Exhibit No. TKM-1T

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Petition of Qwest Corporation to Initiate a Mass-Market Switching and Dedicated Transport Case Pursuant to the Triennial Review Order	Docket No. UT-033044

DIRECT TESTIMONY

OF

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ON BEHALF OF

QWEST CORPORATION

JANUARY 23, 2004

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EXECUTIVE SUMMARY

Purpose of Testimony

The purpose of my testimony is to present the nonrecurring Total Element Long Run Incremental Cost ("TELRIC") study used to support the price for Qwest's Batch Hot Cut ("BHC") installation option. In addition, I will present batch hot cut volume estimates demonstrating that Qwest can handle projected batch hot cut order volumes.

TELRIC Principles

The Qwest TELRIC studies identify the *forward-looking* direct costs that are caused by the provision of an interconnection service or network element in the *long run*, plus the forward-looking 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 the Qwest cost studies are designed to yield the forward-looking *replacement* costs of reproducing the telecommunications network.

Qwest's TELRIC studies are in complete compliance with the Telecommunications Act of 1996, and are consistent with the FCC's TELRIC principles, as defined in the FCC's First Interconnection Order. The TELRIC cost data presented in my testimony should be utilized to set the price for batch hot cuts.

The Qwest BHC TELRIC Study

Methodology- The Qwest BHC nonrecurring cost study identifies the one-time costs that are incurred at the time a customer's UNE loop is provisioned using the BHC process. These costs result from a CLEC batch order and are labor-related. In addition, the BHC nonrecurring cost study includes the costs Qwest will incur to develop the mechanized systems necessary to support the BHC process, such as the "appointment scheduler" and "batch status tool."

The BHC cost study identifies costs for the activities depicted in the "Proposed Batch Hot Cut Provisioning Flow" provided in Exhibit DP/LN-11 of Mr. Pappas' testimony. The study identifies costs for activities that always must be performed manually (e.g., pre-wiring at the CO frames) and activities that must be performed manually when an order "falls out" of a mechanized process. Based on input from subject matter experts ("SMEs"), the cost study estimates the *work time* associated with each *manual* activity and the *probability* that each manual activity will occur, along with the appropriate labor rate. The time estimates, probabilities and labor rates are used to develop the direct nonrecurring cost of each work activity using the following formula:

Activity time * Probability of Occurrence* Labor Rate = Cost of Activity

The costs for all BHC activities are then aggregated into a total BHC direct nonrecurring cost, and annual cost factors are applied to estimate shared and common costs.

BHC Cost Results - The nonrecurring BHC cost study is provided on the CD (Exhibit TKM-2) as Exhibit TKM-3. The BHC nonrecurring cost (TELRIC plus Common) is $45.96 per loop installed.

Analysis of Work Activities - My testimony provides an analysis of the work activities, work times and probabilities for each work center that will be involved when a BHC loop is requested by a CLEC. The study identifies costs for following work centers:

- Interconnection Service Center ("ISC")
- Loop Provisioning Center
- Design Center
- Central Office Resource Administration Center ("CORAC")
- Central Office Technicians
- CLEC Coordination Center ("QCCC")

As described in my testimony, Qwest will experience efficiencies via the BHC process that reduce the cost as compared to the basic loop installation option. Central Office technician time is reduced, and QCCC work is significantly reduced.

Volumes Data

Exhibit TKM-4 provides an estimate of the aggregate Qwest UNE-P migration volumes that would be experienced over the FCC's 27 month migration period. Exhibit TKM-5 provides an analysis of the potential UNE-L volumes in the highest volume office in Washington. My testimony describes each of these exhibits in detail, and explains how this data should be used. The testimonies of Mr. Pappas and Ms. Barrick will draw conclusions from the data and explain how the data should be used in evaluating Qwest BHC proposal.

Recommendation

The Commission should accept the TELRIC study filed by Qwest as basis for the BHC nonrecurring rate.

I. IDENTIFICATION OF WITNESS

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND POSITION WITH THE QWEST CORPORATION.

A. My name is Teresa K. (Terri) Million. My business address is 1801 California Street, Room 2050, Denver, Colorado 80202. I am employed by Qwest Services Corporation as a Staff Director in the Public Policy organization. In this position, I am responsible for preparing testimony and testifying about Qwest Corporation's cost studies in a variety of regulatory proceedings.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EMPLOYMENT EXPERIENCE.

A. I received a Juris Doctor from the University of Denver, College of Law in 1994 and am licensed to practice law in the state of Colorado. I also have a Master of Business Administration from Creighton University and a degree in Animal Science from the University of Arizona.

I have more than 20 years experience in the telecommunications industry with an emphasis in tax and regulatory compliance. I began my career with Qwest, (formerly Northwestern Bell Telephone Company and U S WEST) in 1983. Between 1983 and 1986 I administered Shared Network Facilities Agreements between Northwestern Bell and AT&T that emanated from divestiture. I held a variety of positions within the U S WEST, Inc. tax department over the next ten years, including tax accounting, audit, and state and federal tax research and planning. In 1997, I assumed a position with responsibility for affiliate transactions compliance, specifically compliance with section 272 of the Telecommunications

Act of 1996 (the "Act"). 47 U.S.C. §272. In September 1999, I began my current assignment as a cost witness. In this position, I am responsible for managing cost issues, developing cost methods and representing Qwest in proceedings before regulatory commissions.

Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY BEFORE THIS COMMISSION?

A. Yes. I submitted direct testimony regarding the recovery of OSS (Operations Support Systems) costs in Part A of the cost docket (Docket No. UT-003013), as well as direct and rebuttal testimony in Parts B and D. In addition, I testified before this Commission in Parts A, B and D of that docket.

Q. HAVE YOU TESTIFIED BEFORE OTHER STATE REGULATORY COMMISSIONS?

A. Yes. I have presented cost testimony before commissions on the issue of determining rates for unbundled network elements ("UNEs") in Arizona, Idaho, Montana, New Mexico, South Dakota, and Wyoming. In addition, I have submitted testimony related to section 272 of the Act in Arizona, Colorado and Nebraska. I have also filed cost testimony in Colorado related to Operator Services.

II. PURPOSE OF TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to present the nonrecurring Total Element Long Run Incremental Cost ("TELRIC") study used to support the price for Qwest's Batch Hot Cut ("BHC") installation option.

Q. PLEASE IDENTIFY THE OTHER QWEST WITNESSES WHO ARE FILING TESTIMONY IN THIS PROCEEDING, AND DESCRIBE HOW THEIR TESTIMONY RELATES TO YOUR TESTIMONY.

A. Mr. Dennis Pappas is providing testimony that describes Qwest's proposed BHC process in detail. Mr. Pappas also presents and describes the proposed BHC provisioning flow Exhibit DP/LN-11, which identifies the work activities required to perform a batch hot cut. Ms. Lynn Notarianni provides testimony describing the Operational Support Systems ("OSS") expenditures that Qwest will incur to implement the additional mechanization necessary to support the BHC process. The costs of the BHC work activities identified by Mr. Pappas and the OSS expenditures identified by Ms. Notarianni are incorporated in Qwest's nonrecurring TELRIC study.

III. SUMMARY OF TELRIC PRINCIPLES

Q. PLEASE SUMMARIZE THE OVERALL ECONOMIC PRINCIPLES THAT ARE APPLIED IN QWEST'S TELRIC STUDIES.

A. TELRIC asks what it would cost to replace and operate the telephone network today using the most efficient technology that is reasonably available now, taking as given both the basic geographical design of the network and the characteristics of the world outside the network. Qwest's TELRIC studies identify the <u>forward-looking</u> direct costs that are caused by the provision of an interconnection service or network element in the <u>long run</u>, plus the forward-looking incremental cost of shared facilities and operations. The studies identify <u>total element</u> costs—the average incremental cost of providing the entire quantity of the element.

Q. DO TELRIC STUDIES IDENTIFY RECURRING AND NONRECURRING COSTS?

A. Yes. Recurring costs are the ongoing costs associated with providing a service. These costs are generally investment-related and include both capital costs and operating expenses. Recurring costs are often presented as a flat cost per month or per unit of usage (e.g., minute of use) and are incurred throughout the time period the service is provided to a customer. Nonrecurring costs include the one-time costs that are incurred at the time a customer establishes, disconnects or changes service. These costs normally result from a customer order and are *predominantly* labor-related.

