Exhibit No. ____ (LB-2)
Docket No. UT-033044
January 23, 2004

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*

Report of Lorraine Barrick

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1. Executive Summary

I am a certified public accountant. I have been engaged in business and financial consulting since 1988. I have extensive experience in assisting companies in the telecommunications industry.

I was retained by Qwest Corporation (Qwest) through Hitachi Consulting to review and test its processes and procedures pertaining to the Batch Hot Cut (BHC) processes defined below. I was assisted in my work by a team of telecommunications and process consultants from Hitachi Consulting. This report summarizes the work performed by me, or under my supervision, and my opinions resulting from this work.

Our work included the following:

- Gaining an understanding of the existing hot cut process;
- Studying Qwest's hot cut performance to date;
- Reviewing the proposed BHC process, as well as public CLEC comments and concerns regarding that process;
- Making recommendations for process improvements;
- Comparing the current hot cut process to the proposed BHC process;
- Developing a testing plan to be used to judge the quality and efficiency of the proposed BHC process; and,
- Testing the BHC process.

Qwest has demonstrated, based on historical data for the existing hot cut process, that it can handle large volumes of UNE-P to UNE-Loop conversion requests. Qwest has demonstrated, on many occasions, the ability to process more than 1,000 hot cut requests in a day. Qwest has also demonstrated the capability to consistently perform between 25 and

100 hot cuts per day per central office (CO) and to exceed these amounts when required, with 30-day trouble rates of less than 1%.

Qwest has serviced the above volumes using the existing hot cut process. Currently, Qwest processes hot cuts individually on a first in, first out basis. The proposed BHC process will implement significant improvements that will enable increased efficiencies, seamless service and enhanced scalability as compared to the existing hot cut process.

The BHC process was created to make the hot cut process described above more scalable and efficient for larger volumes of hot cuts. The process groups multiple service orders for hot cuts into "batches." A CLEC will be required to submit a minimum of 25 lines and a maximum of 100 lines to create a batch. Significant efficiencies over the hot cut process are created through front-end edit checks, process automation and streamlining of manual processes. We have measured the benefit of several of these differences. The results indicate that the process is substantially faster than the current process and the differences we measured save many hours per day at the projected volumes.

We also tested Qwest's proposed BHC process with live trials using CLEC customers. Our testing to date has included four batches of approximately 25 telephone numbers per batch. In all cases, Qwest met 100% of its installation commitments, and no troubles were reported for the preliminary live trial within the first 30 days. (The second two batches were cut within a week of issuance of this report and, therefore, 30-day trouble report data is not available for the second two batches.) As stated, Qwest met 100% of its installation commitments, which exceeds the FCC's 90% on-time hot cut performance standard set forth in its Bell Atlantic Section 271 decision. In fact, Qwest has demonstrated an ability to consistently meet and exceed this benchmark.

Extrapolation of the Due Date activities of the COs for each of the live trials indicates that a team of two technicians should be able to complete them in the course of an eight-hour shift. Any remaining time in the shift, plus other shifts, could be used to conduct pre-wire activity for other batches.

To scale to the Qwest forecasted volumes, additional resources will be required. Each of the key departments have plans to scale as required. We have discussed these plans with department management and nothing has come to our attention to suggest that they are unreasonable.

In my opinion, based on the above, the BHC process as proposed represents significant improvements in efficiency with acceptable levels of quality when compared to the existing hot cut process. Nothing has come to my attention to suggest that this process will not scale to the forecasted volumes.

2. Introduction

I am a certified public accountant. I have been engaged in business and financial consulting since 1988. Prior to that, I was an auditor for three years. My work experience includes nearly 15 years at the public accounting and consulting firm of Arthur Andersen, LLP. When I left Arthur Andersen in May of 2000, I was a partner in the Consulting Division of the Seattle office. I have extensive experience in assisting companies in the telecommunications industry. My resume is attached as Exhibit 1.

I was retained by Qwest through Hitachi Consulting to review and test its processes and procedures pertaining to the BHC processes defined below. I was assisted in my work by a team of telecommunications and process consultants from Hitachi Consulting. This report

summarizes the work performed by me, or under my supervision, and my opinions resulting from this work.

This report assumes the reader's familiarity with the hot cut process and related subject matter. A glossary of terms and acronyms used in this report is provided in Exhibit 2.

During the course of our test work, we obtained information from electronic databases and other Qwest systems that was captured in the course of Qwest operations. The scope of this engagement was not to conduct an audit of any of this information under the Generally Accepted Auditing Standards of the American Institute of Certified Public Accountants. We relied on this information as discussed below.

Certain information and assumptions were provided to us by Qwest. Any such information upon which we relied is documented in the relevant report section.

I reserve the right to change my opinion due to any new information that becomes available to me.

This report was prepared for the above-referenced matter and should not be used or referred to for any other purpose.

3. Background

The Federal Communications Commission (FCC), in its September 26, 2003, Triennial Review Order (TRO), required any Incumbent Local Exchange Carrier (ILEC) seeking to rebut the FCC's national presumption that Competitive Local Exchange Carriers (CLECs) are impaired without access to unbundled switching in mass markets to establish a "batch hot cut

process" for CLECs. Pursuant to that Order, Qwest petitioned many of the state commissions within its 14-state region to open such a docket.

The FCC found that a "seamless, low-cost batch hot cut process for migrating mass market customers from one carrier to another is necessary, at a minimum, for carriers to compete effectively in the mass market."[1]

In conjunction with Qwest's petition to rebut the presumption of impairment, Qwest engaged Hitachi Consulting to review and test its BHC process, to provide recommendations for process improvement, and to determine whether, in my opinion, Qwest will be able to perform the required number of hot cuts per CO per day necessary to both serve future demand and migrate CLECs' embedded base of Unbundled Network Element Platform (UNE-P) clients to Unbundled Network Element Loop (UNE-Loop), at an acceptable quality level.

4. The Scope of Work

Our work included the following:

- Gaining an understanding of the existing hot cut process;
- Studying Qwest's hot cut performance to date;
- Reviewing the proposed BHC process, as well as public CLEC comments and concerns regarding that process;
- Making recommendations for process improvements;
- Comparing the current hot cut process to the proposed BHC process;
- Developing a testing plan to be used to judge the quality and efficiency of the proposed BHC process; and,
- Testing the BHC process.

[1] TRO paragraph 487.

During the course of our work, we visited 10 COs, the Qwest CLEC Coordination Center (QCCC), two Loop Provisioning Centers (LPCs), Design Services and two of the three Service Delivery Centers. We observed both the existing hot cut process and the proposed BHC process. We discussed the process and resource requirements with personnel at various locations. The sites we visited are included in Exhibit 3. The people we interviewed are identified in Exhibit 4.

5. Overview of the Current Hot Cut Process

Currently, Qwest processes hot cuts individually on a first in, first out basis. The hot cut process consists of three basic activities: (a) order creation and acceptance, (b) planning and pre-wire (Designed, Verified and Assigned Date or DVA) and (c) cut over (Due Date). These activities are performed discretely for each requested hot cut. Local Service Requests (LSRs) are issued by the CLEC to initiate the hot cut for a particular line. Qwest's Service Delivery Centers convert these LSRs into service orders to be provisioned in the network. The LSRs are submitted in two ways; through the Interconnect Mediated Access (IMA) system (submitted through GUI or EDI), or through facsimile. The majority of LSRs are received in IMA and are processed through the automated systems in the Service Delivery Centers.

The service orders are processed and reviewed by two additional departments' automated systems to ensure the line can be cut over as requested by the CLEC. The LPC verifies the loop to the customer premises and Design Services checks the quality of the loop and designs the circuit. These steps are typically completed within one day of the LSR submittal.

Once a service order is created and accepted, Qwest prepares for the hot cut in the days prior to the Due Date. The QCCC is responsible for scheduling, provisioning and assembling work orders to execute the hot cuts for the inside plant on Due Date. The Central Office

Technician (COT) "pre-wires" the hot cut by installing cross-connects and jumpers between the Interconnect Distribution Frame (ICDF) and the Main Distribution Frame (MDF) inside the CO. This wiring will remain in place, but unused, until the hot cut Due Date. These steps occur between days two and three of the process.

