BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the CONTINUED COSTING AND PRICING OF UNBUNDLED NETWORK ELEMENTS, TRANSPORT, TERMINATION, AND RESALE	Docket No. UT-003013 (*Part D*) QWEST'S OPENING BRIEF July 23, 2002

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I. INTRODUCTION

This proceeding is part of the follow-on cost docket in which the Commission is addressing issues that were not resolved in the first generic cost proceeding, Docket Nos. UT-960369, et al., and new issues that have arisen since the conclusion of that initial proceeding. In this part of the follow-on cost docket, Part D, the parties and the Commission are addressing: (1) additional costing and pricing issues that arise from the FCC's UNE Remand Order;[1] (2) additional costing and pricing issues for elements and services not previously addressed in cost dockets; (3) the rights and obligations of the incumbent local exchange carriers ("ILECs") and competitive local exchange carriers ("CLECs") relating to line sharing in connection with digital subscriber line service ("DSL service"), including collocation issues and packet switching; and (4) issues raised by WorldCom in connection with access to databases, operator services and directory assistance, and customized routing.

In the UNE Remand Order, the FCC re-defined the unbundled network elements ("UNEs") that ILECs are required to provide under the Telecommunications Act of 1996 ("the Act"). The order responds to decisions from the United States Supreme Court and the United States Court of Appeals for the Eighth Circuit that required the FCC to reconsider the list and definitions of the UNEs that it initially required ILECs to provide under the Act. While some of the network elements that the FCC classified as UNEs in the UNE Remand Order were addressed by this Commission in the first generic cost proceeding, several of them are new elements that the Commission and the parties did not previously address.

For each of the network elements or services discussed below, the Commission should accept the costs and prices that Qwest has proposed. Qwest's proposals are based upon a proper application of the FCC's mandated costing methodology known as TELRIC, or total element long run incremental costs, and are consistent with the Eighth Circuit's pronouncements relating to TELRIC. In addition, Qwest's proposed costs and prices for these network elements incorporate this Commission's previous

[1] *In the Matter of Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, Third Report and Order and Fourth Further Notice of Proposed Rulemaking (Rel. Nov. 5, 1999) ("UNE Remand Order").

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rulings relating to the inputs and methodologies that ILECs and CLECs are required to use in their cost studies. In contrast to Qwest's proposals, the CLECs' proposals are uniformly based upon unrealistic assumptions about the costs that Qwest must incur to provide these network elements and, therefore, do not reflect a proper application of TELRIC. Adoption of the CLECs' proposals will deny Qwest the cost recovery to which it is entitled under section 252(d)(1) of the Act.

II. LEGAL AND POLICY STANDARDS

A. Legal

1. The Pricing Requirements of the Act, Related Decisions of Federal Courts, and Prior Orders of this Commission

Section 252(d)(1) of the Act requires state commissions to establish rates for interconnection and unbundled network elements that are "just and reasonable." As Qwest has emphasized previously, this right of cost recovery reflects the careful balance that Congress struck in passing the Act. While taking the extraordinary step of requiring ILECs like Qwest to turn over pieces of their networks to competitors, Congress sought to ensure that the ILECs would be properly compensated for this mandated use of their property.

To that end, section 252(d)(1)(A)(i) of the Act specifically mandates just and reasonable rates for interconnection and access to unbundled elements that are to be "based on the cost (determined without reference to rate-of-return or other rate-based proceeding) of providing the interconnection or network element." In this case, the CLECs' rate proposals do not realistically reflect the costs that Qwest will incur to provide UNEs and, therefore, violate this "just and reasonable" requirement.

In *Iowa Utils. Bd. v. FCC*, 219 F.3d 744, 751 (8th Cir. 2000) ("*Iowa Utils. II*"), the Eighth Circuit Court of Appeals vacated 47 C.F.R. § 51.505(b)(1), which required that TELRIC should be based on "the use of the most efficient telecommunications technology currently available and the lowest cost network configuration, given the existing location of the incumbent LEC's wire centers." In doing so, the court held that this rule violated the plain meaning of section 252(d)(1)(A)(i), and it rejected the proposition that costs should be based "on the cost that some imaginary carrier would incur by providing

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the newest, most efficient, and least cost substitute for the actual item or element which will be furnished by the ILEC pursuant to Congress' mandate for sharing."[2]

The Supreme Court recently reversed the Eighth Circuit in *Verizon Communications, Inc. v. FCC*,[3] to the extent that it invalidated TELRIC as a method for setting wholesale rates under the Act, and affirmed the FCC's definition of TELRIC as the appropriate pricing standard. Neither the Eighth Circuit's decision nor the reversal by the Supreme Court has a significant impact on Qwest's costs reviewed by this Commission in Part D. Qwest prepared its cost studies submitted in this docket in a manner that is fully consistent with the FCC's application of TELRIC. Despite suggestions by some CLECs to the contrary, the FCC rules have never required that an ILEC develop costs for the UNEs it provides on the basis of a non-existent, fantasy network. Thus, Qwest specifically designed its cost studies based on the "most efficient technology *proven*" to be "*operationally feasible, currently available*,"[4] and "*compatible with the most basic geographical design of the existing network*,"[5] – the definition of TELRIC supported by both AT&T and the FCC.

Qwest has presented testimony from witnesses with recent, hands-on experience installing network facilities in Qwest's region, witnesses who understand what is actually required to build an efficient network using currently available technology. Qwest's models and studies use assumptions consistent with these standards and supported by comprehensive evidence. Accordingly, Qwest's cost studies are conservative in their estimates of cost.

The rulings of this Commission in prior wholesale cost proceedings also provide substantial guidance in addressing the cost and pricing issues that this docket presents. Qwest's cost studies rely

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[2] *Id.*

[3] 152 L. Ed. 2d 701, 2002 U.S. LEXIS 3559 (May 13, 2002).

[4] Reply Brief of AT&T Corp. at 16-17, *AT&T v. Iowa Utilities Board*, (U.S., July 23, 2001) (Nos. 00-590, 00-511, 00-555, 00-587 & 00-682) (emphasis added). *See* also, Reply Brief for Petitioners WorldCom, Inc., et al. at 6-7, *WorldCom, Inc. v. Verizon Communications, Inc.*, (U.S., July 23, 2001) (No. 00-555) ("TELRIC rates are calculated on the basis of the most efficient technology that is generally available and actually in use"). The FCC also has emphasized that TELRIC be based "on actual prices of equipment that is commercially available today." Reply Brief for Petitioners United States and FCC at 6, *Verizon v. FCC*.

[5] Brief for the Petitioners FCC and the United States at 9, *Verizon Communications, Inc. v. FCC*, (U.S., Apr. 9, 2001) (Nos. 00-511, 00-555, 00-587, 00-590 & 00-602) (emphasis added).

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significantly on the Commission's prior rulings and use specific inputs that the Commission has required in its previous orders. For example, Qwest's studies are consistent with the Commission's endorsement of TELRIC and use values that the Commission has prescribed or endorsed for cost of money, depreciation, fill factors, common costs, attributed costs, and expense factors.

2. **The Network Elements that CLECs are Required to Unbundle and the Law Relating to Combinations of Network Elements**

In the UNE Remand Order, the FCC established a comprehensive list of elements the ILEC is required to unbundle.[6] Some of the elements on this list have been the subject of prior cost docket proceedings before this Commission. Others, such as packet switching, are at issue in this proceeding. and In its Line Sharing Order, the FCC established that the "high frequency portion of the loop is a network element that must be unbundled."[7] In a subsequent order relating to Southwestern Bell Communications' ("SBC") application under section 271 of the Act for entry into the Texas long distance market, the FCC addressed the CLECs' request to be able to provide data services over the same loops they are using to provide service to their customers through UNE-P. The FCC concluded that ILECs "have an obligation to permit competing carriers to engage in line splitting over the UNE-P where the competing carrier purchases the entire loop and *provides its own splitter*."[8] The FCC confirmed this obligation in its recent order that reconsidered its original Line Sharing Order.[9]

On May 24, 2002 the Court of Appeals for the District of Columbia remanded the FCC's UNE Remand Order and vacated and remanded the Line Sharing Order.[10] Because no mandate has been

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[6] The list of elements is set forth in 47 C.F.R. §51.319.

[7] *In the Matters of Deployment of Wireline Services Offering Advanced Telecommunications Capability and Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket Nos. 98-147 and 96-98, Third Report and Order in CC Docket No. 98-147 and Fourth Report and Order in CC Docket No. 96-98 at ¶ 16 (Rel. Dec. 9, 1999) ("Line Sharing Order").

[8] *In the Matter of Application by SBC Communications, Inc. Pursuant to Section 271 of the Telecommunications Act of 1996 to Provide In-Region, InterLATA Services in Texas*, CC Docket No. 00-65, Memorandum Opinion and Order at ¶ 325 (Rel. June 30, 2000) ("SBC Texas 271 Order") (emphasis added).

[9] *In the Matter of Deployment of Wireline Services Offering Advanced Telecommunications Capability and Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, Third Report and Order on Reconsideration in CC Docket No. 98-147, Fourth Report and Order on Reconsideration in CC Docket No. 96-98, Third Further Notice of Proposed Rulemaking in CC Docket No. 98-147, Sixth Further Notice of Proposed Rulemaking in CC Docket No. 96-98 at ¶ 19 (Rel. Jan. 19, 2001) ("Line Sharing Reconsideration Order").

[10] *United States Telecom Ass'n v. FCC*, 290 F.3d 415, 2002 U.S. App. LEXIS 9834 (D.C. Cir. May 24, 2002)

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issued, and the FCC has not yet conducted follow-on rulemaking, Qwest will continue to provide line sharing and unbundled packet switching during this interim period. Once the remand and subsequent court proceedings are complete, Qwest will follow those future rulings.

B. Policy

As Qwest has observed previously, the Commission is experienced in these cost docket proceedings, and is well aware that its decisions on the issues presented must be consistent with the law and with the general policies of the state and the federal government to advance competition in the local telecommunications markets. The Commission has, to date, been quite successful in achieving these outcomes, and has promoted competitive entry and competition in the state to the benefit of Washington consumers.

III. QWEST

Qwest filed TELRIC studies for numerous UNEs and collocation services in Part D. These studies provide cost data underlying the pricing of many of the SGAT UNE recurring and nonrecurring rate elements. (Ex. T-2020, p. 2). The cost study work papers include both paper and electronic copies of each cost study. The electronic documentation was provided on compact disc. (Ex. 2021). This exhibit includes all cost study calculations (e.g., Excel spreadsheets) and methodology descriptions. In addition, the work papers include all of the supporting investment and expense cost models (along with user manuals) used to calculate investments and expenses in the studies. (Ex. T-2021, p. 3).

The Qwest TELRIC studies identify the *forward-looking long run* direct costs that would result from the provision of an interconnection service or network element, plus the incremental cost of shared facilities and operations. These studies identify *total element* costs – the average incremental cost of providing the entire quantity of the element. The assumptions, methods, and procedures used in Qwest cost studies are designed to yield the realistic, most efficient forward-looking costs of replacing the entire telecommunications network (i.e., replacement costs). (Ex. T-2020, p. 4).

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A. Nonrecurring Costs and Study Methodology

Nonrecurring costs are the one-time costs associated with establishing a service or providing a UNE. These costs typically arise from specific activities or transactions that Qwest must perform in response to a CLEC order for service or for a UNE. Qwest has presented nonrecurring cost studies in this docket relating to the following services and network elements: the resale customer transfer charge; certain collocation elements, including CLEC to CLEC connections; various unbundled network elements, including the UNE platform, and; inquiry and field verifications for poles, ducts, and conduits.

The development of Qwest's nonrecurring cost studies begins with input from subject matter experts concerning the types of tasks and activities that are necessary to establish a service or to provide a UNE. These subject matter experts typically are engineers or product managers. After these experts identify the tasks that Qwest must perform, they estimate the time needed to perform each task and the probability that the task will have to be performed. They provide these estimates using forward-looking assumptions and relying on their extensive experience with the tasks and activities that are associated with a service or a network element. (Ex. T-2020, p. 16)

The times and probability estimates that the subject matter experts develop are multiplied by the appropriate labor rate associated with the activity. The resulting figure represents the direct costs of the activity. Qwest's nonrecurring studies add to this amount the Commission's approved loadings of 19.62 percent and 4.05 percent. This same methodology underlies nonrecurring charges that this Commission has previously approved.[11]

B. Non-recurring Costs

1. Overview

Qwest's enhanced nonrecurring cost model ("ENRC") calculates nonrecurring costs for provisioning and installation activities based on time estimates and probabilities of occurrence of the tasks performed to accomplish each function. The time estimates and probabilities for each task are presented

[11] *See generally* Eighth Supplemental Order: Interim Order Determining Prices in Phase II; and Notice of Prehearing Conference, Docket No. UT-960369, *et al.*, ¶¶ 444-482 (May 11, 1998) ("Eighth Supplemental Interim Order").

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in detail in the ENRC work papers. The ENRC calculates the direct nonrecurring costs for each UNE and interconnection service based on time estimates to perform tasks, probabilities that tasks will be performed, and labor rates associated with each job function. ENRC then applies expense factors to the direct nonrecurring costs to provide the TELRIC for each UNE and interconnection service. Finally, an allocation of common costs is assigned to each nonrecurring cost element. (Ex. T-2020, p. 13).

Other than the adjustments discussed below to comply with Commission orders, the ENRC contains inputs based on Qwest's current experience in processing orders and provisioning network plant. The Qwest nonrecurring TELRIC studies identify the forward-looking, nonrecurring costs that Qwest is likely to incur in provisioning UNEs. These studies consider the actual processing and provisioning activities that are either in place today or scheduled to be implemented. The studies do not "assume away" Qwest's real costs by modeling theoretical provisioning methods based on future hypothetical technologies or networks that are not deployed in Qwest's territory. They do include changes anticipated by subject matter experts in processing and provisioning. They also include certain assumptions and expectations for mechanization due to the further development of OSS interfaces for use by the CLECs. If the studies use these assumptions, they produce results, as delineated in Exhibit 2050 that properly reflect the TELRIC principles. (Ex. T-2020, p.16). These results should be used by the Commission to set nonrecurring prices for UNEs and interconnection services.

2. Factor Issues

Two separate issues are presented in this case concerning the use of factors. First, there is the issue of the use of the previously-approved 19.62% and 4.05% to account for attributed and common costs. Second, there is the issue of the use of direct expense factors to account for product management, sales, and business fee expenses. All of these factors are used in both the recurring and the nonrecurring cost studies submitted by Qwest in this proceeding, as they have in past proceedings.

Various parties challenged or questioned Qwest's use of the previously-approved factors for attributed and common costs. However, no party submitted a different proposal for these factors. Qwest has consistently used these factors since they were approved in Docket Nos. UT-960369, et al.,

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(17th Supplemental Order, ¶ 435). The Commission approved not only the use of the factors, but the actual factor values as well. The Commission recently approved the continued use of those factors in this docket, in the 13th Supplemental Order in Part A.[12] As noted, no party has proposed a different value for attributed or common costs, and Qwest is not proposing any adjustment at this stage of the proceeding either. Thus, Qwest believes that the continued use of the Commission-ordered values for the attributed and common factors is appropriate in Part D as well.

With regard to the other expense factors, including factors for product management, sales and business fee expenses, WorldCom asks the Commission to require Qwest to update all of its expense factors and include those updated values in a compliance run of the cost studies. Qwest opposes this suggestion as ill timed and unwarranted.

