. CLEC-to-CLEC Connections**

21 CLEC-to-CLEC connections allow a CLEC collocated in a Qwest central office to connect  
22 collocated equipment either to its own collocated equipment located elsewhere in the central office,  
23 or to another CLEC's collocated equipment. Mr. Knowles stated that often such equipment is located  
24 a short distance away because Qwest generally groups collocating CLECs together within the central  
25 office (AT&T/WorldCom/XO Ex. 11, at 15-16). As a result, he claims that connection of collocated  
26 equipment should be simple and inexpensive in the majority of circumstances. Mr. Knowles asserts  
27 that Qwest's proposed charges of \$1,353.22 to engineer central office cross-connections and \$425.99  
28 to open and close an existing cable hole are excessive (*Id.*). Mr. Knowles recommends that Qwest

1 should be authorized to charge no more than the \$244.82 nonrecurring charge, and no recurring  
2 charges, consistent with Qwest's current charges for such connections in its Arizona central office  
3 (AT&T/WorldCom/XO Ex. 13 at 2-3).

4 Qwest argues that its costs for this item are supported by a separate stand-alone cost study  
5 attached to Ms. Million's testimony. Ms. Million testified that Qwest will not charge CLECs for  
6 installing cable racking if they use existing cable racking. She states that Qwest's cost study for  
7 CLEC-to-CLEC connections assumes that a CLEC will utilize existing cable racking 95 percent of  
8 the time and that 5 percent of the time such connections will require installation of an additional 20  
9 feet of new cable racking. Ms. Million noted in her rebuttal testimony that this assumption had not  
10 been carried through to the engineering time required for CLEC-to-CLEC connections and, as  
11 corrected, the engineering component charge is reduced from \$1,353.22 to \$791.63 (Qwest Ex 18 at  
12 13-15).

13 We agree with the CLECs that Qwest's CLEC-to-CLEC connection charge should be  
14 maintained at its current level of a \$244.82 nonrecurring charge, with no recurring charge. Qwest  
15 shall also be permitted to assess a nonrecurring engineering charge of \$791.63, when necessary, in  
16 accordance with Ms. Million's rebuttal testimony and Mr. Lathrop's recommendation that this  
17 engineering cost should be based on no more than 10 hours (AT&T/WorldCom/XO Ex. 13, at 47-48).

## 18 **12. Reusability of Collocation Facilities**

19 The CLECs contend that Qwest's proposal to assess a nonrecurring charge for space  
20 construction would result in complete cost recovery each time a new entrant begins to use a  
21 collocation cage. In order to minimize the risk of over-recovery by Qwest, Mr. Lathrop  
22 recommended that, instead of imposing a nonrecurring charge, Qwest should use a recurring cost  
23 spread over a period of five years (*Id.* at 51). Time Warner expressed a concern that Qwest could  
24 unilaterally impose new contract terms on CLECs, including imposition of a new collocation  
25 decommissioning fee that would include decommissioning fees.

26 Qwest argues that the FCC has determined that an ILEC may assess nonrecurring charges for  
27 equipment dedicated to a particular CLEC, regardless of whether the equipment is reusable by a  
28

1 subsequent collocator.<sup>22</sup> In that proceeding, the FCC stated that requiring the first collocator “to pay  
 2 the full cost of the equipment up front is reasonable because LECs should not be forced to underwrite  
 3 the risk of investing in equipment dedicated to the interconnector’s [CLECs] use, regardless of  
 4 whether the equipment is reusable” (*Id.*). Qwest also points out that its experience shows abandoned  
 5 collocation installations are generally not being reused in Arizona (Qwest Ex. 7, at 18). Qwest  
 6 contends that its “collocation decommissioning policy” provides CLECs with an appropriate means  
 7 of vacating a collocation site. Under this policy, Qwest will reimburse a vacating CLEC for the  
 8 reusable elements of the vacated site for up to one year after decommissioning. CLECs may also  
 9 negotiate terms and conditions with other CLECs for occupying an abandoned collocation site (*Id.*).

10 With respect to Time Warner’s concerns, Qwest states that it cannot unilaterally impose a new  
 11 collocation decommissioning policy on CLECs that conflicts with an existing interconnection  
 12 agreement. Qwest points out that its proposed SGAT makes this clear. According to Qwest, in any  
 13 conflict between a new Qwest policy and an existing interconnection agreement, the terms of the  
 14 existing agreement would prevail. Accordingly, Qwest claims that CLECs are protected from any  
 15 new policy regarding collocation decommissioning.

