RESPONSE OF MCI WORLDCOM NETWORK SERVICES, INC. TO PENNSYLVANIA PUBLIC UTILITY COMMISSION'S APPENDIX B INTERROGATORIES DATED OCTOBER 3, 2003, DOCKET NO. M-00031754, Interrogatory No. 1

Answered by: Earle Jenkins

QUESTION: Describe the hot cut process currently used to transfer lines from the ILEC switch to the CLEC facilities.

ANSWER: See the attached process flow, which is MCI's understanding of the current process based on publicly available information.

RESPONSE OF MCI WORLDCOM NETWORK SERVICES, INC. TO PENNSYLVANIA PUBLIC UTILITY COMMISSION'S APPENDIX B INTERROGATORIES DATED OCTOBER 3, 2003, DOCKET NO. M-00031754, Interrogatory No. 2

Answered by: Earle Jenkins

QUESTION: List each task that is part of the current process. Provide the average time it takes to complete the task, the typical occurrence of the task during the process, the labor rate for the task, and the common overhead loading associated with the labor rate. Indicate the source of the data; i.e. time/motion studies, SME analysis, etc.

ANSWER: See the response to Interrogatory #1 for each task. With respect to the times and rates, MCI has not yet completed its analysis of the current process. MCI reserves the right to comment upon the information included in Verizon's response regarding its times and rates.

RESPONSE OF MCI WORLDCOM NETWORK SERVICES, INC. TO PENNSYLVANIA PUBLIC UTILITY COMMISSION'S APPENDIX B INTERROGATORIES DATED OCTOBER 3, 2003, DOCKET NO. M-00031754, Interrogatory No. 3

Answered by: Earle Jenkins

QUESTION: Describe a batch hot cut process that you would implement to meet the FCC's requirement to establish a batch hot cut process. Include an estimate of the maximum number of lines per batch.

ANSWER: See the attached testimony and exhibits filed in New York on October 24, 2003. The attached is the expurgated version. MCI needs to receive Pennsylvania-specific information from Verizon in order to make the analysis specific to Pennsylvania.

With respect to the maximum number of lines per batch, MCI notes, as discussed in the testimony, that a process that contains highly manual steps, as Verizon's process does, creates severe limits on the number of lines that can be cutover, and does not meet the FCC's requirement relative to a seamless, low-cost and scalable hot cut process.

RESPONSE OF MCI WORLDCOM NETWORK SERVICES, INC. TO PENNSYLVANIA PUBLIC UTILITY COMMISSION'S APPENDIX B INTERROGATORIES DATED OCTOBER 3, 2003, DOCKET NO. M-00031754, Interrogatory No. 4

Answered by: Earle Jenkins

QUESTION: List each task that is part of the batch hot cut process described in the answer to the preceding question. Provide the average time it takes to complete the task, the typical occurrence of the task during the process, the labor rate for the task, and the common overhead loading associated with the labor rate.

ANSWER: See the attached testimony and exhibits filed in New York on October 24, 2003. The attached is the expurgated version. MCI needs to receive Pennsylvania-specific information from Verizon in order to make the analysis specific to Pennsylvania.

With respect to the maximum number of lines per batch, MCI notes, as discussed in the testimony, that a process that contains highly manual steps, as Verizon's process does, creates severe limits on the number of lines that can be cutover, and does not meet the FCC's requirement relative to a seamless, low-cost and scalable hot cut process.

RESPONSE OF MCI WORLDCOM NETWORK SERVICES, INC. TO PENNSYLVANIA PUBLIC UTILITY COMMISSION'S APPENDIX B INTERROGATORIES DATED OCTOBER 3, 2003, DOCKET NO. M-00031754, Interrogatory No. 5

Answered by: Earle Jenkins

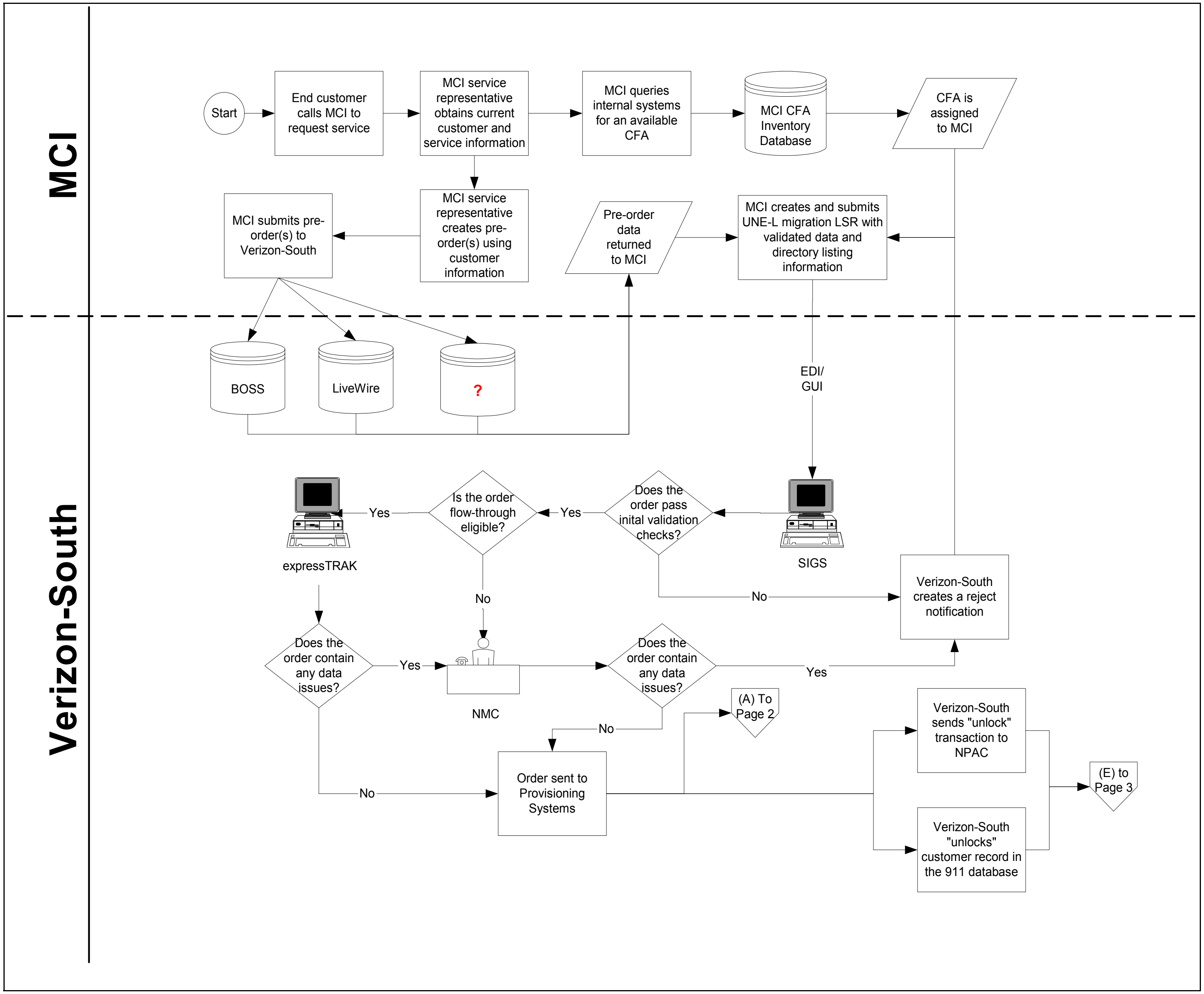
QUESTION: If UNE-P is no longer available, what monthly volumes of hot cuts would be required: (a) to migrate existing UNE-P customers to another form of service and (b) to connect new customers in the ordinary course of business. Provide supporting documentation for these volume estimates.

ANSWER:

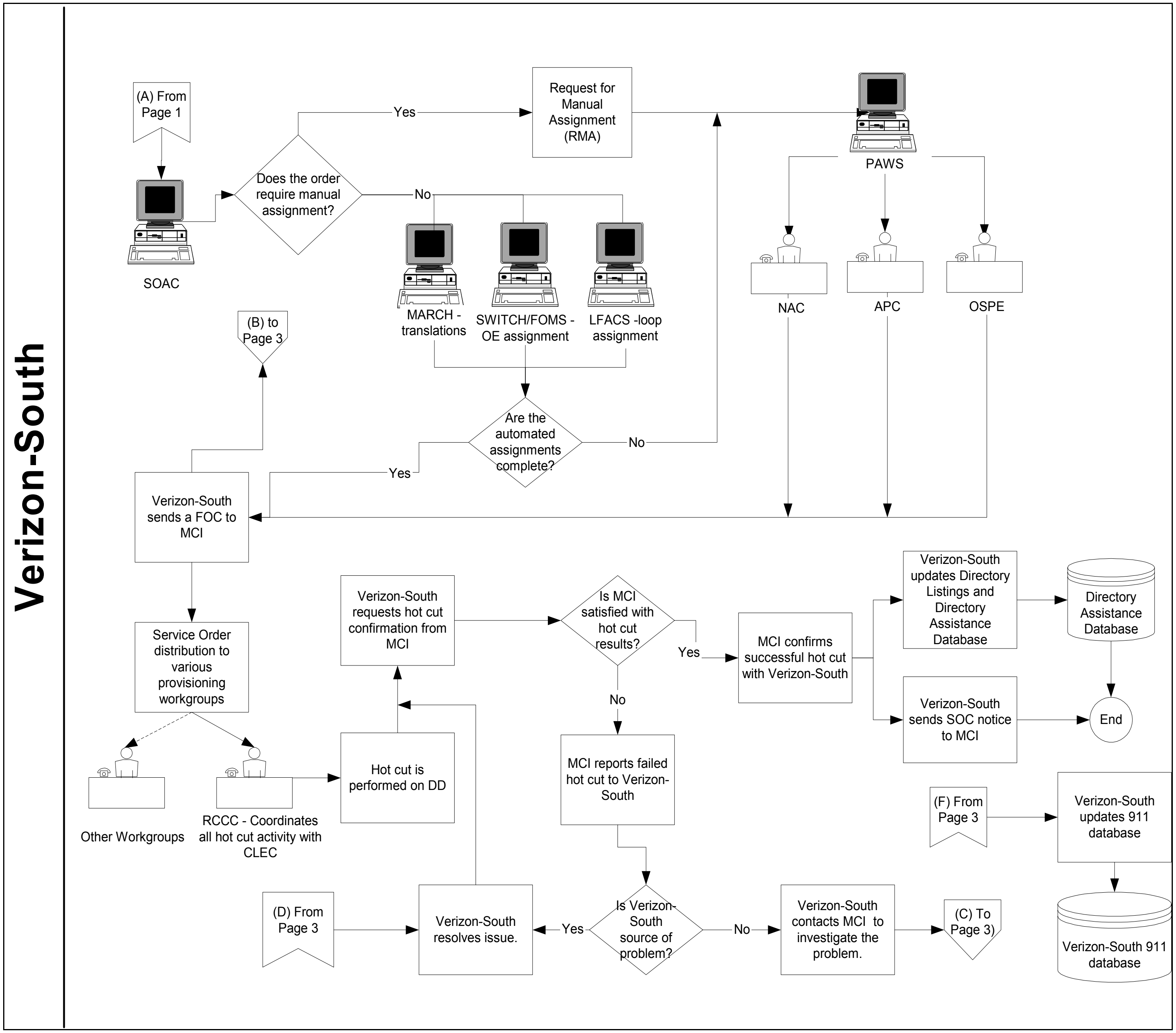
(a) Roughly 50% of MCI's end-customer lines are served by 14%, or 56, of Verizon's switches in Pennsylvania. Those 56 switches are located in LATAs 226 and 228. MCI assumed that this line dispersion is consistent with the CLEC marketplace. Thus, MCI looked at how many monthly migrations Verizon would have to perform in those 56 switches. MCI looked at Verizon's Carrier-to-Carrier Performance reports to determine the number of UNE-P lines in service as of August 2003, and modified that number to determine how many UNE-P lines exist in the 56 switches. Looking at historical data regarding growth and churn rates in Pennsylvania, MCI estimated the total number of UNE-P customers that would exist in the 56 switches as of December 2004 (an estimated earliest date that carriers would have to migrate to UNE-L if the impairment findings are successfully rebutted by Verizon). If Verizon were required to migrate all of the UNE-P customers to UNE-L in the 56 switches beginning in December 2004, MCI estimates that in order to migrate the existing UNE-P base in twelve months, *Verizon would have to migrate roughly 19,200 customers each month in those 56 switches alone.*