On Due Date, the COT performs the hot cut to transfer service from Qwest's switch to the CLEC's switching equipment. The COT first performs a dial tone and Automatic Number Identification (ANI) test on the loop terminating on the CLEC switch and the Qwest switch. If all tests are successful, the COT performs the "lift and lay" to transfer service to the CLEC switch facility. The COT subsequently performs the same dial tone and ANI tests at the protector frame to ensure the hot cut was successful. Once cut over activity is complete on the CO floor, the COT notifies the QCCC that the cut is completed and closes the work order in Qwest's work management system. The QCCC contacts the CLEC with notification of the completed cut. The CLEC is required to reject the hot cut within two hours of completion of the hot cut. If no cuts are rejected, the COT removes the hot cut jumpers from the MDF to the Qwest switch.

6. Overview of the Batch Hot Cut Process

As Planned

Qwest's BHC design process has been an iterative one. On December 1, 2003, Qwest proposed a BHC process to the CLECs. This process was revised and refined based on the following:

- Qwest's internal study of the proposed process;
- CLEC input: two multi-day forums were held by Qwest to elicit CLEC comments on the proposed process; and,
- Hitachi Consulting input.

The BHC was created to make the hot cut process described above more scalable and efficient for larger volumes of hot cuts. The process is based on grouping multiple service orders for hot cuts into "batches." A CLEC will be required to submit a minimum of 25 lines and a maximum of 100 lines to create a batch. (These batches will be assembled by the QCCC after LSR submission and acceptance.) The COTs will pre-wire lines and perform dial-tone and ANI tests three or four days before Due Date, using a 7-day standard interval. If there is no dial-tone or the incorrect ANI is detected, the CLEC will have until Due Date to correct any CLEC-side issues. On Due Date, COTs will work to cut up to 100 lines between 3:00 am and 11:00 am local time. The CLEC can monitor the status of the project through an online order status tool, or trap and trace capability. The CLEC is required to reject the hot cut within two hours after the BHC is complete. If no cuts are rejected, the COT will remove the hot cut jumpers from the MDF to the Qwest switch. The BHC process is documented in Exhibit 5. As with the hot cut process, the CLEC will have the opportunity to accept or reject any of the hot cuts.

Hitachi Consulting made several process improvement recommendations over the course of our engagement. All of the material process improvement recommendations made by Hitachi Consulting have been addressed to our satisfaction. One example of the recommendations that have been incorporated in the proposed BHC process is requiring CLECs to submit BHC LSRs via the IMA system with the option to fax the order in the event of system outages.

Key Process Differences

In order to gain efficiencies and allow for greater volume, the BHC process will differ from the hot cut process in various ways. The most significant differences are discussed below and are identified in Exhibit 5.

Order Creation and Acceptance

- Significant interactive edits will be built into the IMA system to identify the LSRs tagged for the BHC process and to ensure the reduction of input errors, which then require additional manual handling by both Qwest and the CLEC.
- Qwest will require that all LSRs submitted for the BHC process must be sent through IMA (GUI or EDI) and faxes will only be allowed when the above systems are unavailable. BHC LSRs will not have the option to be marked for "Manual Handling" by the CLEC thereby, enabling them to flow-through to the Service Order Processor (SOP) electronically.

Planning and Pre-wire (DVA)

- An automated sort engine filters out the BHC service orders and assembles batches based on CLEC and CO.
- Multiple work documents, sorted by the location of the jumpers on each frame, are automatically created for the COTs. The documents are organized to maximize efficient wiring procedures in the CO.
- Creation of an automated sort engine to input the wiring information into the spreadsheets used by the COTs.

Cut Over

- An online order status notification tool will be created. The CLEC will have the ability to monitor the tool for updates as its own processes dictate.
- The CLEC will not be given time to correct an incorrect dial tone or ANI test problem on Due Date. If there is an issue with CLEC dial tone or ANI on Due Date, the line will be assigned a Jeopardy status using the online order status tool and the line will be removed from the batch.
- QCCC updates in WFA-C as well as CO updates in FOMS/TIRKS are no longer manual processes. These processes have been automated.

- CLECs will also have the option to enable trap and trace functionality in their switches. When Qwest initiates the ANI test, the CLEC will be notified via trap and trace of the test, signifying the BHC has begun.

As Tested

Some of the planned process improvements will require significant time and resources from Qwest to develop. Therefore, they could not be completed in time for our testing. Principal process improvements not available at the time of our testing include:

- Interactive edits added to the IMA;
- Creation of an online order status notification tool;
- Use of trap and trace capabilities inherent in the CLEC's switch; and,
- Automated updates to various Qwest's systems.

A complete list of the components of the process, not yet available as of the date of our testing, is included in Exhibit 6.

The process improvements not available for testing will serve to expedite the process and create additional efficiencies. Therefore, actual performance should be better than that experienced in our testing.

7. Assumptions Regarding Batch Hot Cut Process

According to Qwest management, the following services are eligible for the BHC process:

- UNE-P to UNE-Loop;
- Retail to UNE-Loop;
- UNE-Loop to UNE-Loop (CLEC to CLEC);
- UNE-P to UNE-Loop (CLEC to CLEC);

- Resale to UNE-Loop; and,
- Centrex to UNE-Loop.

The following services are excluded, although the traditional hot cut process will be available for these services:

- IDLC;
- Line Splitting;
- Line Sharing;
- Lines with Conditioning;
- Remote Serving Offices (EX cables);
- Extended Electronic Loops;
- Requests with Coordination; and,
- CLEC to ILEC.

We have also been informed that the maximum number of BHCs per day, in any given CO, will be 100 lines (plus all regular hot cuts).

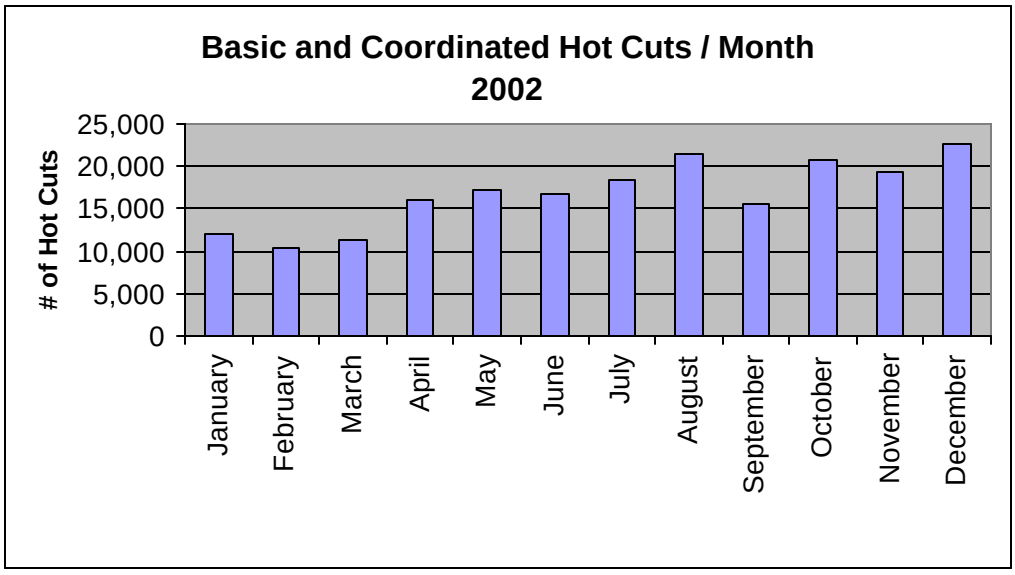
In addition, we received information from Qwest concerning embedded base, growth and historical and future volumes. This information is discussed in the section of this report titled "Qwest Historical Hot Cut Volumes and Volume Forecast." We have relied on these assumptions and structured our testing accordingly.