In this proceeding, Qwest is filing a *nonrecurring* cost study for BHC installations. The assumptions, methods, and procedures used in Qwest's nonrecurring cost study are designed to yield the actual forward-looking nonrecurring costs that Qwest is likely to incur in provisioning unbundled loops using the BHC process.

Q. DO QWEST TELRIC STUDIES CONTAIN REALISTIC FORWARD-LOOKING ASSUMPTIONS?

A. Yes. A TELRIC study must provide a realistic estimate of forward-looking costs. Therefore, Qwest's TELRIC studies focus on the latest technologies and methods of operations that are currently available. Only technologies that are commercially available and currently being used in the industry are included in the studies. Theoretical future technologies are not considered because it is impossible to know how much those technologies will cost, how they will be configured, and whether they will, in fact, ever be commercially available on a scale necessary for Qwest's

network. Thus, Qwest's nonrecurring BHC cost study considers the actual provisioning methods and OSS that are either in place today or scheduled to be implemented, rather than theoretical provisioning methods based on unproven technologies.

Q. YOU MENTIONED THAT QWEST'S TELRIC STUDIES IDENTIFY DIRECT COSTS AND THE COST OF SHARED FACILITIES AND OPERATIONS. PLEASE DISCUSS THIS FURTHER.

A. Direct costs are the costs that would be avoided if the network element or service were not offered. In the nonrecurring BHC cost study, the direct costs include the cost of labor to perform specific BHC activities, and the cost of BHC-specific OSS enhancements. Shared (directly attributable) costs are the costs that are generally caused by the provision of a group of elements. In the nonrecurring BHC cost study, the shared costs include support assets expenses, such as office space and computers. Both direct and shared (directly attributable) costs are included in Qwest's TELRIC studies, consistent with the TELRIC definition provided by the FCC in the First Interconnection Order.[1]

[1] First Report and Order, *In the Matter of the Implementation of the Local Competition Provisions of the Telecommunications Act of 1996,* CC Docket Nos. 96-98 & 95-185, FCC 96-325 (rel. Aug. 6, 1996) ("*First Interconnection Order*") In paragraph 682 of the *First Interconnection Order*, the FCC stated: "We conclude that, under a TELRIC methodology, incumbent LECs' prices for interconnection and unbundled network elements shall recover the forward-looking costs directly attributable to the specified element, as well as a reasonable allocation of forward-looking common costs. . . . Directly attributable forward-looking costs include the incremental costs of facilities and operations that are dedicated to the element. Such costs typically include the investment costs and expenses related to primary plant used to provide that element. Directly attributable forward-looking costs also include the incremental costs of shared facilities and operations. Those costs shall be attributed to specific elements to the greatest extent possible. For example, the costs of conduits shared by both transport and local loops, and the costs of central office facilities shared by both local switching and tandem switching, shall be attributed to specific elements in reasonable proportions. More broadly, certain

Q. DO QWEST'S TELRIC STUDIES INCLUDE COMMON COSTS?

A. Yes. As discussed above, Qwest's nonrecurring studies identify the TELRIC, which includes the direct and shared (directly attributable) costs, for unbundled network elements ("UNEs"). In addition, the study separately identifies an allocation of forward-looking common overhead costs, consistent with the FCC's definition of forward-looking economic cost.[2] These costs (e.g., legal, planning, executive, etc.) are not associated with a specific network element, but represent general costs of doing business. These are real costs that Qwest will continue to efficiently incur on a forward-looking basis. Thus, the nonrecurring BHC cost study includes an allocation of common costs.

Q. HOW SHOULD THE QWEST NONRECURRING BHC COST STUDY BE UTILIZED IN THIS PROCEEDING?

A. The nonrecurring TELRIC study I am presenting should be utilized to set the price for the BHC installation option. The nonrecurring charge for loops installed using the BHC process should be set equal to the TELRIC plus Common cost identified in the BHC cost study, consistent with the FCC's TELRIC pricing methodology.

IV. THE BATCH HOT CUT ("BHC") NONRECURRING COST STUDY

A. Background

Q. WHY IS QWEST PROPOSING A BATCH HOT CUT INSTALLATION OPTION IN THE CURRENT PROCEEDING?

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shared costs that have conventionally been treated as common costs (or overheads) shall be attributed directly to the individual elements to the greatest extent possible."

[2] 47 CFR §51.505

A. In the Triennial Review Order ("TRO")[3] the FCC discusses the need for a batch hot cut process. In the order, the FCC expresses concern that the ILECs' current hot cut processes are limited by their highly manual, resource intensive and customer-impacting nature, and are priced at rates that present barriers to facilities-based competition for mass markets. The FCC also states that its prior finding in section 271 orders—that the ILECs' hot cut processes are adequate—does not allow it to conclude that those current processes can accommodate competition in the mass markets.[4] Thus, the FCC concludes that the loop hot cut issues "may be mitigated through the creation of a batch [hot] cut process"[5] and orders state commissions to approve "within nine months of the effective date of [the TRO], a batch cut migration process to be implemented by incumbent LECs that will address the costs and timelines of the hot cut process."[6] To that end, the FCC requires state regulators to approve both the specific processes and appropriate volume of loops associated with a batch hot cut process, and adopt TELRIC rates for the process they approve.[7]

As explained in detail in Mr. Pappas' testimony, in order to address the FCC's requirements, Qwest, the CLECs and the state commissions have conducted a joint Batch Hot Cut forum to establish a BHC process for Qwest's in-region states. While parties in the forum did not agree on all issues, the proposal outlined by Mr.

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3 *In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers; Implementation of the Local Competition Provisions of the Telecommunications Act of 1996; Deployment of Wireline Services Offering Advanced Telecommunications Capability;* Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, CC Docket Nos. 01-338, 96-98, 98-147, FCC 03-36 (Rel. August 21, 2003) ("TRO") at ¶ 465.

4 *Id*. at ¶ 469.

5 *Id*. at ¶ 487.

6 *Id*. at ¶ 488.

7 *Id*. at ¶ 489.

Pappas is in large part responsive to the issues raised, and agreements reached, in the forum. The BHC cost study Qwest I am providing estimates the nonrecurring cost for the BHC process outlined by Mr. Pappas, and thus reflects many of the agreements reached at the forum.

Q. PLEASE BRIEFLY DESCRIBE THE FORUM PROCESS.

A. On or about November 12, 2003, Qwest submitted its proposal for the BHC process to the state commissions and the CLEC community. The CLECs, in turn, submitted their comments and concerns about the process to the states. The first BHC forum was held on December 1-3, 2003 and the last forum was held on January 6-8, 2004. In these forums, the parties held detailed discussion regarding the BHC process, and an issues list was developed reflecting the parties' positions on the key issues. The final issues list, which is attached as Exhibit DP/LN-2 of Mr. Pappas' testimony, identifies the issues on which the parties reached agreement, as well as the issues that remain at impasse.

Q. HOW HAS THE BHC FORUM PROCESS IMPACTED THE DEVELOPMENT OF QWEST'S NONRECURRING BHC COST STUDY?

A. As noted earlier, Qwest provided its initial BHC proposal on or about November 12, 2003. The process originally proposed by Qwest was designed to provide the CLECs with an alternative that combined maximum efficiency and the lowest possible cost in a batch process. For example, the originally proposed process minimized the work activities and times in the central office, which constitutes the majority of the BHC cost. This was accomplished by eliminating duplicative testing and limiting the number of trips the Central Office Technicians ("COTs")

would make to the frame to do pre-wiring and cuts.[8] As Mr. Brigham suggested during the forum, based on a rough estimate of the process as originally proposed, Qwest's TELRIC plus common costs would have been at or below an average of $40-$45 per loop.