(b) In order to determine how many new customers would need to be provisioned using UNE-L, MCI again looked at the 56 switches noted above. Using Verizon's Carrier-to-Carrier Performance reports to determine the number of UNE-P and UNE-L lines being provisioned as of August 2003, MCI looked at historical data to determine growth and churn rates in Pennsylvania. Based on the estimated number of UNE-P and UNE-L lines that will be provisioned as of December 2003 in the 56 switches representing 50% of MCI's lines, MCI estimates that *Verizon would need to migrate roughly 39,000 orders per month in those 56 switches alone to connect new customers in the ordinary course of business.*

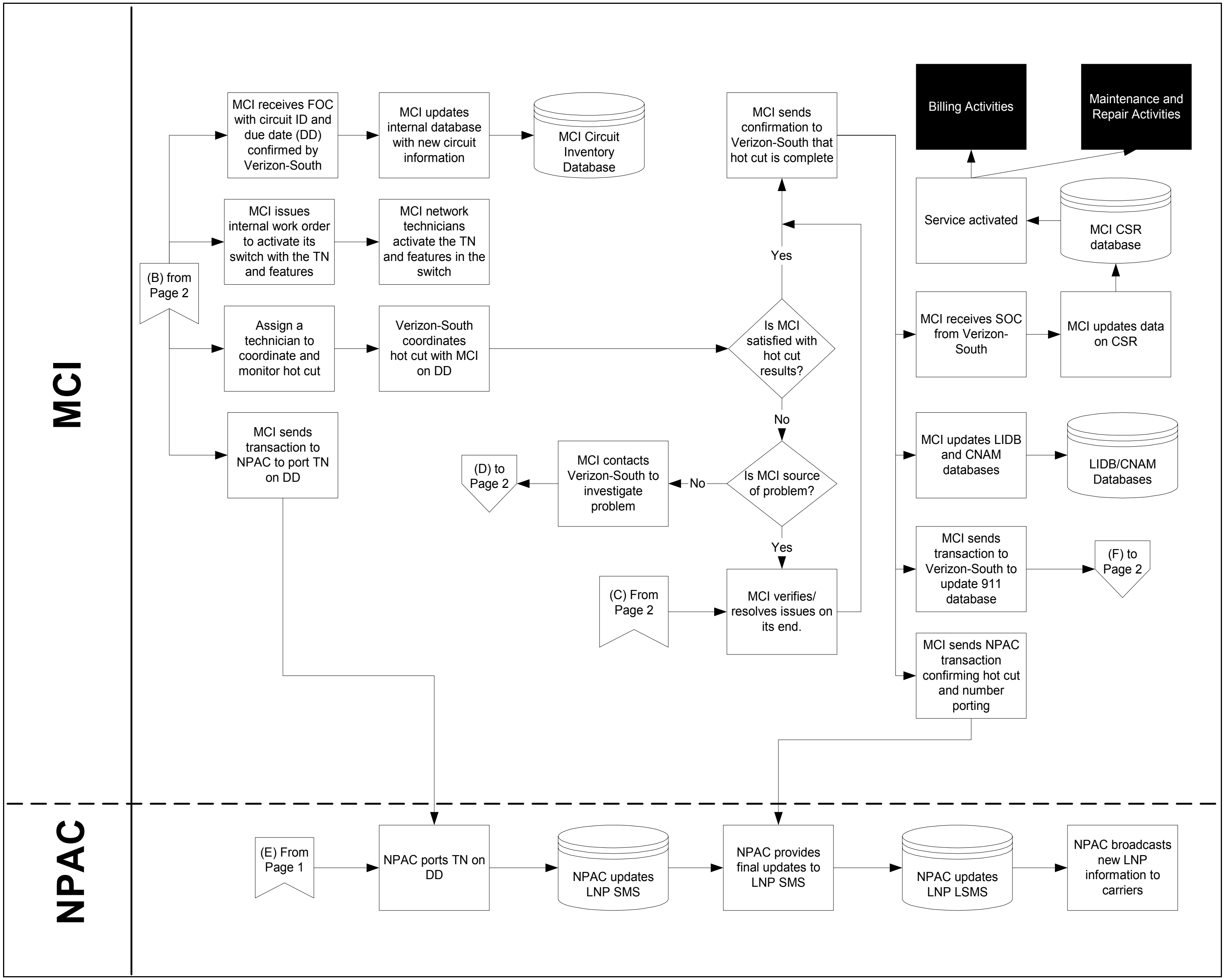
Verizon-South Retail to MCI UNE-L Migration



Verizon-South Retail to MCI UNE-L Migration



Verizon-South Retail to MCI UNE-L Migration



BEFORE THE STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Proceeding on Motion of the Commission to Examine the Process, and Related Costs of Performing Loop Migrations on a More Streamlined (e.g., Bulk) Basis	))))	**CASE 02-C-1425**

DIRECT TESTIMONY OF EARLE JENKINS AND MICHAEL STARKEY

ON BEHALF OF MCI

*****PUBLIC VERSION*****

October 24, 2003

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I. INTRODUCTION AND SUMMARY OF THE INITIAL TESTIMONY

A. QUALIFICATIONS OF MR. JENKINS AND MR. STARKEY

Q. MR. JENKINS, PLEASE STATE YOUR NAME, OCCUPATION AND BUSINESS ADDRESS.

A. My name is Earle Jenkins. I am President of SHS Consulting, a consulting practice specializing in telecommunications issues. My business address is PO Box 192, Holderness, N.H.

Q: PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.

A. I received a B.A. *cum laude* from Franklin Pierce College and an M.B.A. from Boston University.

Q. PLEASE SUMMARIZE YOUR PROFESSIONAL BACKGROUND.

A. I have over thirty–five years of operations experience in the telecommunications industry. My consulting practice, which I established in June 1996, focuses on Telco operations management, process evaluation and improvement. My consulting clients have included equipment manufacturers, CLECs, long distance carriers and large telcos in the United States as well as in Holland, England, Hungary and Canada.

Prior to launching my consulting business, I was employed by NYNEX Corp. for 29 years. My career spanned all levels of operations responsibility, as I progressed from central office craft technician to Vice President. As Vice President, I was responsible for the implementation of maintenance and workforce management process improvements throughout the NYNEX footprint.

In 2001, I was recruited by a United Kingdom-based company, FLAG Telecom, to establish a field, customer care, provisioning, and Network Operations Center ("NOC") organization. As Vice President–Operations, I supervised the successful development and implementation of an Operations Plan for a worldwide organization responsible for the management of a global fiber-optic submarine and terrestrial network.

In 2002, I returned to the United States and resumed my private consulting practice.

I have testified a number of times before state regulatory commissions on matters regarding nonrecurring charges and unbundled network element pricing. The details of my background are included in my curriculum vitae, attached hereto as Attachment 1.

Q. MR. STARKEY, PLEASE STATE YOUR NAME, OCCUPATION AND BUSINESS ADDRESS.

A. My name is Michael Starkey. I am President and Managing Partner of QSI Consulting, Inc. QSI Consulting, Inc. ("QSI") is a consulting firm specializing in regulated industries, econometric analysis and computer aided modeling. My business address is 703 Cardinal Street, Jefferson City, Mo.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND YOUR PROFESSIONAL EXPERIENCE.

A. Included with this testimony as Attachment 2 is a thorough description of my educational background and relevant work experience. In brief, in the past 12 years I have been employed by three state utility commissions (Missouri, Illinois and Maryland), most recently serving as the Director of Telecommunications for the Maryland Public Service Commission and before that, as Senior Policy Analyst for the Illinois Commerce Commission (Office of Policy and Planning). My experience with each of these state commissions included substantive analysis of federal and state administrative rules and law governing the relationship between ILECs and new entrant, competitive carriers. In addition, I have substantial experience with issues surrounding unbundled network elements ("UNEs") and their role in facilitating competition in the local exchange marketplace. Likewise, as a consultant for the past seven years I have represented competitive carriers, citizen groups, equipment manufacturers, state commissions and a host of other entities with respect to numerous telecommunications issues. Much of my experience with QSI's clients has involved direct implementation of the federal Telecommunications Act of 1996 ("Act"), the Federal Communications Commission's ("FCC's") rules further implementing the Act's pro-competitive objectives, and a number of individual state requirements aimed at fostering competition in the local exchange marketplace.

Q. MR. JENKINS, WHAT ARE YOUR PRIMARY AREAS OF RESPONSIBILITY WITH RESPECT TO THIS TESTIMONY?

A. I am primarily responsible for the sections of this testimony dealing with operational issues. I have also provided input to the sections that deal with pricing.

Q. MR. STARKEY, WHAT ARE YOUR PRIMARY AREAS OF RESPONSIBILITY WITH RESPECT TO THIS TESTIMONY?

A. I am primarily responsible for the sections of this testimony dealing with pricing issues. I have also provided input to the sections that deal with operations.