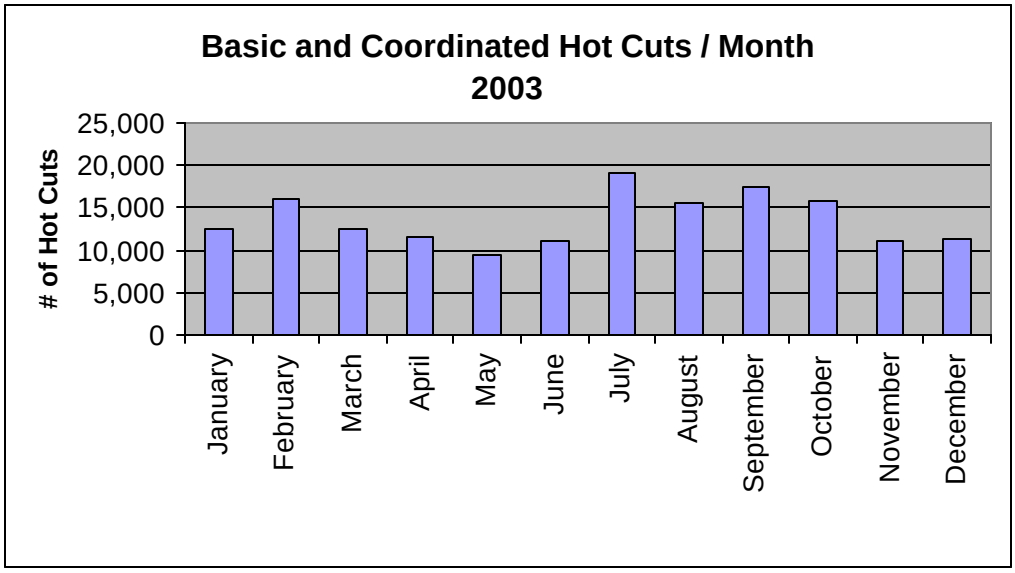
8. Qwest Historical Hot Cut Volumes and Volume Forecast

Daily volumes of Basic and Coordinated 'Reuse' (i.e., reusing the loop facility) hot cuts performed by Qwest COs for each CLEC during 2002 and 2003 were collected from Qwest's Service Order Processing systems.

This data indicates that Qwest performed approximately 202,000 and 163,000 hot cuts during 2002 and 2003, respectively. Illustration 1 represents the total number of hot cuts performed each month by Qwest. Exhibit 7 provides total monthly volume of hot cuts performed by state.

Illustration 1 – Total Number of Hot Cuts Performed per Month





Source: Qwest's Service Order Processing Systems

Total Daily Volume

The following observations are made regarding total daily volumes of Basic and Coordinated 'Reuse' hot cuts performed by Qwest for all CLECs, across all COs.

2002

- Qwest performed between 700 and 900 hot cuts on 85 different business days.
- Qwest performed between 901 and 1,100 hot cuts on 56 different business days.
- Qwest performed between 1,101 and 1,300 hot cuts on 20 different business days.
- Qwest performed more than 1,300 hot cuts on five different business days.
- The maximum number of hot cuts performed by Qwest in a single day was 1,631.

2003

- Qwest performed between 700 and 900 hot cuts on 59 different business days.
- Qwest performed between 901 and 1,100 hot cuts on 23 different business days.
- Qwest performed between 1,101 and 1,300 hot cuts on three different business days.
- The maximum number of hot cuts performed by Qwest in a single day was 1,216.

Illustration 2 – Total Daily Volume of Hot Cuts

Daily Hot Cut Volumes	2002	2003
700-900	85	59
901-1100	56	23
1101-1300	20	3
>1300	5	0
Maximum Single Day Volume	**1,631**	**1,216**

Source: Qwest's Service Order Processing Systems

Daily Volume by Central Office

Daily volumes of Basic and Coordinated 'Reuse' hot cuts performed by Qwest were disaggregated to analyze hot cut volume at each CO. The following observations were made.

2002

In 2002, 73 COs across 11 different states demonstrated the ability to perform 50 or more hot cuts in a day. Exhibit 8 provides a list of COs that demonstrated the aforementioned capability and the number of times they achieved hot cut volume of 50 or more in a day. The following are examples of COs that performed high volumes of hot cuts on a consistent basis. Exhibit 9 provides daily volume of hot cuts performed by these and other COs.

- CDFLIACO (Iowa) performed between 22 and 122 hot cuts per day over 17 days (a total of 723 hot cuts) in April and between 20 and 134 hot cuts per day over 14 days (a total of 1,045 hot cuts) in August.
- CLTNIACO (Iowa) performed between 33 and 119 hot cuts per day over six days (a total of 477 hot cuts) in April and between 37 and 94 hot cuts per day over six days (a total of 373 hot cuts) in April and May.
- DESMIANW (Iowa) performed between 21 and 81 hot cuts per day over 14 days (a total of 744 hot cuts) in January and between 16 and 65 hot cuts per day over nine days (a total of 387 hot cuts) in January and February.

- DUBQIATC (Iowa) performed between 19 and 83 hot cuts per day over nine days (a total of 428 hot cuts) in April and May and between 20 and 86 hot cuts per day over 59 days (a total of 2,978 hot cuts) in September, October and November.
- WTRLIADT (Iowa) performed between 19 and 89 hot cuts per day over 18 days (a total of 881 hot cuts) in September and October between 30 and 122 hot cuts per day over 39 days (a total of 2,779 hot cuts) in October and November.
- FARGNDBC (North Dakota) performed between 20 and 71 hot cuts per day over 13 days (a total of 458 hot cuts) in January and between 27 and 75 hot cuts per day over 14 days (a total of 633 hot cuts) in August and September.
- SXFLSDCO (South Dakota) performed between 29 and 124 hot cuts per day over 21 days (a total of 1,209 hot cuts) in August and between 30 and 80 hot cuts per day over 16 days (a total of 930 hot cuts) in December.

The five largest daily volumes of hot cuts performed by individual COs were 205, 257, 291, 335 and 347, respectively. Further research indicates that there were 12 trouble reports experienced within 30 calendar days following installations of the aforementioned 1,435 hot cuts. This represents a trouble rate of 0.84%. Paragraph 309 of FCC's decision In the Matter of Application by Bell Atlantic New York for Authorization Under Section 271 of the Communications Act to Provide In-Region InterLATA Service in the State of New York, -CC Docket #99-295 (Rel. Dec. 22, 1999), sets the performance benchmark at five percent or lower for such new installation service outages. The aforementioned trouble rate of 0.84% met the benchmark set forth mentioned in the section of the report titled "Testing Benchmarks."

2003

In 2003, 66 COs across 11 different states demonstrated the ability to perform 50 or more hot cuts in a day. Exhibit 8 provides a list of COs that demonstrated the aforementioned capability and the number of times they achieved hot cut volumes of 50 or more in a day.

The following are examples of COs that performed high volumes of hot cuts on a consistent basis. Exhibit 9 provides daily volume of hot cuts performed by these and other COs.

- FTCLCOMA (Colorado) performed between 33 and 63 hot cuts per day over seven days (a total of 309 hot cuts) in August and between 28 and 56 hot cuts per day over 14 days (a total of 569 hot cuts) in September.
- ANKNIACO (Iowa) performed between 27 and 86 hot cuts per day over 25 days (a total of 1,456 hot cuts) in August and September.
- DUBQIATC (Iowa) performed between 20 and 65 hot cuts per day over 24 days (a total of 1,129 hot cuts) in July and August and between 25 and 65 hot cuts per day over 17 days (a total of 816 hot cuts) in August.
- MRTWIASO (Iowa) performed between 20 and 46 hot cuts per day over 13 days (a total of 404 hot cuts) in September and between 28 and 88 hot cuts per day over 27 days (a total of 1,421 hot cuts) in September and October.
- WFRGNDBC (North Dakota) performed between 34 and 60 hot cuts per day over 21 days (a total of 948 hot cuts) in October and November and between 23 and 72 hot cuts per day over eight days (a total of 398 hot cuts) in December.