As Ms. Gude explained in both her rebuttal and supplemental rebuttal testimony, changing cost factors from those that were developed, reviewed, and applied in determining costs in earlier phases of this proceeding creates an unacceptable lack of continuity between Qwest's cost studies and pricing methods and those studies and pricing procedures already addressed by the Commission. (Exs. T-2210, pp. 5-9 and T-2212, p. 3). Additionally, WorldCom's suggestion that cost factors be updated "mid-stream" does not address or remedy potential pricing inconsistencies that would be created with regard to the prices established in earlier phases of the proceeding.

Finally, the Part B Order[13] also addressed the issue of "wholesale cost factors", which is another way of referring to the product management, sales and business fee expenses. In Part B, WorldCom and the Joint CLECs challenged these factors, contending that they were unreasonably high. In the Part B Order, the Commission held that Qwest's proposed application of wholesale cost factors was reasonable, and approved the application of those factors. (Part B Order, ¶ 139). Those are the same

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[12] *In the Matter of the Continued Costing and Pricing of Unbundled Network Elements, Transport, and Termination*, Docket No. UT-003013, Thirteenth Supplemental Order; Part A Order Determining Prices for Line Sharing, Operations Support Systems, and Collocation, (January 31, 2001) ("Part A Order"), at ¶ 261.

[13] *In the Matter of the Continued Costing and Pricing of Unbundled Network Elements, Transport, and Termination*, Docket No. UT-003013, Thirty-second Supplemental Order; Part B Order; Line Splitting, Line Sharing Over Fiber Loops; OSS; Loop Conditioning; Reciprocal Compensation; and Nonrecurring and Recurring Rates for UNEs, (June 21, 2002) ("Part B Order").

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factors that were used in Part A and that are proposed in for use in Part D (Tr. 4326), consistent with Ms. Gude's testimony that the factors should be applied consistently throughout a proceeding. Thus, the Commission should approve the use of those factors in Part D as well. Parties who wish to revisit this issue should be instructed to do so in Docket No. UT-023003.

3. Work Time Estimate Issues

General Adjustments to Work Times. Qwest reviewed its cost studies for compliance with the Commission's previous directives, and adjusted the times in the current studies to reflect those required by the Commission in the November 1999 filing, in compliance with the 8th Supplemental Order.[14] As was the case in Part B, Qwest has determined to adjust the nonrecurring costs submitted in this filing so that they are consistent with all of the other nonrecurring costs previously submitted in the compliance filing.[15] Qwest has made these adjustments in spite of its belief that those prior Commission requirements reduced order processing times in ways that are not consistent with Qwest's actual experience. As Qwest has already explained in Part B, these reductions in order processing times reflect hypothetical efficiencies in order processing that Qwest does not currently experience, and that may never be achieved. Qwest has made these concessions in order to minimize the areas of dispute over its nonrecurring costs during this phase of the proceeding.

The "Six-Minute" Issue. Qwest has adjusted the interconnection service center ("ISC") processing time in its cost studies to reflect only six (6) minutes for each of the nonrecurring charges where the ISC function is included in the cost, except in the case of CTC and UNE-P POTS. For those elements, the current flow-throughs reflected in the ENRC result in processing times well below six (6) minutes. (Ex. T-2020 p. 15). As Qwest has pointed out previously, this reduction in the ISC work time is inconsistent with Qwest's actual experience in processing orders, and with its forward looking estimates. Qwest notes that the Commission recently ruled on this issue in Part B. However, the Part B

[14] Eighth Supplemental Order: Interim Order Determining Prices in Phase II; and Notice of Prehearing Conference, Docket No. UT-960369, et al. (May 11, 1998), at ¶474 ("8th Supplemental Order").

[15] Qwest's nonrecurring charges reflect a 15% probability that an order will require manual plant line assignment.[15] Finally, for disconnections, the nonrecurring costs assume that at the central office frame two (2) minutes is required to analyze an order, and three (3) minutes is required to remove a jumper.

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order was entered after the hearings were held in Part D, and Qwest therefore simply reiterates its Part B position here.

One aspect of this debate that is important to note, however, is that Qwest has indeed kept its commitment to reflect lower work times in its studies when those lower work times were consistent with Qwest's experience and with forward looking assumptions. Thus, Qwest's estimates have dropped from 45 minutes to 24 minutes for some orders (Tr. 4318). Additionally, Qwest's proposed nonrecurring rates for UNE-P have declined significantly from the original Part B proposal. Thus, Qwest believes that the Commission can have confidence that Qwest will accurately and diligently reflect forward looking assumptions in its nonrecurring studies, and that the Commission need not resort to artificial reductions to reflect unrealistic expectations with regard to provisioning.

WorldCom's Proposed 50% Reduction to Work Times. WorldCom has proposed, though the testimony of Mr. Morrison, and to some extent Mr. Lathrop, that Qwest's work time estimates be reduced by approximately 50% to reflect WorldCom's estimate of work times that would be experienced in a an environment with a "forward looking OSS". (Ex. T-2270, p. 7, *et seq.*). Qwest adamantly opposes such an arbitrary reduction, which is not supported by the facts and which is inconsistent with TELRIC pricing principles.

Mr. Morrison's wildly unrealistic estimates and work time reductions should be rejected for at least 5 reasons. First, Mr. Morrison is not currently performing any of the tasks about which he makes recommendations. Second, Mr. Morrison provided no analysis or rationale for many of his adjustments, and could not identify even when asked directly which work times he reduced and why (Tr. 4935). Third, the specific components of WorldCom's claimed "forward looking OSS" do not function as WorldCom states they do. (Ex. 2182, pp. 14-15). Fourth, WorldCom's claimed "forward looking OSS" does not meet the standard for developing a forward-looking economic cost under the Act and the FCC rules. Finally, Mr. Morrison's assumptions and assertions regarding flow through capability are

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inaccurate, unrealistic and misleading.[16] The third, fourth, and fifth points warrant further discussion, and are addressed individually below.

The specific components of WorldCom's claimed "forward looking OSS" do not function as WorldCom states they do. WorldCom claimed that a forward-looking OSS would contain automated metallic cross connect devices, specifically the SMART-MDF. (Ex. 2295) WorldCom claimed that this equipment would reduce manual order provisioning and avoid the need to dispatch technicians for certain types of orders. However, the rebuttal testimony of Mr. Craig establishes that this equipment does not function as WorldCom claims it does, does not meet basic DS1 circuit requirements, may require additional manual intervention, and failed field trials. (Ex. T-2182, pp. 14-15, Tr. 4659)

WorldCom's proposed reduction of 50% for all nonrecurring work times is based on the deployment of the equipment described above, as well as additional assumed "work force management" systems that it claims would be used in a forward looking network. WorldCom readily admits that all of Qwest's OSS are forward looking as currently deployed (Tr. 4911-2). Yet WorldCom also contends that additional efficiencies could be introduced. However, WorldCom's claimed "forward looking OSS" is not deployed by any carrier (Ex. T-2298), and has not been shown in this proceeding to be currently available for deployment (Tr. 4959, it is "evolving technology"). Furthermore, WorldCom conducted no analysis whatsoever to determine the costs of deployment, and presented no evidence that its proposal was "least cost" (Tr. 4910). Even on direct examination, Mr. Morrison emphasized only that he believed his proposal represented a "forward looking efficient network", not one that also adheres to the "least cost" requirement of TELRIC (Tr. 4962-3). Thus, WorldCom's proposal regarding "forward looking OSS" fails to meet the requirements for being considered as a part of a TELRIC cost study.[17]

WorldCom's assumptions and assertions regarding flow through capability are inaccurate, unrealistic and misleading. They plainly fail to recognize that Qwest's flow through assumptions are

[16] In this context, flow-through represent the percentage of orders from CLECs that are received into Qwest's ordering system in electronic format and are able to be processed electronically, without the need for manual intervention from Qwest employees. The reciprocal of that represents the percentage of orders that "fall out" of the systems, requiring manual intervention from Qwest employees.

[17] 47 C.F.R. § 51.505 (b)(1) requires consideration of the most efficient technology *currently available* and the lowest cost network configuration.

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already forward looking and reflect higher flow through percentages than Qwest currently experiences. (Exs. T-2049, pp. 5-6; T-2200, pp. 13-14, 17). In his testimony, Mr. Morrison makes various claims about flow through capability and manual handling of orders. That testimony was offered in support of the proposition that Qwest's systems are not sufficiently automated and involve too much manual processing. However, as pointed out by Ms. Albersheim, these allegations confuse the issue, and fail to make a necessary distinction between ordering and provisioning. (Ex. T-2200, pp. 9-10). A correct discussion of flow through is generally limited to the ordering process, not provisioning. As further pointed out by Ms. Albersheim, WorldCom mischaracterizes Southwestern Bell's testimony regarding flow through rates that can be attained. WorldCom cites this testimony in support of its proposed 2% fall out rate (98% flow through), but it is clear that the 2% applies only to orders for residential resale and simple business services. (Ex. T-2200, p. 11). This rate is very much in line with Qwest's own assumptions regarding similar types of orders. (Ex. T-2049, p. 6, describing assumptions in Qwest's nonrecurring CTC and UNE-P cost studies of 99% electronic order submission and 95% flow through). Indeed, the Colorado Commission recently concluded that TELRIC does not require an RBOC to base its nonrecurring cost models on unrealistic levels of electronic flow through which would only be achieved in an ideal network (T-2200, p. 14). WorldCom's demand that the Commission order Qwest to employ such fantastic assumptions should be rejected.

a) Subject Matter Experts

Qwest uses subject matter experts (SMEs) to estimate times for work items. This methodology has been criticized by various parties, and was recently questioned by the Commission in the Part B Order. However, as will be described and explained below, this methodology is the most reliable one for estimating forward looking work times. It is not a slap-dash exercise, nor does it involve "guessing" to arrive at an accurate estimate. The process under which the SMEs operate is controlled and defined, and produces reasonable work times on which the Commission can rely. Indeed, the methodology of using subject matter experts in order to estimate work times is one that WorldCom has employed in this very proceeding, except that Mr. Morrison cannot legitimately be considered an "expert" with regard to all of

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the items about which he offers an opinion. Additionally, this methodology is relied upon by both AT&T and WorldCom in the preparation and presentation of their own nonrecurring cost model (Tr. 4856), a model not presented in this proceeding.

In providing estimates of work times, Qwest's SMEs are simply reporting to a cost analyst their estimates of the times and probabilities for specific work functions based on instructions that those estimates be forward-looking. Neither Mr. Lathrop nor Mr. Morrison is currently performing any of the activities they evaluate (Tr. 4841, 4857-60, and 4868) whereas Qwest's SMEs have both current experience and knowledge of Qwest's forward-looking plans.

Qwest has provided detailed backup that includes the estimates for each task of the time and probability of occurrence for every nonrecurring charge. (Ex. C-2024) This backup often includes the name of the person or persons providing the estimate, performing the work or supervising people who perform the work. (Ex. T-2052, p. 4) Qwest explained to WorldCom and Mr. Morrison during a Qwest/New Mexico Technical Conference held on February 7 and 8, 2002, that its SMEs do not work alone in providing estimates for the cost studies. The explanations provided at the informal conference were confirmed in responses to formal data requests. (Ex. 2053). The responses are equally applicable in Washington. (Ex. T-2052, p. 4). While the SMEs are typically experienced at performing the activities, or supervise people who perform the activities, they are instructed to obtain the information from experts who actually do the work, are proficient at performing the tasks, and have a minimum of one to two years experience performing the work. The SMEs and technicians collaborate to develop the documentation provided to the cost analyst for cost support. The experts' opinions of the estimates are determined based on key assumptions for the nonrecurring cost studies, including the requirement that the estimates be forward looking for 12 to 18 months. (Ex. 2053, New Mexico Staff Data Request #03-005).

The process of determining time and probability estimates, as mentioned above, is often a collaborative process wherein a group of experts and technicians meet to discuss the tasks and work activities performed. (Ex. 2053, New Mexico Staff Data Request # 03-017 and 03-018). During that

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collaborative process each participant provides input, the estimates are determined, and the data resulting from the group's consensus is provided to the cost analyst. These discussions may result in both a range of times and averages agreed upon by the group to develop the final estimate in the collaborative process. The SMEs ultimately provide average times and probabilities to the cost analyst, but this does not mean that ranges are not examined in determining those averages. (Ex. T-2052 pp. 4-5).

b) Time and Motion Studies

Time and motion studies have been proposed by some parties as an appropriate way to estimate work times associated with nonrecurring activities. Qwest does not agree that the use of time and motion studies provides any material benefit in estimating work times for TELRIC studies. Qwest explained in its rebuttal testimony that time and motion studies essentially produce an analysis of historic or embedded costs, which is not the cost analysis that the Commission has determined is appropriate for determining wholesale costs under the Act. (Ex. T-2052, p. 6).

Mr. Morrison proposes two possible solutions for the Commission. First, he suggests that the Commission require Qwest to use properly designed time and motion studies to establish the work times used in developing the nonrecurring charges. He does not attempt to identify in his testimony what he believes constitutes a "properly designed time and motion" study, nor does he explain how such studies conform to the FCC's forward-looking TELRIC rules.

Qwest discontinued its practice of conducting time and motion studies years before the passage of the Act, in the face of pressures to reduce costs and eliminate activities that were viewed as not adding sufficient value. This is, in part, because time and motion studies are most effective in measuring repetitive, assembly-line type functions. Qwest's work activities are often complex and variable and thus difficult or impossible to measure through direct observation. For example, Mr. Hubbard describes a variety of circumstances in which the actual activities that take place during cooperative testing of a loop are very different from one test to another (Ex. T-2154, pp. 2-7). Performance of time and motion studies for these activities would require a great deal of time to capture the variety of scenarios that arise during cooperative testing. Even then, observations recorded during a snapshot in time might not provide

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an accurate reflection of the activities actually taking place in the real world. Therefore, Qwest believes that it is more reliable and cost-effective to use the forward-looking estimates provided by its experienced SMEs. Based on their experience, the SMEs are able to develop average times that more accurately reflect the overall result of a variety of tasks included in Qwest's nonrecurring cost studies than would be produced through time and motion studies.

Time and motion studies are by definition backward looking and based only on practices and processes that have existed historically. Time and motion studies do not meet the FCC's requirement that TELRIC studies be forward-looking. In contrast, Qwest's methods develop nonrecurring costs based on forward-looking probabilities and time estimates. Qwest's SMEs base their estimates both on their considerable experience and their day-to-day work in the centers where the work steps are performed, as well as their involvement in evaluating and implementing future process and system improvements in their groups. The times estimated include anticipated process efficiencies and mechanization for a 12 to 18 month horizon, and are based on averages for particular functions. (Ex. T-2052, pp. 6-7).

c) Other Forms of Validation

As described above, Qwest believes that the best way to estimate work times for purposes of conducting a TELRIC analysis of nonrecurring costs is to rely on the subject matter experts who regularly perform the tasks. Qwest understands the Commission's desire to have some sort of an external check or validation of these estimates. Qwest has indicated that it looks at other nonrecurring rates proposed by other companies as one tool, but that such an exercise is difficult because each carrier structures its nonrecurring rates differently, and captures different tasks in particular elements (Tr. 4321-2). Qwest has already explained why time and motion studies are not an appropriate estimating tool, and, for the same reasons, does not believe that they would be an appropriate validation tool either.