B. <u>EXECUTIVE SUMMARY OF THE TESTIMONY</u>

Q. WHAT ARE YOUR OVERALL RECOMMENDATIONS TO THE COMMISSION IN THIS PROCEEDING?

A. The Commission should not approve any bulk hot cut process proposed by Verizon until the process is demonstrated to be seamless, low-cost, and scalable to handle large volumes of mass market hot cuts in a timely fashion, as required by the FCC's *Triennial Review Order*. Verizon's current Large Job Project Hot Cut process does not meet these criteria and should not be approved. In order to achieve a bulk hot cut process that meets that test, Verizon should be required to make use of available technologies in which it is currently investing and which it is currently deploying in New York. For all-copper loops, Verizon should make use of Automated Distribution Frames ("ADF"), such as the "ControlPoint" product which it is currently purchasing from NHC. For fiber-fed loops, Verizon should make use of the electronic unbundling capabilities resident in the Litespan remote terminal equipment that it is deploying throughout New York. This involves electronic unbundling of loops via GR303-compliant IDLC systems. Finally, with respect to the cost of bulk hot cuts, the Commission should adopt the model and pricing recommendations that we are submitting along with this testimony, in which we recommend a per loop charge of $5.86 for bulk hot cuts, with a per-project set up charge of $34.33. Our pricing recommendations use Verizon's current process and the Commission's determinations in the Second Elements Proceeding as a baseline. Had we started from scratch, dedicating our analysis to a more diligent adherence to the FCC's TELRIC rules, the resultant model would have been quite different than that we've produced for this proceeding.

C. <u>INTRODUCTION</u>

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. Parties have been invited to file testimony regarding disputed hot cut operational issues as well as costing issues related to hot cuts. A series of rulings and orders have made clear that among the provisioning issues to be addressed are: (1) the scalability of Verizon's Large Job Hot Cut Process and its ability to handle large market volumes of mass market hot cuts; (2) the scalability of Verizon's individual hot cut process and its ability to handle mass market volumes; (3) proposals for different and improved means of providing bulk hot cuts; and (4) the application of Verizon's hot cut procedures to CLEC-to-CLEC migrations.

The testimony addresses these open issues and reaches the following conclusions: Verizon's Large Job Hot Cut Process is unable to handle large volumes of mass market hot cuts; Verizon's individual hot cut process is similarly unable to handle mass market volumes; and Verizon fails to demonstrate that its processes can function in a dynamic environment where customers switch their service from CLEC to CLEC on an ongoing basis. The testimony also includes proposals for improving the hot cut processes by making use of currently available technologies and addresses the pricing issues associated with Verizon's hot cut processes.

Q. MR. JENKINS AND MR. STARKEY, PLEASE SUMMARIZE YOUR TESTIMONY.

A. We have reached the following conclusions:

- Verizon's Large Job Project Hot Cut Process is not seamless.
- Verizon's Large Job Project Hot Cut Process is not low-cost. (A "seamless and low cost" batch hot cut process would not result in rates anywhere near the $185 per loop hot cut nonrecurring charge that was approved by the Commission in 2002.)
- Verizon's Large Job Project Hot Cut Process is not scalable to handle large volumes of mass market customers.
- Verizon's Large Job Project Hot Cut Process does not result in timely hot cuts.

It first must be understood that Verizon's Large Job Project Hot Cut Process was not designed to handle the day-to-day ordering and provisioning activity for mass market competition that exists in New York today. By Verizon's own admission, the Large Job Project Hot Cut process was not designed to "handle [a] large volume of geographically-scattered orders on a day-to-day basis." Rather, the Large Job Hot Cut Process was designed to "move a mass of lines in a specific central office for a specific CLEC."[1] Therefore, it should be clear from the onset that Verizon's Large Job Hot Cut Process was not designed to handle – and, in fact, cannot handle – the day-to-day migrations requiring hot cuts that can be expected in the future in the mass market if CLECs such as MCI attempt to use UNE-L to serve the mass market. According to Verizon's self-reported data, CLECs ordered an average of nearly 250,000 UNE-P lines per month in New York from March through August 2003.[2]

Because Verizon's Large Job process is inherently manual both on the coordination end and the provisioning end, the process is severely limited in its ability to handle large volumes of loops in a timely manner. Verizon's own policy limits the application of the Large Job Project Hot Cut Process to 150 lines per day, excluding IDLC loops, within two central offices within a Verizon manager's area, for the entire industry. And, even so, there is no evidence that Verizon could actually provision those maximum volumes day in and day out.

Also, the Large Job process has no standard provisioning intervals. Because the process is so manually intensive, and because it does not make use of currently available technologies that could dramatically reduce the need for manual intervention, Verizon's Large Job Hot Cut Process is not scalable to meet any foreseeable volumes above and beyond the small volumes that Verizon handles today.

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[1] Case 02-C-1425, Verizon Handout "Bulk Hot Cut Proceeding" (June 30, 2003) at 2.

2 See Case 97-C-0139, Carrier-to-Carrier Performance Standards and Reports, Verizon New York Mar. – Aug. 2003, CLEC Aggregate Performance, Provisioning UNE POTS / Special Services, PR-4 (denominator only).

The same conclusion holds true for the scalability of Verizon's individual hot cut processes. This should be expected, given that Verizon has conceded that its "hot cut process for UNE-P to UNE-L conversions is substantially the same as the process for retail to UNE-L conversions."[3] Verizon's individual hot cut processes are manually intensive, and while the Commission may have determined that they are sufficient for current volumes,[4] they plainly are not sufficient to handle increased volumes that would result in the absence of UNE-P or if large carriers in the mass market used UNE-L.

At best, Verizon's Large Job Hot Cut Process should therefore be viewed as a partial transition mechanism, designed to move a set of loops within a specific central office for a specific CLEC from one service delivery mechanism to another. But even then, the existing process is not robust enough to handle mass market volumes. A typical application of the process would be to move a finite set of loops from the UNE-P service delivery mechanism to UNE-L. It should not be viewed as a vehicle to handle the day-to-day migration transactions that will occur in a dynamic competitive market.

Q. IS IT POSSIBLE TO IMPROVE VERIZON'S HOT CUT PROCESSES, EITHER BULK OR INDIVIDUAL?

A. Many of these deficiencies cannot be remedied so long as Verizon relies so heavily on manual coordination and provisioning steps. Nevertheless, a number of these deficiencies could be addressed if Verizon were to take advantage of automation that is provided by currently available technology in which Verizon is investing and which it is deploying in New York today.

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[3] Case 02-C-1425, Responsive Comments of Verizon New York Inc. (May 23, 2003) at 11 ("Verizon May 2003 Comments").

Therefore, using Verizon's existing Large Job Project Hot Cut Process as a baseline, coupled with the activity descriptions described in Verizon's NRC workpapers filed in response to the *UNE Rate Order* in the Second Elements Proceeding (the "Compliance Filing"),[5] the testimony recommends a number of steps that can be taken to streamline and improve the existing process by eliminating unnecessary manual steps and replacing them with electronic and automated processes. If implemented, theoretically, these recommendations would permit Verizon to handle the mass market volumes that would result if UNE-P were eliminated or if all carriers decided to provision their mass market customers via UNE-L.

As an example, currently available ADF technologies in which Verizon is investing can substantially reduce the need for manual provisioning of hot cuts for all-copper loops. Likewise, for fiber-fed loops, if Verizon were to make more extensive use of the GR303 capabilities that are resident in the network equipment that it has already deployed and continues to deploy throughout New York, the need for manual provisioning could be eliminated or severely reduced, thereby removing the primary obstacle to scalability and cost-effectiveness. This Commission has already concluded that electronically unbundling loops at the DS0 level through GR303 is technically feasible, [6] and this testimony discusses how such unbundling should be done. The efficiencies that would be gained by utilizing ADF technology and GR303 technology apply equally to bulk hot cuts and to individual hot cuts.

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4 Case 02-C-1425, *Order Instituting Proceeding* (Nov. 22, 2002) at 2.

5 Exhibit Part G (BA-NY Wholesale Nonrecurring Costs Model).

This testimony discusses a process by which the Commission can begin the development necessary to transform Verizon's current manually intensive hot cut processes to a more automated and streamlined process based on the use of currently available technologies. There will have to be a middle ground, however, because it is unrealistic to expect a flash cut from the current technologies to those that MCI recommends. The testimony therefore proposes specific steps that can be implemented today that will provide moderate improvements to the current processes. These proposed improvements are generally in the coordination phase of the project hot cut, however. The provisioning phase can only be streamlined by introducing new technologies such as ADFs and electronic provisioning via GR303 compliant IDLC systems.

Q. HAVE YOU MADE RECOMMENDATIONS REGARDING THE PRICING OF A BULK HOT CUT PROCESS?

A. Yes. The testimony discusses the proper costing and pricing of a bulk hot cut process. We have developed a forward-looking process model that has produced a rate of $5.86 for bulk hot cuts, with a per-project set up charge of $34.33 (which includes the initial line). Our recommendations use Verizon's existing processes and the Commission's determinations in the Second Elements Proceeding as a baseline. If we had not done so, we expect that our recommended rates would be lower.

This Commission has already reached a number of important conclusions regarding the assumption of the use of IDLC and GR303 technology when pricing hot cuts.

[6] Cases 98-C-1357, 00-C-1945, *Order on Unbundled Network Element Rates* (Jan, 28, 2002) at 95 ("UNE Rate Order").

Specifically, the Commission has found that nonrecurring charges in a TELRIC environment should be based, by 2002, upon a network with 100% IDLC connections.[7] The Commission has also found that an IDLC connection can be made with a single loop.[8] The FCC's *Triennial Review Order* also explicitly requires that a batch hot cut process be priced at TELRIC.[9] Consistent with the TELRIC pricing methodology, Verizon's Large Job Hot Cut Process must be costed on a forward-looking basis, not on the basis of Verizon's embedded (and highly manual) processes. The FCC's recent *Virginia Arbitration Order* makes this point clear when it rejects Verizon's existing non-recurring cost model based on the fact that it fails to model a forward looking network/operation, but instead, relies almost exclusively on "…existing processes and the existing network."[10]

This testimony describes a forward-looking provisioning method, based on 100% IDLC and GR303 compliant technology, upon which Verizon's Large Job Hot Cut Process and individual hot cuts should be costed. This testimony uses Verizon's existing Large Job Hot Cut Process as a starting point but introduces the efficiencies associated with GR303 over IDLC in order to develop rates far more consistent with the FCC's TELRIC standard than those rates proposed by Verizon in the past.

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7 Case 98-C-1357, *Recommended Decision* at 92.

8 *UNE Rate Order* at 95.