The four largest daily volumes of hot cuts performed by individual COs were 100, 111, 123 and 135, respectively. Further research indicates that there were four trouble reports experienced within 30 calendar days following the aforementioned installations (a total of 469 hot cuts). This represents a trouble rate of 0.85%. The aforementioned trouble rate of 0.85% met the benchmark set forth mentioned in the section of the report titled “Testing Benchmarks.”

Illustration 3 is a tabular representation of consistent, high-volume monthly hot cuts performed at aforementioned COs.

Illustration 3: Selected Hot Cut Volumes

2002

State	CO	Consecutive days	Number of hot cuts	Average hot cuts/day
Colorado	BLDRCOMA	14	32 - 119	68
Iowa	CDFLIACO	17	22 - 122	43
Iowa	CDFLIACO	14	20 - 134	75
Iowa	CLTNIACO	6	33 - 119	80
Iowa	CLTNIACO	6	37 - 94	62
Iowa	DESMIANW	14	21 - 81	53
Iowa	DESMIANW	9	16 - 65	43
Iowa	DUBQIATC	9	19 - 83	48
Iowa	DUBQIATC	59	20 - 86	50
Iowa	IWCYIATC	12	17 - 347	107
Iowa	SXCYIADT	7	67 - 183	112
Iowa	SXCYIADT	9	27 - 53	41
Iowa	SXCYIADT	11	28 - 69	46
Iowa	WTRLIADT	8	19 - 61	44
Iowa	WTRLIADT	18	19 - 89	49
Iowa	WTRLIADT	39	30 -122	71
Minnesota	MPLSMNTF	11	25 - 64	46
North Dakota	FARGNDBC	13	20 -71	35
North Dakota	FARGNDBC	14	27 - 75	45
South Dakota	SXFLSDCO	21	29 - 124	58
South Dakota	SXFLSDCO	13	21 - 69	48
South Dakota	SXFLSDCO	16	30 - 80	58

2003

State	CO	Consecutive days	Number of hot cuts	Average hot cuts/day
Colorado	DNVRCOCW	9	25 - 53	43
Colorado	FTCLCOMA	7	33 - 63	44
Colorado	FTCLCOMA	14	28 - 56	41
Iowa	LVLDCOMA	7	43 - 53	49
Iowa	ANKNIACO	25	27 - 86	58
Iowa	AMESIATC	21	27 - 97	64
Iowa	BURLIATC	18	22 - 83	60
Iowa	DUBQIATC	24	20 - 65	47
Iowa	DUBQIATC	17	25 - 65	48
Iowa	MRTWIASO	13	20 – 46	31
Iowa	MRTWIASO	27	28 - 88	53
Minnesota	MPLSMNPI	9	23 - 67	43
Minnesota	NSPLMNPR	9	29 - 76	49
Minnesota	WBLKMNWB	15	36 - 71	50
North Dakota	FARGNDBC	10	30 - 75	46
North Dakota	WFRGNDBC	21	34 - 60	45
North Dakota	WFRGNDBC	8	23 - 72	50

Source: Qwest's Service Order Processing Systems

Multi-CLEC Hot Cut Volume

Although high-volume days are often triggered by a large volume of requests from one CLEC, Qwest has handled significant hot cut volumes for multiple CLECs on the same day. For example, the following observations were made after analyzing the five largest daily volumes of hot cuts performed by Qwest:

2002

- On November 27, 2002 Qwest performed 1,631 hot cuts for 18 CLECs.
- On July 31, 2002 Qwest performed 1,503 hot cuts for 16 CLECs.
- On June 28, 2002 Qwest performed 1,435 hot cuts for 15 CLECs.
- On August 30, 2002 Qwest performed 1,389 hot cuts for 19 CLECs.
- On December 16, 2002 Qwest performed 1,331 hot cuts for 18 CLECs.

2003

- On July 31, 2003 Qwest performed 1,216 hot cuts for 18 CLECs.
- On September 17, 2003 Qwest performed 1,198 hot cuts for 20 CLECs.
- On February 10, 2003 Qwest performed 1,172 hot cuts for 19 CLECs.
- On September 15, 2003 Qwest performed 1,050 hot cuts for 24 CLECs.
- On September 11, 2003 Qwest performed 1,049 hot cuts for 24 CLECs.

Volume Forecast of UNE-Loop

Qwest has estimated the embedded base of UNE-P lines as of December 31, 2004, at 1,275,000 lines. Qwest assumes that 64% of the total embedded lines are in the proposed unimpaired market areas, resulting in an estimate of 816,000 UNE-P lines in unimpaired market areas as of December 31, 2004. Between January 1, 2005, and July 31, 2005, the number of UNE-P lines in the proposed unimpaired market areas is further reduced by

assuming churn of three percent per month, resulting in approximately 659,000 lines that will require conversion.[2]

Qwest's migration analysis includes:

- The estimated embedded base requiring conversion;
- New UNE-Loops resulting from a freeze on UNE-P in unimpaired markets;
- Churn on the embedded base requiring conversions; and,
- Churn on the UNE-Loop.

This analysis forecasts a daily volume of conversions of that reaches a peak approximately 3,600 in August 2005. Qwest assumes all UNE-P lines in unimpaired areas will convert to UNE-Loop. Hence, the forecast made by Qwest of the daily conversion volumes appears to be conservative.

To conduct a migration analysis at the CO level, Qwest chose the CO with the largest embedded base of UNE-P in Minnesota (6,595 lines). Using 60% growth, Qwest estimates the embedded base will be 10,552 lines. Qwest has estimated that to convert the embedded base of UNE-P in this largest CO in the state of Minnesota while handling the new UNE-Loop volume created by the absence of the UNE-P option, the CO would have to perform 64 hot cuts per business day over the next 21 months. This is significantly less than the 100 BHCs Qwest has committed to undertake per CO per day. It is also significantly less than Qwest has successfully performed in the past using the current hot cut process.[3]

This analysis indicates that all of the individual COs can be converted within the 21 months provided in the FCC Triennial Review Order.

[2] Source: According to the written testimony of Robert Brigham dated January 23, 2004.
[3] Source: According to the written testimony of Robert Brigham dated January 23, 2004, filed in the state of Minnesota.

Summary of Historical and Forecast Volume Analysis

Qwest has demonstrated, based on historical data for the existing hot cut process, that it can handle large volumes of UNE-P to UNE-Loop conversion requests. Qwest has further demonstrated on many occasions the ability to process more than 1,000 hot cut requests per day. Qwest has also demonstrated the capability to consistently perform between 25 and 100 hot cuts per day per CO and to exceed these amounts when required with 30-day trouble rates of less than 1%.

Qwest has serviced the above volumes using the existing hot cut process. The proposed BHC process will implement significant improvements that will enable increased efficiencies and scalability over the existing process.

Qwest has provided forecasts of the volume of hot cuts required in the largest COs over the 21 month migration period. This forecast, including growth of the embedded base and including new UNE-Loop replacing new UNE-P, would be 64 cuts per business day in the largest CO in Minnesota. This is significantly less than the 100 BHCs Qwest has committed to, and is no more than Qwest performs today using the current hot cut process.

9. Testing Procedures Performed

Our testing of Qwest's BHC process consisted of three parts:

- A preliminary live trial of the BHC process;
- A second round live trial of the BHC process; and,
- A comparison of the current hot cut process to the BHC process.

Preliminary Live Trial of the BHC Process

We tested Qwest's proposed BHC process with a live trial using CLEC customers. This was accomplished through an agreement with a CLEC to perform commercial trials of the BHC process. The purpose of the initial trial was to ensure that the process worked and to develop process improvement recommendations based on the results.

The BHC preliminary live trial consisted of two production batches of 25 hot cuts each in one Cod (CO #1)[4]. This trial was conducted on two consecutive days in December 2003. The submission of LSRs occurred on December 10th and 11th and the hot cuts took place on the December 17th and 18th. The LSRs were submitted on two consecutive days as two separate batches containing 25 lines each. The composition of these batches is included in Exhibits 12 and 13a. Results of the preliminary live trial are discussed in the section of this report titled "Testing Results."