16 We agree with Qwest that its collocation decommissioning policy provides reasonable  
 17 protections for CLEC collocators with respect to the reusability of collocation facilities. Not only are  
 18 CLECs entitled to transfer occupancy of collocation sites, but Qwest will reimburse the vacating  
 19 CLEC for reusable equipment at the CLEC site for up to one year. Qwest indicates that it also  
 20 accounted for reusability by establishing recurring charges for almost half of the costs of collocation.

## 21 V. LINE SHARING

22 “Line Sharing” is a technology that enables CLECs the opportunity to offer advanced data  
 23 services simultaneously with an existing end user’s analog voice-grade (“POTS”) service on a single  
 24 copper loop. Under this arrangement, Qwest would continue to provide POTS service to the end user  
 25 while a CLEC uses the high frequency portion of the loop (“HFPL”) to provide the same end user  
 26 with data services, such as digital subscriber line (“DSL”) service (Qwest Ex. 10, at 5). This  
 27

28 <sup>22</sup> Second Report and Order, *in the Matter of the Implementation of the Local Competition Provisions of the  
 Telecommunications Act of 1996*, CC Docket No. 93-162 (rel. June 13, 1997), ¶33.

1 “splitting” of the loop is accomplished by employing a POTS splitter, provided by the CLEC, which  
2 is placed in either a collocation or common area of Qwest’s central office (*Id.* at 7).

3 Qwest proposes to charge CLECs \$5.00 per month per loop for use of the HFPL, in addition  
4 to a number of other nonrecurring and recurring charges associated with provisioning the line sharing  
5 service (*Id.*). Staff recommends that the line sharing price should be set at 20 percent of the proposed  
6 statewide average unbundled loop rate of \$12.35, or \$2.47 per month (Staff Ex. 30, at 8; Staff Ex. 32,  
7 Sched. WD-17, at 11). Sprint and Z-Tel both argue for a \$0 charge for use of the HFPL by CLECs.

8 According to Qwest, the HFPL is a valuable piece of property that may not be used by a  
9 competing entity without appropriate compensation. Qwest argues that the 1996 Act and FCC rules  
10 require the Commission to reject the CLECs’ claim that the HFPL should be assigned a cost of \$0.  
11 Qwest asserts that the HFPL should be assigned a positive price that compensates Qwest for the  
12 forced surrender of its property. Qwest contends that, pursuant to the FCC’s *First Report and Order*,  
13 just compensation is defined as the “fair market value of the property subject to the taking.”<sup>23</sup> Qwest  
14 claims that in a competitive market the HFPL would have a positive price and that, when it leases the  
15 HFPL to the competitor, Qwest is thereby precluded from providing xDSL service itself over the  
16 HFPL.

17 With respect to its proposed \$5.00 loop rate for the HFPL, Qwest argues that all of the costs  
18 associated with the unbundled loop are rendered “common costs” because of the presence of  
19 dedicated connections from a single customer to two different providers. Qwest claims that, because  
20 the FCC’s pricing rules require a “reasonable allocation” of common costs, the Company’s proposed  
21 allocation of common costs between the two dedicated connections on the loop is reasonable and  
22 consistent with the 1996 Act’s requirement of just and reasonable rates. Qwest further contends that  
23 a price of \$0 for the HFPL would distort competition and discourage investment in alternative  
24 methods of providing high-speed data services.

25  
26  
27  
28 <sup>23</sup> *First Report and Order*, ¶740.

1 In the FCC's *Line Sharing Order*,<sup>24</sup> the FCC directed state commissions to establish the price  
 2 for the HFPL "in the same manner as they set the price for other unbundled network elements."  
 3 Qwest witness William Fitzsimmons stated that, although there is no "correct" method of allocating  
 4 common costs, any such allocation must pass a reasonableness test. According to Dr. Fitzsimmons,  
 5 Qwest's proposed HFPL price is consistent with the FCC's intent to establish UNE prices that are in  
 6 accordance with the result in a competitive market. Dr. Fitzsimmons stated that the allocation of  
 7 common costs resulting in a positive price for the HFPL furthers competition in a nondiscriminatory  
 8 manner (Qwest Ex. 28, at 11-12). Qwest also argues that a loop price of \$0 for the HFPL would give  
 9 a competitive advantage to DSL providers over other high-speed data service providers using  
 10 technology such as cable modems or satellite. Qwest claims that the result of such a competitive  
 11 advantage will be a decreased incentive to invest in new technologies or, for DSL providers, a  
 12 disincentive to build their own facilities (*Id.* at 17-19). Qwest asserts that, contrary to the CLECs'  
 13 arguments, there is no evidence that Qwest is already recovering the cost of the loop through its retail  
 14 prices. Qwest also states that the 1996 Act and FCC rules require that all UNEs must be cost-based,  
 15 without consideration of retail rates.