9 *Triennial Review Order* at ¶489.

10 *Memorandum Opinion and Order*, CC Docket Nos. 00-218 and 00-251 (rel. August 29, 2003) at ¶567.

II. VERIZON'S LARGE JOB PROJECT HOT CUT PROCESS IS NEITHER SEAMLESS, SCALABLE, TIMELY, NOR LOW-COST.

A. VERIZON'S LARGE JOB PROJECT HOT CUT PROCESS IS NOT SEAMLESS

Q: THE FCC'S TRIENNIAL REVIEW ORDER HAS DIRECTED COMMISSIONS TO APPROVE A "SEAMLESS" BATCH HOT CUT PROCESS. WHAT IS YOUR INTERPRETATION OF "SEAMLESS" IN THAT CONTEXT?

A. "Seamless" means seamless to the customer and to the CLEC. Seamless describes a fully automated process with no manual intervention (except in rare circumstances) that is able to migrate or transfer customers in a timely manner, with no service degradation or significant service interruption. A process that consists of a cacophony of manual and automated sub-processes that are patched together can hardly be deemed seamless. In short, a seamless process is a process that works efficiently with little or no manual intervention. This is consistent with the FCC's use of the term in the *Triennial Review Order*.[11] The process that CLECs and Verizon use today to migrate existing customers from Verizon local service to a UNE-P based local service is a good example of a relatively seamless process. The ordering process for UNE-P migrations is entirely automated and electronic. Except for the most uncommon order types, CLEC UNE-P orders should flow through Verizon's systems without any manual handling whatsoever. This is true even when the customer changes calling features upon migration to the CLEC. Also, Verizon is generally able to provision CLEC UNE-P migration orders within a five-day time frame, oftentimes within one day. For the most part, UNE-P migrations create no service degradation for the end user customer. And since early 2000, after Verizon fixed its defective OSS, Verizon has displayed no difficulty in receiving and

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[11] *Triennial Review Order* at ¶¶466-467.

provisioning mass market volumes of UNE-P migration orders. This represents a seamless process.

Q. ARE VERIZON'S HOT CUT PROCESSES SEAMLESS?

A. No, not at all. Verizon's Large Job Project Hot Cut process is not seamless, and neither is Verizon's individual hot cut process.

Q. WHY DO YOU CONCLUDE THAT VERIZON'S HOT CUT PROCESSES ARE NOT SEAMLESS.

A. Verizon's hot cut processes – both the Large Job and individual processes -- are not seamless primarily because they rely so heavily on manual activity. This reliance on manual activity pervades the entire process and creates bottlenecks and potential problems at every step of the way. The manual nature of Verizon's processes – both at the coordination stage and at the provisioning stage – negatively impacts Verizon's ability to provision large volumes of hot cuts in a timely manner. Given sustained mass market volumes of hot cut orders, Verizon's processes are susceptible to order backlog and, as a result, an increased risk of service degradation or out-of-service conditions for end user customers.

MCI and other parties have spent a great deal of time analyzing and discussing Verizon's Large Job Hot Cut Process in the technical workshops and written pleadings in this proceeding. While much has been learned about the hot cut processes Verizon proposes, it is clear that Verizon's process is not a "batch hot cut" process as contemplated by the FCC's *Triennial Review Order*. Rather, Verizon's Large Job Hot Cut Process is simply the way in which Verizon handles project hot cuts today, typically when an isolated set of loops within a central office for a business customer are being migrated from one service delivery method to another.

Q. WHY HAVE YOU CONCLUDED THAT VERIZON'S LARGE JOB PROJECT HOT CUT PROCESS IS NOT A "BATCH HOT CUT PROCESS" AS CONTEMPLATED BY THE FCC'S TRIENNIAL REVIEW ORDER.

A. The *Triennial Review Order* defines an adequate batch hot cut process as one that is seamless, low cost, and able to migrate large volumes of mass market customers in a timely manner.[12] Verizon's Large Job Hot Cut Process meets none of these requirements.

Q. PLEASE DESCRIBE THE LARGE JOB PROJECT HOT CUT PROCESS AS PROPOSED BY VERIZON.

A. The most current iteration of Verizon's Large Job Hot Cut Process is set forth in a July 14, 2003 flow chart ("Flow Chart"). The Flow Chart describes the steps Verizon currently employs for a project hot cut. The Flow Chart depicts a Coordination Phase and a Provisioning Phase

1. VERIZON'S LARGE JOB HOT CUT PROCESS HAS BUILT-IN THROUGHPUT LIMITATIONS

Q. WHAT IS "THROUGHPUT?"

A. Throughput" refers to the maximum number of transactions that a process can handle in a given time frame. For example, if a given process could handle up to ten transactions each day and every day, but could not handle eleven, then the maximum throughput of the process would be ten.

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[12] *Id. at* ¶¶423, 487-88.

Q. HAS VERIZON PROVIDED ANY ESTIMATES OF THE THROUGHPUT OF ITS LARGE JOB PROJECT HOT CUT?

A. No. Verizon has been asked to estimate its maximum throughput, but Verizon has taken the position that throughput somehow is not relevant to the examination of the scalability of Verizon's existing Large Job process.[13] Obviously, there must be some physical limitation, however.

Q. DOES VERIZON'S LARGE JOB PROJECT HOT CUT PROCESS HAVE BUILT-IN THROUGHPUT VOLUME LIMITATIONS?

A. Yes. Verizon's Large Job Project Hot Cut Process has strict volume limitations. Verizon's policy is to limit project hot cut provisioning to 150 hot cuts per day, excluding IDLC loops, within two central offices within a Verizon manager's area, industry-wide, per day. That means that if two CLECs seek to schedule an 80 hot cut project on the same day in the same central office, they would run afoul of Verizon's 150-line policy. And even if Verizon were to waive this policy, Verizon cannot assign an unlimited number of technicians to a central office, and each technician can only perform a finite number of hot cuts in a work day.

Q. CAN'T VERIZON GET AROUND THAT PROBLEM BY SCHEDULING ONE PROJECT ON ONE DAY AND THE OTHER ON THE NEXT?

A. At the limited volumes that Verizon faces today, that might be possible. But mass market volumes are far greater than the volumes that Verizon faces today. In a central office, a CLEC of MCI's scale utilizing UNE-L could require dozens of hot cuts to be performed per day, every day. Verizon therefore won't have the luxury of pushing out one project by a day or two to accommodate another project, because there will be more projects and more hot cuts to perform on the next day. This Verizon strategy would result in an ever increasing backlog of projects.

Q. IS VERIZON'S 150-LINE LIMITATION POLICY STILL IN PLACE?

A. Yes.

Q. HAS VERIZON SUGGESTED THAT IT MIGHT MODIFY ITS 150-LINE LIMITATION POLICY?

A. No. Verizon continues to state that the 150-line limitation is merely a guideline, but it has made no suggestion that it would modify its policy.

Q. PLEASE DISCUSS THE IMPACTS OF VERIZON'S CURRENT 150-LINE LIMITATION POLICY.

A. Verizon's current policy of provisioning up to 150 lines per day, excluding IDLC loops, in up to two central offices per manager's area is simply a throttle placed on the front end of the process designed to pace the volume to match their present workforce availability at the back end of the process.[14]

Today, CLECs place hundreds of thousands of orders each month for installation of local service. The vast majority of those orders for residential service are for UNE-P. In addition, as the FCC stated in its *Triennial Review Order*: "the evidence in the record demonstrates that there is a significant amount of churn, or movement, among mass market customers. Mass market customers move freely from carrier to carrier when they

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[13] Verizon May 2003 Comments at 9.

[14] Verizon defines a "manager's area" as "the region that includes the central offices supervised by that particular [Verizon] Manager." There can be any number of central offices within a manager's area. *See* ATT-VZ-11S.

desire, and have come to expect the ability to change local service providers in a seamless and rapid manner."[15]

This additional churn exacerbates the force/load balance problem. If we were to add the additional demand generated by the transition of UNE-P to UNE-L and pace the work utilizing Verizon's 150-line policy, the appointment intervals would be staggering.

2. Coordination Phase of Verizon's Proposed Process

Q. PLEASE DISCUSS THE MANUAL STEPS IN THE COORDINATION PHASE OF THE PROCESS.

A. The very first step in Verizon's process is manual in nature. The two boxes on the first page of Verizon's Flow Chart represent the manual "due date negotiation" step.

CLEC notifies NMC of Central Office, # of lines and approx. date for large job project hot cut (CLECs should exclude IDLC, if they desire)

NMC negotiates with Frame and informs CLEC of Due Date and Fall-Out Date and gets its confirmation.

Under Verizon's current process, before a CLEC can submit orders for a project hot cut, the CLEC must manually inform Verizon that it intends to submit project orders. More

[15] *Triennial Review Order at* ¶471.

specifically, Verizon requires the CLEC to contact Verizon in advance of submitting its large job hot cut request so as to "negotiate" the due dates for loops within the order.

First, there is no standard interval in which Verizon is required to respond to the CLEC request for a project hot cut. The CLEC, after having informed Verizon of its intention to submit a large job hot cut request, must then wait for Verizon to inform the CLEC of the assigned due date. That due date is determined internally at Verizon, where internal workgroups manually negotiate a time that will allow Verizon to meet the workload constraints of the workforce. There is no guarantee that the due date will meet the CLECs needs (and Verizon has no particular incentive to do so).

Second, there are no rules governing the provisioning interval that Verizon provides back to the CLEC. This is especially troubling given that Verizon requires the CLEC to waive applicable Carrier-to-Carrier performance measurements as a prerequisite to ordering a Large Job Project Hot Cut. Hence, the Carrier-to-Carrier Guidelines generally requiring a five-day installation interval would, under Verizon's proposal, not apply to any Large Job Project Hot Cut, leaving carriers largely to Verizon's discretion as to when service can be provisioned.

Q: WHAT IS THE IMPACT OF VERIZON DICTATING PROJECT HOT CUT DUE DATE INTERVALS TO THE CLEC?

A. Rather than construct and operate a scalable hot cut process capable of meeting growing demands, Verizon's negotiated due date step allows it to continue using a process with very limited throughput capability, simply by forcing CLECs to accept due dates further and further out into the future as it falls further and further behind to accommodate Verizon's workforce constraints.

Q. IS IT NECESSARY FOR VERIZON TO PROVIDE NON-STANDARD PROVISIONING INTERVALS THAT ARE DICTATED TO THE CLECS?

A. No. Verizon's WPTS tracking system contains an extensive amount of data concerning Verizon's scheduled project hot cuts. At a minimum, when CLECs are preparing to submit a project hot cut order, they should be able to query WPTS to determine the next available due date for the project. This would require some enhancement to WPTS so that it could provide functionality similar to that which the SmartsClock provides today for non-project dispatch orders. This would at least give the CLEC some idea of what due dates it can expect, rather than having to wait for Verizon to inform the CLEC of a due date of Verizon's choosing. This would not address the problem of non-standard provisioning intervals, however. Until Verizon develops a scalable and seamless bulk hot cut process that can handle mass market volumes on a timely basis, there is no way to expect standard provisioning intervals.