Second Round Live Trial of the BHC Process

After the CLEC forum in January 2004, the CLEC permitted us to perform additional live testing. Two additional batches of 25 cuts were submitted on the same day to two separate COs.[5] The composition of these batches is included in Exhibits 12 and 13b. LSRs were submitted on January 12, 2004, DVA was on January 15, 2004 and Due Date was on January 19, 2004.

During the period between the preliminary live trial and the second round live trial, changes were made to the BHC process. Significant examples of these changes include:

- In December 2003, the process did not offer the ability for Qwest to notify CLECs of issues before Due Date because the pre-wire was done on Due Date. Thus, in the December 2003 trial, the CLEC had only one hour on Due Date to resolve issues

[4] The locations of these COs are disclosed in the highly confidential Exhibit 14.
[5] IBID.

before the order was removed from the BHC. In January 2004, pre-wire occurred on DVA and the "lift and lay" occurred on Due Date. The COTs checked CLEC dial tone and ANI on DVA which would have allowed the CLEC to fix issues before Due Date if there were any.

- In January 2004, if the CLEC dial tone or ANI test was not accurate on Due Date, the order would have been pulled from the BHC.[6] This process step did not occur in the December trial.
- In January 2004, the line continuity testing was removed from the automated sort engine at the QCCC. The removal of the test allowed for faster throughput at the QCCC.

The results of the second round live trial are included within the section titled "Testing Results" of this report.

Comparison of Hot Cut Process to the BHC Process

In addition, we compared key process steps between the hot cut process and the BHC process. This approach required the identification and comparison of the most significant differences between the two processes. Thus, observations were required of time components to measure efficiencies.

Between January 13 and 15, 2003, we observed the existing hot cut process at three Colorado COs on three consecutive days. These observations created a baseline for the time required to complete the CO steps for the hot cut process. This benchmark was used to compare the current hot cut process with the BHC process. In both processes (hot cut and BHC), the pre-wire and Due Date steps occur on separate days.[7]

[6] In this case, there were no issues.

[7] Due to the fact that both pre-wire and Due Dates steps were observed on the same day at the CO, the service orders that were observed for the steps were different.

We captured the same time metrics that were captured during the BHC trials. These metrics were compared against the BHC trial results. The comparisons were used to evaluate efficiencies created by the new process. Results of these comparisons are included in the section of the report titled "Testing Results."

The most significant process changes we were able to monitor were:

- Implementation of the online order status tool as a replacement for the current QCCC communication process[8]; and,
- Updates to the CO workflow.

Test Documentation

We developed test documentation templates to capture process and system timing. During each phase of testing, we obtained system logs and data extracts from the Qwest systems used to execute the BHC transactions. In addition, our consultants were on-site at various Qwest facilities to capture the time required to perform specific work activities. Summaries of these test logs are shown in Exhibits 10 and 11.

10. Testing Benchmarks

The FCC's decision In the Matter of Application by Bell Atlantic New York for Authorization Under Section 271 of the Communications Act to Provide In-Region InterLATA Service in the State of New York, -CC Docket #99-295 (Rel. Dec. 22, 1999), sets forth a series of performance benchmarks with which to evaluate an ILEC's ability to unbundle network elements. Paragraph 309 of FCC's New York 271 decision broadly categorizes the benchmarks and the minimum expected performance as:

- On-time hot cut performance rate at or above 90%;

[8] This step was not involved in January because CLEC dial tone was available for all lines.

- Hot cuts resulting in service outages within the first 30 days at rates at or below 5%; and,
- Trouble rate at or below 2% per month for the total installed base.

It is our understanding that Qwest has developed the following PIDs to measure and report the aforementioned benchmarks:

- Installation Commitments Met (OP-3): evaluates the extent to which Qwest installs services for customers by the scheduled due date;
- New Service Installation Quality (OP-5): evaluates the quality of ordering and service within the first 30 days of installation; and,
- Trouble Report (MR-8): evaluates the trouble rate per month as a percentage of the total installed base of the service or element.

11. Testing Results

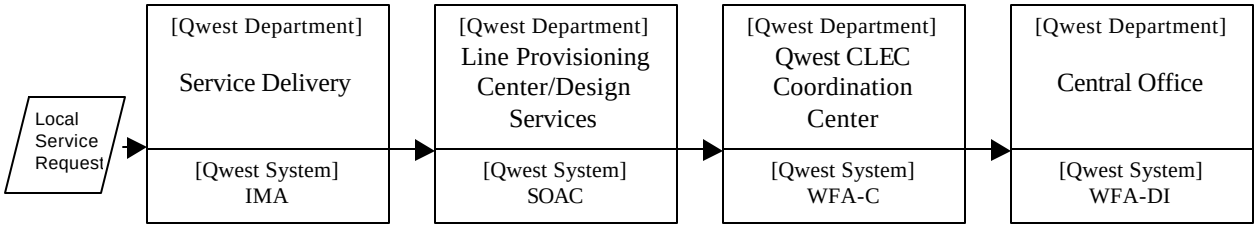
Preliminary Live Trial of the BHC Process

The preliminary live trial of the BHC process was conducted in CO #1. The BHC process began on Wednesday, December 10, 2003, with the submission of 17 LSRs that contained 25 lines for the BHC. The LSRs submitted on that day represented 24 migrations from UNE-P to UNE-Loop and one migration from Qwest Resale to UNE-Loop. The following day, Thursday, December 11, 2003, an additional 18 LSRs were submitted that also contained a batch of 25 hot cuts. The 18 LSRs submitted on that day represented 25 migrations from UNE-P to UNE-Loop. Our consultants were on-site at Qwest facilities to observe the orders processed through the various Qwest departments and systems.[9] The following diagram

[9] Consultants observed the orders process through Service Delivery and the QCCC. Consultants were not on site at the LPC or Design Services.

represents a high-level depiction of the physical flow for the BHC orders through Qwest departments and systems. Detailed process flows are in Exhibit 5.

Illustration 4: High Level Physical Flow of BHC Orders



Service Delivery Observations

The Qwest Service Delivery Centers' primary responsibility is to process the LSRs received by Qwest. The Service Delivery Centers will typically process all LSRs in the same day that the request for service is received by Qwest. The LSRs for the preliminary live trial of the BHC process were received by the IMA application. The IMA application provides a graphical user interface (GUI) for the CLECs to enter BHC LSRs. The IMA application provides functionality for the Qwest Service Delivery Center to validate the accuracy of LSRs. For example, a basic address check is run to check certain types of address errors before the LSR is submitted.

We observed the BHC LSRs processed by Service Delivery on Wednesday, December 10, 2003. Each Telephone Number (TN) that qualified for automatic flow-through had a Firm Order Commitment (FOC) issued within one minute. On that day, the average LSR processing time through the Service Delivery Center was approximately three minutes.

We observed that one LSR fell out for manual handling because there were other orders on the account in pending status. Based on the functionality of the IMA application, all LSRs that are received with pending orders on the account will be automatically routed for manual handling in Service Delivery. This LSR represented a migration from Resale to UNE-Loop.

Based on discussions with Qwest personnel, resale LSRs will frequently have other orders pending on the account and will require manual handling.[10]

We also observed the BHC LSRs processed by Service Delivery on Thursday, December 11, 2003. Each TN that qualified for automatic flow-through had a FOC issued within one minute. On that day, the average LSR processing time through the Service Delivery Center was approximately two minutes. We observed that one LSR fell out for manual handling due to a central number (CNUM) error database exception. This exception was created by a database issue which resulted in an error on the service order. When this error occurs, the addresses and numbers are revalidated and updated if required to correct the database. The entire batch of 18 LSRs was processed through Service Delivery within 38 minutes of receipt by Qwest.

For the preliminary live trial, Service Delivery assigned a dedicated Service Delivery Coordinator (SDC) to monitor the LSRs as they passed through the system. These LSRs were not pulled in chronological order from the queue due to a request from the CLEC to understand the nature of the fallout for manual handling.