As I will discuss in detail below, because of a number of changes Qwest made to the process at the request of the CLECs, Qwest's TELRIC plus common cost for the currently proposed BHC process has increased to $45.96 per loop. This cost is still considerably lower than Qwest's cost for the basic loop installation that is available today.[9]

B. General Methodology

Q. WHAT COSTS DOES QWEST'S NONRECURRING BHC TELRIC STUDY IDENTIFY?

A. The Qwest BHC nonrecurring cost study identifies the one-time costs that are incurred at the time a customer's UNE loop is provisioned using the BHC process. These costs result from a CLEC batch order and are labor-related. For example, the BHC study includes the labor costs for a central office technician to run a jumper to connect a loop to a CLEC switch. In addition, the BHC nonrecurring cost study includes the costs Qwest will incur to develop the mechanized systems necessary to

[8] As described later in my testimony, Qwest originally proposed that both the pre-wiring and hot cut activities be performed on the due date.

[9] As discussed later in my testimony, Qwest estimates the cost of basic installation to be approximately $75 for the first loop and $60 for each additional loop at a customer location. In the states where Qwest is filing its BHC study states have ordered basic installation rates for the first loop between $4.33 and $65.00.

support the BHC process, such as the "appointment scheduler" and "batch status tool" ("BST") described in Ms. Notarianni's testimony.

Q. PLEASE SUMMARIZE THE GENERAL PROCEDURES THAT QWEST HAS USED TO CALCULATE THE NONRECURRING BHC COSTS

A. Qwest calculated the nonrecurring BHC costs utilizing the following process:

1. The cost analyst, working with a team of experts, identified the one-time activities necessary to perform a BHC installation. The general activities are depicted in the "Proposed Batch Hot Cut Provisioning Flow" provided in Exhibit DP/LN-11 of Mr. Pappas' testimony. Based on this flow, the analyst and the team of experts identified specific manual activities required for each step of the process. Establishing unbundled loop service for a customer using the BHC installation option requires activities to be performed by the Interconnection Service Center ("ISC"), the Qwest CLEC Coordination Center ("QCCC"), Central Office Technicians ("COTs") and other groups. Working with the OSS SME, the analyst also identified the OSS costs directly related to the BHC installation process.

2. Based on input from subject matter experts ("SMEs"), the cost analyst estimated the *work time* associated with each of these manual activities, and the *probability* that each activity will occur. For example, the cost analyst evaluated Qwest ISC processes to determine the time needed for service representatives to review an unbundled loop local service request ("LSR"). The analyst also identified the probability that this manual work

will be required, based on the estimated ISC "flow through" that is likely to be achieved.

3. The cost analyst then determined, based on current labor data, the appropriate labor rate for the personnel performing each work activity.

4. The time estimates, probabilities and labor rates were used to develop the direct nonrecurring cost of each work activity using the following formula:

Activity time * Probability of Occurrence* Labor Rate = Cost of Activity

5. The nonrecurring costs for each separate activity were aggregated into a direct nonrecurring cost for each step of the BHC process. For example, an aggregate cost for all of the activities performed by the central office technician was developed. The costs for all BHC activities were then aggregated into a total BHC direct nonrecurring cost.

6. Annual cost factors were applied to assign additional administrative and other costs to the direct nonrecurring costs, resulting in the nonrecurring TELRIC. Consistent with the FCC's TELRIC methodology, the expense factors in Qwest's study are based on Qwest's recent costs, with adjustments to those costs to account for known or anticipated changes in productivity and inflation. An appropriate share of common costs was also allocated to derive the total TELRIC + Common costs for the BHC installation.

Q. YOU MENTIONED THAT NONRECURRING COST STUDIES IDENTIFY THE COST OF MANUAL ACTIVITIES. ARE SOME OF THE STEPS IN THE BHC PROCESS MECHANIZED?

A. Yes. Many of the steps required to process a BHC order are mechanized. Mechanized portions of the process are also referred to as "flow through" steps.

Q. DOES QWEST INCLUDE COSTS FOR THESE MECHANIZED FLOW-THROUGH STEPS IN ITS NONRECURRING BHC COST STUDY?

A. No. The Qwest BHC cost study only includes the nonrecurring cost for manual work activities that are likely to be performed by its employees as part of the process. Thus, for example, the study assumes that the process for a CLEC to submit an LSR to Qwest's ISC is a mechanized flow-through step, where the order may be mechanically entered into the Service Order Processor ("SOP") without ISC intervention. However, while a high percentage of BHC orders will flow though, there is also a percentage of orders that will "fall out," requiring manual handling by the ISC. Thus, the cost analyst, with the help of a team of experts, determines: (1) the manual work activities that would be performed by ISC personnel, and the amount of time required for each activity, in the event that an LSR required manual handling, and (2) what percentage of orders will not "flow through" the mechanized system and would require manual handling. If, for example, 15 of every 100 loop orders submitted to the ISC will fall out for manual handling, the cost analyst calculates a 15% probability of manual handling (i.e., 85% flow through) for ISC activities.[10] Thus, the cost analyst includes only 15% of the ISC time identified in

[10] In the BHC cost study, an 85% flow though is assumed. However, when an order requires manual handling, all manual steps may not be required. Thus, additional probabilities of occurrence may be developed for specific activities when fall out occurs.

the nonrecurring cost of each order. No time is included for the 85% of orders that flow through the ISC.[11]

Q. DOES THIS MEAN THAT THE NONRECURRING STUDY ONLY REFLECTS TIMES FOR ACTIVITIES ASSOCIATED WITH ORDERS THAT FALL OUT OF THE MECHANIZED PROCESS?

A. No. In addition to times related to fall out, there are work activities included in the nonrecurring study that are always performed manually. For example, the work steps performed by the COT to run jumpers and test circuits are inherently manual processes. Those processes are required for each and every order submitted as part of the BHC process. On the other hand, certain manual steps such as analyzing the spreadsheet or traveling across the office to the frame, are performed for the entire batch at one time. Therefore, the times for those types of activities are spread across the entire batch of 25 orders. Qwest has assumed 25 orders per batch in this calculation because that is the minimum number of orders that could be submitted in a batch.

Certain manual steps may not occur for every order or every batch that is submitted. For example, because Qwest's BHC technician teams will not be located in every CO, the study assumes that the teams of COTs will be required to travel to COs some of the time, although not all of the time. The cost for that travel is spread across the entire batch of 25 orders. If Qwest were required to travel to COs to

[11] As described below, the study does include the costs of developing new OSS for the BHC process that eliminate some manual processing. It does not include the costs of the mechanized processing of an order.

perform work for minimum batches of 2, as suggested by the CLECs, the cost for travel would be much higher because it would be spread over fewer orders.

Q. YOU MENTIONED THAT THE COST ANALYST WORKS WITH EXPERTS FAMILIAR WITH A NONRECURRING PROCESS TO DEVELOP TIME AND PROBABILITY ESTIMATES FOR USE IN THE COST STUDY. HOW WERE THOSE ESTIMATES DEVELOPED FOR THE BHC PROCESS?

A. Teams of experts, including those that participated in the Batch Hot Cut Forum and worked with the CLECs to define the BHC process, also provided input to the cost analyst for the nonrecurring cost study. In addition, I was able to provide the cost analyst with direction regarding the steps included in the cost study as a result of my own participation in the forum, as well as countless other discussions with these and other experts about the BHC process. While there is no existing process exactly like the BHC process against which the experts can measure and compare, there are many steps within the BHC process that are similar or the same as steps that currently exist in other installation options. Therefore, for those steps the experts were able to review previous estimates to assist in developing specific task times and probabilities necessary in the BHC process. For the new steps that are proposed in the BHC process Qwest's experts relied on years of experience with provisioning processes, generally, to estimate the times and probabilities.

Q. IN DEVELOPING THE BHC WORK TIMES, DID QWEST CONSIDER THE OBSERVATIONS OF HITACHI CONSULTING IN THE FOUR BATCH HOT CUT TRIALS, AS PRESENTED BY MS. BARRICK,?

A. Yes. The report provided by Ms. Barrick provides work time observations for some BHC functions, based on the BHC trials recently performed in four central offices within the Qwest region. These observations are contained in an exhibit to the Hitachi Consulting report, and include the timing of the following work activities: (1) pre-wiring at the IDF and MDF, (2) performing dial tone checks and (3) performing the lift and lay on the due date. Qwest reviewed this information, and has considered these observations in developing its work times for these activities.