Q. PLEASE DESCRIBE THE NEXT STEPS IN THE PROCESS.

A. Once Verizon responds with a specified due date, the CLEC submits a Local Service Request ("LSR") for each loop to be included in the project. Each LSR in the project has a common identifier signifying that the orders are part of the same project. The CLEC also provides Verizon with a manually generated spreadsheet that includes information on each of the loops to be included in the project.

Q. WHAT ARE THE NEXT MANUAL STEPS IN VERIZON'S PROCESS?

A. Verizon has a number of additional manual steps in the coordination phase of the process to handle orders that do not follow the usual course. As an example, two of the steps involve the handling of orders that do not flow through Verizon's service order processing and assignment systems. Some of the orders that "fall out" of these systems must be manually processed. This is a standard step that is unavoidable, however, the need for this step (and the percentage of orders that require this step) is inversely related to Verizon's flow through rate. Said another way, the higher the flow through rate in Verizon's systems, the more infrequent the need for manual intervention at this stage.

Q. WHAT ARE SOME OF THE OTHER MANUAL STEPS IN VERIZON'S PROCESS?

A. Verizon's process requires the CLEC to provide Verizon with a manually generated spreadsheet that includes information on each of the loops to be included in a project. Another manual step that Verizon performs is a comparison of the CLEC provided spreadsheet to the list of orders for which Verizon has received LSRs.

NMC verifies
orders from the
spreadsheet

This comparison is performed by a Verizon employee on every project hot cut order. A Verizon employee visually compares the CLEC's spreadsheet to the LSRs that Verizon has received, in order to ensure that there are no discrepancies.

Q. IS IT NECESSARY FOR THE CLEC TO PROVIDE A MANUALLY GENERATED SPREADSHEET?

A. No. This is a good example of a process step that can be automated. The spreadsheet provided by the CLEC should not be necessary for the process to function properly. It serves as an additional check and balance, however it is entirely duplicative of the ordering functions that are performed by the CLECs when submitting LSRs. This step should be eliminated by enhancing WPTS to utilize info from the LSRs to populate a spreadsheet template residing in the system.

Q. ARE THERE ADDITIONAL MANUAL STEPS IN THE COORDINATION PHASE OF THE PROCESS?

A. Yes. Once this manual spreadsheet comparison step is complete, an additional manual step is conducted on every project hot cut to determine "the quality of the order and the accuracy of the assignment." Notably, at this step, the RCCC Technician/Coordinator is to identify manually any loops that are served by IDLC and manually exclude them from the project if they are present.

Q. IS THIS IS A NECESSARY PROCESS STEP?

A. It should not be. It is unacceptable for IDLC loops to be excluded from the normal project hot cut process, and, as discussed later in this testimony, Verizon's bulk hot cut processes – and their individual hot cut processes – will never be seamless and scalable until they rely on the electronic unbundling capabilities that GR303 compliant IDLC systems provide.

Q. ARE THERE ADDITIONAL MANUAL COORDINATION STEPS?

A. Yes. Most of the manual and partially manual steps leading up to Due Date Minus 2 ("DD-2") deal with handling exception LSRs. For example, Verizon manually handles orders with assignment problems or trouble on the line.

Q. WHAT IS THE IMPACT OF THE INCORPORATION OF THESE MANUAL STEPS IN THE COORDINATION PHASE OF THE PROCESS.

A. Some manual steps – such as handling orders that do not flow through to SOP – are unavoidable. Others, however, could be reduced, eliminated or automated, improving the overall efficiency of the process. The impact of including so many steps is that the provisioning interval that Verizon dictates to the CLEC necessarily must be longer and the resulting costs are higher. If these steps were eliminated or automated, Verizon would not have to build time into its due date calculation to allow for these steps, nor would it need to claim costs associated with the increased employee work time. Because Verizon has included these multiple steps in its process, however, Verizon considers them when setting a due date for the project resulting in later due dates than otherwise required.. The end result is a process that is not timely, nor cost effective, given Verizon's requirement that it establish due dates to accommodate substantial manual work steps in a real world environment constrained by a limited workforce.

Q. HOW DOES THIS "PROJECT" PROCESS COMPARE TO VERIZON'S PROCESSES FOR INDIVIDUAL HOT CUTS?

A. From this point, the project hot cut process is nearly identical to the individual hot cut process. In comments filed earlier in this proceeding, Verizon explained that its Large Job process and its individual process are substantially identical: "In fact, however, the hot cut process for UNE-P to UNE-L conversions is substantially the same as the process for retail to UNE-L conversions, and the process for hot cut orders submitted via Web GUI is substantially identical to the process for orders submitted via an EDI interface."[16] For that reason, the conclusions about the scalability of Verizon's Large Job process apply equally to Verizon's individual hot cut processes.

Q. ARE THERE MANUAL COORDINATION STEPS DURING AND AFTER DD-2?

A. Yes. In the normal order flow, not including problems or orders that do not follow the normal course, beginning with frame prewiring and ending on the Due Date ("DD"), two manual coordination steps that are critical to Verizon's existing process occur:

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[16] Verizon May 2003 Comments at 11.

DD-2
RCCC Technician/Coordinator will contact Frame for verification of CLEC dialtone

RCCC Technician/ Coordinator documents status of order, all contacts made and action taken

These manual steps occur for all project hot cuts and also for all individual hot cuts.[17]

Q. ARE THE DD-2 CHECKS AND RECHECKS NECESSARY?

A. The checks and rechecks in the provisioning process, beginning with the DD-2 checks, have their origin in the New York 271 process. In 1999, during the 271 proceeding, a Loop Collaborative was convened to improve upon the hot cut provisioning process. Many of the post-DD-2 steps were implemented not because they were integral to an effective process, but because without them, Verizon failed to identify and resolve service affecting issues (such as presence of IDLC or no dial tone) until the due date itself If a seamless, efficient process existed, such rework and double checking would not be necessary. The significance of this point with respect to quality and proper costing is explained later in the testimony.

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[17] Verizon's Compliance Filing includes these steps, although worded slightly differently.

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS REGARDING THE COORDINATION PHASE OF VERIZON'S PROCESS.

A. The primary recommendations regarding coordination can be summarized as follows.

- Verizon should: incorporate a scheduling tool into WPTS; be required to respond to CLEC requests for a project due date within a standard interval; and be subject to performance metrics measuring the interval for providing a due date and the offered provisioning interval. If automated provisioning were introduced, the offered intervals could be standardized.
- The CLEC should not be required to provide a project spreadsheet.
- If electronic unbundling via GR303 compliant IDLC systems were utilized, the manual checks for IDLC loops would be eliminated.
- In a seamless, efficient process, the DD-2 checks that today are performed to prevent service degradation or outages would not be necessary.

In addition, the following manual coordination activities that appear in the Flow Chart and activity descriptions associated with Verizon's Compliance Filing are candidates for immediate automation through process re-engineering, and/or enhancements to WPTS:

1. Receive Local Service Request (LSR) from the CLEC and print, review, type and confirm the order request for new installations and/or account.
2. Access WFA/C to begin coordination process. (Screener)
3. Analyze order for related orders (CRO). (Screener)
4. Assign order to Technician. (Screener)
5. Perform administrative checks.
6 Contact CLEC to verify activity
7. Schedule required Verizon work teams.
8. Reverify service orders for any DD-1 changes.
9. Notify all work teams in Bell Atlantic about any postponement, DD change or cancellation.
10. Tracks roadblocks and problems throughout the life of an order using JEP and MFC codes in WFA/C along with proper log documentation.

11. Service interruptions prior to conversion: handle the restoral of service related to a premature disconnect.

12. Assign outside plant and central office facilities for non-flowthrough service orders.

13. Obtain direct notification from RCCC for UNE migration which requires the release of translation packets. .

14. Receive notification through PARIS of need to perform a manual translation change on working service.

15. Obtain notification from the RCMC of trouble conditions on a CLEC end-user's line requiring RCMAC analysis and translation changes.

16. Research and refer to the RCCC those translation packets held in march for which no coordination call was received.

Q. WILL THESE ENHANCEMENTS IMPROVE THE THROUGHPUT OF THE PROCESS?

A. Unfortunately, the improvements that are recommended for Verizon to implement immediately deal primarily with the coordination phase of the hot cut. While these recommendations would substantially streamline the coordination requirements and thereby reduce the amount of manual effort required both from Verizon and the CLECs, they will not have a significant effect on the throughput. The throughput is primarily constrained by Verizon's manual provisioning of hot cuts. In order to address the throughput constraints, Verizon needs to implement the electronic and automated unbundling options provided by ADFs and GR303 compliant IDLC systems. While those technologies are available today and Verizon is investing in them and deploying them, some time would be necessary for Verizon and the CLECs to collaborate towards their implementation in New York for hot cut purposes.

3. Provisioning Phase of Verizon's Proposed Process

Q, WHEN DOES THE PROVISIONING PHASE OF THE PROCESS BEGIN?

A. The provisioning phase starts when Verizon's frame technician prewires the CLEC circuits and checks for dial tone, immediately prior to DD-2.

Frame will prewire all circuits and check CLEC dialtone

Q. PLEASE EXPLAIN THE STEPS THAT OCCUR ON THE DUE DATE.

A. On the DD, when the loops are cut over, nearly the entire process is manual. Among the most important steps in the current process are the requirement that the RCCC Technician/Coordinator establish a bridge with the CLEC and Verizon workgroups, inform the Frame technician by telephone to proceed with the cut, the Frame technician notifying the RCCC when each twenty circuits have been cut, and the RCCC notifying the CLEC as the cut progresses. But by far the most critical manual step in the current provisioning process is the cut itself. The frame technician performs the physical hot cut by hand.

Q. PLEASE DESCRIBE THE PHYSICAL CUT.

A. The cut itself, is, at the highest level, the process of connecting the UNE loop appearance on the Main Distribution Frame ("MDF") with the CLEC switch port (normally through a tie cable or collocation facility) appearance which, when combined, will provide local exchange services. Verizon's process Flow Chart describes the activities of its frame technician as follows:

– Re-verifies tie back for CLEC dial tone and ANI.
– Verifies line for idle condition and ANI at the time of cut over.
– Performs final ANI test at the protector.
– Moves jumpers (jumper blocks) and verifies correct telephone number is on correct line.