16 Sprint and Z-Tel argue that the HFPL should be set at \$0 because Qwest already recovers the  
 17 full cost of the loop through its retail prices and thus any additional revenue from the loop will result  
 18 in an over-recovery. They contend that if a positive price is charged for the HFPL, the low frequency  
 19 portion of the loop must be reduced. Sprint and Z-Tel further assert that, because CLECs must pay  
 20 substantial recurring and nonrecurring charges for interconnection and line sharing services, any  
 21 additional charge to access the HFPL will result in a windfall for Qwest.

22 Staff agrees with Qwest that the HFPL should carry a positive price. Moreover, Staff states  
 23 that its proposed \$2.47 charge, which is 20 percent of its recommended statewide unbundled loop rate  
 24 average, is comparable to Qwest's proposed \$5.00 charge, which approximately equals 20 percent of  
 25 the Company's proposed unbundled loop cost. However, Staff argues that there is no explanation in  
 26 the record for how Qwest actually calculated its proposed \$5.00 recurring charge for HFPL.

27 <sup>24</sup> Third Report and Order in CC Docket No. 98-147, Fourth Report and Order in CC Docket No. 96-98, *In the*  
 28 *Matter of the Implementation of the Local Competition Provisions of the Telecommunications Act of 1996* (rel. December  
 9, 1999) ("*Line Sharing Order*").

1 We agree with Staff that the HFPL should carry a positive price. We also agree that Qwest  
2 has failed to support how it arrived at its proposed \$5.00 charge. Staff's recommended charge of  
3 \$2.47 recognizes that there are some common costs that should be allocated to users of the service  
4 while, at the same time, providing a reasonable price to reflect an allocation of those costs.  
5 Consistent with Staff's recommendation, the HFPL charge should be established at 20 percent of the  
6 statewide unbundled loop average determined in this proceeding.

7 **A. Line Splitting**

8 The FCC has defined "line splitting" as the delivery of voice and data services provided by  
9 competitive carriers over a single loop. In a line splitting arrangement, two different CLECs split the  
10 low and high frequency portions of the loop, with the voice CLEC controlling the loop (Qwest Ex.  
11 11, at 5-6). By comparison, line sharing occurs where the ILEC occupies the low frequency portion  
12 of the loop for voice-grade service, and a single CLEC occupies the high frequency portion of the  
13 loop to provide data service (Id.). Qwest has not provided any new cost studies that are specific to  
14 line splitting because the costs associated with line splitting are addressed with proposed or existing  
15 rates (Qwest Ex. 11, at 7). Qwest recommends that the Commission refrain from ordering firm  
16 deadlines for deployment of line splitting and that the Commission instead allow for a collaborative  
17 process to determine the operational impacts of line splitting before establishing a deployment  
18 schedule.

19 No party objected to Qwest's proposal to engage in a collaborative process regarding line  
20 splitting. We believe Qwest's recommendation is reasonable and we direct Qwest to contact the  
21 other parties within 30 days of the date of this Decision for purposes of establishing a collaborative  
22 process on this issue. The parties to the collaborative should address operational impacts of line  
23 splitting and the establishment of a deployment schedule, as well as any other relevant concerns  
24 related to this issue.

25 **B. Operational Support System Costs**

26 Qwest's Operational Support System ("OSS") is a computer system that does not directly  
27 provide telecommunications service to customers, but supports employees performing operational  
28 duties such as issuing service orders, testing trunks and maintaining switching systems (Qwest Ex. 3,

1 at 3). Qwest claims that, pursuant to Section 252(d)(1) of the 1996 Act, it is entitled to recover the  
2 costs of providing access to UNEs. Qwest also cites the FCC's Line Sharing Order for the  
3 proposition that Qwest may recover OSS costs associated with providing line sharing.

4 Qwest is seeking to recover \$12,826,720 in costs it claims were incurred in modifying its  
5 OSS. The majority of this amount (\$11.9 million) is related to a contract with Telcordia for delivery  
6 of a long-term line sharing solution. Qwest seeks a \$2.74 recurring per line per month charge to  
7 recover the costs of modifying its OSS for a long-term solution to line sharing. Qwest claims that  
8 these costs are solely attributable to line sharing and would not be necessary if not for modifications  
9 needed to support line sharing (Qwest Ex. 3, at 24). Qwest states that, in order to accommodate line  
10 sharing, it was required to engage in a series of developmental and implementation activities with  
11 CLECs. Qwest participated in a number of meetings with interested CLECs in order to develop a  
12 process associated with ordering, provisioning, billing, and maintenance of OSS for line sharing (Id.  
13 at 12). Qwest contends that its efforts working with the "joint team" on this issue required a  
14 significant amount of resources that should be compensated.