Line Provisioning Center and Design Services

The Line Provisioning Center (LPC) is responsible for managing the process of evaluating the loop characteristics to determine compatibility with the requested service. UNE-Loops are automatically evaluated for compatibility through the Loop Facility Assignment and Control System (LFACS) application. In the event any service orders have fallen out for RMA (Request for Manual Assistance) in the provisioning systems, the LPC will resolve or facilitate the resolution of the RMA to meet the service order Due Date.

[10] Service Delivery manually processed the Resale LSR within 53 minutes. We observed that the entire batch of 17 LSRs was processed through Service Delivery within 53 minutes of receipt by Qwest.

The Design Services organization is responsible for creating the circuit design. The circuit design for UNE-Loops is automatically created in the TIRKS application.

We observed both the LPC and Design Services operations to become familiar with the components of the BHC process. In addition, we contacted representatives from these departments on an as needed basis to clarify results from the BHC Trial.

QCCC Observations

The QCCC is responsible for validating the accuracy of the BHC service orders, assigning the service orders to the appropriate Qwest CO facility, managing the BHC process and providing communication with CLECs regarding order status. Qwest has proposed the development of an online order status application that will provide online communication with CLECs regarding the status of requested BHCs. The online order status tool was not available during our preliminary live trial of the BHC process.

The QCCC receives BHC service orders in the WFA-C application. The BHC orders received in WFA-C are processed daily. Thus, the BHC preliminary live trial LSRs that were received on Wednesday, December 10, 2003, by Service Delivery were processed at the QCCC on Thursday, December 11, 2003.

We observed the BHC service orders processed by the QCCC on Thursday, December 11, 2003. All the orders went through the automated flow-through process; however, we observed two service orders that required manual follow up by the QCCC. The orders required follow up for the following reasons: one for a Universal Digital Channel Unit (UDC) issue that required a dispatch out and the second for a facilities error that was resolved manually by the LPC before the QCCC could reach the LPC for follow up.[11] The elapsed time for all BHC service orders processed on December 11, 2003, was 51 minutes.

[11] Both of these issues were resolved prior to the Due Date.

We also observed the BHC service orders processed by the QCCC on Friday, December 12, 2003. All of the service orders went through the automated flow-through process, however, we observed five service orders that required manual follow up by the QCCC. The orders that required manual handling consisted of one order that had a line short in the loop and required a dispatch out from the CO to resolve. The other four service orders that required manual handling were resolved by LPC Consultants. One of the service orders was resolved before the QCCC could reach the LPC for follow up. Refer to Exhibit 10 for results of preliminary live trial. The elapsed time for all BHC service orders processed on December 12, 2003, was 38 minutes.

CO Observations

The Qwest CO facilities are responsible for operating and maintaining the core telephony assets (e.g. main distribution frame, interconnection distribution frame, etc.) that are involved in the BHC process. Under the BHC process, the CO receives a spreadsheet from the QCCC that contains a list of the work orders included in the BHC.

We observed the BHC procedures performed at CO #1 on Wednesday, December 17, 2003, and Thursday, December 18, 2003. The BHCs performed on these two days represented the LSRs received on Wednesday, December 10 and Thursday, December 11, 2003, respectively. We observed 25 BHCs performed on December 17 and 23 BHCs performed on December 18, 2003. Two orders with Due Dates on December 18, 2003, had their Due Dates delayed and were later cancelled by the CLEC for the following reasons: In the first case, the CLEC input an incorrect Service Provider Identification Code (SPID) on the LSR. The SPID on the order was for a different CLEC and if cut over, the number would have incorrectly ported to another CLEC. The second cancellation was due to an issue with an off-premises extension.

During these two days we observed the following procedures performed in the Qwest CO:

- Review of the spreadsheet with orders and wiring information;
- Dial tone test;
- Installation of interconnection distribution frame jumpers;
- Installation of main distribution frame jumpers;
- Qwest and CLEC ANI checks;
- Physical lift and lay of the copper pair;
- Protector Distribution Frame (PDF) dial tone check; and,
- Updates to WFA-DI.

During our observations of the BHC trial, we recorded the following average elapsed time to complete each CO procedure:

Illustration 5: Average Elapsed Time for Each DVA Procedures

CO Procedure	Average Time Per TN (December 17, 2003)	Average Time Per TN (December 18, 2003)
Review spreadsheet	16 seconds (Note 1)	16 seconds (Note 1)
Dial Tone Test	22 seconds	24 seconds
Installation of IC distribution frame jumpers	2 minutes 46 seconds	3 minute 2 seconds
Installation of main distribution jumpers	1 minute 17 seconds	1 minute 53 seconds
Total Average Time for DVA Procedures	**4 minutes 41 seconds**	**5 minutes 35 seconds**

Note 1: These figures represent the average times recorded in the second round live trial.

Illustration 6: Average Elapsed Time for Each Due Date Procedures

CO Procedure	Average Time Per TN (December 17, 2003)	Average Time Per TN (December 18, 2003)
Review spreadsheet	N/A (Note 2)	N/A (Note 2)
Qwest and CLEC ANI tests & Lift and Lay	1 minute 17 seconds	1 minute 36 seconds
PDF dial tone checks	17 seconds	29 seconds
Update WFA	43 seconds (Note 1)	43 seconds (Note 1)
Total Average Time for CO Procedures	**2 minutes 17 seconds**	**2 minutes 48 seconds**

Note 1: These figures represent the average times recorded in the second round live trial.

Note 2: Review of the spreadsheet was only performed once because the steps for DVA and Due Date were performed on the same day.

The preliminary live trial piloted the proposed BHC process that was discussed during the CLEC Forum on December 3-5, 2003. In this trial the pre-wire and hot cut tasks were both performed on the Due Date. During the second round live trial on January 12 thru 19, 2004, Qwest modified the process based on feedback received from the CLEC forum. The revised BHC process dated January 9, 2004, performs the pre-wire activities on DVA and hot cut procedures on Due Date. Therefore, for comparison with additional trials, we have separated the elapsed work time for the pre-wire and hot cut procedures in the following table:

Illustration 7: Elapsed Time for Preliminary Live Trial

Date	Volume of TNs Included in Batch	Elapsed Work Time for Pre-Wire Procedures	Elapsed Work Time for Due Date Procedures	Time Required for CO BHC Procedures	Total Elapsed Time for CO BHC Procedures; Question and Answer with COT
December 17, 2003	25	1 hour 57 minutes	57 minutes	2 hours 54 minutes	6 hours 37 minutes (Note 1)
December 18, 2003	23	2 hours 20 minutes	1 hour 9 minutes	3 hours 29 minutes	4 hours 25 minutes

Note 1: Time includes rework associated with a process error that occurred in the CO BHC procedures on Due Date.

Summary of Preliminary Live Trial

During both days of the preliminary live trial, Qwest met 100% of its commitments on time.

There were no trouble reports for these TNs during the 30 days following the BHC.

Second Round Live Trial of the BHC Process

The second round live trial of the BHC process was conducted in CO #2 and CO #3. The BHC process began on Monday, January 12, 2004, with the submission of 26 LSRs that contained 52 BHCs. The LSRs submitted on that day represented 26 migrations from UNE-P to UNE-Loop submitted in nine LSRs and 26 Centrex migrations submitted in 17 LSRs. In addition to monitoring the process through system-captured times, our consultants were on-site at the CO facilities to observe the orders processed.

Service Delivery Observations

The BHC LSRs were processed by Service Delivery on Monday, January 12, 2004. Each TN that qualified for automatic flow-through in Service Delivery had a FOC issued within one minute. The only LSRs that fell out for manual handling were the Centrex orders, which were anticipated. LSRs received with Centrex orders may fall out to manual handling in Service Delivery due to the fact that there may be a pending order on the account.

The average manual processing time for Centrex LSRs through Service Delivery was 46 minutes. Orders that fell out for manual handling and were handled by the SDC also had a FOC issued within one minute of the completion. The average LSR processing time for both manual handling and automatic flow-through in the Service Delivery Center was 39 minutes. Based on discussion with Qwest personnel, Centrex comprises approximately 20% of the total embedded base of UNE-P.