– Updates service orders in FOMS.

In addition, there are a series of manual steps that occur for loops that have problems that are identified during the DD activity.

Q, DO THESE PROVISIONING STEPS HAVE TO BE PERFORMED MANUALLY?

A. No. If Verizon made use of ADFs and GR303 compliant IDLC systems, it could automate more than half of these provisioning steps. This is discussed at length later in the testimony.

B. VERIZON'S LARGE JOB PROJECT HOT CUT PROCESS IS NOT SCALABLE TO SERVE LARGE VOLUMES IN A TIMELY FASHION

1. VERIZON'S LARGE JOB HOT CUT PROCESS CANNOT BE SCALED TO MEET MASS MARKET NEEDS

Q. DOES VERIZON AGREE THAT ITS THROUGHPUT IS 150 LINES PER DAY, WITHIN TWO CENTRAL OFFICES WITHIN A MANAGER'S AREA?

A. No. Verizon has attempted to minimize the importance of its 150-line limitation policy in the workshops and in its comments, claiming that the limitations are only guidelines. Nevertheless, this remains Verizon's company policy. CLECs have no choice but to assume that Verizon will enforce its policy as written.

Q. HAS VERIZON DESCRIBED ANY PROPOSALS AS TO HOW IT WOULD ADDRESS ITS PROCESS CAPACITY LIMITATIONS?

A. Yes. Verizon has stated that the process capacity limitations "merely reflects current staffing decisions"[18] that can be changed to meet changes in demand. Verizon outlined three purportedly different options in support of their "ramp up" strategy to meet

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[18] Verizon May 2003 Comments at 25.

increased demand. Each of those options, however, boils down to the same bottom line strategy of adding to the workforce to handle volumes.

Q. IS VERIZON'S STRATEGY OF ADDING TO THE WORK FORCE SUFFICIENT TO HANDLE LARGE VOLUMES OF HOT CUTS?

A. No. Unfortunately we are not dealing with a minor flood where all of the citizens can be recruited to fill sand bags. Skilled individuals perform the manual steps in Verizon's current process. It would take a substantial amount of time to bring others up to the competency level required to perform some of these tasks. Further, the provisioning process itself simply doesn't lend itself to armies of technicians performing thousands of hot cuts per day on a manual basis. The main distribution frame and the available workspace around it are limited in size, as such, there are limited numbers of technicians who can be reasonably expected to perform these functions at any given time in a central office. Hence, while increased staffing may be a process by which Verizon can plug a hole in the dike with its finger, it will soon run out of fingers and the flood of hot cuts will begin to burst through in numbers it simply cannot accommodate given its proposed processes.

Q. PLEASE EXPLAIN VERIZON'S FIRST OPTION FOR STAFFING UP.

The first option outlined by Verizon involves the transfer of technicians within the existing frame work force. According to Verizon, this would be possible because only a very small percentage of frame technicians – on the order of 1% to 2% - are assigned to do hot cut work. In addition, Verizon asserts that the shift of demand from UNE-P to UNE-L would free-up a large number of NMC representatives currently involved in UNE-P work that could be shifted to hot cut functions.[19]

Q. WOULD IMPLEMENTATION OF THIS FIRST OPTION BE SUFFICIENT TO HANDLE INCREASES IN HOT CUT VOLUMES?

A. No. This option is focused on the frame cross-connection step, which is the major bottleneck in the current process. This option is short-sighted from a large volume perspective. Verizon has not taken into account the difference in work effort associated with what Verizon calls "project-type unusually large jobs" and mass market projects. Furthermore, the per-technician volume limitations discussed earlier doom this option to failure.

Q. HOW ARE PROJECTS INVOLVING MASS MARKET CUSTOMERS DIFFERENT FROM OTHER PROJECT HOT CUTS?

A. Currently, large job project (bulk) hot cuts generally involve one or a limited number of individual multi-line business customers. Frequently, the loop MDF connections for theses groups of lines are centrally located on the frame. Conversely, a large group of residential single line customers will generally appear in random frame locations.

Q. HOW IS THIS RELEVANT TO VERIZON'S PLANS TO INCREASE STAFFING TO HANDLE INCREASES IN VOLMES?

A. It is easy to envision multiple frame technicians working on a number of individual large business hot cuts concentrated on a given loop count, unfortunately, it is equally as easy to envision the chaotic situation that could develop as a result of multiple technicians working simultaneously on a number of large residential single line hot cut projects

[19] *Id.* at 27-28.

involving loops appearing in random locations on the frame. Many technicians working on random areas of the frame in a confined space will result in chaos.

Q. ARE SPACE AND CONFUSION THE ONLY PROBLEMS WITH VERIZON'S PROPOSED SOLUTION?

A. No. This first staffing-up option envisions the use of the existing frame force, because only 1-2% are assigned to do hot cuts. This seems to conflict with the 150-line limitation policy and workforce constraint arguments presented by Verizon. If a portion of the 98-99% of Verizon's existing frame force is "sitting on the bench" waiting to be called in to meet peaks in demand, then one might conclude that the 150-line limitation policy should incorporate this "bench strength" into a plan that could offer standard due date intervals. However, it is more likely that this option contains an embedded assumption that other workload or appointment intervals would be delayed in order to accommodate the shift to hot cuts. This may work for spikes in demand, but it is not a sustainable solution.

In the second part of this option, Verizon proposes that NMC representatives currently involved in UNE-P work could shift to UNE-L hot cut functions. This statement implies that the workload and content is similar, which they are not. Furthermore, Verizon's Flow Chart includes manual NMC negotiation steps and fallout reconciliation that appear to be more time consuming than standard UNE-P work activities. Verizon seemed to acknowledge this when it stated that certain classes of orders are more complex and require more work on the part of the Verizon representative.[20] In addition, fallout "may

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[20] *Id.* at 30.

present issues relating to NMC staffing levels."[21] Consequently, the NMC workforce may be strained by the shift of work content, which could prevent them from handling additional volume beyond a 1-to-1 (UNE-P to UNE-L) increase of the current volume of work.

Q. WHAT IS VERIZON'S SECOND STAFFING-UP OPTION?

A. Verizon suggests that if the need arises it would rehire personnel who were previously laid off. Verizon claims that these people would provide a nucleus of pre-qualified, pre-trained workers.

Q. WOULD IMPLEMENTATION OF THIS OPTION ADDRESS INCREASES IN VOLUMES?

A. No.

Q. PLEASE EXPLAIN.

A. First of all, as has been discussed above with Verizon's first option, simply adding to the workforce is not sufficient to address CLEC mass market volume needs, and it creates its own set of issues. In addition to that, Verizon's re-hiring option relies on two critical assumptions: Laid off employees possessing the required skills are readily available; and these individuals are located in the geographic areas requiring the resource. Assuming these requirements are met, at best there would be a time delay associated with bringing these people "on board", which would create a backlog of hot cut requests.

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[21] *Id.* at 31

Q. WHAT IS VERIZON'S THIRD OPTION FOR ADDING TO ITS WORKFORCE?

A. To the extent that additional resources may be needed, Verizon says it would hire and train new personnel.

Q. DOES THIS OPTION SUFFER FROM THE SAME FLAWS AS THE FIRST TWO.

A. Yes. Furthermore, this option has built in time delays associated with the hiring process, training, and learning curve; making it unreasonable as a near term solution. As discussed earlier in the testimony, it can take weeks to train new hires to perform hot cuts.

2. MASS MARKET THROUGHPUT REQUIREMENTS

Q. HAVE YOU PERFORMED AN ANALYSIS OF THE MASS MARKET INDUSTRY'S HOT CUT THROUGHPUT NEEDS.

A. Yes, but it is impossible to determine with precision what the industry's mass market throughput needs will be. This depends on at least two variables: the Commission's impairment determinations in Case 03-C-0821; and, irrespective of the impairment decisions, CLEC business decisions. However, in order to gather some sense of the kinds of volumes that may be necessary in a dynamic competitive UNE-L environment, we have focused on the 54 New York switches in which fifty percent of MCI's existing UNE-P base is currently contained. We chose this breakpoint in order in order to develop a workable throughput analysis.

Q. DOES YOUR ANALYSIS DIFFER FOR INDIVIDUAL HOT CUT NEEDS AND BULK HOT CUT NEEDS?

A. Yes, and we will discuss each separately.

(a) <u>Throughput Requirements for Individual Hot Cuts</u>

Q. PLEASE DISCUSS THE RESULTS OF YOUR ANALYSIS WITH RESPECT TO INDIVIDUAL HOT CUTS.

A. We have reviewed reports and data that indicate that approximately fifty percent of MCI's New York mass market UNE-P installed customer base is contained in the 54 largest Verizon switches. The analysis focuses on those 54 switches, based on the assumption that the CLEC industry's UNE-P customer base is similarly distributed.

The CLLI codes for the COs that MCI used for its analysis are as follows.

***** BEGIN MCI PROPRIETARY**

***** END MCI PROPRIETARY**

In these 54 switches, if all mass market customers were served via UNE-L, each time an end customer chose to change service providers, a hot cut would have to be performed in the central office. Based on current UNE-P ordering volumes, Verizon would be required to perform roughly 182,500 hot cuts each month in 2004.[22]

[22] These 54 switches do not necessarily align with the areas in which Verizon has indicated that it intends to challenge the FCC's impairment findings in Case 03-C-0821.

Q. HOW DID YOU REACH THIS CONCLUSION?

A. First, our analysis of Verizon's monthly CLEC Carrier-to-Carrier (C2C) Performance Reports indicates that approximately 1.98 million UNE-P end-customer lines and 2.24 million combined UNE-P and UNE-L lines were in service in August 2003.[23] Because Verizon does not disaggregate the percentage of lines that were residential and small business customers from other customer types in the monthly C2C reports, the conclusion assumes that 88 percent[24] of the UNE-P lines and 71 percent[25] of the UNE-L lines were related to residential and small business customer accounts, and the C2C reports have been adjusted accordingly to yield these numbers. By applying a 25% annual growth rate, 2.14 million UNE-P end-customer lines and 2.42 million combined UNE-P and UNE-L lines would be in service by year-end 2003. Figure 1-1 provides an overview of the growth in aggregate CLEC lines between August and year-end 2003.