15 According to Qwest, the modifications to its OSS were essential to the CLECs' ability to  
16 access Qwest's OSS in order to perform line sharing functions. Qwest argues that it made the OSS  
17 changes solely for the purpose of enabling CLECs to provide xDSL service over the same line on  
18 which Qwest provides voice service. Qwest claims that, because it does not need these OSS  
19 modifications to provide its own xDSL product, CLECs should bear the entire cost of the OSS  
20 modifications (Id. at 24).

21 Staff argues that because the majority of Qwest's claimed OSS costs are related to a custom  
22 contract with Telcordia, these costs should be disallowed as imprudently incurred. According to  
23 Staff, if Qwest had waited for a nationwide rollout of Telcordia's line sharing solutions, the  
24 Company's costs would likely have been lower. In addition, Staff contends that it is improper for  
25 Qwest to assess nearly the entire cost of the OSS improvements to CLECs based on Qwest's  
26 assertion that the OSS modifications did not need to be made to support its own xDSL service. Staff  
27 claims that Qwest's proposed exemption of its own affiliate from supporting the OSS improvements  
28 violates the 1996 Act's requirement of nondiscriminatory access to CLECs, and amounts to a subsidy

1 for Qwest and its DSL affiliate. Staff recommends that the proposed OSS charge for line sharing be  
2 reduced to \$0.10 per shared line per month (Staff Ex. 30, at 36).

3 We agree with Staff that Qwest's proposed line sharing OSS charge is excessive and  
4 discriminatory. As Staff witness Dunkel points out, under Qwest's proposal, the \$2.74 OSS charge  
5 would be charged to unaffiliated xDSL providers but not to Qwest's affiliate, Broadband Services,  
6 Inc. (Id. at 33). Moreover, although Qwest's OSS would only be used by CLECs when an order is  
7 placed or service is required, the Company's proposed OSS charge would remain in place indefinitely  
8 on a recurring monthly basis. In addition, Qwest did not look into the possibility that OSS costs  
9 associated with the Telcordia contract could be shared with other telecommunications providers but,  
10 instead the Company opted for a custom solution (Id. at 35). For these reasons, we agree with Staff  
11 that the recurring line sharing OSS charge should be reduced to \$0.10. The charge will be applicable  
12 to all providers of xDSL service, including Qwest affiliates that are using the HFPL through line  
13 sharing.

## 14 VI. OTHER ISSUES

### 15 A. Avoided Cost Discount

16 The avoided cost discount reflects the rate discount applies to wholesale services it sells to  
17 CLECs for resale to an end-use customer. In the First Cost Docket Order, the Commission  
18 established wholesale discount rates of 12 percent for residential basic exchange service and 18  
19 percent for all other services to which the discount applies. The Arizona District Court remanded this  
20 issue to the Commission, directing the Commission "to consider the range of cost savings for  
21 different categories of service, as well as the potential for abuse through selective ordering tactics,  
22 and determine whether additional discount rates are needed."

23 Although Qwest argued for reductions in the current discount rates, Staff witness Dunkel  
24 testified that Staff does not have the information needed to more accurately identify the cost savings  
25 associated with various services. Mr. Dunkel claims that the Uniform System of Accounts  
26 ("USOA") records, Automated Reporting Management Information System ("ARMIS") reports, and  
27 other records kept by the Company do not show the avoided costs by product lines, and what portion  
28 of those costs would be avoided by product line. According to Mr. Dunkel, Qwest's allocation of

1 costs to product lines, and the determination of what portion of those costs would be avoided, was  
 2 based primarily on managerial judgment. Accordingly, Mr. Dunkel stated that “there is no factual  
 3 basis on which to establish a more accurate disaggregation of the avoided cost discounts than was  
 4 established in Decision No. 60635” (Staff Ex. 30, at 55). Based on these facts, Mr. Dunkel  
 5 recommended that the Commission maintain the current discounts.

6 On July 25, 2001, Staff and Qwest entered into a stipulation whereby Qwest agreed to  
 7 maintain the current wholesale discounts now in effect. No party opposed the agreement between  
 8 Staff and Qwest to maintain the existing discount rates. We will adopt the stipulation between Staff  
 9 and Qwest to maintain the current discount rates of 12 percent for basic residential service and 18  
 10 percent for all other services to which the discount rate applies.