4. Discussion Regarding Qwest's Proposed Transfer charge (Ex. 2050 §6.2)

a)

As discussed during Part B of this docket, the activities required to process a customer transfer in the resale environment are virtually the same as those required to convert an existing POTS customer

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from Qwest to a CLEC via UNE-P. Therefore, Qwest has submitted new rates for the resale customer transfer charge ("CTC") that reflect the expected (improved) flow-throughs discussed below with regard to UNE-P. The rates differ from the comparable UNE-P rates by the amount of the approved OSS cost for resale functionality that is currently included in the CTC charge. WorldCom asked for clarification that the CTC would only be assessed in a resale environment and not for UNE-P services. Qwest clarified that in Ms. Malone's testimony (Ex. T-2131, p. 5). Qwest does not believe that the CTC is otherwise disputed, and asks the Commission to approve the rates as filed.

b) Adjacent Collocation (Ex. 2050 88.6)

Qwest has proposed that adjacent collocation be priced on an individual case basis ("ICB"). The rationale for that proposal is that Qwest has yet to receive a request for adjacent collocation and therefore does not have experience in performing the work activities necessary to provide the service. Standard costs and prices thus cannot yet be developed. Qwest does not believe that any party disputed ICB pricing for this particular element, and while Qwest is mindful of the Commission's reluctance to authorize this type of pricing, it appears as though this element is one which supports such pricing, at least for now.

c) Remote Collocation/Remote Adjacent Collocation (Ex. 2050 88.7)

Remote Terminal Collocation offers space in available remote cabinets on a Standard Mounting Unit ("SMU") level. An SMU is a standard measurement of vertical space, in this case 1.75 inches, within a hardened cabinet. The CLECs are charged a flat rate on the basis of the number of SMUs their equipment occupies within a cabinet. The Remote Terminal Collocation cost study (Ex. 2030) includes two cost elements: collocation space, and the feeder distribution interface ("FDI") terminations. The cost study identifies the material, engineering and installation labor costs associated with various equipment components (e.g., the cabinet, remote DSL pad, power pedestal, etc). needed to provide the remote terminal collocation elements. The Commission-approved factors are applied to the direct costs to derive the TELRIC and TELRIC plus common cost.

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Collocation Space. The nonrecurring collocation space element includes the cost of the cabinet space, the cost of the cabinet, and all of the work and materials associated with placement of the cabinet and providing access to power. The cost study identifies the cost of materials, engineering, splicing, installation and rights of way.

FDI Terminations. The nonrecurring FDI terminations (per 25 pair) element includes the costs associated with augmenting the FDI to provide the requested terminations. This includes the material, engineering and splicing costs associated with installing a Serving Area Interface ("SAI") 25 pair block, and the material, engineering, splicing and installation costs associated with the cable, conduit and innerduct required to connect the FDI to the remote collocation cabinet.

The Virtual Remote Terminal study provides the nonrecurring rates for the maintenance of a CLEC's collocation at a remote terminal on an as-needed basis. The Virtual Remote Terminal cost study (Ex. 2029) includes a flat rate for the service order and follow up for each job associated with remote collocation and half-hourly rates for engineering, maintenance, installation and training.

d) CLEC-to-CLEC Collocation (Ex. 2050 at 8)

CLEC-to-CLEC Interconnection allows one CLEC to directly interconnect with another CLEC within the same Qwest central office.[18] CLEC-to-CLEC connections are also available when a CLEC with multiple collocations in the same office wishes to connect those collocations. CLEC-to-CLEC Interconnection may involve physical to physical, physical to virtual, or virtual to virtual collocation. The types of CLEC-to-CLEC connections are CLEC-to-CLEC Direct Connection and CLEC-to-CLEC Cross-Connection. CLEC-to-CLEC Direct Connections will include both recurring and nonrecurring costs. Only the nonrecurring elements are discussed in this section of the brief.

Direct Connection. CLEC to CLEC direct connection involves placement of a cable between the collocations of each CLEC. The CLEC ordering the direct connection will be charged design, engineering and installation flat charges. These nonrecurring charges cover order processing,

[18] A CLEC can also order CLEC-to-CLEC cross connections, using an intermediate distribution frame. This arrangement utilizes Commission-determined rates for Interconnection Tie Pairs (ITPs), the costs of which were part of the Collocation study presented in Part A of this docket (Ex. T-2100, p. 11).

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development of the price quote, and the hours to engineer and install cable racking. Additional nonrecurring charges are assessed, if applicable, for virtual connections. This nonrecurring charge covers the labor that connects a cable to a virtual collocation but not the cable itself. If two virtual collocations are involved, two Virtual Connections are charged. Prices vary by type (e.g., DS0 per 100 connections, DS1 per 28 connections, and DS3 per each connection). Finally, there is a nonrecurring charge, if applicable, for each cable hole. This nonrecurring charge is incurred per occurrence. It covers the labor and material that is required to open and close holes or slots between floors or through interior walls designed to be compartmentalized. These holes and slots are closed with approved firestop material that meets OSHA standards and Qwest policy. (Ex. T-2100, pp. 10-11).

Qwest's assumptions for nonrecurring engineering time included 10 hours of engineering time, divided into three parts – 2 hours for the Collocation Project Management Center, 5.5 hours for Common Systems Planning and Engineering, and 2.5 hours for Forms/Follow-up. WorldCom challenged Qwest's assumptions, claiming that overall, these functions should only take 8 hours to complete. This matter was discussed at length in the testimony and at hearing. However, at bottom, the issue is whether the Commission will rely on estimates provided by people who actually perform the work and have direct experience with the functions necessary to design and engineer these connections, or will rely on WorldCom's speculation that the time estimates are too long, for reasons which are either never articulated, or are simply wrong. For example, Mr. Lathrop opines that the 5.5-hour estimate should really be 5.0 hours, because all of the tasks listed "should take no more than five hours." (Ex. T-2250, p. 6). However, the only support for this opinion is the (inaccurate) supposition that "Qwest does not necessarily conduct an 'in-person' walk-through" of each central office. As Mr. Hubbard explained, Qwest does indeed conduct such a walk-through each and every time, not only for CLECs, but for Qwest's own projects as well. (Ex T-2151, p. 8). Mr. Lathrop's other proposed adjustments suffer from the same flaws – they are unsubstantiated speculation by a witness with no experience in the process. Indeed, to the extent that Mr. Lathrop offers specific adjustments to any work times associated

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with collocation activities, it should be noted that Mr. Lathrop has not toured a Washington Central Office in at least seven years. (Ex. 2264).

Cross Connections. The CLEC-to-CLEC cross connection nonrecurring charge covers Qwest's costs for processing the order and designing and installing the cross connection between the two CLECs. WorldCom also criticizes the work time assumptions for these activities, claiming that the Commission should require Qwest to develop separate charges for manual and mechanized orders, eliminate costs associated with checking or verifying data, and reduce work times associated with both the design function and with activities that WorldCom claims can be performed in combination with other activities. Some of these proposals are based on the general work time reduction arguments that are discussed above in connection with WorldCom's proposed 50% reduction in work times, and should be rejected as described in that discussion.

Qwest disagrees with WorldCom's proposals. The reductions proposed by WorldCom are highly speculative and unsubstantiated. For example, WorldCom criticizes the amount of time Qwest estimates for circuit design, claiming that Qwest has used a time estimate for designing a high capacity circuit (which is correct) and suggesting that a CLEC to CLEC connection circuit is somehow simpler to design. This suggestion is not borne out by the record, however. Mr. Hubbard explained that even though the CLEC provides the design layout to Qwest, Qwest still engages in the circuit design and engineering process as for any other high capacity circuit. (Ex. T-2151, p. 11). Mr. Lathrop assigns 20 minutes to open/create CPD, (reduced from Qwest's estimate that the time could vary from 30 minutes to two hours). He does not provide any information on why WorldCom rejected the estimate that was supplied in response to a WorldCom discovery request (Ex. 2156). According to Mr. Lathrop the CLEC to CLEC product is simple and should not require a substantial amount of time to complete. However, the cost estimates cannot only consider one scenario (i.e., the simplest and least expensive) if there are other scenarios that should reasonably be included. WorldCom fails to consider that the CLECs involved could reside on different floors within a central office or in different locations on the same floor, and a complex route would have to be constructed, which would result in a much greater

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work time. The times in Qwest's cost study reflect the average time associated with each function, looking at all the possibilities. WorldCom's proposal is the best case scenario and would force a highly unrealistic assumption that every job is best case.

Exhibit 2050, Section 8.8, shows Qwest's proposed rates for CLEC to CLEC connections. The cost study is presented as Exhibit 2026.

e) Space Availability Charge (Ex. 2050 §8.9)

The space availability charge applies on a nonrecurring basis to each request for a space inquiry report. The space inquiry report is a report that provides CLECs with information regarding the existing collocation conditions within an office. The report provides the CLEC with (1) the number of collocators in an office, (2) the amount of collocation space available in an office, (3) a description of the measures under way to make additional space available for collocation, and (4) the modifications in the use of space since the last report. The charge for the space inquiry report applies on a "per office" basis each time a report is requested.

The nonrecurring costs for the space availability report are based on costs Qwest incurs to determine if collocation space is available. The study (Ex. 2025) identifies the costs associated with work performed in the Common Systems Planning Engineering Center ("CSPEC") and the Infrastructure Availability Center ("IAC"). The tasks that are involved in developing and preparing these reports include verifying existing conditions in the central office, identifying available space and processing the report.

f) Space Optioning (Ex. 2050 §8.10)

Collocation Space Optioning will permit CLECs, Qwest, and Qwest affiliates to option space for future collocation needs. Space reservation options provide the CLEC with a right of first refusal on collocation space when requests are made by other parties with firm collocation orders. This option allows the CLEC to guarantee that space will be available when it is needed even if the CLEC has no immediate collocation plans. However, if another party then makes a firm request for collocation, the CLEC may decide to exercise its option and make its own firm request for collocation, or give up the

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space if it is not able to make use of the space at that time. Optioned space is offered to CLECs for caged, cageless, and virtual collocation arrangements. Space can be optioned for transmission equipment for up to 1 year, circuit switched equipment for up to 3 years, or power plants for up to 5 years.

The nonrecurring costs for space optioning are based on costs Qwest incurs to administer collocation space option requests. The study (Ex. 2028) identifies costs associated with application processing, feasibility determination, common space engineering, records management, and administration of the first right of refusal process.

WorldCom identified several concerns with Qwest's space optioning proposal. Mr. Lathrop pointed out a probability error in the original cost study. Qwest corrected that error and submitted a revised rate in Exhibit 2050. However, Mr. Lathrop's other criticism is not well taken. He suggests that Qwest should credit some of the engineering time associated with space optioning to any subsequent request for actual collocation. Qwest disagrees with this proposal. A credit would only be appropriate if the engineering activities for space optioning were duplicative of engineering activities performed for an actual collocation, and they are not. Therefore, no credit is warranted.

The space optioned is not specifically assigned nor space designated to a specific CLEC within the central office. That is, there is no guarantee of specific space in a central office based on a CLEC having an option on space. The CLEC is merely guaranteed that an amount of desired space will be available if and when the CLEC is ready to collocate. Therefore, as other CLECs collocate in a particular office and space fills up, before Qwest would place a CLEC in the last available space, a CLEC that holds a space option is provided with a right of first refusal opportunity to decide whether to proceed with its collocation plans or give the space up to the other CLEC. During the period of time between the request for a space option and the time a CLEC collocates in a central office, several years could pass, new collocation arrangements could be in place, and any information gathered originally for the space option would no longer be valid. Furthermore, although engineering for a generic, non-specific space may require some of the same tasks, the engineering conducted once Qwest receives a firm request for collocation is very specific to the circumstances of the request. Thus, it would be inappropriate to

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credit any of the engineering time resulting from a space option request to the engineering time necessary for a collocation request.

g) DS1/DS3/OC Capable Loops (Ex. 2050-89.0)

Qwest submitted nonrecurring costs for installation and disconnection of high capacity loops in Part B. The Part B Order, at paragraph 150, accepted these nonrecurring charges, and Qwest has recently filed compliance tariffs reflecting these rates.[19] Qwest does not believe that these rates are specifically at issue here, but reserves the right to respond to any other party's brief on this issue.

h) Coordinated Install without Cooperative Testing (Ex. 2050-89.2.4.4)

When an existing Qwest end-user or a CLEC end-user changes to another CLEC using this option, Qwest will disconnect the loop and deliver it to the requesting CLEC via an Interconnection Tie Pair ("ITP") to the demarcation point. This option offers the CLEC the ability to coordinate the conversion activity, thus allowing the CLEC's end-user the ability to minimize any service interruption.

The nonrecurring charge for this type of installation recovers the additional costs that Qwest incurs associated with the activity of coordinating the installation with the CLEC. The CLEC is able to designate an appointment time for the installation. At that time, the Qwest Implementor/Tester will contact the CLEC and ask if the CLEC is ready for Qwest to proceed with the conversion activity – in other words, for the installation activity to take place. If the CLEC is ready, Qwest will perform the "lift and lay" and then advise the CLEC when the "lift and lay" procedure is complete. This coordination takes place in Qwest's Coordinated Cut Center ("QCCC"), a center specifically designed to handle coordinated requests from the CLEC.

i) Basic Installation with Cooperative Testing (Ex. 2050-89.2.4.5)

One of the installation options that Qwest offers is a basic installation with cooperative testing. The times and activities required to accomplish cooperative testing are essentially the same as those required for performance testing. The similarity in these work steps is evident in the "Installation Option Comparison" chart contained in Mr. Hubbard's testimony. (Ex. T-2151, p. 22).

[19] The compliance tariffs were recently approved in the 33rd and 34th Supplemental Orders in this docket.

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The nonrecurring study for the costs associated with performance testing was submitted in Docket Nos. UT-960369, et al., resulting in an approved tariff rate that is currently in effect for Basic Installation with Testing. Qwest explained the cost information upon which it was relying for the cooperative testing charge. Additionally, in response to Covad's data request, Qwest provided the relevant section of the compliance cost study filed May 18, 1998 in support of that rate. (Exs. 2065 and T-2049, pp. 37-38).

Covad disputes Qwest's proposed charges, essentially arguing that it is "forced" to order cooperative testing in order to ensure delivery of a "good loop." (Ex. T-2350 p. 5). Covad claims that if it did not order cooperative testing, it would be provided with an unacceptable level of defective loops by Qwest. Thus, Covad concludes that it should not be charged for cooperative testing, because Qwest has an obligation to deliver a "good loop". Covad's argument is incorrect for at least two reasons. First, and most important, Covad's argument is not supported by the facts in this record. Second, Covad's argument ignores the principle that the cost causer (i.e., the CLEC who demands testing) must pay for the costs incurred.[20]

As Qwest will demonstrate herein, cooperative testing is an installation option that allows a CLEC to perform its own tests on a loop and to decide whether the loop meets its specifications. Qwest's cost model assumes that Qwest performs its own testing on the loop to ensure continuity prior to contacting the CLEC for cooperative testing. The reasonableness of this assumption is borne out by real life experience. Further, Covad has not demonstrated, and indeed cannot demonstrate, that Qwest fails to deliver a "good loop" in response to any Covad orders for installation without cooperative testing. This is true because Covad does not place orders for basic installation without cooperative testing, and its claim that Qwest would not deliver a "good loop" under those circumstances is mere speculation. It is also true because Qwest's records reflect a significant percentage of loops where Qwest identified and repaired a fault in the loop prior to contacting Covad for cooperative testing. The fact that Qwest's and Covad's technicians sometimes work together on an installation a way that is not identical to the assumptions in the

[20] 47 C.F.R. §51.507(a).