Q. HOW HAS QWEST UTILIZED THE HITACHI TIME ESTIMATES IN THE BHC COST STUDY?

A. The Hitachi observations represent a limited set of observations in a small subset of offices, and do not purport to represent a full "time and motion" study. Nonetheless, the information was used by the SMEs in the development of work times for the central office-based activities. The SMEs considered the Hitachi data, their own experience and observations, and their knowledge of other offices (e.g., office layout) to determine the overall average work activity times that would be experienced throughout the Qwest region. Time estimates must consider the wide variety of central offices in which batch hot cuts will be performed. For example, some offices have a very simple layout, with the MDF, IDF and CO technician office in close proximity. Other offices have the MDF, IDF and CO technician offices on different floors, or even different buildings. Similarly, some offices have a few very small frames, other offices have long frames, positioned in several rows. Finally, in some offices the vertical and horizontal sides of the IDF face in opposite directions, while in others they both face the same direction making them easier to wire. In sum, there is a wide variety of physical layouts in offices, and this must be

reflected in the cost study. Thus, the Hitachi report observations are helpful in validating the development of BHC cost study times by Qwest SMEs, but the specific times, which represent a small sample, were not used as the sole basis of the work times in the BHC cost study.

Q. DOES THE NONRECURRING COST STUDY INCLUDE THE COSTS OF DISCONNECTING SERVICE?

A. Yes. The nonrecurring costs include the cost to establish and disconnect service. This is necessary because there are no charges assessed when a UNE or interconnection service is disconnected. Since the disconnection will occur in the future, the disconnection costs are discounted using the 13.07% cost of money and an assumed service life of 2.5 years. Thus, disconnect costs are multiplied by 74% to yield a discounted cost.

Q. ARE YOU PROVIDING THE NONRECURRING BHC TELRIC STUDY AS AN EXHIBIT TO YOUR TESTIMONY?

A. Yes. The nonrecurring BHC cost study Exhibit TKM-3 (Study ID #8161) is provided as an Excel workbook on the compact disc ("CD") identified as Exhibit TKM-2 that accompanies this testimony. In addition the CD contains the Expense Factors Model and User Manual. The BHC nonrecurring TELRIC is $45.96 per loop installed.

C. Expense Factors

Q. ARE EXPENSE FACTORS APPLIED TO THE DIRECT BHC COSTS?

A. Yes. As described above, expense factors are applied to the direct costs to derive the TELRIC and the TELRIC plus Common costs. This application is consistent with the FCC's TELRIC methodology.

Q. WHAT FACTORS ARE APPLIED?

A. As delineated in the cost study, expense factors for marketing, support asset expenses, and uncollectibles are applied to the direct costs to develop the TELRIC. A common factor is applied to the TELRIC to derive the TELRIC plus Common amount. It should be noted that capital cost factors, maintenance expense factors and network operations factors are not applied in the nonrecurring BHC study since the study does not include investments.

Q. ARE WASHINGTON SPECIFIC COST FACTORS USED IN THE STUDY?

A. Yes. Qwest has recently updated its factors methodology and has calculated state specific factors for Washington.

Q. PLEASE DESCRIBE THE MAJOR FEATURES OF THE EXPENSE FACTOR MODULE.

A. The Expense Factors Module includes several features that make it easy to understand the factor application process and to audit the results. In the Factors Module:

- Expenses and investments are pulled directly from Qwest's standard accounting reports.

- Trending of expenses and investments has been replaced with specific user-defined efficiency and inflation inputs.

- The factor calculation process starts with standard accounting report results (i.e., the books of the firm). Directly assigned costs (i.e., costs that are included elsewhere) and costs that are not applicable to TELRIC studies are removed, and these subtractions are explicitly displayed in the Factors Module. This provides the user with a clear understanding of which costs are included and which costs are not included in the factors.

- All calculations are contained in one workbook.

Please refer to the Expense Factor Module documentation provided on the CD (Exhibit TKM-2) for a detailed description of the factors and an explanation of the factor methodology.

Q. DOES THE EXPENSE FACTORS MODULE ENSURE THAT DOUBLE COUNTING OF COSTS DOES NOT OCCUR?

A. Yes. The model is designed to help the user insure that double counting (or omission) of expenses does not occur. The cost factors are based on historical cost relationships and use the books of account as a starting point. All costs on the books of Qwest are accounted for—costs are explicitly removed if directly assigned in another study or if not applicable to TELRIC studies. The user can clearly see the total costs (booked costs), the removed costs, and the costs that remain in the factors. Thus, for example, the user can see that the business office (e.g., ISC) costs that are separately identified in a nonrecurring cost study are removed from the

factors and are not double counted. Likewise, the BHC-related OSS costs included directly in the nonrecurring costs will be removed from future factors calculations.[12]

D. BHC OSS Costs

Q. WHAT OSS COSTS ARE INCLUDED IN THE NONRECURRING COST STUDY FOR THE BHC INSTALLATION OPTION?

A. As I indicated above, the BHC nonrecurring study includes direct costs to develop and establish new OSS specifically to enhance the BHC process. These OSS enhancements include the "appointment scheduler" tool and the BST described in Ms. Notarianni's testimony. The OSS enhancements also include the development of the spreadsheet function, which allows the QCCC to pull batch installation data from the Work Force Administrator ("WFA"), and to provide this information to the Central Office Resource Administration Center ("CORAC"), and ultimately the CO technician, in an organized manner that allows the CO technician to be more efficient.

Q. PLEASE DESCRIBE HOW THE OSS COSTS WERE CALCULATED IN THE BHC COST STUDY.

A. First, the total costs for each OSS enhancement were identified. These OSS cost estimates are based on the level of effort ("LOE") documentation discussed in Ms. Notarianni's testimony. Qwest has estimated that the total cost to develop and implement the "appointment scheduler" tool and the BST is $900,000, as described in Ms. Notarianni's testimony. The estimated cost to develop and implement the

[12] Since these expenses are being incurred today, they are not included in the expense factors applied in the BHC cost study, which are based on 2001 expenses.

mechanization of the spreadsheet for the CO technicians is a little more than $41,500. In each case, the primary cost driver is programmer labor.

These OSS costs are one-time development costs. In the BHC cost study, these costs are spread over the estimated Qwest BHC order volumes—on a levelized basis—for the 27 month implementation schedule envisioned by the FCC.[13] Please see tab labeled "BHC System Enhancement Summary" in the BHC cost study for a spreadsheet that details these calculations. The "per order" OSS costs are added to the other direct nonrecurring costs in the BHC study. Thus, the cost of the BHC OSS development is recovered, along with the nonrecurring installation costs, in the BHC nonrecurring charge per loop.

Q. YOU HAVE EXPLAINED THAT THE NONRECURRING BHC COST STUDY INCLUDES COSTS QWEST WILL INCUR TO DEVELOP THE MECHANIZED SYSTEMS NECESSARY TO SUPPORT THE BHC PROCESS. ARE THE COSTS OF QWEST'S OTHER MECHANIZED SYSTEMS INCLUDED IN THE DIRECT NONRECURRING COST OF THE BHC INSTALLATION OPTION?

A. No. Qwest will only include the systems costs incurred *specifically in support of the BHC process* in its direct nonrecurring costs. This includes the costs to develop the appointment scheduler tool and the batch status tool described in detail in the Notarianni testimony, as well as costs to develop the spreadsheet that will be used by CO technicians. The costs of other mechanized systems used in support of Qwest's overall loop provisioning process such as the service order processor

[13] These volumes, which are described later in my testimony, are included in Exhibit TKM-2.

("SOP"), Work Force Administration ("WFA") and TIRKS systems, that also support the BHC process, are not included in the direct BHC nonrecurring costs—they are captured indirectly and are spread among Qwest's retail and wholesale services via expense factor loadings.

Q. WHY DOES QWEST INCLUDE THE BHC OSS COSTS IN NONRECURRING COSTS FOR BATCH HOT CUTS INSTEAD OF INCLUDING THEM IN EXPENSE FACTORS?