11 **B. Subloop and Access to Wire in Multi-Tenant Environments**

12 Cox raises the argument that access to subloops, especially in a multi-tenant environment, is  
 13 critical to competition, especially facilities-based competition. Cox provides competitive telephone  
 14 services to end users via a hybrid fiber-coaxial (“HFC”) network. For purposes of this proceeding,

15 Cox is concerned that Qwest’s proposed rates and practices with respect to accessing subloops  
 16 and wire used to serve residential tenants in apartment complexes and other multi-dwelling units  
 17 (“MDUs”), and for business customers in high rise office buildings and other multi-tenant  
 18 environments (“MTEs”), may preclude such customers from receiving the benefits of competition.

19 The FCC has defined subloops as “portion of the loop that can be accessed at terminals in the  
 20 incumbent’s outside plant.”<sup>25</sup> Cox contends that access to subloops is critical to competition because  
 21 the subloop is a part of the access puzzle that is not easily duplicated by CLECs. The FCC indicates  
 22 that unbundling of subloops will promote efficiencies because a requesting CLEC “will not have to  
 23 buy the entire loop in order to connect its own facilities with wiring on the customer premises.”<sup>26</sup>

24 Cox also cites to the FCC’s *MTE Order*<sup>27</sup> to support its assertion that the FCC is concerned  
 25 with competitive access to subloops in multi-tenant environments. In that order, the FCC indicated

26 <sup>25</sup> *In the Matter of the Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*,  
 27 CC Docket No. 96-98, Third Report and Order, FCC 99-238 (rel. Nov. 5, 1999) (“*UNE Remand Order*”) at ¶206.

28 <sup>26</sup> *UNE Remand Order* at ¶212.

<sup>27</sup> *In the matter of the Promotion of Competitive Networks in Local Telecommunications Markets*, WT Docket No.  
 99-217; *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-

1 that incumbent LECs can use their control over “on-premises” wiring to frustrate competitive access  
 2 in multi-tenant buildings. In this case, Cox claims that Qwest’s pricing proposal acts as a barrier to  
 3 competition because the Company proposes to charge \$12.12 (in Zone 1) regardless of how much of  
 4 the subloop is used by the CLEC. According to Cox, Qwest’s proposal discourages CLECs from  
 5 extending their networks. Cox also argues that Qwest’s proposal will allow Qwest to over-recover  
 6 costs related to provisioning these facilities. As an example, Cox points out that Qwest’s costs for  
 7 provisioning a 1,000 foot “campus wire” pair is substantially less than the \$12.12 the Company seeks  
 8 in this case.

9 Cox further contends that CLECs need an appropriate price for campus wire because there are  
 10 many existing MDU/MTE configurations where Qwest owns the campus wire and, in order to create  
 11 competition for those tenants, a CLEC will need access to that wire. Cox complains that Qwest has  
 12 created an arbitrary distinction between “intrabuilding cable” and “campus wire.” In defining “inside  
 13 wire,” the FCC recognized that such wiring may be located not only within single family premises,  
 14 but also “within a campus, a commercial park, or a garden apartment complex.”<sup>28</sup> The FCC also  
 15 noted that “inside wire is often out of doors, as in the case in garden apartments and campuses,  
 16 among other places” (*Id.*).

17 In accordance with the FCC’s definitions, Cox maintains that this Commission should define  
 18 both “campus wire” and “intrabuilding cable” as “on-premises wire” for purposes of UNE pricing.  
 19 According to Cox, “on-premises wire” should be priced at the rate proposed by Qwest for  
 20 “intrabuilding cable,” and a “campus wire” subloop should be priced the same as the “intrabuilding  
 21 cable” subloop.

22 Cox also argues that, upon request of a MDU/MTE wiring owner, Qwest should be required  
 23 to create a single demarcation point at the minimum point of entry (“MPOE”) and relinquish  
 24 ownership of the wire on the customer side of the demarcation point. The MPOE and demarcation  
 25

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26 98; *Review of Sections 68.104 and 68.213 of the Commission's Rules Concerning Connection of Simple Inside Wiring to*  
 27 *the Telephone Network*, CC Docket 88-57; *First Report and Order and Further Notice of Proposed Rulemaking*, WT  
 28 *Docket No. 99-217*; *Fifth Report and Order and Memorandum Opinion and Order*, CC Docket No. 96-98; and *Fourth*  
*Report and Order and Memorandum Opinion and Order*, CC Docket No. 88-57, FCC No. 00-366 (rel. Oct 25, 2000)  
 (“MTE Order”).

<sup>28</sup> *UNE Remand Order* at ¶170.