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cost model does not mean that the model is flawed. Qwest's proposal for cost recovery for cooperative testing is reasonable and should be approved.

The Nature of Cooperative Testing. The CLEC's specifications may be different than Qwest's, depending on the CLEC's use of the loop. If the CLEC desires a loop that meets Qwest's standards and does not need to test for its own standards, it can simply order basic installation with performance testing. Qwest will then test the loop, provide the results and repair any faults. At the end of the process Qwest will either provide a loop that meets the requested specifications for the loop or affirm that no loop exists on that route. Under this option, after receiving the loop, the CLEC can send it back if it fails those tests, and request either adjustments of the loop delivered or a substitute loop. A fundamental purpose of cooperative testing is to expedite resolution of any issues found by the CLEC and to allow a CLEC to determine for itself whether a loop meets its own special needs.

Contrary to the suggestions in Mr. Cabe's and Mr. Donovan's testimony, cooperative testing can provide substantial benefits that go beyond the basic performance testing Qwest performs by itself on loops. This testing could include, but is not limited to, a Qwest technician, at either the central office or in the field, placing tone on the line or placing a short across the circuit at the CLEC's request. This will allow the CLEC to conduct testing from varying locations within the circuit and for the CLEC to validate that the loop will meet the technical parameters of the service it intends to provide to the end user. These additional work steps are over and above those involved in the basic installation option. In this case, the additional work includes a call to the CLEC to perform the cooperative testing and the performance of the tests themselves. The testing that is being performed is the testing of two networks, the "loop" network of Qwest, and the additional network of Covad. When Qwest performs the testing ahead of cooperative testing, Qwest is only testing the "loop" network. The cooperative testing adds the CLEC network and the Qwest network together, thus creating a whole network.

One of the documents provided in response to Covad's data request No. 60 (Ex. 2155) illustrates this point. This document shows that the loop met specifications when tested by Qwest, but when Covad added its network, the cooperative test showed that the loop was too long with both

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networks. Qwest then added Total Reach (central office extension technology to extend the loop) to the loop and it was accepted by Covad. This is not an error in the testing process on Qwest's part, nor does it establish that Qwest missed issues or failed to perform the necessary tests prior to cooperative testing (Ex. T-2154, p. 2).

Cooperative Testing with Covad. Qwest provided information for cooperative testing on Covad orders that were completed in the month of January 2002 (Ex. C-2366). Of the [confidential number] orders for cooperative testing, Qwest identified and fixed [confidential number] loops (27%) prior to the cooperative test with Covad. (Confidential numbers can be found in Ex. CT-2151, p. 23). This information establishes that Qwest is properly conducting pre-tests on the loops prior to contacting the CLEC for cooperative testing.

Covad's assertion that Qwest uses cooperative testing as a means of compensating for inadequate basic installation is simply wrong. The performance test that Qwest performs on all loops is designed to test the facility and its ability to transport a specific signal. The performance tests are conducted only on that portion of the loop that is actually a part of Qwest's network, and establishes that the loop meets industry standards.

In general, and Covad appears to be no exception to this rule, CLECs simply place every order with cooperative testing and ask Qwest to re-perform the performance test with the CLEC on the line. This is the most popular of the cooperative tests requested and is generally not performed any differently with the CLEC on the line than it is Qwest contacts the CLEC. The second most popular requested test is a "loop-back" test. This allows the CLEC to include its network in the facility and to ensure continuity from the CLEC switch out. This is a full facility test (which means that both the CLEC network and Qwest network are included in the test). Cooperative testing is solely at the CLEC's direction. (Ex. T-2151, p. 24).

Mr. Cabe has selected and highlighted only a very few loop orders out of the significant number that were reviewed and provided in discovery. He uses these orders as proof of what Covad apparently

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claims is a persistent pattern. However, these orders do not support Mr. Cabe's conclusions. For example:

Exhibit C-2359 shows that Qwest performed its original test prior to the cooperative test with Covad. At that time, Qwest detected a defective buried service wire in the network and placed the order in jeopardy while the wire was being replaced. When the cooperative test was performed, it was discovered that there were two cross-connects that needed to be placed within the central office. It cannot be determined why the cross-connect issue was not discovered at the same time as the defective wire. What can be determined is that Qwest does perform pre-testing, or the defective wire would not have been discovered. This is not a situation where Qwest failed to test the loop.

Exhibit C-2360 is a portion of a test record that was provided in discovery. The record demonstrates that a problem was found during cooperative testing (a "bad heat coil"). Covad claims that Qwest overlooked this problem. However, Mr. Hubbard explained how this could have occurred in a manner consistent with Qwest performing a pretest (Ex. T-2154, p. 4). During a pre-test, the central office technician has to remove the heat coil to place a test cord in the same place that a heat coil goes. Thus, the defective heat coil would not have been discovered until the cooperative test. As Qwest explained, if this had occurred in a retail environment, the same thing would likely have happened, except that the end-user customer would have discovered that there was a problem with the line (Tr. 4521). In either case, this was simply one of those occasions in the network where something went wrong in a way that could not have been predicted or discovered before it happened.

Exhibit C-2361 is another portion of a test record. This record illustrates a situation where a Qwest technician was performing a pre-test and thought the testing showed some bridged tap ("BT") on the line. The technician then contacted Covad and asked the Covad technician to verify if Covad detected service-affecting BT on the line. The Covad technician could not see any BT and accepted the loop. It is not necessarily quicker to contact Covad in this type of situation, as Mr. Cabe asserts, to have a pre-test done by Covad. Qwest was already testing the line and wanted to know if Covad detected the

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same issue. This is a normal variation from the process modeled in the cost study, and certainly is consistent with a conscientious technician wanting to verify that the loop would work.

Testing in the Field v. Cost Model Assumptions. Mr. Cabe references four other orders in his testimony (Exs. C-2362-5). In all the orders that Covad had in January, Mr. Cabe has found a few that may have been completed out of process or were not documented correctly. Qwest strives to make sure that the technicians work within the process (Tr. 4525). Sometimes within the course of testing Qwest does contact the CLEC and request that the CLEC test a loop prior to the cooperative test date to ensure that the loop would work to the CLEC's specifications. Ms. Million addresses the difference between a cost model and real world experiences, and describes how a cost model is based on averages of work completed and how, sometimes, the real world deviates from a cost model. (Ex. T-2052 p. 6).

Finally, but perhaps most importantly, there are two points essential to the integrity of Covad's arguments, and on both of those points, the conclusions weigh in favor of Qwest's position. Covad claims that it orders cooperative testing because it will not get a "good loop" if it only orders a basic installation. However, Covad was unable to establish that loops ordered without cooperative testing failed, because Covad's witness on this subject had no knowledge about whether Covad *ever* ordered loops without cooperative testing. (Tr. 5008). Further, Covad's expert agreed that there were many loop orders on which the pre-testing, testing, and delivery process worked exactly as Qwest described it, including delivery of a "good loop" for cooperative testing (Tr. 5010-11). Thus, it is clear that the anomalous examples Covad selected as evidence that the process did not work as described were just that – anomalies, not characteristic of the cooperative testing process.

i) Multiplexing (Ex. 2050 §9.6.8)

Qwest proposes a nonrecurring charge for installation and disconnection for DS3 to DS1 multiplexing. When a CLEC orders DS3 to DS1 multiplexing from Qwest, the CLEC is receiving a "stand-alone" multiplexer. "Stand-alone" means that all 28 DS1's and the DS3 must be provisioned to terminate within a CLEC's collocation facilities. Because the CLEC is ordering a stand-alone multiplexer and is not ordering unbundled elements at the same time, Qwest must process the request for DS3 to

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DS1 multiplexing as 29 separate orders. Therefore, a single multiplexing charge is assessed for the 29 separate orders. (Ex. T-2100, p. 21).

Multiplexing was also considered in Part B, at different transmission levels (DS1 to DS0 in Part B, compared to the higher speeds presented here). In paragraph 162 of the Part B Order, the Commission approved Qwest's nonrecurring rates for multiplexing. The nonrecurring study presented in Part D was conducted in the same manner as the Part B study, and these rates should be approved as well.

k) UDIT/EUDIT (Ex. 2050 §9.6.6)

Qwest has withdrawn its proposal for UDIT/EUDIT rates in this proceeding. (Ex. E-2129, errata to Kennedy testimony deleting page 17 line 7 through page 21 line 16 of Ex. T-2100). Qwest has complied with the Commission's order in Docket Nos. UT-003022/003040, where the Commission required Qwest to eliminate the distinction between UDIT and EUDIT pricing, and has filed compliant rates in both its SGAT and its wholesale tariff, WN U-42, Section 3.1 L. As such, Qwest does not believe that there are issues that need to be decided in Part D in connection with UDIT/EUDIT.

l) UDF – Field Verification (Ex. 2050 §9.7.4)

Qwest's dark fiber rate elements in Part D provide CLECs the option to obtain single strand increments for all unbundled dark fiber rate elements filed on a per-pair basis in Part B of this docket (i.e. fiber loop, transport, cross connect and termination). Qwest is also introducing nonrecurring charges for field verification-engineering and dark fiber splice. Field verification - engineering is a step in the field verification/quote preparation ("FV/QP") process that identifies additional engineering record searches for splice locations and splicing availability. This rate is charged up front but deducted from the FV/QP when a single splice is available and the CLEC requests Qwest to move forward with the process. (Ex. T-2100, p. 22).

m) Dark Fiber Splice (Ex. 2050 §9.7.8)

Qwest will accommodate a CLEC's request for access to a Qwest fiber UNE-loop or subloop. In doing so, Qwest will provide a fiber stub from an accessible splice point when unspliced fiber (non-

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ribbon) is available. If space permits, the CLEC may use this fiber stub for making its fiber splice. (Ex. T-2100, p. 22). A nonrecurring charge applies for Dark Fiber Splice.

n) Local Tandem Switching (Ex. 2050 §9.10)

The unbundled local tandem switching element includes the facilities connecting the trunk distribution frames to the tandem switch and all functions of the switch itself, including those facilities that establish a temporary transmission path between two other switches. The local tandem switching elements also include the functions that are centralized in local tandem switches rather than end office switches, such as call recording, the routing of calls to operator services, and signaling conversion features. (Ex. T-2130, p. 3)

Nonrecurring charges apply if the CLEC chooses to purchase use of a DS1 trunk port, terminating at a DS1 demarcation point on a local tandem switch.[21] Each DS1 tandem trunk port includes a subset of 24 DS0 channels capable of supporting local message type traffic and incurs a nonrecurring charge to establish both the first and each additional trunk group member. Those rates are shown in Exhibit 2050 at Section 9.10. (*Id.*, p. 4).

o) Local switching

Access to unbundled local switching encompasses line-side and trunk-side facilities, plus the features, functions and capabilities of the switch. The features, functions, and capabilities of the switch include the basic switching function, as well as the same basic capabilities that are available to Qwest's end-user customers. Unbundled local switching also includes access to vertical features that the switch is capable of providing, as well as any technically feasible customized routing functions. (Ex. T-2130, p.4). Specific nonrecurring charges for various aspects of the local switching element are discussed below.

[21] Local tandem switching is billed on a per-minute-of-use basis in accordance with the rates previously ordered by the Commission in Docket Nos. UT-960369, et al.

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p) Vertical Features (Ex. 2050 §9.11.1.3)

Certain of the vertical features require additional activities by Qwest personnel in order to become activated in the switch. Therefore, nonrecurring charges have been developed in the ENRC (Ex. 2023) to reflect the additional costs that result from those activities.

q) Subsequent Order Charge (Ex. 2050 §9.11.1.4)

A nonrecurring subsequent order charge applies to recover the cost of processing an order when a CLEC requests additional vertical switch features to an existing port. The charge is listed in Exhibit 2050, Section 9.11.1.4.

r) Digital Line Side Port (Ex. 2050 §9.11.1.5)

Qwest proposes nonrecurring charges for the first port and each additional port. The nonrecurring charges are included in Exhibit 2050. Basic Rate Interface Integrated Services Digital Network ("BRI-ISDN") is a digital architecture that provides integrated voice and data capability on a 2-wire loop. A BRI-ISDN Port is a Digital 2B+D (2 Bearer Channels for voice or data and 1 Delta Channel for signaling and D Channel Packet) line-side switch connection with BRI-ISDN voice and data basic elements. Similar to the analog line port, the digital line port includes vertical switch features listed in Exhibit 2050. In addition to the basic vertical switched features, the premium digital line port provides Centrex Management System, Conference Calling - Meet Me, Conference Calling - Preset, and Conference Calling - Station Dial. Each of these functions is described in more detail in Exhibit T-2130.

s) Digital Trunk Ports (Ex. 2050 §9.11.1.6)

Qwest offers the following types of trunk ports:

DS1 Local Message Trunk Port. A DS1 trunk port is a DS1 trunk side switch port that is extended to the trunk main distributing frame and is connected to the demarcation point through an ITP. Each DS1 trunk port includes a subset of 24 DS0 channels capable of supporting local message type traffic.

Unbundled DS1 PRI ISDN Trunk Port (Supporting Direct Inward Dial/Direct Outward Dial/Private Branch Exchange ("DID/DOD/PBX")). A DS1 Trunk Port is a DS1 trunk-side switch

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port terminated at a Digital Cross Connect Panel ("DSX1") or equivalent. Each DS1 trunk port includes a subset of 24 DS0 channels capable of supporting DID/DOD/PBX type traffic.

DS3 and OCN Trunk Ports. These may be ordered via the Special Request Process.

Qwest proposes the nonrecurring charges for trunk ports as listed in Exhibit 2050. There is a nonrecurring charge for the digital trunk port, as well as nonrecurring charges for the establishment of the first and each additional message trunk group member associated with the digital trunk port.

i) DS0 Analog Trunk Ports (Ex. 2050 §9.11.1.7)

The nonrecurring charges are supported by Exhibit 2023. Qwest does not believe that any party contested its proposal for DS0 analog trunk ports, but will address this issue on reply if necessary.

ii) Customized Routing (Ex. 2050 §9.13)

Customized routing enables the CLEC to direct particular classes of calls to specific outgoing trunks that will permit the CLEC to provide its own interoffice facilities or select among other providers of interoffice facilities, operator services and directory assistance. Customized routing is a software function of a switch that allows a CLEC to designate a particular outgoing trunk that will carry certain classes of traffic originating from the CLEC's end users. For example, this product allows a CLEC the ability to have its end users' originating Directory Assistance ("DA") and Operator Services ("OS") calls routed differently than Qwest end users when both parties originate calls from the same Qwest end office switch and dial the same digits. Customized routing may be ordered as an application with Resale, or Unbundled Local Switching and UNE-P combination services.

Customized routing applications are unique to each CLEC. However, Qwest has developed a "standardized" offering for which it proposes that it assess nonrecurring charges based on the development and installation of customized line class codes. For Directory Assistance or Operator Services routing only, Qwest will assess a nonrecurring charge for the development of a customized line class code, and a second nonrecurring charge per installation per switch. All other customized routing is designed to specifically meet the requirements of each CLEC and is charged on an individual case basis.

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Customized routing, if provided by the ILEC, exempts the ILEC from the requirement to offer operator services and directory assistance as UNEs. In the UNE Remand Order, the FCC stated clearly that OS and DA to no need to be provided on an unbundled basis when the ILEC offers customized routing.[22]. Qwest's customized routing offering in this case meets that requirement. Additionally, it is clear that the FCC did not specify in its order that access to customized routing had to be provided at standard TELRIC rates. While the custom nature of customized routing makes a solid case for ICB (individual case basis) rates, Qwest has submitted standard nonrecurring rates for developing line class codes on a per-line-class-code basis, and installing line class codes into switches on a per-switch basis.