QCCC Observations

The BHC service orders were processed in the QCCC on Monday, January 12, 2004. All the orders went through the automated flow-through process and none required manual follow up by the QCCC. Two orders that had been rejected were processed on January 13th.

CO Observations

We observed the BHC procedures performed at CO #2 and CO #3 for both the DVA Date, Thursday, January 15, 2004, and Due Date, Monday, January 19, 2004. The BHCs performed on these two days represented the LSRs received on Monday, January 12, 2004. We observed 26 BHCs performed in each location.

On the DVA Date, Thursday, January 15, 2004, we observed the following procedures performed in both COs:

- Review of the spreadsheet with orders and wiring information.
- ANI and dial tone test.
- Installation of interconnection distribution frame jumpers.
- Installation of main distribution frame jumpers.

On the Due Date, Monday, January 19, 2004, we observed the following procedures performed in both COs:

- Review of the spreadsheet with orders and wiring information.
- Qwest and CLEC dial tone and ANI tests.
- Physical lift and lay of the copper pair.
- Updates to WFA-DI.

During our observations of the second round live trial we recorded the following average elapsed time to complete each CO procedure:

Illustration 8: Average Elapsed Time Per DVA Procedure

CO Procedure	Average Time Per TN (CO #3)	Average Time Per TN (CO #2)
Review spreadsheet	16 seconds	16 seconds
Dial Tone Test	(Performed along with MDF jumpers)	44 seconds
Installation of ICDF jumpers	1 minute 44 seconds	1 minute 39 seconds
Installation of main distribution jumpers	1 minute 9 seconds	1 minute 48 seconds
Total Average Time for DVA Procedures	**3 minutes 9 seconds**	**4 minutes 27 seconds**

Illustration 9: Average Time Per Due Date Procedure

CO Procedure	Average Time Per TN (CO #3)	Average Time Per TN (CO #2)
Review spreadsheet	16 seconds	16 seconds
Qwest and CLEC ANI tests & Lift and Lay	1 minute 21 seconds	1 minute 30 seconds
PDF dial tone checks	Note 1	Note 1
Update WFA	28 seconds	58 seconds
Total Average Time for Due Date Procedures	**2 minutes 5 seconds**	**2 minute 44 seconds**

Note 1: Neither CO had a separate PDF from the MDF so the PDF checks could not be performed.

We compiled the following elapsed work times in the CO for the second round live trial of the BHC process. The following elapsed times include the total work time to perform the pre-wire (DVA) and Due Date (Due Date) procedures.

Illustration 10: Elapsed Times for the Second Round Live Trial

Date/ Location	Volume of TNs Included in Batch	Elapsed Work Time for Pre-Wire Procedures	Elapsed Work Time for Due Date Procedures	Total Elapsed Work Time for CO BHC Procedures	Total Elapsed Time for CO BHC Procedures; Question and Answer with COT
January 19, 2004 (CO #3)	26	1 hour 22 minutes	54 minutes	2 hours 16 minutes	2 hours 48 minutes
January 19, 2004 (CO #2)	26	1 hour 56 minutes	1 hour 11 minutes	3 hours 7 minutes	3 hours 14 minutes

The second round live trial piloted components of the revised BHC process that was discussed during the CLEC Forum on January 6 thru 8, 2004. The pre-wire activities were performed on DVA and hot cut procedures on Due Date.

Summary of Second Round Live Trial

During the second round live trial, Qwest met 100% of its commitments on time. In addition, there were no trouble reports for these TNs as of the writing of this report following the BHC, although the 30 days were not up.

The findings for the second round live trial represented an improvement preliminary live trial.

Differences in times for the COs can be attributed to several factors including:

- The physical size and layout of the COs and the installed equipment. For example, larger COs require more travel time (walking) between larger frames. Moreover, in CO #1 and CO #2, the vertical and horizontal side of the ICDF were facing opposite directions. In CO #3, they were both facing the same direction and therefore easier to wire.
- Unique COTs at each site.

Comparison of Hot Cut Process to the BHC Process

In comparing the BHC process to the hot cut process, we focused on two areas, as previously mentioned in this report, in the section titled “Testing Procedures Performed”. These are:

- BHC communication between Qwest and CLECs
- Updates to the CO workflow

BHC Communication between Qwest and CLECs

As part of the BHC process, three changes are being made which will have a major effect on the communication process between Qwest and the CLEC.

- TNs are grouped by CO by CLEC and not by LSR. This results in having a larger number of TNs per batch.
- Only basic Reuse orders are allowed, thereby, information shared between the parties is less extensive than the amount of data communicated through coordinated and new orders.
- Orders that have NDT or an incorrect ANI on Due Date are immediately removed from the BHC. No resolution process is required.

Each of these changes would reduce the amount of coordination required between the CLEC and the QCCC. However in addition, Qwest is developing an online order status tool to communicate order status directly from the CO to the CLEC. The QCCC, in this process, will monitor the communications tool from the Qwest side and resolve any issues that arise. All current standard communications between the CO and the CLEC through the QCCC will be eliminated. All correspondence regarding NDT and incorrect ANI on Due Date will also be eliminated.

For comparison to the use of the online order status tool, observations of Plain Old Telephone Service (POTS) Provisioners at the QCCC were performed over the week of November 17, 2003, and January 15, 2004. During both visits, observations included monitoring the Provisioners, listening to their phone calls and understanding the nature and duration of the calls. The observations demonstrated that the Provisioner is currently involved in multiple types of orders including basic Reuse, coordinated Reuse and new orders. Each call series is based on an individual LSR (multiple TNs can exist per order). However, the average number of TNs associated with each LSR, based on the average number of TNs per LSR from January 2002 to December 2003, is 1.80. Servicing orders

individually results in Provisioner workload that averages 30 TNs per Provisioner per day. This is, in part, due to the many telephone calls that the Provisioners perform using the existing hot cut process.

To better understand the impact on the BHC process, actual workflow steps that would be removed by the online tool were recorded during the January 15, 2003 visit. The results of these observations are shown below.

Illustration 11: CLEC Notification Time Measurement

QCCC Service Representative Phone Call	Average Time Per Call
Call from COT to QCCC about cuts being completed	30 seconds
Call to CLEC from QCCC about cuts being completed	56 seconds
Call from CLEC to QCCC about acceptance of cuts	30 seconds
Completing the paper OSSCN form	60 seconds
Total impact per order	**2 minutes 56 seconds**

For each call type above, there were seven orders used to calculate the averages shown. While not a representative sample, our observations yielded very similar call times across all orders, and the largest variation in any of the calls was 20 seconds.

Calls conveying NDT and incorrect ANI were also observed as shown below:

Illustration 12: CLEC Communication Time Measurement

QCCC Provisioner Phone Call	Average Time Per Call
Call from CO to QCCC notifying them of problem	2 minutes
Call from QCCC to CLEC notifying them of problem	2 minutes
Call from CLEC to QCCC telling them problem was fixed	10 seconds
Call from QCCC to CO telling them problem was fixed	10 seconds
Total time per order	**4 minutes 20 seconds**

The average times above are representative of two observed instances. Each instance had a variance in each call of a few seconds. No data is available to demonstrate the frequency of NDT and incorrect ANIs. Qwest believes that approximately 20% of all orders have at least one line failing the DT/ANI test.

Consequently, assuming the projected volume of 3,600 lines per day, an average of 1.80 lines per LSR, the BHC process changes and the online communication tool would save approximately 5,867 minutes per day (two minutes 56 seconds per order x 3,600 TNs/1.80 TNs per call series). The time savings on the estimated 20% of orders that have NDT or incorrect ANI is 1,733 minutes (20% of 3,600 TNs/1.80 TNs per call series x 4 minutes 20 seconds). The combined amount of time saved per day is 7,600 minutes, or approximately 127 staff-hours per day over the current process.