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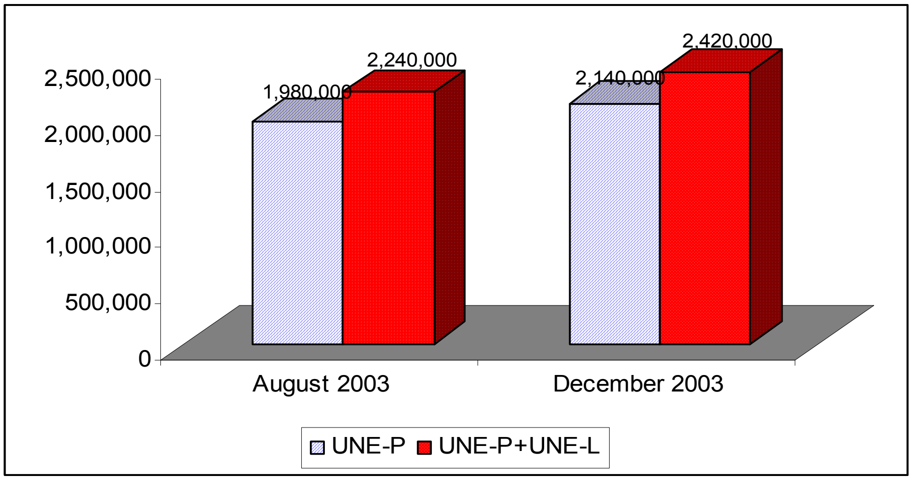
[23] *Carrier to Carrier Performance Standards and Reports, CLEC Aggregate, NY: UNE-Maintenance MR-2 (Trouble Report Rate)*, Verizon Wholesale, August 2003.

[24] Eighty-eight percent is consistent with the percentage reported by Verizon in filings with the FCC. *RBOC Local Telephone Data*, December 21, 2002, FCC, http://www.fcc.gov/Bureaus/Common_Carrier/Reports.

[25] In the information provided to the FCC by Verizon yearly in form 477 (used as an input in the FCC's *Local Telephone Competition Report 2002* and *RBOC Local Telephone Data*), Verizon does not classify UNE-L as a residential or small business offering. For the purposes of this analysis, it was assumed that 71% of UNE-L orders are residential and small business orders, which is consistent with the split in other regions. Please note that the analysis uses Verizon's definition of small business, which is three lines or less. By no means should this be taken as an endorsement by MCI of this definition for purposes of Case 03-C-0821 or otherwise.

Figure 1-1: CLEC Aggregate Line Forecast for the State of New York



Q. HAVE YOU TRANSLATED YOUR MONTHLY VOLUME ESTIMATES INTO DAILY ESTIMATES?

A. Yes. Given an assumed churn rate of six percent per month (including winbacks), the CLEC community would need to capture a significant number of new customers per year to offset the CLEC losses back to Verizon. If Verizon personnel were required to migrate roughly 182,500 orders for the industry each month in the 54 largest switches, in a five-day week, on average each of these 54 switches would have to perform 154 hot cuts each and every day, with the largest New York switch performing 290 hot cuts each and every day.

Q. WHAT ARE THE MONTHLY VOLUMES OF HOT CUTS THAT VERIZON IS PROVISIONING TODAY?

A. During the twelve-month period ending August 2003, Verizon performed the following number of hot cuts on a monthly basis.

***** BEGIN VERIZON PROPRIETARY**

Month	Individual Hot Cuts Performed Statewide	Individual Retail-to-UNE-L Hot Cuts Performed Statewide
Sept. 02		
Oct. 02		
Nov. 02		
Dec. 02		
Jan. 03		
Feb. 03		
Mar. 03		
Apr. 03		
May 03		
June 03		
July 03		
Aug. 03		
AVERAGE		

END VERIZON PROPRIETARY***

Q. HOW MANY HOT CUTS WOULD VERIZON HAVE TO PERFORM MONTHLY IN THE 54 SWITCHES DISCUSSED ABOVE IF ALL LINES WERE PROVISIONED ON UNE-L?

A. Based on the data discussed earlier, on average Verizon would have to perform 182,500 migrations per month in each of these switches – many multiples greater than the number of hot cuts Verizon is currently performing statewide.

***** BEGIN VERIZON PROPRIETARY**

	COLUMN A	**COLUMN B**	**COLUMN C**	
Month	**Individual Hot Cuts Performed Statewide**	**Individual Retail-to-UNE-L Hot Cuts Performed Statewide**	**Estimated Volume Needed in Top 54 Mass Market Switches**	**Shortfall (Col. C minus Col. A)**
Sept. 02				
Oct. 02				
Nov. 02				
Dec. 02				
Jan. 03				
Feb. 03				
Mar. 03				
Apr. 03				
May 03				
June 03				
July 03				
Aug. 03				
AVERAGE				

END VERIZON PROPRIETARY***

Q. HOW MANY VERIZON TECHNICIANS WOULD BE REQUIRED PER SWITCH TO PERFORM THIS MANY HOT CUTS ON A DAILY BASIS?

A. According to Verizon's Compliance Filing in the Second Elements Proceeding it takes a Verizon technician 44.57 minutes (not including travel time) to perform all of the wiring related functions (prewire & cut over) that occur 100% of the time for the initial line involved in a two wire hot cut. 31.58 minutes is required for functions that occur 100% of the time for each additional line. Consequently, according to the Compliance Filing, a single technician could wire approximately 15 items during an eight- hour work day. Therefore, on average 11 to 12 technicians would be required to perform hot cuts all day, every day, in each of these 54 switch, with approximately 30 technicians needed all day, every day in the largest switch.

Q. BASED ON THESE DATA, CAN VERIZON SCALE ITS PROCESS TO MEET THESE VOLUMES?

A. No. Verizon's process cannot be scaled to meet these mass market volumes as long as it depends on manual processes. There are limited number of technicians that Verizon can assign to perform hot cuts, and each technician has a limited number of hot cuts he can perform each day. For the reasons discussed earlier, it is not as simple as simply "throwing bodies at the problem."

Q. HAS THE DEPARTMENT OF PUBLIC SERVICE MADE ANY FINDINGS REGARDING VERIZON'S ABILITY TO HANDLE MASS MARKET VOLUMES VIA HOT CUTS?

A. Yes. In comments filed with the FCC in the Triennial Review proceeding in April 2002, the Department stated:

> Verizon provisioned an average of approximately 205,000 orders per month via UNE-P in years 2000 and 2001. Those orders should increase in 2002 as the CLECs' UNE-P offering is expanded under the Plan. Verizon performed approximately 56,000 hot-cut orders in 2001 or an average of approximately 4,700 hot-cut orders per month. Verizon would need to dramatically increase the number of hot-cut orders per month if UNE-P was terminated and CLEC customers were switched. In fact, if all of the 205,000 UNE-P orders were to become UNE-Loop (UNE-L) orders, ***Verizon's hot-cut performance would have to improve approximately 4400 percent. Such an***

> ***improvement would be unlikely absent major changes to streamline the hot-cut process.***[26]

(b) <u>Throughput Requirements for Bulk Hot Cuts</u>

Q. DO YOUR CONCLUSIONS REGARDING INDIVIDUAL HOT CUT THROUGHPUT NEEDS ASSUME THE PRESENCE OF A BULK HOT CUT PROCESS?

A. No. The conclusion that Verizon would have to perform a minimum of an average of 154 mass market hot cuts each and every day in each of its largest 54 switches does not assume the presence of a bulk hot cut process. That throughput requirement reflects the industry's needs on an day-to-day basis in which all mass market orders are provisioned via hot cuts.

Q. WHY DO YOUR CONCLUSIONS CONCERNING INDIVIDUAL HOT CUT NEEDS NOT ASSUME A BULK HOT CUT PROCESS?

A. At best, a perfectly functioning batch hot cut process should be considered as a transition mechanism, to move a group of customers from one service delivery mechanism to another, rather than as a viable means to handle day-to-day ordering activity.

A bulk hot cut process is not a viable means to handle the day-to-day ordering volumes that will result in a dynamic UNE-L market. The Large Volume Project Hot Cut process was not designed with that function in mind. Rather, Verizon's Large Volume Hot Cut Process was designed to move a bulk of customers who already have service from one service delivery mechanism to another. Even then, its application is very limited. It

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[26] CC Docket Nos. 01-338, 96-98, 98-147, <u>Comments of the N.Y. State Dept. of Pub. Serv.</u> (Apr. 4, 2002) at 4.

could possibly be used for the cutover of a multi-line business customer or a group of residential customers associated with a marketing sales initiative focused on a given geographic entity. However, as explained previously in this testimony, Verizon's Large Volume Project Hot Cut process is seriously flawed, and has time and volume limitations that prevent it from being able to handle mass market volumes. Day-to-day order provisioning activity associated with ILEC retail migrations to UNE-L needs to be accomplished in a more seamless manner utilizing standard completion intervals accomplished at "mouse-click" speed to minimize service disruption.

Q. IN WHAT SCENARIOS DO YOU ENVISION THAT THE BULK HOT CUT PROCESS WILL BE OF VALUE?

A. There are two possible scenarios under which a transition of mass market volumes of customers from UNE-P to UNE-L could take place.

1) Unbundled switching is no longer available; or
2) A CLEC decides to move a large UNE-P base over to UNE-L.

In either case, Verizon would have to migrate a large number of loops via hot cuts over a limited period of time.

Q. HAVE YOU BEEN ABLE TO ESTIMATE THROUGHPUT VOLUMES THAT VERIZON WOULD HAVE TO MEET VIA A BATCH HOT CUT PROCESS IN ORDER FOR IT TO TRANSITION THE UNE-P BASE TO UNE-L?

A. Yes. Looking at the same 54 New York switches, based on current volumes of UNE-P customers, if Verizon had to transition the entire UNE-P base to UNE-L over a twelve month period, beginning in December 2004, Verizon personnel in these COs would be required to migrate a total of roughly 110,500 end user customers each month during a one-year CLEC cutover initiative, or 1,326,000 total cutovers during the year. This would be in addition to the daily hot cut volumes discussed above that Verizon would have to perform each day if CLECs were provisioning service on a day-to-day basis via UNE-L. In a five-day week, on average each Verizon would have to perform 93 migrations each and every day in each of these 54 switches for an entire year. In the largest switch, Verizon would have to perform 176 migrations each and every day for an entire year.

Q. WHAT ARE THE MONTHLY VOLUMES OF PROJECT HOT CUTS THAT VERIZON IS PROVISIONING TODAY?

A. During the twelve-month period ending August 2003, Verizon performed the following number of Large Job Project hot cuts.

***** BEGIN VERIZON PROPRIETARY**

Month	**Large Job Hot Cuts Performed**
Sept. 02	
Oct. 02	
Nov. 02	
Dec. 02	
Jan. 03	
Feb. 03	
Mar. 03	
Apr. 03	
May 03	
June 03	
July 03	
Aug. 03	
AVERAGE	

END VERIZON PROPRIETARY***

Q. HOW MANY BULK HOT CUTS WOULD VERIZON HAVE TO PERFORM MONTHLY TO CONVERT THE EXISTING UNE-P CUSTOMER BASE TO UNE-L IN THOSE 54 SWITCHES?