These charges are developed in the ENRC, Exhibit 2023. It will be up to the CLEC to determine how many line class codes are necessary and in how many switches it wants them installed. All other customized routing will continue to be priced as ICB. With standard TELRIC pricing of customized routing in place, it is difficult to imagine how the rates for Operator Services and Directory Assistance could still be a matter for debate.

Qwest's nonrecurring charges for its standardized offering recover costs associated with the one-time activities necessary to develop and deploy a line class code ("LCC") as follows. When a CLEC requests Qwest's customized routing, it provides information necessary for Qwest to establish and deploy an LCC by end office location. This information includes: 1) the type of calls will be allowed or blocked (such as local, IntraLATA, InterLATA, Operator Services, Directory Assistance, toll free, 976 and 911); 2) the originating class of service desired (such as measured or flat rate); 3) the terminating class of service desired (such as multiparty service); and, 4) the routing and screening data (such as billing and dialing plan) the CLEC wants to use.

Qwest then develops and assigns the unique three digit alphanumeric LCC that can only be used by the requesting CLEC for its end user customers. The LCC will reference all the above information and determine the correct routing for any given end user customer call. Upon completion of LCC development, the CLEC specifies individual Qwest switches for deployment. Each Qwest switch has an

[22] UNE Remand Order at ¶¶ 441, 442; 47 C.F.R. §51.319(f).

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embedded software matrix of data parameters used in processing calls that are unique to that switch. Data parameters that apply to LCCs are routing, trunking and screening. Therefore, when implementing a new Line Class Code in a Qwest switch, Qwest is required to change the *existing switch specific* routing, trunking and screening data.[23] Each data parameter must be modified to correctly provision the new LCC and is unique to the switch where the LCC is to be implemented.

Notwithstanding Qwest's offering, WorldCom continues to make an issue of customized routing. WorldCom claims that Qwest has failed to meet its needs for customized routing, although up until a few weeks before the Part D hearing, WorldCom had never requested any form of customized routing from Qwest. At the time of the hearing, WorldCom had requested customized routing, but WorldCom's request was not for Qwest's standardized offering. As Mr. Craig explained, what WorldCom requested was "411 presubscription", something entirely different from customized routing. (Tr. 4729). 411 presubscription is an industry-wide issue that the FCC is currently considering. *Id.* Nevertheless, Qwest has committed to work with WorldCom to see if there is a way to implement a type of customized routing over WorldCom's feature group D ("FGD") trunks. As Mr. Craig also explained, Qwest is willing to implement the terms of WorldCom's interconnection agreement. That agreement provides that WorldCom may use its unique FGD trunks for customized routing (Ex. 2057; Tr. 4730-1). Thus far, however, WorldCom has requested customized routing over shared trunks, not unique trunks. Thus, there are significant issues that remain to be resolved between the parties. Additionally, WorldCom's proposed solution for customized routing was shown at the hearing to require significant additional investment per switch, and ultimately would only work on Lucent switches. (Ex. 2194; Tr. 4741-4). Fewer than half of Qwest's central offices in Washington contain the Lucent 5E switch that WorldCom's proposal addresses. (TR. 4744).

Contrary to WorldCom's assertion, there is no "standard" timeframe for Line Class Code deployment. Since the costs to develop and implement customized routing will vary greatly from switch

[23] Currently, Qwest has four different switch types manufactured by three different switch vendors deployed throughout its network. Each of the four switch types require different implementation intervals depending on the number and combination of different parameters that must be accessed before the appropriate data can be input. (Ex. T-2182, p. 9)

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to switch, and by specific CLEC request, standardization of pricing at this stage would be premature and therefore inappropriate. Additionally, WorldCom may be confused as to the function of Line Class Codes. Line Class Codes only determine what digits can and cannot be dialed by the end user customer, how to route dialed digits, and how to bill the end user customer for the digits dialed – as suggested by the name, line class codes are a line-side attribute of the network.

Feature Group D, on the other hand, is a trunk-side switching arrangement that functions independently of Line Class Codes. Feature Group D is a service generally associated with equal access arrangements. It is an originating switched access service that allows end user customers to access long distance providers networks, or Interexchange Carriers on either a pre-subscribed basis (1+ dialing) or by dialing 1010XXX.

Implementation of customized routing onto FGD trunks would face certain obstacles that would need to be addressed by Qwest and the requesting CLEC. FGD uses industry standard Equal Access SS7 signaling protocols. Customized routing, on the other hand, routes CLEC Operator Service and Directory Assistance calls using industry standard traditional signaling. These differences in signaling create inconsistencies when gathering data for accurate ordering, provisioning, billing, and maintenance of these facilities. Of major concern to Qwest, and of major impact to WorldCom, would be the fact that FGD trunks generally terminate at an Access Tandem and not at the end office as would be the case for customized routing. Qwest's customized routing functions occur at the end office and at present these calls can not be "tandemed." Qwest is unaware of any signaling technology that would allow for the routing of these types of calls to any type of tandem switch. Thus, WorldCom would have to extend its FGD trunks beyond the access tandem to the end office at substantial expense to WorldCom. These are some of the issues that Qwest is willing to discuss with WorldCom in order to attempt to implement WorldCom's nonstandard request for customized routing across FGD trunks.

v Common Channel Signaling/SS7 (Ex. 2050 §§9.14, 9.15, 9.1

Common Channel Signaling/Signaling System 7 ("SS7") provides multiple pieces of signaling information via the SS7 network. This signaling information includes, but is not limited to, specific

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information regarding calls made on associated Feature Group D trunks and/or LIS trunks, Line Information Database ("LIDB") data, Local Number Portability, Custom Local Area Signaling Services (CLASS), 8XX set up information, call set up information and transient messages.

Nonrecurring charges for CCS/SS7 include: (1) Common Channel Signaling Access Service ("CCSAC") Options Activation charge for basic translations and (2) CCSAC Options Activation charge for database translations. Both activities incur nonrecurring charges for the first activation and for each additional activation, per order.

Advanced Intelligent Network ("AIN") is a call-related database platform that enables telecommunications companies to provide customized incoming and out-going call management services. Qwest offers AIN Customized Services, AIN Platform Access and AIN Query Processing, as described more fully in Exhibit T-2130, pp. 13-15. The nonrecurring rates for AIN Customized Services and AIN Platform Access will be determined on an individual case basis. Charges will be assessed in accordance with the specific service requested by the CLEC. ICB pricing is appropriate for AIN services because the feature functionality of the service is defined by the CLEC.

w) Miscellaneous Charges (Ex. 2050 §9.20)

Miscellaneous nonrecurring charges are intended to cover the costs of additional engineering, labor and testing when incurred by Qwest at the request of the CLEC. Miscellaneous charges may be assessed when, at the direction of a CLEC, work activity is requested that is not part of the nonrecurring charges normally associated with a product. Generally, overtime charges will apply when the CLEC requests that work be performed by Qwest technicians before 8:00 a.m., after 5:00 p.m., or on a Saturday. Premium charges will apply when the CLEC requests that work be performed by Qwest technicians on a Sunday or holidays. (Ex. T-2100, pp. 23-24).

Qwest proposes to introduce an additional dispatch charge, date change and design change elements. A nonrecurring charge would apply when, at the request of the CLEC, a Qwest technician is dispatched an additional time to a CLEC designated location. A date change nonrecurring charge would apply when the CLEC changes a previously established due date for service. Such a change necessitates

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the issuance of a new service order. A nonrecurring charge would apply when a design change occurs that requires an engineer's review. Such design changes may include a change of end user premises, the addition or deletion of optional features or functions, or a change in the type of transport termination. (*Id.*, p. 25).

Qwest will bill appropriate maintenance of service charges for dispatched work done by Qwest where the trouble is found to be on the end user's side of the NID or the trouble is found to be in the CLEC's portion of the network. Miscellaneous charges may also be assessed when the CLEC authorizes Qwest to repair the trouble on the CLEC's behalf. Qwest will charge the CLEC the appropriate additional labor charges from this list of miscellaneous charges in addition to the maintenance of service charge.

x) UNE Combinations (Ex. 2050 §9.23)

UNE-P involves the provision of UNE combinations to CLECs. The UNE platform consists of either 1) UNEs already existing in combination to serve existing customers, or 2) combinations of UNEs not previously combined to serve new customers. For example, UNE-P POTS service includes the aggregation of UNEs that comprise basic exchange service, including the unbundled loop, shared transport and switching.

y) UNE-P conversion (Ex. 2050 §9.23.1)

Qwest presented some nonrecurring rates for UNE-P in Part B of this docket. Since then, Qwest has developed nonrecurring costs for many other types of UNE combinations. In addition, the rates proposed for UNE-P POTS (existing service) in Part B were based on the Commission's previously established rates for the Customer Transfer Charge, less an amount the Commission allowed for resale Operational Support Systems (OSS) costs. Those rates for UNE-P POTS did not reflect the flow-throughs in the ordering process that Qwest expects to achieve. Therefore, Qwest submitted new rates for UNE-P in order to better reflect its forward-looking expectations with regard to OSS in these nonrecurring rates. That particular rate element has already been approved in the Part B Order, as

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Qwest agreed to accept Commission consideration of the rate element in the earlier part of the proceeding. (Part B Order, ¶¶ 142-3).

Qwest has prepared a nonrecurring cost study that identifies the costs associated with the provision of UNE-P for POTS (including Centrex, PAL and analog PBX), PBX DID Trunks, ISDN-BRI and ISDN PRI. In addition, this study identifies the nonrecurring costs associated with providing combinations of design type services. These costs are summarized in Exhibit 2050, and are calculated in the ENRC study, Exhibit 2023. This cost study identifies the nonrecurring costs incurred by Qwest to convert *existing* customers to UNE-P and the nonrecurring costs to provide *new* UNE-P service.

The UNE-P POTS nonrecurring cost study identifies the nonrecurring costs incurred by Qwest to convert an *existing* POTS service customer to UNE-P POTS. The costs are identified separately for mechanized and manual[24] orders and include the order-related costs incurred by the ISC. For mechanized UNE-P POTS orders, ENRC assumes that orders will flow-through electronically 95% of the time.

The UNE-P Existing nonrecurring costs for the PBX DID, ISDN BRI and ISDN PRI elements are calculated in a similar manner, but include additional work activities in the ISC, as well as the design center. For example, a small percentage of ISDN BRI orders require manual handling by the design center. These elements do not have a separate manual and mechanized cost, and there is no flow-through assumed for the ISC in the study. Instead, Qwest has assigned six minutes of order processing time in the ISC, in order to be consistent with previous Commission decisions on this issue. Time estimates provided by Qwest's SMEs indicate that the amount of time in the ISC for processing orders for these elements is expected to range from 25.5 to 28.5 minutes for the first element ordered. (Ex. T-2020 p. 11). This is due to the complexity of the services being ordered. Although the ENRC reflects six minutes for these functions, the back-up documentation (Ex. C-2024) provides detailed support for the activities and estimates of time that Qwest expects it to take to process orders.

[24] Mechanized orders are those orders Qwest receives from the CLECs electronically, while manual orders are those orders Qwest receives from the CLECs via fax.

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z) UNE-P New Connection (Ex. 2050-69.23.2)

The UNE-P POTS nonrecurring cost study identifies the nonrecurring costs incurred by Qwest to provide *new* service via UNE-P to a CLEC. In this case, the customer location does not have existing service. The costs are identified separately for mechanized and manual orders with a 95% flow-through assumption for mechanized orders. New UNE-P POTS service includes the order-related costs incurred by the ISC and Loop Provisioning Center ("LPC"), along with the cost to place jumpers in the central office, and to dispatch field technicians, if necessary. (Ex. T-2020, p. 12).

This rate element is one of these singled out by WorldCom for challenge in Mr. Morrison's testimony. Mr. Morrison's proposed adjustments to the work times for "UNE-P POTS New" illustrate just how unsupported WorldCom's proposal is. In Ex. C-2271, Mr. Morrison presents a spreadsheet with adjustments in column "F" showing proposed 50% reductions in work times. However, when asked, Mr. Morrison could not specify whether Qwest's work times were overstated, or if the probability of occurrence was too high. (Tr. 4934-5). Nor did he offer any reasons for the proposed reductions, either in his testimony or during the hearing (Tr. 4936). Thus, Qwest is unable to more specifically respond to this proposal, other than to reiterate the discussion in support of Qwest's use of subject matter experts who are actually familiar with the tasks in order to properly estimate work times.

aa) Unbundled Packet Switching (Ex. 2050-69.24)

Qwest will provide unbundled packet switching ("UPS") pursuant to the FCC rules.[25] These UPS channels are available only where Qwest is providing a similar service to its own retail customers through remote DSLAMs at the end of Qwest fiber feeder. In addition, there must be no space for a CLEC to collocate a similar DSLAM and no alternative DSL service through a direct copper loop between the customer and the CLEC. The discussion here is limited to the nonrecurring rates for unbundled packet switching. Covad's claims with regard to whether Qwest has chosen the least cost

[25] Ex T-2130 at pp. 19-20. In *United States Telecom Ass'n v. FCC*, 290 F.3d 415, 2002 U.S. App. LEXIS 9834 (D.C. Cir. May 24, 2002); the D.C. Circuit recently remanded these rules to the FCC. Because no mandate has been issued, and the FCC has not yet conducted follow-on rulemaking, Qwest will continue to provide line sharing and unbundled packet switching during this interim period. Once the remand and subsequent court proceedings are complete, Qwest will follow those future rulings.

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network design will be addressed in the section on recurring charges for unbundled packet switching, below.

Nonrecurring costs for the work activities involved in provisioning the DS1/DS3 ATM switch interface port(s) necessary to connect the unbundled packet switch customer channel are calculated in the ENRC (Ex. 2023). Nonrecurring costs are also calculated for work activities necessary to connect the unbundled packet switch customer channel and the distribution subloop at an established FCP arrangement. The nonrecurring charges vary depending on the way the CLEC chooses to purchase the distribution subloop. Ms. Malone discusses three possible alternatives the CLECs have to purchase distribution plant, either from Qwest or from another CLEC. (Ex. T-2130 pp. 18-19). Qwest proposes a non-recurring charge for each of the three distribution loop options. The proposed recurring rates and non-recurring charges may be found in Exhibit 2050.

Ms. Million discusses the nonrecurring costs for the work activities involved in provisioning the DS1/DS3 ATM switch interface port(s) necessary to connect the unbundled packet switch customer channel (Ex. T-2020, p. 30). There is also a discussion of the activities necessary to connect the unbundled packet switch customer channel and the distribution subloop at an established FCP arrangement. The costs for this element are based on three possible alternatives the CLECs have to purchase distribution plant, either from Qwest or from another CLEC. These elements were included in a supplemental filing in the nonrecurring cost study labeled Exhibit 2048.

bb) Directory Assistance/Operator Services

Qwest believes that the FCC's UNE Remand Order exempts Operator Services and Directory Assistance from TELRIC pricing as an unbundled network element so long as Qwest provides CLECs with access to customized routing.[26] If an element is exempt from TELRIC pricing under the FCC's rules, Qwest believes that it has the right to price such services at market rates. Qwest has submitted standard nonrecurring rates for customized routing, developed in accordance with TELRIC principles.

[26] UNE Remand Order at ¶441.

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Thus, the rates for Operator Services and Directory Assistance are not properly an issue in this proceeding.