The process efficiencies estimated above for the BHC process do not account for all of the potential savings. Our analysis included efficiencies gained from automating the QCCC communication time for orders that complete without issue and for NDT and ANI issues encountered on Due Date. To the extent that there are other types of issues that require communication, there may be additional communication efficiencies resulting from the BHC process.

CO Workflow

We compared the CO workflow between the current hot cut process and the BHC process during visits to COs throughout our study. We measured the time required under the existing process on January 13, 2004, in the Dry Creek CO in Denver, January 14, 2004, at the CO in Arvada and January 15, 2004, at the Colorado Springs Main CO. During each of these visits, we observed COTs performing the steps of the hot cut process and recorded times associated with the process. The observations consisted of three DVA orders and 35 Due Date orders.

During the DVA steps for the current hot cut process, the COT performs the pre-wire for one order at a time. The COT would wire the ICDF jumper, then immediately move to the MDF to install that jumper for each line needing to be wired on that day. For the BHC process, the COT(s) wire all of the ICDF jumpers before moving to the MDF frame. Time savings associated with the travel time from the ICDF to the MDF is variable based on the unique CO layout. The average was 90 seconds for the COs we visited.

The impact to the CO, using the assumption that there are 100 lines per CO per day, of saving 90 seconds per line time difference aggregates to 37.5 (90 * 25/ 60) minutes per CO or a maximum of 150 (90*100/60) minutes saved per day per CO per batch. The COT travel time is the primary efficiency of the BHC process when compared with the existing hot cut process.

Overall Trial Testing Considerations

The trials were conducted with a high level of scrutiny from Qwest, Hitachi Consulting and the participating CLEC. The high level of scrutiny and the number of people standing around the frames is likely to have affected COT productivity in some circumstances, increasing the overall activity times. For example, the COTs may have been hindered in some cases due to maneuvering around so many observers and answering questions while performing the cuts. We excluded some of the discussion time from the testing results but were unable to remove all disruption completely.

We have tested the largest volumes available to us during the course of our work. While this does not represent a test of the maximum volume per CO or for the whole organization, results to date suggest a high degree of success, particularly in the second round live trial and suggest that, assuming the BHC process is used, the COs can easily perform Due Date activities for the forecasted volumes. I also note that, based on the aforementioned volume

forecast, the largest CO in Minnesota would only have to perform 64 BHCs per business day during the 21 month conversion period.

12. Staffing the BHC Process

The BHC process will require incremental headcount in Service Delivery, QCCC and CO organizations. During our review of the BHC process, we met with representatives from each of these organizations to discuss Qwest's plans for staffing the BHC process. Based on our discussions and review of preliminary staffing plans, we see no reason to anticipate obstacles in finding the resources required to perform the BHC process.

Service Delivery Staffing

We spoke with Russ Urevig, Senior Process Analyst, about the ability of Qwest's Service Delivery Center to scale its resources based on the forecasted volumes when the BHC process is implemented. Mr. Urevig forecasted growth of the department based on the volume estimates developed by Robert Brigham, Staff Director of Public Policy. Mr. Urevig's calculations were based on three areas of need:

- Manual Handling;
- CFA Changes; and,
- Call Handling.

Based on Mr. Urevig's estimates, the Service Delivery Centers have existing facility capacity, including computers, for two-thirds of the forecasted volume of headcount growth that would be required. The other one-third can easily be outsourced to the third party contractor currently working with Qwest.

QCCC Staffing

We discussed the ability of the QCCC to scale from current volumes to the forecasted daily volumes documented in the section of this report titled "Qwest Historical Hot Cut Volumes and Volume Forecast" with Mary Pat Cheshier, Director of the QCCC. Ms. Cheshier noted that under the proposed BHC process, nearly all of the QCCC functions have been automated. For the existing process a substantial portion of the QCCC Service Representatives' time is spent communicating order status to the CLECs. This process will be automated with the implementation of the online order status tool. The QCCC will be required only to monitor the tool for CLEC updates related to CLEC jeopardy issues and update the CO as needed. Therefore, additional human resource requirements for the BHC process will be minimal.

The QCCC will be more significantly impacted by the growth in new UNE-Loop, as it is anticipated that much of this will not be done in batch. This will require significant additional headcount, which Ms. Cheshier anticipates she will begin hiring in October 2004. The QCCC has space in its existing facility to house this headcount. No problem is anticipated in hiring the additional headcount. Ms. Cheshier notes that when she opened the QCCC two and one half years ago, she hired and trained approximately 90 people. Most of these people were internal transfers already familiar to varying degrees with Qwest's processes and systems.

CO Staffing

We discussed the ability of the Qwest COs to scale from current volumes to the forecasted daily figures documented in the section of this report titled "Qwest Historical Hot Cut Volumes and Volume Forecast," with Jim Barganski, Manager, Program and Project Management. Mr. Barganski indicated that Qwest intends to staff the BHC process with dedicated COTs. Mr. Barganski also mentioned that the BHC process does not require any special skills and that every COT within Qwest is qualified to perform a BHC. Nonetheless, Mr. Barganski and

Qwest have committed to training its COTs on the new process, once it is approved by each affected state commission.

Qwest has estimated that approximately 100 additional COTs will be required to perform the BHC process. Mr. Barganski indicated that the staffing for new COTs is typically accomplished through a combination of internal transfers, hiring of new employees and contract supplemental staffing. Qwest has performed special projects in past that have required incremental headcount. During those projects Qwest did not experience difficulty staffing additional COTs.

We also met with Gale Todd, Director of Occupational Staffing, at Qwest. Gale mentioned that Qwest currently employs approximately 2,000 COTs. In addition, she mentioned that Qwest does not experience difficulty recruiting and hiring for the COT position.

13. Conclusion

Qwest has demonstrated the ability to process large volumes of hot cuts using its existing process:

- Qwest has performed more than 1,000 hot cuts on 28 days in the last two years. The maximum number of hot cuts per day during this period was 1,631;
- Qwest has demonstrated the ability to perform more than 50 hot cuts per day in 73 COs during 2002 and 66 COs in 11 states during 2003. Qwest has repeatedly performed in excess of 100 hot cuts in a CO in a day, with trouble rates of less than 1%; and,
- Qwest has demonstrated the ability to consistently cut large volumes of lines in a CO on a series of consecutive days.

Based on Qwest's volume forecasts, Qwest would be required to cut over a maximum of approximately 3,600 lines per day during the 21 month migration period. The largest CO in Minnesota, for example, would have to perform 64 BHCs each business day during the 21 month period.

Qwest has designed a new BHC process. This process introduces significant efficiencies over the hot cut process through front-end edit checks, process automation and streamlining of manual processes. We have measured the benefit of several of these differences. The results indicate that the process is substantially faster than the current process and the differences we measured save many hours per day at the projected volumes.

We have tested this process with live data and the process works.[12] Our testing to date has included four batches of approximately 25 TNs per batch. In all cases, all commitments were met and no troubles were reported for the first round of testing within the first 30 days.[13] Qwest met 100% of its commitments and, based upon the benchmarks set by the FCC of an on-time hot cut performance at 90%, Qwest demonstrated an ability to meet and exceed this benchmark.

Extrapolation of the Due Date activities of the COs for each of the live trials indicates that a team of two COTs should be able to complete them in the course of an eight-hour shift. Any remainding time in the shift, plus other shifts, could be used to conduct pre-wire activity for other batches.

The process improvements not available for testing will only serve to expedite the process and create additional efficiencies. Therefore, actual performance should be better than that experienced in our testing.

[12] We note however, that some portions of the process, such as the online order status tool, are not yet available to test.
[13] The second round was cut only four days prior to issuance of this report. At this date, we cannot comment on trouble status.

To scale to the Qwest forecasted volumes, additional resources will be required. Each of the key departments have plans to scale as required. We have discussed these plans with department management and nothing has come to our attention to suggest that they are unreasonable.

In my opinion, based on the above, the BHC process as proposed represents significant improvements in efficiency with similar levels of quality compared to the existing hot cut process. Nothing has come to my attention to suggest that this process will not scale to the forecasted volumes.

Respectfully Submitted,

Lorraine Barrick