A. The costs for the development of OSS specifically developed for the BHC process are included in the direct BHC nonrecurring costs for two reasons. First, there is no way to include these costs in the annual cost factors used in the BHC cost study, since these factors are based on expenses incurred in 2001. These expenditures—which will be incurred predominantly in 2004—are not included in 2001 expenses, and are thus not included in factors. In addition, it is important to note that the factor development process removes expenses that are recovered elsewhere from the factors. Thus, these OSS costs would be removed from the factors that will be used in the future to assign costs based on 2004 expenses—eliminating any potential double counting of costs. It should also be noted that Qwest has traditionally removed other CLEC-related OSS expenditures from the factors calculation in anticipation of recovering those costs separately.

Second, and most importantly, the costs for OSS enhancements that are directly related to the BHC process should be recovered from BHC customers because it is these customers who have caused these costs to be incurred. It would violate the principle of cost causation to allocate these costs to all retail and wholesale services

via factors. In fact, were it not for requests from the CLECs during the Batch Hot Cut Forum, Qwest would not have developed these tools. Qwest's initial proposal for the BHC process did not include either the scheduling tool or the web-based batch status tool and, in fact, Qwest initially intended to provide status notification to the CLECs via e-mail. In the forums, several of the CLECs expressed concern over Qwest's proposal to send status updates automatically through e-mail. For example, Ms. Sprague from McLeod USA stated that she did not want to receive e-mails because of concerns about firewall issues.[14] Ms. Lichtenberg from MCI proposed that "the way to avoid these e-mail – you know, do I get the e-mail, does somebody remember to hit send, is by using an on-line tool…"[15] Therefore, it was at the urging of the CLECs through discussions that took place during the forum that Qwest was convinced to develop these tools for use with the BHC process. As with the FCC's decision to allow ILECs an additional charge for OSS costs related to line sharing, the principle of cost-causation dictates that the OSS costs related to the BHC process be assigned to BHC orders.[16]

E. Analysis of Nonrecurring Cost Activities

Q. HOW DOES THE BHC INSTALLATION OPTION COMPARE TO QWEST'S EXISTING BASIC INSTALLATION OPTION?

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[14] Sprague, Tr., Dec. 2, 2003 at pg. 238.
[15] Lichtenberg, Tr., Dec. 2. 2003 at pg. 243.
[16] Fourth Report and Order, CC Docket No. 96-98 (rel. December 9, 1999), at ¶ 144, states "We find that incumbent LECs should recover in their line sharing charges those reasonable incremental costs of OSS modification that are caused by the obligation to provide line sharing as an unbundled network element."

A. I will discuss the major differences between the basic loop installation option and the BHC option below. However, there is one important difference between the BHC installation option and the existing basic installation option that is not discussed below. The existing basic hot cut assumes that outside plant technicians will be dispatched 6% of the time due to the installation of new loops at locations where no customer has had service previously, or where no facilities are available for reuse. The BHC process specifically excludes orders requiring the dispatch of an outside plant technician, which reduces costs.

Q PLEASE IDENTIFY THE WORK CENTERS INCLUDED IN THE BHC STUDY.

A. The BHC cost study identifies the work activities, task times and probabilities for each of the work centers represented on the BHC process flows (Exhibit DP/LN-11) that are described in detail in Mr. Pappas' testimony. These work centers include:

- Interconnection Service Center ("ISC")
- Loop Provisioning Center
- Design Center
- Central Office Resource Administration Center ("CORAC")
- Central Office Technicians
- CLEC Coordination Center ("QCCC")

I will discuss the work activity times required for processing a BHC order in each work center, along with the probabilities that each activity will occur. The work centers and activities in the BHC study correspond with the "Proposed Batch Hot

Cut Provisioning Flow" ("BHC flow") document that is attached to the testimony of Mr. Pappas as Exhibit DP/LN-11.

1. Interconnection Service Center ("ISC")

Q. PLEASE DESCRIBE THE INTERCONNECTION SERVICE CENTER ("ISC") WORK ACTIVITIES, PROBABILITIES AND TIME ESTIMATES INCLUDED IN THE BHC COST STUDY.

A. The ISC is the center that processes Local Service Requests ("LSRs") submitted by the CLECs via Interconnection Mediated Access ("IMA") Graphical User Interface ("GUI") or IMA Electronic Data Interchange ('EDI'). The cost study assumes that 85% of the LSR orders flow through the ISC electronically, with no need for manual intervention. The orders that flow through are electronically entered into the Service Order Processor ("SOP"). For orders that fall out for manual handling, a service delivery coordinator ("SDC") in the ISC performs a variety of tasks, including but not limited to reviewing the LSR for completeness, verifying the connecting facility assignment ("CFA"), analyzing the request and determining critical dates, typing the firm order confirmation ("FOC"), inputting the order to the SOP, and handling calls from other groups involved with the order. Some of these tasks occur each time an order is manually handled, and some occur only a portion of the time that an order is handled. The probabilities that individual tasks must be performed when an order falls out for manual handling in the ISC are contained in

the "Details Output" tab of the cost study under Probability #1. The total applied time for processing an order in the ISC is 5.71 minutes.[17]

Q. DOES QWEST GAIN EFFICIENCIES IN THE ISC AS A RESULT OF THE BHC PROCESS?

A. No. The submission of LSRs to the ISC is highly mechanized in the current hot cut installation options offered by Qwest, and there are no additional efficiencies to be gained in this center for batch orders. When an order requires manual handling, essentially the same activities must be performed for a batch hot cut and a basic hot cut. With regard to flow through, for the types of loop orders that are "eligible" for the mechanized process Qwest consistently achieves a 96% or higher flow through rate as captured in PID measurement PO-2B. However, it is important to note that not all loop orders that are eligible for the batch hot cut process are also eligible for flow through. The types of orders that are not eligible for ISC flow through (and thus not included in PID measurement PO-2B) include Centrex orders and CLEC to CLEC migration orders (UNE-L to UNE-L).[18] These orders must be submitted to the ISC and processed manually, even when submitted in batches. Qwest's current flow through rate for processing all types of loop orders—including both those eligible and ineligible for flow through—is approximately 48%. While it is likely that the actual flow through for BHC orders may approach 48%, Qwest has conservatively assumed an 85% flow through in the BHC cost study—the same flow though used in the basic loop nonrecurring cost study.

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[17] The applied time is the weighted work time based on the actual time estimates and the probabilities, i.e., the sum of work time * probability for each activity.

[18] The order types that are not eligible for flow through are listed on the Qwest website at http://www.qwest.com/wholesale/clecs/ordering.html

2. Loop Provisioning Center

Q. PLEASE DESCRIBE THE LOOP PROVISIONING CENTER ("LPC") WORK ACTIVITIES, PROBABILITIES AND TIME ESTIMATES INCLUDED IN THE BHC COST STUDY.

A. The LPC group becomes involved with an order when the assigned facilities are inconsistent with the address provided on the customer service record or the assigned facilities cannot be reused and alternative facilities must be investigated. In those cases, the cost study assumes that in a 7.5 hour day, with a stretch objective that each employee will clear 40 requests in a day, it will take on average 11.25 minutes to clear a request for manual assistance. The probability that an order will be handled manually in the LPC is 5% for a total applied work time in this center of 0.56 minutes.

Q. DOES QWEST GAIN EFFICIENCIES IN THE LPC AS A RESULT OF THE BHC PROCESS?

A. Yes. Because the BHC process only applies in cases where the CLEC is able to reuse loop facilities, the probability that an order will drop out for manual handling is assumed to be 5%, which is less than the 15% assumed for the current hot cut processes.

3. Design Center

Q. PLEASE DESCRIBE THE DESIGN CENTER WORK ACTIVITIES, PROBABILITIES AND TIME ESTIMATES INCLUDED IN THE BHC COST STUDY.

A. An order may fall out of the order process at the design step for a variety of reasons including incorrect information in the order, incorrect loop input, or incorrect circuit design. There are several different activities that a designer may need to perform, including screening the order, logging information into the generic order control ("GOC"), designing the circuit and distributing the work order record detail ("WORD") document. A designer may need to perform only one of these functions, or may need to perform several, when a particular order falls out. Therefore, the cost study assumes a different probability of manual handling for each activity. For example, it is expected that design center work will be required 10% of the time, but that the specific activity of "circuit design" will only be needed on 5% of orders (i.e., half of the orders that fall out).