1 point are the point at which the local exchange carrier's network ends and the property owner's  
2 telecommunications facilities begin (Cox Ex. 3, at 9). Cox cites to the FCC's *MTE Order*, where the  
3 FCC stated that in multi-unit premises, "the incumbent carrier must move the demarcation point to  
4 the MPOE upon the premises owner's request."<sup>29</sup> Although the ILEC's obligation to move the  
5 demarcation point is apparently settled, the question of compensation for the relinquished wire  
6 remains at issue. Cox contends that the relinquished wire and facilities should be priced at "residual  
7 value," which Cox defines as the initial cost borne by Qwest, less accounted depreciation up to the  
8 time of conveyance.

9         Although Qwest did not address this issue in its initial brief, in its reply brief Qwest argues  
10 that Cox improperly assumes that its distribution plant excludes cable on private property. Qwest  
11 claims that its LoopMod design contains underground cabling placed in building owner provided  
12 duct. According to Qwest, this cable provides connectivity between the SAI and the building  
13 terminals at each building in a MDU/MTE environment (Qwest Ex. 2, at 28-29).

14         Qwest asserts that it should not be required to break out costs and separately price campus  
15 wire because campus wire or intrabuilding cable in MDUs is simply one form of subloop distribution  
16 plant (Qwest Ex. 8, at 101-102). Qwest claims that both the HAI model and Qwest's ICM produce a  
17 distribution subloop that blends MDU and non-MDU architectures. Qwest maintains that campus  
18 wire should not be treated as a separate element because such treatment would cause all other  
19 subloop prices to increase significantly. Qwest argues that adoption of Cox's proposal would lead to  
20 excessive deaveraging of subloops, resulting in prices in other areas above the level that stimulates  
21 competition.

22         Qwest also opposes Cox's recommendation regarding relocation of the demarcation points to  
23 the MPOE. Qwest concedes that, pursuant to the FCC's *MTE Order*, MDU owners may request  
24 ILECs to move the demarcation point to the MPOE. However, Qwest maintains that because  
25 property owners are not public service corporations, adoption of Cox's proposal would raise serious  
26 issues regarding the Commission's jurisdiction over wiring and facilities. Qwest concludes that if the  
27

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28 <sup>29</sup> *MTE Order* at ¶54.

1 Commission makes any determination regarding pricing on this issue, the appropriate measure of  
2 compensation should be based on the fair market value of the property or on a TELRIC basis.

3 We agree with Cox that Qwest's pricing proposal could indeed act as a barrier to competition  
4 and discourage CLEC investment in facilities. We believe that Cox's proposal to treat campus wire  
5 and intrabuilding wire synonymously as "on-premises wire" is appropriate. In order to compete in  
6 MDU situations, CLECs need to have access to Qwest-owned campus wire because to do otherwise  
7 would allow Qwest to maintain control over such wire and thereby frustrate competition.  
8 Accordingly, Qwest should price both campus wire and intrabuilding cable at the same "on-premises  
9 wire" price, as proposed by Cox.

10 With respect to the relocation of the demarcation point and purchase of campus wire facilities,  
11 we also agree with Cox's proposal. In the event that a MDU/MTE owner requests the demarcation  
12 be moved to the MPOE, Qwest is obligated to relinquish wire on the property owner's side of the  
13 demarcation, and to price those facilities at residual value. Residual value should be determined by  
14 taking into account Qwest's initial costs (assuming Qwest first proves ownership of the wire) less  
15 depreciation up to the time of conveyance.

16 Although property owners would not be required to reconfigure the demarcation point and  
17 MPOE, or purchase the inside wire, adoption of this proposal gives the property owners additional  
18 options in dealing with Qwest regarding the price for any on-premises wire. As Cox points out, the  
19 cost of any such reconfiguration of the demarcation point could be borne by a CLEC that is interested  
20 in serving tenants in a building, thereby relieving the building owner of the cost of reconfiguration  
21 and allowing tenants to enjoy the benefits of competitive choice. Accordingly, we adopt Cox's  
22 recommendations on this issue.