Because Qwest provides access to customized routing, and because operator services and directory assistance are competitive services, the FCC's UNE Remand Order exempts OS and DA from TELRIC pricing as a UNE. This exemption extends, as well, to call branding for those services. If the FCC determines, as it has in the case of OS and DA, that TELRIC pricing is not required the ILECs are free to establish market pricing for a service.

Therefore, Qwest has submitted a market rate for the call branding and set-up associated with OS and DA in its SGAT. Establishing a non-TELRIC based rate for call branding is entirely appropriate under the FCC's rules. The $10,500 rate for call branding is the result of a retail study based primarily on the charges Qwest incurs with an outside vendor each time a CLEC requests the service. Qwest has not provided this study or the attendant documentation in this proceeding because it considered this service to be the subject of market, rather than TELRIC, pricing.

cc) Directory Listings

The issues that arise under this heading are discussed in Section III.B.3.t) Directory Listings, below.

dd) Operator Services

Qwest is not aware of any issues that arise independently under this heading that have not already been addressed in section bb. Directory Assistance/Operator Services, above. Qwest reserves the right to address any such issues raised by other parties in the reply brief.

ee) Access to Poles, Conduit and Right of Way (Ex. 1050 §10.8)

Qwest filed revised rates for all of these elements in this proceeding. Some of the rate elements were considered in Part B as well. However, as Qwest reviewed these elements, it determined that updates were necessary. The update encompassed all nine of the nonrecurring charges in this category including those that were previously submitted in Part B. Product management and network convened a group of SMEs to discuss the activities necessary for each function, the times required to perform the

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activities and the probability that the activities would occur. Qwest's analysis has enabled it to develop and produce costs for these elements as presented in Exhibits 2046 and 2050.

Access to poles, ducts and rights-of-way ("ROW") provides CLECs the ability to attach facilities to Qwest-owned or controlled poles, ducts, and ROW in order to provide telecommunications services. Access is available on a first-come, first-served basis to existing facilities that are not allocated for repair, emergency or projects in progress. The nonrecurring charges are associated with the nonrecurring activities that occur when Qwest acts on a CLEC's request for access and checks its databases and field locations to ascertain the availability of space at the location or route requested.

WorldCom challenges Qwest's cost study as it relates to poles, ducts, and rights-of-way. Just as with the collocation rate elements, Mr. Lathrop reduced the time for certain functions that Qwest performs. He provided no information to back up his claims – only his opinion that Qwest has overstated the times, without any experience in conducting the activities at issue.

Set forth below is a description of the steps that go into each function as it relates to poles, ducts, and rights-of-way. Thereafter, Qwest will address specific adjustments and recommendations proposed by WorldCom.

The non-recurring elements associated with the poles, ducts and ROW products are:

- Pole Inquiry Fee, per inquiry;
- Innerduct Inquiry Fee, per inquiry;
- ROW Inquiry Fee;
- ROW Document Preparation Fee;
- Field Verification Fee, per Pole;
- Field Verification Fee, per Manhole;
- Planner Verification, per Manhole;
- Manhole Verification Inspector, per Manhole; and
- Manhole Make-Ready Inspector, per Manhole.

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Pole Inquiry. This process involves the necessary step of having Qwest's CPMC review the CLEC's request for completeness. During this task, Qwest prints all associated e-mails and forms from the CLEC to start a working file. The CPMC searches the database for the appropriate CLLI code. The information is entered into a database and a new job is created. The new job includes all Billing Account Number ("BAN") information, CLEC information, and due dates. The Qwest CPMC will also provide the wholesale account team with the name and the contact number for the appropriate local field engineer for joint validation of the poles and route. All of this information is then sent to the design engineer in the field. Once the design engineer receives the package from the CPMC, the engineer reviews the package and coordinates with the CLEC to set up a joint meeting.

The project management center also makes a telephone call to the appropriate design engineer to make sure the engineer has received the work package. The project management center acts as the liaison between not only the design engineers, but also the wholesale account team members for status, answering questions, escalating, and solving any issues that may arise.

Qwest developed the nonrecurring charge for an inquiry to be on a per-inquiry basis as opposed to per-mile as previously structured. While some of the work times will vary depending upon how many poles are in the request, or the distance of the request, many of the activities and work times are driven by the fact of a request, regardless of the distance. Thus, for the records inquiry, a per-inquiry rate structure better reflects the costs incurred.

ROW Inquiry. The ROW inquiry process involves Qwest's review of a request for completeness and resolution of any discrepancies in the request. The CPMC will print all e-mails and forms associated with the request. The CPMC will create a log in the database and create a new job. The new job is assigned a data base number and dates are established in the computer as well. All of this information is then sent out to the ROW agent for the particular area in question. The ROW agent accesses available job-files in the document retention database. The ROW agent locates records, makes copies, and sends those copies back to the CPMC. The records that could appear in the retention database are records

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such as: private ROW, Bureau of Land Management, Bureau of Reclamation, and Forest Service documents.

The CPMC also makes a telephone call to the appropriate ROW agent to make sure the engineer has received the work package. The CPMC acts as the liaison between not only the ROW agents, but also the wholesale account teams. The labor associated with the liaison position requires, as stated above, phone calls to ROW agents and account team members for status, answering questions, escalating, and solving issues that arise in general.

ROW Document Preparation Fee. The nonrecurring charge reflects an estimated amount of time necessary for Qwest to prepare a quit claim deed when requested by the CLEC.

Innerduct Issues. Qwest provides CLECs space in innerduct for the purpose of placing fiber facilities to transmit telecommunications services. Access to duct or conduit can also be arranged for copper facilities. Duct or conduit provides a single, enclosed raceway used for conductors, cable, and/or wire, including riser conduit between floors in a building. The duct or conduit may be in the ground, following streets, bridges, public or private ROW, or may be located in a portion of a multi-unit building. Within a multi-unit building, the duct/conduit may traverse the building entrance facilities, building entrance links, equipment rooms, remote terminals, cable vaults, telephone closets or building riser. Innerduct is a pipe that fits inside the duct or conduit. Three innerducts are pulled into a duct/conduit so the duct may typically carry three fiber cables. Usually, one 4-inch duct accepts three 1-1/4" innerducts. (Ex T-2154 pp. 8-9). CLECs have the option of either placing the innerduct in an empty duct or conduit, or having Qwest place it.

Innerduct Inquiry. The innerduct inquiry fee is a non-refundable pre-paid charge used to recover the costs associated with performing an internal record review to determine if a requested route and/or facility is available. Qwest's CPMC will complete the database inquiry and prepare a duct/conduit structure diagram (flatline) that shows distances and access points (such as manholes).

Qwest's CPMC will print out all e-mails and forms associated with the request. Qwest must search outside plant records, using the CLEC's attached map, to find the CLLI and to insure that all of

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the information is correct. The information is entered into a database and a new job is created. The new job is assigned a database number; this includes all BAN information, CLEC information, and due dates.

Once the information has been validated and deemed correct, Qwest searches databases and/or paper records for the route in question. If Qwest determines that the customer's specified route is available, Qwest creates a rough draft of the requested route and a spreadsheet showing all manhole numbers, the distance between each manhole, and the location of the manhole as it sits on the route according to the street intersections. This information, the rough draft and the spreadsheet, will then be created electronically.

Qwest's CPMC will return the results of the innerduct inquiry to the CLEC via the wholesale account team. The CLEC has 30 days to proceed to the next step, field verifications of manholes. As with poles, the innerduct inquiry fee is per-inquiry, not per-mile.

Field Verification, Pole. This nonrecurring charge is a non-refundable pre-paid charge that recovers the estimated actual cost for a field survey verification required to determine the availability and scope of any required make-ready work.

The field verification element involves identification of the pole number, street code, ownership of pole, and determining space availability on the pole. This verification provides and describes the necessary work required, cable rearrangement, anchoring (steel anchor that runs approximately 6 feet into the ground), guying (wire, sized appropriately, from the pole to the anchor), pole replacement, and documenting the results of the pole field inspection. The CLEC may elect to do the field verification itself by indicating that preference on the forms submitted to the CPMC.

Field Verification, Manhole. The engineer and technician will take steps to open each manhole. This includes pumping the manhole free of water, purging it of gases, setting up equipment and work area protection including establishing traffic controls, placement of cones and traffic control signs, etc.

The technician will remove the manhole lid and ventilate the manhole with a blower. The technician will then test for explosive gases with a gas meter. If the manhole is filled with water, it will be pumped clear. Then, the field engineer will take the blank template, or butterfly drawing, to sketch the

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duct structure on each manhole wall. This is the process that is repeated for each manhole within the specified route. (Ex. T-2154 p. 14).

Once the sketches are completed, the engineer will return to the office and convert all butterfly sketches to permanent drawings and return these drawings to the OSP tactical planner. The OSP tactical planner will review each drawing. The planner is looking for innerduct availability or/and conduit availability; the planner also researches an available path associated with the CLECs original requested route. The planner will look at the butterfly drawings; these drawings will indicate vacant and occupied innerduct, conduits, and knockouts. Then, the planner will evaluate any outstanding jobs that could be utilized using spare innerducts throughout the entire CLEC requested route. (*Id*., p. 15).

The results of this research are forwarded to the CPMC. The CPMC receives the package and assesses for innerduct and conduit availability by reviewing the information provided by the Tactical Planner. The CPMC creates a Field Verification report that portrays the results of the Field Verification. This report includes: sections where innerduct is and is not available; where a conduit is or is not available; where innerduct placement would be required; or a section where conduit and innerduct is not available, referring to a blocked section. This report also includes the distance between manholes, and the number of core drills required. The CPMC then forwards this report to the customer via the account team.

If a CLEC elects to do the work itself, Qwest will send a contract inspector to inspect the work of the CLEC. In other words, the contract inspector will verify that the manhole is opened and closed properly using appropriate safety standards.

In the Part B Order, the Commission ordered that Qwest cannot inspect every manhole along a requested route, holding that such inspection is unnecessary. However, in its petition for reconsideration, Qwest described the problems that would be created for both Qwest and the CLEC if inspections were not performed on each and every manhole along the route. Qwest will not repeat that discussion here, but encourages the Commission to consider those issues here as well.

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Planner Verification. This is a nonrecurring charge that covers the cost for Qwest's tactical planner. When the CLEC uses it own contractor to perform the field verification and provides the butterfly drawings, Qwest's tactical planner reviews records and produces a final field inspection report of availability. (Ex. T-2102 p. 5).

Manhole Verification Inspector. This is a nonrecurring charge assessed per manhole. When a CLEC performs the field verification step of an innerduct request, a Qwest inspector is present throughout the verification to ensure that manholes are opened and sealed properly and that work safety standards are followed by the CLEC's workers. (*Id.).*

Manhole Make-Ready Inspector. This nonrecurring charge per manhole recovers the cost for a Qwest inspector to be present during the placement of innerduct by a CLEC. The inspector will ensure that manholes are opened and sealed properly, that the innerduct materials used by the CLEC's workers meet the appropriate standards and that work safety standards and guidelines are followed. (*Id.).*

Through the testimony of Mr. Lathrop, WorldCom challenges the necessity of records and field verifications, claiming that Qwest's electronic records should be up to date, and that a search of those electronic records should be sufficient. Alternatively, WorldCom does not object to both database and field verifications, but claims that Qwest should not be allowed to charge the CLEC to essentially update Qwest's own records.

WorldCom's arguments are not well taken. Qwest's records regarding the availability of space and facilities are accurate and reliable, but that does not eliminate the need for field verifications. As with the records of any company that maintains large inventories of a product, there inevitably will be occasions where the records do not completely reflect conditions in the field. No industry that has large inventories of products has an infallible record keeping system; human intervention and human inspection are an essential part of inventory-based businesses. As Mr. Hubbard described, this can be illustrated by a simple, non-telecom transaction such as in a video rental store. The store's database may show that a movie is available but "field" or "shelf" review by a person sometimes reveals that, for some reason, the movie does not exist on the shelf. Of course the CLECs may point out that the video store does not

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charge separately for the "field verification", but that is simply a rate design issue that has no bearing on the issues in this docket. No one would seriously argue that the video store does not somehow recover those costs – the cost recovery is simply included in the overall fee for the video rental. That rate design however is not available to the CLECs – Qwest cannot recover the cost of field verifications for CLECs only from those CLECs who choose to lease space on poles or in innerducts, as that rate design would be in violation of the Act and FCC rules.[27] Clearly, costs are incurred by Qwest during the "field verification" process. How a different kind of business might recover similar types of costs is irrelevant, because the Act gives clear guidance as to how Qwest is to recover the costs of opening up its network for CLECs.

A telephone network is complex and the challenges of tracking inventory in this environment are substantial. That is why Qwest itself has used field verifications for years for its own needs and jobs. The field verification provides a reliable method for verifying records and qualifying actual inside and outside plant facilities. The field verification also ensures that the facilities in question for use are not damaged. If Qwest were to simply rely on its unverified records, the potential negative impacts on a CLEC would be substantial. For example, if a CLEC desires space in a conduit and asks Qwest to make it available on a specific date in the future, the CLEC will likely make business plans that will be impacted if the date is not met. If Qwest's records show that the conduit is available, but no verification is made, both Qwest and the CLEC could be negatively impacted if it found that the records were in error or that the records were correct but that field conditions, such as a crushed section of the conduit, prevented the use of the innerduct. The same analysis applies to space on a pole line. Relying on records does not replace verification by a qualified person to "go see." Field verifications clearly add information to the provisioning process that records alone do not provide.

Qwest provides access to poles, ducts and ROW to CLECs with workable and reasonable methods of accomplishing interconnection with Qwest's network. The Qwest architectures provide CLECs access in a nondiscriminatory manner. Moreover, Qwest's testimony establishes that the

[27] 47 C.F.R. 51.507(a).

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assumptions used in the cost study are consistent with, and reflect, the efficient, real-world tasks that engineers and other personnel must perform to provide poles, ducts and ROW.

ff) Bona Fide Request Process (Ex. 2050 & 7.0)

Qwest's estimate of time needed to complete a bona fide request ("BFR") process is based on the experience of its SMEs in analyzing requests by CLECs for services or arrangements that it does not currently provide. Qwest has gained a great deal of experience in this process over the past several years as its list has grown to hundreds of different services based primarily on requests from CLECs. The estimates provided by Qwest's SMEs represent the average amount of time spent on each particular activity. Because of the varied and complex nature of the requests from the CLECs and Qwest's recent experience in addressing those requests, the time estimates contained in the BFR nonrecurring study provide the most accurate prediction of the cost Qwest will incur to process such requests.

Once again, WorldCom recommends that the Commission adjust times based purely on conjecture that it should take less time to perform such an analysis. However, WorldCom provides no evidence from anyone who has ever been involved in such activities or who has any personal familiarity with Qwest's processes. Absent more than Mr. Lathrop's speculation that these activities should take less time, it is inappropriate for the Commission to reduce the time estimates produced by the SMEs performing the work.

The only type of request handled through the BFR process is one where there is a question of technical feasibility. Most requests are technically feasible and no technical feasibility analysis is required. Therefore, these new requests would be processed as special requests, not under the bona fide request process. If there is a technical feasibility issue (a technology never deployed in the network before), by its very nature, many people will be consulted - actual "thinking" time is required for creative solutions to emerge to new questions. Several conferences will be held to determine how to provision the request, as well as meetings and calls during the process. Thus, Qwest's estimate of time is reasonable.