In addition, even if the order flows through the design center initially there are circumstances when the order must be supplemented to correct a CFA. Per the batch hot cut process, this occurs when the COT discovers a "no dial tone" condition during pre-wiring, and the CLEC issues a supplemental order to change the CFA. Although this expected to occur for only 10% of the orders, it will require circuit design and distribution of the WORD document for each supplement. The total applied time for manually processing an order in the design center is slightly more than one minute.

Q. DOES QWEST GAIN EFFICIENCIES IN THE DESIGN CENTER AS A RESULT OF THE BHC PROCESS?

A. Yes. As a result of the assumption that the BHC process only applies in cases where the CLEC is able to reuse facilities, the expectation is that an order will

require manual handling on average about 2% to 5% of the time for any given task due to fall out and 10% of the time for circuit design and distribution of supplemental orders. This results in a significantly lower fall out than is assumed in the current hot cut processes, which also includes manual handling for new installations (i.e., locations without previously existing service).

4. Central Office Resource Administration Center ("CORAC")

Q. PLEASE DESCRIBE THE CORAC WORK ACTIVITIES, PROBABILITIES AND TIME ESTIMATES INCLUDED IN THE BHC COST STUDY.

A. The CORAC is the group that receives the mechanically generated spreadsheet for a batch from the QCCC, and mechanically organizes the pre-wiring and hot cut activity at the frame to achieve efficiency. The CORAC loads the work to the COTs to ensure that the BHC CO technician teams are scheduled at the appropriate COs. The work activities to create the spreadsheet entries result when an order falls out of the mechanized process. The activities associated with the spreadsheet are unique to the BHC process and are designed to minimize the time spent by the COTs to pre-wire circuits and perform "lift and lay" functions during the batch hot cut. The applied time estimate for activities performed in this center is 0.23 minutes.

5. Central Office Technicians

Q. PLEASE DESCRIBE THE CO TECHNICIAN WORK ACTIVITIES, PROBABILITIES AND TIME ESTIMATES INCLUDED IN THE BHC COST STUDY.

A. As discussed in detail in Mr. Pappas' testimony, the COTs will work in teams of two to perform batches of hot cuts in the most efficient manner possible. The work performed by the COTs is entirely manual in nature (i.e., there is no flow through), and must be performed for each loop. Primary work tasks included in the cost study include (1) pre-wiring at the Intermediate Distribution Frame ("IDF") and the Main Distribution Frame ("MDF") or COSMIC frame, (2) performing dial tone tests and (3) performing the lift and lay functions during the hot cut. The cost study also includes times for the COT to analyze the spreadsheet that is sent to the COTs from the CORAC, time to travel between offices, time to walk to the frame, time to update information in the work force administration ("WFA") system, and time to remove the old jumpers on the due date. The cost study assumes that the COTs will perform pre-wiring and dial tone tests by the designed, verified and assigned ("DVA") date, and the lift and lay and additional testing on the due date. In addition, the cost study assumes that when a no dial tone condition is found on DVA date, and a supplemental order is issued by the CLEC to change the CFA, the COTs will need to perform additional pre-wire activities. The total applied time assumed in the cost study for the COT function is 20.22 minutes.

Q. WHAT TRAVEL TIME IS ASSUMED IN THE STUDY?

A. The Qwest BHC cost study included 20 minutes of travel time when the team of technicians must travel to a central office to perform batch hot cuts. Depending on the location of the CO the team of 2 technicians works from, in relation to the location of the CO where the team performs batch hot cuts, the travel time could be anywhere from 10 minutes to well over an hour. Qwest's nonrecurring cost study assumes the teams will travel an average of only 20 minutes to 50% of the COs.

Q. DID QWEST'S INITIAL PROPOSAL FOR THE BHC PROCESS INCLUDE THESE SAME ASSUMPTIONS?

A. No. In its original BHC proposal submitted in November, 2003 (and discussed in the December, 2003 workshops), Qwest proposed that the COTs would perform all of the pre-wire, testing and lift and lay work on the due date, to gain efficiencies. In part, this proposal was a response to the testimony of other parties (CLECs) in various cost dockets, where they have argued that Qwest installation procedures follow "duplicative" steps, and that there is too much "testing" and "verifying." CLECs have consistently argued that Qwest's cost studies assume inefficient processes. For example, in Washington MCI witness Sydney Morrison stated in his testimony "there should be no reason to repetitively verify, validate or check data after its initial establishment in the system or systems."[19]

In response to these pleas from CLECs, Qwest designed a process that created efficiencies. For example, in the original Qwest BHC proposal, it is assumed that since the BHC process includes only reused facilities (i.e., existing customers with facilities that are currently working), it would be more efficient to perform the pre-wire and lift and lay work all on the same day and eliminate duplicative testing, multiple trip to the frame, etc. This process also responded to the FCC's statement in the TRO that the objectives for establishing a BHC process include increased efficiencies and reduced cost.[20]

At the BHC forum Mr. Finnegan, representing AT&T, claimed that "what we said or may have said or what Qwest has said in a cost docket, I don't know that that's

[19] Docket No. UT-003013, Part D, Morrison Direct testimony at pg. 28, lines 16-18.
[20] TRO at ¶ 489.

necessarily relevant."[21] However, during the forum it became evident that the CLECs believed that consolidating the work into a single process on a single day would be unacceptable. For example Mr. Finnegan stated, "One of the concerns AT&T has, and I'm sure other CLECs have as well, is the elimination of the due date minus two prewiring and testing. And I understand from some discussions yesterday Qwest was proposing to eliminate that step to gain some efficiencies and presumably reduce the cost."[22] Ms. Lichtenberg also stated "MCI concurs with AT&T that we need this dial tone check as due date minus two."[23] After weighing, as Mr. Finnegan said, "the potential customer disruption disadvantage [against] any advantage in the price reduction,"[24] Qwest modified its proposal, and agreed to perform the pre-wiring and lift and lay procedures on separate days and to perform dial tone tests on both days. Of course, the requirement to perform these tasks at separate times adds additional work time and cost to the process. Qwest specifically informed the CLECs at the BHC Forum that it believed that moving pre-wiring from due date to DVA would increase the associated NRC by approximately $4. The CLECs agreed to close this issue understanding this cost differential.

Q. DOES QWEST GAIN EFFICIENCIES IN THE CENTRAL OFFICE AS A RESULT OF THE BHC PROCESS?

A. Yes. By assigning teams of two to the BHC process and performing the activities for a batch 25 lines at a time, there are areas where efficiencies are gained. For

[21] Finnegan, Tr., Dec. 2, 2003 at pg. 286.
[22] Finnegan, Tr., Dec. 2, 2003 at pg. 246.
[23] Lichtenberg, Tr., Dec. 19, 2003 at pg. 53.
[24] Finnegan, Tr., Dec. 2, 2003 at pg. 248.

example, Qwest's current standard hot cut process assumes 5 minutes to analyze an order because of the number of separate pages on which a COT must look to find the information relevant to the cut. In the BHC process, the COT will receive a spreadsheet with the data for the entire batch organized in a manner that is easily analyzed. The Qwest BHC study assumes 12.5 minutes to analyze the entire batch, which computes to 0.5 minutes per order. In addition, by having teams of two, the time to perform pre-wiring is reduced. Further, the per loop costs of travel to the CO (and travel to the frame) is reduced when technicians perform work on 25 lines at a time. Overall, the time required in the CO for the BHC process is lower than it is for the current hot cut processes.

6. CLEC Coordination Center ("QCCC")

Q. PLEASE DESCRIBE THE WORK ACTIVITIES, PROBABILITIES AND TIME ESTIMATES INCLUDED IN THE COST STUDY FOR THE PROJECT COORDINATOR IN THE QCCC.

A. The work activities in the QCCC have changed significantly as a result of the BHC process. In fact, the BHC process eliminates many of the activities that the QCCC performs for standard hot cuts. The tasks in the QCCC now relate to the generation of the spreadsheet and its distribution to the CORAC, so that it may be used to manage the work in the CO. In addition, there are still manual work activities involved when a supplemental order is submitted, or if the CLEC requests an order to be "thrown back" to Qwest after the lift and lay is completed.