23 **C. Operator Services/Directory Assistance**

24 In its *UNE Remand Order*, the FCC found that ILECs are not required to unbundle operator  
25 services and directory assistance ("OS/DA") unless the ILECs do not provide customized routing.  
26 The FCC stated, in relevant part:

27 We find that where incumbent LECs provide customized routing, lack  
28 of access to the incumbents' OS/DA service on an unbundled basis

1 does not materially diminish a requesting carrier's ability to offer  
 2 telecommunications service. The record provides significant evidence  
 3 of a wholesale market in the provisioning of OS/DA services and  
 4 opportunities for self-provisioning OS/DA services . . . Accordingly,  
 5 incumbent LECs need not provide access to OS/DA as an unbundled  
 6 network element.<sup>30</sup>

7 Qwest states that the FCC's decision makes sense given the ability of customized routing to  
 8 enable CLECs "to self-provide or select among other providers of interoffice facilities, operator  
 9 services and directory assistance" (Qwest Ex. 12, at 3). Qwest claims that the FCC's decision makes  
 10 clear that a TELRIC-based UNE need not be offered, as long as the ILEC offers customized routing.  
 11 Qwest witness Brohl stated that customized routing enables a CLEC "to designate a particular  
 12 outgoing trunk that will carry certain classes of traffic originating from [the] CLEC's end-users,"  
 13 including OS/DA service (*Id.*). According to Qwest, it offers customized routing and has developed  
 14 a process whereby CLECs may request and receive the service, although no CLECs have yet  
 15 requested custom routing service from Qwest (*Id.* at 4; Tr. 562). Qwest asserts that, despite the  
 16 arguments raised by the CLECs, pricing customized routing on an individual case basis ("ICB") does  
 17 not diminish the fact that the service is available (*Id.*). As such, Qwest contends that it is not required  
 18 to offer OS/DA as a separate unbundled element.

19 WorldCom claims that Qwest must continue to offer OS/DA as an unbundled element at cost-  
 20 based rates until it actually provides customized routing. According to WorldCom, Qwest's mere  
 21 offer of service at an ICB rate is not sufficient to qualify for the exemption from UNE pricing as set  
 22 forth in the FCC's *UNE Remand Order*.<sup>31</sup> WorldCom argues that, even if customized routing is  
 23 provided, OS/DA must be made available on a nondiscriminatory basis, not only with respect to  
 24 prices between competing carriers but also as to what price Qwest charges itself. WorldCom  
 25 contends that Qwest has not provided a cost study in this docket that shows what Qwest charges itself  
 26

27  
 28 <sup>30</sup> *UNE Remand Order*, ¶¶441-442

<sup>31</sup> *UNE Remand Order* ¶462.

1 for OS/DA services and, therefore, Qwest must continue to provide OS/DA as a UNE, at cost-based  
2 prices.

3       Aside from the arguments described above, WorldCom maintains that the customized routing  
4 issue cannot be resolved in this phase of the docket because Qwest has only recently filed its  
5 customized routing cost study, which will be considered in Phase II(A) of this proceeding.  
6 According to WorldCom, until the Commission has reviewed that cost study and has established  
7 prices for that service, OS/DA must be offered at TELRIC prices.

8       We agree with WorldCom that, until such time as the Commission has considered Qwest's  
9 cost study dealing with customized routing in the next phase of this docket, no decision should be  
10 made with respect to the pricing of OS/DA on an ICB basis. Accordingly, Qwest should continue to  
11 offer OS/DA as a UNE at a TELRIC price pending our decision in Phase II (A) of this proceeding.

12 **D. Reciprocal Compensation**

13       In its order addressing reciprocal compensation for internet traffic, the FCC has recently ruled  
14 that such traffic is interstate in nature and, as such, the FCC has exclusive jurisdiction to decide the  
15 issue.<sup>32</sup> The FCC further stated that, given the interstate nature of such traffic, "state commissions  
16 will no longer have authority to address this issue."<sup>33</sup> Based on the FCC's ruling, the parties agreed  
17 to remove all testimony regarding reciprocal compensation from this proceeding. Therefore we need  
18 not address the issue in this docket.

19 **E. Unbundled Network Element-Platform**

20       Unbundled Network Element-Platform ("UNE-P") refers to an arrangement where a CLEC  
21 orders unbundled network elements that remain connected together. The UNE-P is essentially a  
22 complete bundled set of UNEs (*i.e.*, NID, local loop, switch port, transport facilities) which enables a  
23 CLEC to purchase a complete end-to-end voice circuit from the ILEC. Under a UNE-P arrangement,  
24 Qwest provides service to the CLEC ordering the service using the same facilities that Qwest would  
25 use to provide service to a retail customer. Qwest continues to provide the services using the same  
26

27       Order of remand and Report and Order, *In the Matter of Implementation of the Local Competition Provisions in*  
28 *the Telecommunications Act of 1996, Intercarrier Compensation for ISP-Bound Traffic*, CC Docket Nos. 96-98 and 99-68  
(rel. April 27, 2001).

<sup>33</sup> *Id.* at ¶82.