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C. Recurring Costs

1. Overview

Qwest uses several different investment models to calculate UNE investments. UNE investments represent the capital expenditures that would be necessary in order for Qwest to replace its network facilities. This includes the dollars that represent the individual pieces of equipment that make up the network (e.g., in the case of transport, fiber cable, conduit and electronic equipment) as well as the costs to install the equipment. Although this Commission has already determined rates for many UNEs including the basic loop, transport and switching elements, the models that produce those rates also provide investment inputs to Qwest's other cost studies and models. For example, OCn (Optical Carrier *number*) capable loop investments are developed in the Network Access Channel (NAC) model using investment inputs from the Loop model. (Ex. T-2020, p. 5). The UNE TELRIC studies filed in this proceeding calculate costs using the following investment models:

- Loop Module (LoopMod);
- Switching Usage Model (SUM);
- Switching Cost Model (SCM) Features Module;
- Dark Fiber Module;
- OCn NAC Model;
- OCn Extended Unbundled Dedicated Interoffice Transport (E-UDIT) NAC Model;
- Signaling (SIS) Model; and
- Wholesale Cost Program (also referred to as "WINPC3").

Exhibit 2021 contains electronic copies of each Qwest investment model, along with the model documentation. The documentation describes the methodology used in each model, along with instructions on how to run the model. The documentation for each TELRIC study describes the investment models used in the calculation of costs for each element. (Ex. T-2020, pp. 5-6).

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2. Factors

The discussion of factors contained in Section III. B. 2. is equally applicable to the issue of factors as they apply to recurring costs. Thus, Qwest will not repeat that discussion here.

3. Discussion of Individual Factors

a) Collocation (Ex. 2050 §§8.1.9.2.3)

Channel Regeneration. Qwest provides channel regeneration without additional charge to the CLEC if such regeneration is necessary to meet the ANSI standard for the particular facility requested. Qwest also offers channel regeneration as an optional service that a CLEC may request even though regeneration is not required to meet the ANSI standards. (Exs. T-2150, p. 12, T-2151, pp. 2-3). Under those circumstances, the costs described by Ms. Million would be used to establish the price for regeneration. In response to Staff's testimony, Qwest modified its cost study to revise how it recovers its costs for channel regeneration (Exs. T-2049, pp. 2-3, 2051). With that modification, Qwest does not believe that there are any disputed issues remaining regarding channel regeneration.

Fiber Terminations. Qwest did not file a nonrecurring cost study for OCn terminations because Qwest has already included the nonrecurring charges for OCn terminations in its recent filing of the collocation tariff. In Part A the Commission ordered Qwest to make a compliance filing using Verizon's proposed rates for DS0, DS1 and DS3 terminations.[28] When Qwest made its compliance filing it submitted Verizon's rates for fiber terminations, along with the rates for DS0, DS1 and DS3 terminations. Qwest believes that Verizon's nonrecurring charges for Fiber terminations and OCn terminations are equivalent elements. Therefore, Qwest did not submit a cost study for OCn terminations.

However, Verizon's rates for fiber terminations do not provide any recovery for the recurring costs associated with the equipment on which the fibers terminate. Therefore, Qwest is submitting a cost study (Ex. 2031) that develops a rate for recovery of the cost of the fiber distribution frame (FDF) and fiber distribution panel (FDP) upon which the fibers terminate, and the fiber jumpers necessary to make the connections. When Qwest examined the Verizon cost study Qwest was unable to find a comparable

[28] Part A Order at ¶371.

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recurring rate that included such equipment costs. Discussions with Verizon confirmed that no such recurring cost was included in the study Verizon filed in Part A (Tr. 4308). Thus, Qwest introduces an additional element that allows for recovery of FDP costs not included in the rates filed in compliance with the Commission order in Part A.

b) Remote Collocation/Remote Adjacent Collocation (Ex. 2050 §8.2)

There are two recurring charges associated with remote collocation and remote adjacent collocation – collocation space and FDI terminations. The studies supporting those charges are discussed in connection with nonrecurring charges, above. Collocation space charges are assessed on a per-SMU basis. The recurring cost includes maintenance costs associated with this equipment, plus a small portion of the power pedestal. The recurring FDI termination cost includes the maintenance costs associated with this equipment

c) CLEC to CLEC Collocation (Ex. 2050 §8.3)

Qwest proposes a recurring charge for cable racking. The charge is a per foot, per month charge that recovers the cost of the racking used to support the cabling, but not the cabling itself. Prices also vary by the type of cabling supported (e.g., DS0, DS1, DS3 and fiber). WorldCom challenged Qwest's assumptions with regard to cable racking, claiming that they were not forward looking. However, WorldCom is incorrect. Mr. Lathrop states that a forward-looking approach would be based on "best practices space planning and designed to incorporate a multi-tenant environment." (Ex. T-2255, p. 6). He suggests that one would never have to assume additional cable racking for CLEC to CLEC direct connections. However, even if Qwest rebuilt every one of its central offices from the ground up, there would still be instances where CLECs that wanted to connect to each other might not be located in adjacent collocation spaces with sufficient existing cable racking between them. Qwest does not control which CLECs decide to connect to which other CLECs, nor does it control when a CLEC decides to collocate in a particular central office. Qwest's study makes a reasonable forward-looking assumption that one additional foot of cable racking would be needed. This one foot of cable racking is assumed to be shared by three CLECs, and is included in the flat charge for CLEC to CLEC direct connection.

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The discussion in Ms. Million's rebuttal testimony (Ex. T-2049), and Mr. Hubbard's rebuttal testimony (Ex. T-2151), was intended merely to provide an example of the reasons why two CLECs might not be located adjacent to each other in a central office, and additional cable racking would be required. It is irrelevant whether the CLECs are on the same floor, or different floors, or in building additions. Qwest's cost study assumes that, regardless of where they are collocated, CLECs will use shared cable racking for their direct connections 95% of the time. Shared cable racking is charged monthly on a recurring basis per foot of cable racking used per cable. For the remaining 5% of the time Qwest assumes that it will provide additional dedicated cable racking to enable the CLECs to complete their connections between their collocation spaces. Qwest's assumption results in one additional foot of dedicated cable racking per direct connection, which is assumed to be shared by three CLECs. (Ex. T-2049, pp. 25-27). This is a reasonable assumption in a forward-looking central office environment.

WorldCom also claims that because Qwest ignored the actual deployment of fiber to collocation arrangements in developing collocation costs and that Qwest is inconsistent with its approach to developing cable-racking costs. This, WorldCom claims, is because Qwest ignored the central office model used to develop space rental costs when it developed the cable racking costs. However, the central office model used for collocation rent cost has no connection to the assumptions in the CLEC to CLEC direct connections costs for cable racking. Nor should it, since the development of costs for dedicated cable racking is entirely unrelated to space rent. It is not inconsistent for Qwest to include costs in the CLEC to CLEC direct connection study that are not included in its collocation study. Qwest's approach to these costs is both consistent and careful to include only those costs that have not been addressed elsewhere in Qwest's studies.

Qwest's collocation study was filed in Part A of this proceeding and any participant in the cost docket has had ample opportunity to examine that study. No fiber cable racking was included in Qwest's collocation costs, and that information was available in the proceeding and included in Qwest's previously filed evidence. It is entirely appropriate for Qwest to include costs in the elements submitted in Part D that were excluded from the elements reviewed in Part A. (Ex. T-2052, pp. 16-18).

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d) Space Optioning (Ex. 2050 §9.4.0)

The recurring charge for space optioning is $2.00 per square foot. The recurring rate is known as the space option fee. The space option fee is based on the amount of space being optioned on per-month and per-square foot basis. This charge was agreed to in the 271 workshops. As such, there is no cost study that supports that charge.

e) OCn Capable Loops (Ex. 2050 §9.2)

OCn capable loops are digital transmission paths that transport bi-directional high capacity SONET (Synchronous Optical Network) signals at varying rates of signaling capacity. For example, OC3 is a SONET channel equal to three DS3s. The transmission path runs from a Qwest serving wire center network interface to the end user network interface located at the end user's premises within the serving area of the wire center. The installed investments for OCn loops are calculated in the NAC model with investment inputs for fiber from LoopMod. The cost study for OCn capable loops is included as Exhibit 2037.

f) OC-48 UDIT (Ex. 2050 §9.6.6)

Qwest's cost study supporting its rate for OC-48 UDIT is consistent with the cost studies submitted in Part B for OC-3 and OC-12 UDIT. The rates for the lower capacity UDITs were accepted in the Part B Order, ¶¶ 244-6. Qwest does not believe that the OC-48 UDIT rate was challenged in Part D. For both of those reasons, the OC-48 rates should be approved as well.

g) UDIT/EUDIT (Ex. 2050 §9.6)

See discussion under section III.A.4.k. above.

h) Unbundled Dark Fiber (Ex. 2050 §9.7)

Qwest filed a study supporting its costs and prices for unbundled dark fiber. (Ex. 2038). Qwest does not believe that any party took issue with any specific aspect of this study, and therefore will not discuss it in any detail, but reserves the right to address the issue on rebuttal if necessary.

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i) Local Switching (Ex. 2050 §§9.21.1.1, 9.21.1.2)

Vertical switch features are software attributes of end office switches. Qwest is proposing a list of vertical features that are available to CLECs that purchase a line side port. As Ms. Million describes in her testimony, the unbundled line port has a recurring charge to recover the cost of the port previously established by this Commission. Ms. Million is proposing an additional element of recurring cost to recover the previously-unaccounted for capitalized lease cost. (Ex. T-2020, p. 27).

In addition to a basic analog line-side port, Qwest proposes to offer a new premium 6-way port for use primarily by Centrex customers. In addition to the costs for 6-way ports, this new premium port includes costs for Centrex Management Systems ("CMS") and certain other features used for Centrex services. The premium port rate is incremental to the analog line-side port rate so no additional costs for vertical features are included. However, like the analog port, the premium port would also include the capitalized lease costs associated with vertical features. Thus, the premium port is calculated by adding the analog port rate of $1.85 to the incremental port rate of $2.00, for a total of $3.85. The development of the premium port increment is presented in Exhibit 2033.

As described in the 8th Supplemental Order in UT-960369, et al., the $150 investment per line used as the basis for developing Qwest's switching costs originated with an FCC Staff analysis of 1995 switch investments.[29] That study relied on ILEC depreciation studies showing ILEC switch investments to determine total switching costs. However, the fixed and per line cost that the Commission used from the FCC Staff's study did not include Qwest's capitalized lease costs that represent the right-to-use fees Qwest pays for the additional software needed to provision vertical features in the switch. This is because the depreciation studies used in the FCC Staff's study include switching costs recorded as investments, while the capitalized lease costs were recorded as expense at the time of the analysis. Thus, the cost of the port derived from those depreciation studies excludes the capitalized lease costs for software that is critical to the functionality of the vertical features.

[29] 8th Supplemental Order at ¶299.

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Qwest has developed a separate study (Ex. 2032) that estimates the capitalized lease costs associated with vertical features on a "per port" basis. Qwest proposes that the capitalized lease costs be added to the existing analog line-side port rate of $1.34 per port. This will result in a new port rate of $1.85 that more appropriately reflects the costs of the port and vertical features. In response to Bench Request #48, Qwest explained why it believes that the annual charge factor of 22.95% that the Commission used in Docket Nos. UT-960369, et al., did not include recovery of the right-to-use fees.[30]

j) Vertical Features (Ex. 2050 §9.11.1.3)

One additional feature, CLASS Call Trace, would not have been captured in the Commission's method of determining switching costs. The Commission's method, which used the FCC Staff's depreciation studies for switching investment, would not have reflected the elements presented in the CLASS Call Trace study (Ex. 2035) for at least two reasons. First, the CLASS Call Trace cost is developed on a "per event" basis to perform traces on calls on an as needed basis; it is not a monthly recurring charge. Second, the majority of costs for this service are based on the labor expenses of the people performing the traces, and the cost to store the data needed to complete the trace. (Ex. T-2020, p. 29). Thus, those costs would not be captured in an investment amount. Finally, the amount of switching cost included in the study is related to recorded announcements that Qwest does not believe is reflected in the rates determined by the Commission.

k) Digital Line Side Port (Ex. 2050 §9.11.1.5)

The digital line-side port, supporting BRI ISDN, will be offered in both a basic and premium port. The rate for the basic digital line-side port includes a port rate of $8.33 developed in the cost study (Ex. 2034), and the capitalized lease cost of $0.51 developed in Exhibit 2032 for a total of $8.83. The premium digital line-side port is calculated by adding the basic port rate, including capitalized lease costs) of $8.84 to the premium increment of $2.00 developed in Exhibit 2033, for a total of $10.84.

[30] There appear to be two bench requests numbered 48 – one issued in Part B earlier this year, and the second issued during the hearing in Part D. The reference here is to the second Bench Request #48.

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l) Digital Trunk Ports (Ex. 2050 §9.11.1.6)

The recurring rates are supported by Exhibits 2039 (DS1 Trunk Port cost study), 2041 (PRI ISDN Trunk Port cost study), and 2042 (DID/PBX Trunk Port cost study). In response to an inquiry from the Bench, Qwest explained that that it does not believe that the port investment sought to be recovered through these charges was included in the FCC data originally used to calculate switching costs (Response to Bench Request #49). Qwest does not believe that any party contested its proposal for recurring rates for digital trunk ports, but will address this issue on reply if necessary.

m) DS0 Analog Trunk Ports (Ex. 2050 §9.11.1.7)

The recurring rates are supported by Exhibit 2040. Qwest does not believe that any party contested its proposal for DS0 analog trunk ports, but will address this issue on reply if necessary. Additionally, the response to Bench Request #49, discussed immediately above, also applies to this rate element.

n) Customized Routing

Qwest has not proposed any specific monthly recurring charges for the customized routing solutions it is currently offering. As discussed above, Qwest's customized routing proposal involves the development and programming (installation) of customized line class codes in one or more central office switches. Under this proposal, the CLEC will also need to obtain transport of the routed calls to a destination of the CLEC's choosing. (Ex. T-2182, pp. 4-6). The CLEC may use its own facilities to provide that transport, or may lease capacity from Qwest. If the CLEC chooses to lease capacity, it may request DS1 or DS3 level transport at rates previously established by the Commission.

Additionally, the requesting CLEC must have purchased unbundled switching from Qwest or be a reseller of Qwest facilities. The CLEC must also have transport facilities and trunk ports on these facilities between the Qwest switch and the desired end location. This combination of trunk ports and transport is commonly referred to as dedicated Interoffice Facilities ("IOF"). (*Id.*)

Unbundled switch line ports are typically connected to an unbundled loop and provide a CLEC's end user customers access to the basic functionality of a Qwest end office switch. It allows a CLEC to

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purchase switching functionality without purchasing an actual switch. When a CLEC purchases unbundled switching from Qwest, the same Qwest end office switch serves CLEC end users and Qwest end users. It is the switch hardware and routing capability that are used to implement customized routing.

Unbundled switch trunk ports allow CLECs the option of providing their own message trunks, or communication paths, between switches. With the implementation of customized routing, this communication path can be established between a Qwest end office and the requesting CLEC's switches. These interoffice facilities provide the path over which a call using customized routing travels to its end destination.

Other customized routing proposals may or may not have recurring charges associated with them. Qwest will develop those solutions and that pricing on an ICB basis, since "customized" routing is by its nature specific to the demands of the customer requesting the service and cannot be priced on a standardized basis.

o) Common Channel Signaling/SS7 (Ex. 2050 §9.14)

Recurring rates for Common Channel Signaling/SS7 are set forth in Exhibit 2050 at Sections 9.14.3 through 9.14.7. All of the rates are assessed on a per-terminating-call basis. These rates are described in the testimony of Ms. Malone, (Tr. T-2130, pp. 11-12), as follows:

Integrated Services Digital Network User Part (ISUP) Signal Formulation Charge - a set-up charge to formulate the ISUP message at a SS7 Service Point or Signaling Service Point (SP/SSP).