Q. DOES QWEST GAIN EFFICIENCIES IN THE QCCC AS A RESULT OF THE BHC PROCESS?

A. Yes. First, the mechanized tools developed for this process (e.g., appointment scheduler, BST and spreadsheet) have reduced the amount of time spent on customer contact and updating documentation in WFA. Since the CLEC can check the status tool to see when hot cuts are performed, the need for phone calls is eliminated. Second, the fact that there will be no CFA changes on the due date reduces the work times significantly. The total time estimated for the QCCC is now under 2 minutes. This compares to more than 16 minutes in the current basic hot cut process.

V. STATE-SPECIFIC RATE ISSUES

Q. HOW DOES THE BHC INSTALLATION OPTION COMPARE TO QWEST'S EXISTING BASIC INSTALLATION OPTION?

A. In addition to the changes to the processes that I have discussed above, there is one important difference between the BHC installation option and the existing basic installation option. The existing basic hot cut assumes that outside plant technicians will be dispatched 6% of the time due to the installation of new loops at locations where no customer has had service previously, or where no facilities are available for reuse. Therefore, although there are similarities in the two processes, they are not the same.

Q. IS QWEST'S EXISTING NONRECURRING RATE FOR THE BASIC INSTALLATION OPTION BASED ON THE ASSUMPTIONS CONTAINED IN THE COST STUDY IT FILED PREVIOUSLY IN WASHINGTON?

A. No. In the Washington generic cost docket, Docket No. UT-960369, et al., the Commission ordered a nonrecurring rate of $51.94 for the basic 2-wire loop

installation option.[25] The Commission arrived at the lower rate by changing the time reflected in the ISC to 6 minutes, reducing the probability that an order would require manual plant line assignment to 15% and setting the common overhead factor to zero. In a subsequent phase of the docket the Commission reinstated the common overhead factor at 4.05%. In addition, the Commission ordered Qwest to develop separate rates for connection and disconnection.[26] The $51.94 includes $37.53 of cost for connection and $14.41 for disconnection.

Q. DOES QWEST'S NONRECURRING RATE IN WASHINGTON ALLOW IT TO RECOVER ITS COSTS FOR THE BASIC LOOP INSTALLATION OPTION?

A. No. Qwest filed a cost for the basic loop installation option of $100.68 per order for the first loop. This cost was based on Qwest time estimates of about 123 minutes per order to process the order, including the disconnect. While Qwest has improved its processes and eliminated about 41 minutes from the time estimates contained in its original filing, the ordered mechanized rate in Washington reduces that time by an additional 20 minutes. Thus, the $51.94 rate awarded by the Commission falls short of recovering Qwest's estimated cost for this process.

Q. IS QWEST'S PROPOSED NONRECURRING RATE FOR THE BHC INSTALLATION OPTION LESS THAN ITS CURRENT RATE FOR THE BASIC LOOP INSTALLATION OPTION IN WASHINGTON?

A. Yes. As discussed above, Qwest's proposed nonrecurring rate for the BHC installation option is $45.96 based on time estimates of just under 43 minutes of

[25] Twenty-sixth Supplemental Order (Phase II), (September 2000), ¶ 30.
[26] Eighth Supplemental Interim Order, (May 11, 1998), ¶¶ 468-473.

processing time. This means that Qwest's time estimate for the BHC process is approximately 52% of its current time estimate for the basic loop installation process. In addition, this represents a reduction of $5.98 per order below the rate approved by the Washington Commission in Docket No. UT-960369.

V. VOLUME DATA

Q. ARE YOU PROVIDING INFORMATION REGARDING ESTIMATED VOLUMES FOR UNE-P MIGRATIONS?

A. Yes. Exhibit TKM-4 provides an estimate of the aggregate Qwest UNE-P migration volumes that would be experienced over the FCC's 27 month migration period. Exhibit TKM-5 provides an analysis of the potential UNE-L volumes in the highest volume office in Washington. I will describe each of these exhibits in more detail below, and will explain how this data should be used. The testimonies of Mr. Pappas and Ms. Barrick will draw conclusions from the data and explain how the data should be used in evaluating Qwest BHC proposal.

A. QCCC Volumes

Q. WHAT IS THE PURPOSE OF EXHIBIT TKM-4?

A. The purpose of Exhibit TKM-4 is to estimate total *incremental* UNE-L volumes that would be experienced by the Qwest CLEC Coordination Center (QCCC) over the 27 month conversion process, due to the discontinuance of UNE-P. It includes (1) the estimated volume of embedded UNE-P migrations over a 21 month conversion period, along with (2) an estimate of the growth in UNE-L that, if relief had not been granted, would have been experienced as growth in UNE-P. The

exhibit does not include the volume of orders that are UNE-L today, since these orders are assumed to be part of the "business as usual" scenario—these volumes are not a result of the relief sought by Qwest.[27] The exhibit provides overall Qwest volumes, rather than state-specific or central office-specific volumes, since the QCCC in Omaha handles all unbundled loop volumes in all 14 states. In addition, the exhibit only identifies estimated volumes in areas where Qwest has sought relief from its switching obligations.

Q. WHY DOES QWEST ASSUME A 27 MONTH UNE-P CONVERSION TIMEFRAME?

A. As stated in Qwest's initial comments filed in the states on or about November 12, 2003, the FCC set a transition schedule for moving the embedded base of UNE-P lines to unbundled loops (UNE-L). CLECs must submit 1/3 of their embedded UNE-P lines for conversion 13 months after the state commission decision; 1/3 of their UNE-P lines 20 months after the state commission decision; and the last 1/3 of their UNE-P lines 27 months after the state commission decision.[28] Assuming a July 2, 2004 decision from the state commission, that means 1/3 of the embedded base will convert between August 2005 and February 2006; 1/3 of the embedded base will convert between March 2006 and September 2006, and the remainder will convert before April 2007.[29] The FCC also stated that state commission decisions

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[27] All UNE-L orders will be eligible for the BHC process, including the "business as usual" UNE-L orders. However, the purpose of this case is to determine if Qwest can handle UNE-L volumes as a result of relief; that is, whether it can handle the conversion volume, and growth in orders that were previously UNE-P.

[28] 47 C.F.R. §51.319(d)(4)(A).

[29] *TRO* ¶ 532.

eliminating unbundled switching as a UNE will become effective on December 2, 2004.[30]

Q. PLEASE DESCRIBE THE FORMULAS USED TO ESTIMATE VOLUMES IN EXHIBIT TKM-4.

A. As stated in Qwest's earlier comments, in order to calculate the expected monthly volumes in each state, the state commissions should apply the following formulas based on the volumes of UNE-P lines and UNE-L lines in each individual state:

- January 2005 – July 2005: [Inward unbundled loop volume (growth) eligible for the batch hot cut process * percent of UNE-P lines in markets where Qwest is challenging the impairment finding]
- August 2005 – April 2007: [Inward unbundled loop volume (growth) eligible for the batch hot cut process * percent of UNE-P lines in markets where Qwest is challenging the impairment finding] + [Embedded UNE-P base amortized over 21 months * percent of UNE-P lines in markets where Qwest is challenging the impairment finding]

Q. PLEASE DESCRIBE THE CALCULATIONS.

A. Exhibit TKM-4 estimates future volumes of UNE-P migrations and growth in the entire Qwest region using the above formula. With a starting estimated base volume of 800,000 UNE-P lines as of 12-31-03, the analysis assumes growth of 475,000 UNE-P lines in the Qwest 14 state region for 2004, which averages to 39,583 added UNE-P lines per month. Thus, the estimated UNE-P quantities as of 12-31-04 would be 1,275,000.

[30] 47 C.F.R. §51.319(d)(4).

As noted above, if Qwest is granted relief, and is no longer required to provide unbundled switching in the challenged market areas, it is assumed that Qwest will no longer be required to offer UNE-P in these areas as of December, 2004. Thus, after December, 2004, the volume analysis includes UNE-L volumes due to (1) the migration of the embedded UNE-P base and (2) estimated growth. The analysis assumes a 21 month migration of UNE-P lines to UNE-L beginning in August 2005, and ending in April 2007.