1 equipment, with the exception that the service is billed as UNE-P service to the CLEC, instead of  
2 being billed as retail service to the end user. The group of services that make up UNE-P are the  
3 unbundled loop, port, shared transport, local switching and, under Qwest's proposal, a separate  
4 charge for any features provided. The CLEC would need only to provide supporting services such as  
5 directory assistance and operator services (Staff Ex. 30, at 49). Staff witness Dunkel recommends  
6 that this issue be resolved in the Section 271 workshop, if possible.

7 In this proceeding, Qwest proposes a number of nonrecurring charges for the UNE-P. These  
8 charges range from \$0.68 for conversion of an existing basic POTS service to \$82.49 for a manual  
9 UNE-P POTS connection. The CLECs claim that Qwest has assumed that many UNE-P orders will  
10 require manual intervention in Qwest's ISC, and that significant manual processing will be required  
11 even when a mechanized order flows through the system. The CLECs argue that Qwest's manual  
12 interaction assumptions are not based on a forward-looking TELRIC environment and should,  
13 therefore, be rejected.

14 We agree with Staff that, in the event these UNE-P issues are not resolved through  
15 negotiations, Qwest should be required to connect traffic that originates on a CLEC-subscribed UNE-  
16 P line to its appropriate destination within the LATA at the rates the Commission has established for  
17 the various UNE-P functions. We therefore adopt Staff's position on this issue.

## 18 VII. CONCLUSION

19 With the passage of the Telecommunications Act of 1996, Congress established a new  
20 regulatory scheme to foster local exchange competition among telecommunications carriers. This  
21 docket represents the Commission's second opportunity to implement the 1996 Act, and bring about  
22 local exchange competition in Arizona, through the establishment of interconnection and UNE prices  
23 for Qwest. Establishing just and reasonable rates for interconnection and UNEs is a difficult and  
24 complex process and parties on both sides have strong incentives to advocate that rates be set in a  
25 manner that is most advantageous to their individual interests. ILECs like Qwest stand to lose  
26 customers and associated revenues, while CLECs hope to gain new customers and revenues,  
27 depending on the level of prices that are established for these competitive services.

28



1 4. Phase II of this docket was opened in 2000 to address issues raised by subsequent  
2 FCC orders and judicial decisions, and to establish permanent geographically deaveraged rates.

3 5. On December 14, 2000, a Procedural Order was issued which stated that Qwest's  
4 existing UNE rates, as determined in Decision No. 60635, would also be reviewed in this Phase II  
5 proceeding.

6 6. Intervention in this case was granted to AT&T Communications of the Mountain  
7 States, Inc., XO Arizona, WorldCom, Inc., Cox Arizona Telecom, Inc., Z-Tel Communications, Inc.,  
8 McLeodUSA Telecommunications Services, Inc., Sprint Communications Co., L.P., and Time  
9 Warner Telecom of Arizona, LLC.

10 7. Cost studies were submitted for recurring and nonrecurring charges by Qwest and the  
11 CLECs.

12 8. Pre-filed direct expert testimony was filed by Qwest, Staff, and the intervenors

13 9. The hearing in this docket commenced on July 16, 2001 and concluded on July 31,  
14 2001.

15 10. On August 31, 2001, the parties filed their initial post-hearing briefs.

16 11. On September 24, 2001, the parties filed their post-hearing reply briefs.

17 12. The Commission has analyzed the issues and the evidence as presented by the parties  
18 and has resolved the issues as stated in the Discussion above.

19 13. The Commission hereby adopts the Discussion and incorporates the parties' positions  
20 and the Commission's resolution of the issues herein.

### 21 CONCLUSIONS OF LAW

22 1. Qwest Corporation is a public service corporation within the meaning of Article XV of  
23 the Arizona Constitution.

24 2. Qwest Corporation is an incumbent LEC within the meaning of 47 U.S.C. §252.

25 3. The Commission has jurisdiction over the parties and of the subject matter in this  
26 docket.



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IT IS FURTHER ORDERED that the rates and charges approved herein shall be effective immediately.

IT IS FURTHER ORDERED that this Decision shall become effective immediately.

BY ORDER OF THE ARIZONA CORPORATION COMMISSION.

CHAIRMAN	COMMISSIONER	COMMISSIONER
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IN WITNESS WHEREOF, I, BRIAN C. McNEIL, Executive Secretary of the Arizona Corporation Commission, have hereunto set my hand and caused the official seal of the Commission to be affixed at the Capitol, in the City of Phoenix, this \_\_\_\_ day of \_\_\_\_\_, 2001.

\_\_\_\_\_  
BRIAN C. McNEIL  
EXECUTIVE SECRETARY

DISSENT \_\_\_\_\_  
DDN:dap

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