ISUP Signal Transport Charge – a set-up charge to transmit signaling data between the local Signaling Test Point (STP) and an end office SP/SSP.

ISUP Signal Switching Charge – a per terminating call set-up request charge to switch an SS7 message at the local STP.

TCAP (Transaction Capabilities Application Part) Signal Transport Charge – a set-up charge to transmit signaling data between the local STP and the regional STP.

TCAP Signal Switching Charge – a set-up charge to switch an SS7 message at the local STP.

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WorldCom questioned the applicability of these charges in its testimony and at the hearing. Qwest further explained the applicability of these charges in response to WorldCom's Record Requisition 2502, stating that Qwest did not intend to assess the SS7 charges to CLECs who purchase the local switching UNE, including purchase of UNE-P. Qwest believes that this addresses WorldCom's issues on these rates.

p) ICNAM (Ex. 2130, p.15; SGAT Ex. A §9.18)

Through the testimony of Mr. Lehmkuhl, WorldCom is taking its fifth run in the last two years at persuading this Commission to order Qwest to provide bulk access to the inter-network calling name (or "CNAM" or "ICNAM") database (Ex. T-2320, pp.11-22). The ICNAM database allows a CLEC to secure the listed name information for a requested telephone number in order to deliver that information to the CLEC's end users. It is commonly used in conjunction with caller ID (Ex. T-2131, p.11).

In Docket Nos. UT-003022/UT-003040, the Commission has already determined *four times* (as recently as February 2002) that CLECs are not entitled to bulk access to call-related databases.[31] WorldCom has not identified any new FCC authority that in any way changes the outcome on this issue. In Mr. Lehmkuhl's direct testimony (Ex. T-2320, p.21) and through its cross-examination of Ms. Malone (Tr. 04430-6), WorldCom relies on a March 2001 order of the Michigan Public Service Commission as support for its demand for bulk access. However, the Commission has already reviewed that decision and determined that it merely states a conclusion without explanation and, as such, "provides little guidance for this Commission in determining whether access to the [ICNAM] database should be on a per-query or bulk transfer basis."[32]

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[31] The ALJ and the Commission rejected WorldCom's demand for bulk access to the ICNAM database in the ALJ's draft initial order, the ALJ's revised initial order, the Commission's final order and the Commission's order on reconsideration on Workshop One issues. *See* Docket Nos. UT-003022/UT-003040, *Revised Initial Order* (August 31, 2000), ¶¶ 155-158 (recounting the ALJ's determination in the Draft Initial Order), 162; *Commission Order Addressing Workshop One Issues: Checklist Items No. 3, 7, 8, 9, 10, 12 and 13* (June 11, 2001), ¶¶ 57-58, 78-79; *25th Supplemental Order, Order Granting in Part and Denying in Part Petitions for Reconsideration of Workshop One Final Order* (February 8, 2002), ¶¶ 27-32, 47-48, 57-59.

[32] *25th Supplemental Order*, Docket Nos. UT-003022/UT-003040, ¶¶ 28-29, 57.

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Moreover, in its Connecticut 271 Order, the FCC validated providing access on a "per dip" basis.[33] WorldCom's argument that "it *may* be more economical" to allow full database access (Ex. T-2320, p.15) has already been rejected by the FCC, which stated that "the cost incurred by a requesting carrier to self-provision or use alternative databases does not appear to materially diminish the carrier's ability to provide the services it seeks to offer."[34]

This docket was opened for the purpose of setting rates for UNEs. It is not the proper forum for litigating, or in this case re-litigating, terms and conditions. The Commission has already decided four times that bulk access to the ICNAM database is not required as a term or condition of the SGAT and that per-query access is consistent with Qwest's legal obligations. There is no reason presented in this proceeding to alter that result.

q) EEL Transport (Ex. T-2050 §9.23.6)

An EEL is a means by which a CLEC may access an end user customer not located in the same Qwest wire center in which the CLEC is located. An EEL is a combination of a loop and dedicated interoffice transport facilities. The EEL may also include multiplexing or concentration capabilities. EEL Transport consists of the dedicated interoffice facilities between Qwest wire centers. Qwest offers recurring fixed and recurring per mile charges for OC-3, OC-12, and OC-48. Qwest is introducing OC-48 fixed and per mile recurring charges for four separate mileage bands. Qwest's recurring rates for the lower capacity EELs were accepted by the CLECs in Part B (Part B Order, ¶ 216). The rate for this higher capacity offering was developed in the same way as the rates in Part B, and should be accepted as well.

r) Unbundled Packet Switching (Ex. T-2050 §9.23.4)

In the UNE Remand Order at paragraph 313, the FCC required packet switching to be unbundled in certain circumstances when Qwest does not provide CLECs access to remote terminal

[33] *In the Matter of Application of Verizon New York Inc., Verizon Long Distance, Verizon Enterprise Solutions, Verizon Global Networks Inc., and Verizon Select Services Inc., for Authorization to Provide In- Region, InterLATA Services in Connecticut*, CC Docket No. 01- 100, Memorandum Opinion And Order (Rel. July 20, 2001), at Appendix D, ¶ 59.

[34] *UNE Remand Order*, at ¶ 415.

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collocation. That aspect of the UNE Remand Order, as well as other requirements, was reversed and remanded by the D.C. Circuit Court of Appeals on May 24, 2002, after hearings were concluded in this matter.[35] Nevertheless, the requirement to offer unbundled packet switching under the conditions established by the FCC is still in place pending review. Since no party has offered an alternative proposal, or any meaningful criticism of Qwest's proposal, Qwest recommends that the Commission adopt Qwest's proposed costs and prices for the recurring rate elements associated with packet switching.

In its UNE Remand Order, the FCC found "one limited exception to [its] decision to decline to unbundle packet switching."[36] The FCC then laid out its criteria: where the ILEC has deployed digital loop carrier (DLC) systems, no spare copper facilities are available, and the incumbent has placed its DSLAM in a remote terminal. The FCC went on to find that the ILEC will not be required to offer access to unbundled packet switching "if it permits a requesting carrier to collocate its DSLAM in the incumbent's remote terminal, on the same terms and conditions that apply to its own DSLAM."[37]

In the situations where Qwest is required to offer packet switching, Qwest provides unbundled packet switch interface ports at either a DS1 or DS3 level in the central office. The ports are the physical entry points into the Asynchronous Transfer Mode ("ATM") Cell Relay Service Network and include the electronic equipment used in connecting the channel to the ATM Cell Relay Service Network. In addition, the service includes an unbundled packet switch Customer Channel that provides the path from the remote Digital Subscriber Line Access Multiplexer ("DSLAM") to the interface port, including all functionality of the DSLAM. If the CLEC chooses to provide its own facility from the DSLAM to the central office, Qwest offers an alternative to the Customer Channel that only provides the DSLAM functionality. The recurring costs for these elements are calculated in Exhibit 2036, and the results are summarized in Exhibit 2050.

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[35] *United States Telecom Association v. FCC,* 290 F.3d 415 (D.C. Cir. 2002).

[36] *UNE Remand Order* at ¶313.

[37] *Id.*

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Covad is apparently seeking a broader offering of this UNE, and perhaps other UNEs in connection with the "line sharing over fiber" issues raised here and in Part B. Here, however, Qwest is providing costs for a UNE consisting of the following physical facilities: an ATM port, a virtual channel between the central office and the remote collocation (DA, or distribution area) hotel, and DSLAM functionality at the DA hotel. The ATM port and the channel between the central office and the DSLAM can support multiple loops between the DSLAM and CLEC customers (Exs. T-2020, p.30, and T-2130, p. 17).

Qwest estimated the efficient replacement cost of overlaying remote DSLAMs on the existing network and installing integrated cabinets in some areas to provide UPS to all customers served by a loop with fiber feeder running to a DLC terminal. The DSLAM placed in the DA hotel then converts the digital fiber signal to copper for the final leg to the customer. Qwest based its study on the actual cost of installing remote DSLAMs in environmentally sound cabinets to provide UPS for customers served by DLC. As pointed out by the D.C. Circuit Court of Appeals,[38] these recent experiences are the best guide for the efficient cost of replacing the network. Qwest's study indicates that the cost of a customer channel is $21.38, DSLAM functionality is $18.00, and the ATM port is $109.89 (Ex. 2050).

Covad claims that Qwest should have used a different design to provide UPS in which the DSLAM is a line card in an NGDLC, which provides a digital signal over the copper between the DLC and the customer premises without the expense of building a DA hotel or installing a standalone DSLAM. Covad, however, offered no cost study to support the claim that this architecture would be cheaper than the overlay solution, but instead relied on general claims about the falling cost of digital telecommunications equipment (Ex. T-5043, and T-2370, pp. 9-11). Thus, this Commission cannot conclude that Covad's proposed network architecture is indeed least cost.

Unbundled Packet Switching only covers the feeder portion of the loop - from the CLEC demarcation point in the central office out through, and including, the Feeder Distribution Interface (FDI).

[38] *AT&T Corp. v. FCC*, 220 F.3d 607, 617 (D.C. Cir. 2000).

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A CLEC may choose from the following three distribution loop options when requesting unbundled packet switching:

- A CLEC can purchase the distribution subloop to provide service to the end-user customer.
- Another CLEC (CLEC2) can purchase the entire UNE loop, and the CLEC purchasing UPS (CLEC1) can purchase distribution from CLEC2.
- For loops over which Qwest provides voice service, a CLEC can line-share, but only over the distribution subloop.

Covad opposes Qwest's recurring costs, claiming that Qwest's architecture is not the least cost, forward looking choice, and that Qwest should have instead assumed NGDLC ("next generation digital loop carrier") architecture. However, Covad did not propose any costs in support of its proposal. Thus, the Commission cannot conclude that Covad's proposal is the lower cost alternative. Qwest did present information upon which the Commission can rely. That information establishes that Qwest reviewed various alternatives, and concluded that its proposal met TELRIC requirements and establishes costs for the least cost, forward looking solution to provide unbundled packet switching under the limited circumstances where Qwest is required to do so (Ex. C-2074).

s) Directory Assistance/Operator Services

Recurring rates associated with the provision of directory assistance and operator services by Qwest to CLECs are set forth in Qwest's SGAT (Exhibit A, Section 10.4 and 10.6) and tariff (WN U-42, Section 3.3 A. and B). As discussed above, in connection with the nonrecurring charges associated with branding, directory assistance and operator services are not UNEs, are not required to be unbundled, and are not subject to TELRIC pricing. Nevertheless, at this particular time, Qwest's tariffed rates are indeed based on a Commission order in Docket Nos. UT-960369, et al., and were determined to be TELRIC rates at the time they were ordered and approved. (*See*, response to Bench Request #55). Qwest is not proposing to change those rates in this proceeding. However, based on Qwest's offering of customized routing, it is clear that Qwest is not required to make directory assistance and operator services available as UNEs. The only requirements applicable to Qwest in the provisioning of these services is that Qwest provide nondiscriminatory access to directory assistance and operator call

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completion services in accordance with 47 U.S.C. §271(c)(2)(B)(vii)(I) and (II), and that Qwest's pricing of these services be fair, just and reasonable in accordance with the UNE Remand Order, ¶¶ 441-2.

f) ~~Directory Listings~~

Directory assistance listing ("DAL") information consists of name, address and telephone number information for all end users of Qwest and other LECs that are contained in Qwest's directory assistance database and, where available, related elements required in the provision of directory assistance service to CLEC's end users. (Ex. 2059, Section 10.6.1.1) Qwest is proposing the use of market-based pricing for the provision of DAL information (Ex. T-2131, p. 11).

Through the testimony of Mr. Lehmkuhl, WorldCom erroneously argues that the FCC declared the DAL database a UNE in the *UNE Remand Order* (Ex. T-2320, p. 5). This is not the case. The body of the *UNE Remand Order* does not identify the DAL database as a UNE and does not order ILECs to provide DAL at TELRIC pricing. Instead, it discusses DAL in conjunction with OS/DA services more generally and holds that ILECs need not unbundle OS/DA as long as the ILEC also provides CLECs with customized routing.[39] As discussed above, customized routing is available to CLECs in Washington.

Despite advocating that the Commission adopt "cost-based" pricing for DAL, WorldCom could not explain what it means by cost-based,[40] did not offer its own cost model[41] and did not offer evidence that Qwest's proposed market-based prices are discriminatory.[42] There is no evidentiary basis in the Part D record from which the Commission could conclude that Qwest's DAL rates are discriminatory.

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[39] *UNE Remand Order*, ¶¶ 438-464.

[40] On cross-examination, Qwest repeatedly asked Mr. Lehmkuhl what he meant by his repeated call for cost-based pricing in his testimony. He was unable to explain with any specificity what he and WorldCom meant by that and whether that meant TELRIC or something else. Tr. 4977-80.

[41] *Id.*, at 4983.

[42] WorldCom relies on the *DAL Provisioning Order* as support for its demand for "cost-based" rates and as support for its generalized assertion that "ILECs continue to charge CLECs and competing DA providers like WorldCom, discriminatory and unreasonable rates for DAL." (Exhibit T-2320, p. 6) That order provides WorldCom no assistance. The FCC specifically refused to impose a specific pricing structure for DA or DAL, does not refer to DAL as a UNE and does not provide analysis from which this Commission could determine that Qwest's DAL rates are discriminatory. As to the last point, one example of discriminatory conduct offered by the FCC in the *DAL Provisioning Order* is that one LEC allegedly charges an initial access fee of $25,000. No such allegation has or could be made vis-a-vis Qwest and

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In its *UNE Remand Order*, the FCC recognized that obtaining customer listing was one of the costs of self-provisioning directory assistance services.[43] The FCC rejected the argument that self-provisioning directory assistance service, including obtaining customer listings, "would involve substantial and material cost and delay competitive entry into the local market."[44] The FCC's recognition that there are alternatives available to the use of Qwest's customer listing negates the need for regulated prices.[45] Qwest's use of market-based pricing is appropriate.

ii) Category 11 and Daily Usage Record File

Qwest did not propose cost studies for these rate elements in this phase of the proceeding. As Qwest explained in Ms. Million's testimony (Ex. T-2020, p. 32), Qwest has not completed work on cost studies supporting those rates and is not seeking a Commission determination on this issue at this time. Qwest is working to change the cost study to reflect changes and updates to the product going forward. Therefore, Qwest's position is that this study should be deferred to a later docket. Qwest also believes that the study for "Daily Usage Record File" should be deferred to a later proceeding. Qwest does not object to WorldCom's proposal to include this rate element in Docket No. UT-023003.

IV. VERIZON

Qwest does not take a position at this time on the issues raised in connection with Verizon's proposals in this phase of the docket.

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V. CONCLUSION

thus this entire discussion is simply an attempt by WorldCom to persuade this Commission, based on anecdotal "evidence" of actions by other LECs in other regions, that Qwest's rates are discriminatory.

[43] *UNE Remand Order*, ¶ 450.

[44] *Id*.

[45] *Id*., ¶ 455.

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For the reasons stated, Qwest requests that the Commission adopt the costs and rates that Qwest has proposed.

RESPECTFULLY SUBMITTED this 23nd day of July, 2002.

QWEST

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