The analysis also considers the fact that Qwest is not challenging its obligation to provide unbundled switching in certain markets, and that Qwest will continue to offer UNE-P in these markets. The initial volumes in the analysis (e.g., 1,275,000 UNE-P lines) are based on *all* Qwest UNE-P lines, and therefore must be adjusted to remove the market areas where Qwest is not seeking relief. Qwest has not yet determined, for all states, the specific markets in which it will seek relief; however, it has determined that it will not seek relief in four states: Idaho, South Dakota, Montana and Wyoming. Thus, in this analysis, UNE-P migration and UNE-L growth volumes in these states have been removed. In addition, Qwest does not anticipate that it will seek relief in all areas in the remaining states. Thus, on a preliminary basis, Qwest estimates that it will seek relief for approximately 64% of its UNE-P lines in the 14 state region. As Qwest determines the specific areas in each state for which relief will be requested, this analysis may be updated.

Q. PLEASE PROVIDE AN EXAMPLE OF HOW THE MONTHLY VOLUMES WERE DETERMINED.

A. To illustrate the monthly volumes calculations, please refer to the calculations for August, 2005. This is the first month where conversions of the embedded base would occur. Qwest estimates that there will be 659.31 thousand "embedded base" UNE-P lines as of August 1, 2005, when the conversion of the embedded base begins, along with 275.50 thousand UNE-L lines added from January through July, 2005 (that would previously have been UNE-P lines), for a total of 934.81 lines in service. The UNE-L volumes for August would include the inward orders due to growth and the inward orders due to conversion of the embedded base. Qwest has estimated the net growth in UNE-L lines that would have been UNE-P lines to be 15.96 thousand. However, the net growth in lines is not representative of inward order volumes, since there will be outward (disconnect) volumes each month. If the starting in service lines is 934.81 thousand, and the net growth is 15.96 thousand, the end of month service line count is 950.77 thousand. Since we have estimated the churn rate to be 3%, this means that (659.31 * .03) = 19.78 thousand of the embedded base lines will disconnect. In addition, there will be churn on the accumulated aggregation of growth lines (from January, 2005 to August, 2005), which is equal to (275.50 * .03) = 8.26 thousand. Thus, we can determine the inward movement (UNE-L line orders) via the following formula:

BOM lines in service + inward movement –outward movement (churn) = EOM lines in service

934.81 + inward movement – (19.78 + 8.26) = 950.77 thousand

Or

Inward movement = EOM lines in service –BOM lines in service + outward movement

Inward movement = 950.77 - 934.81 +19.78 +8.26 = 44.00 thousand

The quantity of orders resulting from the conversion of the embedded base is (1 / 21) * 659.31 = 31.40. If this is added to the inward volume quantity, the result is 31.40 thousand + 44.00 thousand = 75.40 thousand. This is the estimated inward movement (orders) for UNE-L in August, 2005.

Q. WHAT DO YOU CONCLUDE?

A. Exhibit TKM-4 shows that the maximum inward quantity of UNE-L orders resulting from Qwest being granted switching relief in requested areas will occur in August, 2005, and is estimated to be 75.40 thousand. If we assume 21 business days in a month, this equates to approximately 3600 orders per day. The impact of this is discussed in Mr. Pappas' testimony.

Q. IS THIS ANALYSIS VERY CONSERVATIVE?

A. Yes. First, the analysis assumes that 100% of the UNE-P lines in unimpaired areas will convert to UNE-L. Second, it assumes that all orders will utilize the batch hot cut process. Thus, while this analysis estimates the maximum QCCC volumes that could be experienced, it is likely that a lower quantity of UNE-L BHC volumes will actually be experienced.

B. Central Office Volumes

Q. WHAT IS THE PURPOSE OF EXHIBIT TKM-5?

A. Exhibit TKM-5 estimates the volume of UNE-L orders that will be experienced per day in the busiest central office in Washington, if Qwest is relieved of its unbundled switching obligations in the areas requested. This exhibit shows that Qwest will be able to handle the inward UNE-L orders, for both growth and embedded UNE-P

base conversions, in the highest volume office in Washington. In the highest volume office, Qwest will be able to handle anticipated volumes with a maximum order quantity of 100 lines per day per office.

Q. PLEASE DESCRIBE THE CALCULATIONS IN EXHIBIT TKM-5.

A. In this exhibit, Qwest evaluates volumes in the highest volume office in Washington, based on inward UNE-P quantities between January and September, 2003. Qwest analyzed each central office in Washington and determined which office had the highest monthly volume of UNE-P orders. The analysis considers UNE-P orders, because these are the orders that will become UNE-L orders if Qwest is granted switching relief.

The exhibit shows that the average monthly volume in the highest volume office in Washington is 273 lines per month, and the highest embedded UNE-P line count as of September, 2003 is 2,777. The 273 volume is divided by 21 to derive a daily UNE-P (now UNE L) volume of 13 per day. The embedded base of 2,777 is divided by 21 months, and 21 days, to derive an embedded UNE-P base conversion volume per day of 6. The two results are added together to yield a total volume of 19 per day. This shows that, even in the highest volume office in Washington, Qwest will not need to process more than 100 orders per day over the course of the 21 month conversion time period.

The exhibit also shows the number of days that will be necessary to convert the embedded UNE-P base. It is readily apparent that the conversion can be accomplished well within the 21 month conversion timeframe.

Q. YOU MENTIONED THAT YOU EVALUATED THE HIGHEST VOLUME OFFICE IN WASHINGTON FOR JANUARY THOUGH SEPTEMBER, 2003, AND USED A SEPTEMBER, 2003 EMBEDDED UNE-P LINE COUNT. WHY DIDN'T YOU ADJUST THE UNE-P EMBEDDED BASE TO REFLECT A JANUARY 2005 TIMEFRAME?

A. Since it is very hard to estimate growth on a per central office basis, Qwest did not attempt to estimate line growth by central office.[31] One might argue that the state average projected growth rate should be applied. For example, one might argue that the Qwest growth rates estimated in Exhibit TKM-4 should be utilized to update the UNE-P embedded base lines. This growth rate would project a growth of approximately 60% between September, 2003 to December, 2004. However, in reality, the growth rates in each office are likely to vary substantially. For this reason, Qwest did not use this growth rate to update the embedded base in Exhibit TKM-5.

Q. IF A 60% GROWTH RATE WERE APPLIED TO THE BUSIEST CENTRAL OFFICE, WOULD IT CHANGE THE CONCLUSIONS REACHED IN EXHIBIT TKM-5?

A. No. If the embedded UNE-P quantities were increased from 2,777 to 4,443 (a 60% increase), the conversion amount per day would be 4,443 / 21months /21 days = 10.07 orders per day. This would increase the total volume per day to 23, still well below 100.

[31] Volumes can vary greatly from month to month, and it is difficult to project growth in a particular office. For example, an office may grow from 100 to 2000 UNE-P lines over a nine month time period- a 2000% growth. This does not mean that it will continue to experience 2000% growth in the future.

VI. CONCLUSION

Q. WHAT ACTION SHOULD THE COMMISSION TAKE IN THIS PROCEEDING.

A. The Commission should adopt a nonrecurring price for the BHC installation option based on the TELRIC data provided in my testimony. Consistent with the FCC's TELRIC rules, the Qwest nonrecurring cost study identifies the forward-looking cost to provision UNE loops via a batch process using the most efficient technology that is reasonably available now. This study provides the most reliable TELRIC data available for Qwest's operations in Washington.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Petition of Qwest Corporation to Initiate a Mass-Market Switching and Dedicated Transport Case Pursuant to the Triennial Review Order	Docket No. UT-033044

EXHIBITS

OF

TERESA K. MILLION

ON BEHALF OF

QWEST CORPORATION

JANUARY 23, 2004

INDEX OF EXHIBITS

The following Exhibits are provided in CD format:

Exhibit	Description
TKM-T1	Direct Testimony of Teresa K. Million
TKM-2	CD Containing Expense Factors Model and User Manual and Exhibits TKM-3, TKM-4 and TKM-5
TKM-3	Nonrecurring Cost Study (Study ID #8161)
TKM-4	Qwest UNE-P Aggregate Volumes Analysis
TKM-5	Washington UNE-P Central Office Volumes Analysis