A. Based again on the data discussed earlier, on average Verizon would have to perform 110,500 bulk hot cuts per month in each of these switches. Once again, this is many multiples greater than the number of bulk hot cuts Verizon is currently performing.

***** BEGIN VERIZON PROPRIETARY**

Month	COLUMN A Large Job Hot Cuts Performed Statewide	COLUMN B Volume Needed in Top 54 Switches to Transition Base	Shortfall (Column B – Column A)
Sept. 02			
Oct. 02			
Nov. 02			
Dec. 02			
Jan. 03			
Feb. 03			
Mar. 03			
Apr. 03			
May 03			
June 03			
July 03			
Aug. 03			
AVERAGE			

END VERIZON PROPRIETARY***

3. THE LARGE VOLUME PROJECT HOT CUT PROCESS DOES NOT ALLOW FOR TIMELY PROVISIONING AND MAY YIELD AN ORDER BACKLOG

Q. ARE YOUR CONCERNS REGARDING SCALABILITY LIMITED TO VOLUME ISSUES?

A. The issue of scalability goes beyond pure volume. Timeliness is another critical factor. Not only is there no evidence that Verizon can handle mass market volumes, but there also is no evidence that Verizon can handle any meaningful volumes on a timely basis.

As the volume of hot cut requests increases, without standard intervals, Verizon will simply continue to push out the completion intervals until a sufficient force/load match is achieved. The backlog that would result from a process that depends upon pushing out negotiated due dates in order to meet market volumes is daunting.

Q. PLEASE DISCUSS IN MORE DETAIL YOUR CONCERNS REGARDING AN ORDER BACKLOG.

A. Given the fact that Verizon's approach to handling demand is work force constrained, the standard appointment interval will increase as the volume of orders exceeds the workload capacity of the existing workforce.

Managing force/load balance is a difficult process. It has been our experience that ILECs do not staff positions for peak demand. The workforce level is established based on average forecasted demand, with built in assumptions relative to overtime levels and force transfers to meet short peak demand loads. Frequently, reacting to short term peak demands involves a trade off associated with work prioritization.

Storm conditions are a good example. Technicians working on provisioning or routine work activities are routinely shifted to work on the repair problems that the storm generates. It the storm damage is extensive, requiring multiple days or weeks to restore, the work activities that were set aside build to a point where a backlog develops. Once everyone returns to their normal duties, the size and importance of the backlog work content will dictate the completion of new work requests that enter the queue.

Seasonal demand is another example. Seasonal areas routinely experience a fluctuation of appointment intervals during peak periods as a result of force/load match issues.

When the work load exceeds the capacity of the workforce for a long period of time, the process described above breaks down as the backlog of work builds. Managers must decide if this load is going to continue for a long enough period to substantiate hiring additional employees to handle the new load level. This is normally the start of lengthy process involving approvals, hiring, training, etc. The backlog continues to build and the completion dates continue to grow longer during this period. Once the new force is in place, the backlog must be addressed before the force/load balance can be regained.

4. VERIZON'S LARGE JOB PROJECT HOT CUT PROCESS IS DESIGNED TO EXCLUDE IDLC LOOPS

Q. HAS VERIZON INCORPORATED OTHER VOLUME IMPACTING LIMITATIONS INTO THE BULK HOT CUT PROCESS?

A**.** Yes. As was mentioned earlier, Verizon's Large Job Project Hot Cut Process is not designed to handle loops served by IDLC and in fact cannot handle those loops. Rather, Verizon proposed to remove from the project any IDLC loops that are included in project requests and treat them as individual hot cuts.

Q. WHAT IS IDLC?

A. IDLC is an acronym that stands for "Integrated Digital Loop Carrier." Digital Loop Carrier ("DLC") is a technology that allows Verizon to serve multiple end user customers by using far fewer facilities than would be required in a strictly copper environment wherein a single copper pair is required to provide basic local exchange service to each customer. DLC (of which IDLC is a subset) requires a carrier to place a remote terminal ("RT") in its outside plant network, to which it connects via copper or fiber, central office electronics. Via the combination of RT and central office electronics, the carrier is able to derive multiple feeder pairs from far fewer facilities than would be possible without the technology. This technology provides obvious cost savings as well as tremendous provisioning flexibility to the network.

IDLC is a specific type of DLC technology that allows the facility between the central office and the RT to be "integrated" directly into a local digital switch, without the need to connect to the main distribution frame or any other non-switch electronics. Newer IDLC technology provides substantial additional functionality that will be explained in more detail later in this testimony. However, for purposes of our discussion to this point, the most important general characteristic of IDLC is that loops served via IDLC do not arrive at the central office on copper pairs, nor are they connected to the main distribution frame. As such, accessing individual voice grade circuits within an IDLC bitstream requires a different set of activities than does accessing those same types of circuits on a copper or non-integrated DLC facility.

Q. HOW DOES YOUR ANALYSIS REGARDING VERIZON'S PROCESS DIFFER FOR LOOPS SERVED BY IDLC?

A. There are two major problems inherent in Verizon's proposed Large Job Project Hot Cut process specific to IDLC loops.

Q. WHAT IS THE FIRST MAJOR PROBLEM RELATED TO IDLC LOOPS IN VERIZON'S PROPOSED PROCESS?

A. First and foremost is the fact that Verizon's process is not designed to accommodate IDLC loops, even though it is clear that customers served via IDLC loops desire the same seamless and cost effective provisioning experience as do customers served via other means. By simply denying IDLC loops the same hot cut process, Verizon appears to be trying to dodge its obligations for seamless and cost effective hot cuts specific to these types of loops. Nowhere within its *Triennial Review Order* does the FCC exclude IDLC loops from its hot cut requirements, nor should it, as they represent a growing percentage of all ILEC loops. Likewise, the Commission should not allow Verizon to place IDLC loops in a second class process that lacks even the limited benefits provided by Verizon's proposed Large Job Project Hot Cut. To do so would be to create a second class telecommunications citizen (i.e. a customer served via IDLC) which is unlikely to share in the same competitive alternatives enjoyed by the remainder of the mass market.

Q. PLEASE EXPLAIN HOW VERIZON'S PROCESS NEGATIVELY IMPACTS CUSTOMERS SERVED BY IDLC LOOPS.

A. Verizon's approach to IDLC loops is troubling not only because of its intention to remove IDLC loops from any hot cut process (including the Large Job Project Hot Cut process), but also because of the way it intends to provision those facilities in any instance. When faced with a request to provide an unbundled loop to a customer currently served via IDLC, Verizon in the first instance either moves the customer to available copper facilities, or, in some circumstances, moves the customer to UDLC ("universal digital loop carrier") technology that it believes it can unbundle more easily.[27] The problem with either of these two approaches is that they introduce a substantial likelihood that the circuit ultimately provided to MCI in this circumstance will be of inferior quality to that previously afforded with IDLC. One of the primary deficiencies of either of these work-arounds is their tendency to substantially reduce the throughput available for dial-up Internet applications. Experience with other clients has shown that many UDLC alternatives limit dial-up bandwidth to approximately 19k/bs wherein throughput close to 56k/bs were available on the IDLC platform. This is of substantial concern to dial-up customers, especially when they are unaware that they are being moved from one facility to another, they simply think something has gone wrong that has substantially limited their dial-up speed.

This very issue has been raised by Sage Telecom, Inc. in an Emergency Petition for Stay of Order recently filed with the FCC, which is attached hereto as Attachment 3. Within its petition, Sage documents the manner by which its customers suffer noticeably slower and more problematic dial-up experiences when they have been moved to a UDLC system from a more efficient IDLC platform. Further, as we describe in more detail later in this testimony, the IDLC technology is robust enough to accommodate unbundling in a far more efficient manner, indeed, a manner that not only maintains the efficiencies of an IDLC circuit, but also negates the need for many of the manual provisioning steps envisioned by Verizon's existing hot cut process. Hence, devising a process by which to effectively use the IDLC platform for purposes of providing access to UNE loops without moving those circuits to alternative facilities accomplishes two

[27] *See, e.g.,* VZ-ATT-4PS.

important tasks: (1) it maintains the technological superiority of the IDLC circuit for use by the competitor's customer and (2) it negates the need for costly manual intervention thereby rendering the hot cut and general provisioning process more efficient, less costly and more scaleable.

Q, PLEASE DISCUSS THE SECOND MAJOR PROBLEM RELATED TO IDLC LOOPS IN VERIZON'S PROPOSED PROCESS.

A. Second, the provisioning interval experienced for IDLC loops will in all likelihood under Verizon's proposal end up being far longer than the interval for the project hot cut. Because Verizon's systems do not identify IDLC loops automatically, at the front of the process, those loops are manually withdrawn from the project after the LSRs have been sent to SOP. After having identified any IDLC loops, Verizon's process requires that it again negotiate internally among its various work centers to develop a new cut over schedule and due date, which it then again dictates separately to the CLEC. Although Verizon says that it will attempt to provision hot cuts for lines served via IDLC within the project provisioning interval, the CLEC has no guarantee that this will take place, given the CLEC has already waived the applicable provisioning intervals, and in fact there is every reason to believe that the due date will be later in time than the project due date, given that Verizon now needs to negotiate an acceptable cut over appointment with another internal workforce that must be dispatched to change the outside facilities. Indeed, Verizon has stated that "Lines with IDLC require additional coordination and work effort."[28]

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[28] Flow Chart at p.1.

5. Fallout And Drop Out

Q. DO OTHER PROCESS BOTTLENECKS EXIST THAT IMPACT SCALABILITY?

A. Yes. Fallout and drop out as they relate to the overall process impact the throughput capability of the process.

Q. WHAT IS THE DIFFERENCE BETWEEN FALLOUT AND DROP OUT?

A. It appears from Verizon's written comments and discovery responses that Verizon only considers "fallout" as it relates to the ordering process. Fallout is a measurement of the orders that do not flow through Verizon's OSS and therefore require manual processing.

"Drop out" refers to orders that drop out of the hot cut process flow for reasons that do not relate to system fall out. An example of this would be an operational issue such as no dial tone on the line.

Q. WHAT IS THE IMPORTANCE OF THIS DISTINCTION?

A. "Fallout" is a term used to label the occurrences of errors in flow-through (automated) processing. For example, suppose several operational support systems (OSS) were electronically linked to create a flow-through electronic ordering process. If one of the OSSs receives erroneous or incompatible information from another OSS, the order will "fallout" of the electronic process and will require manual intervention to correct or complete the order.

There are four general categories of electronic errors that trigger fallout.

1. Database synchronization errors
2. Network element denial
3. Communication errors
4. Synchronization errors

Database synchronization errors occur when data bases at different levels of the OSS fail to contain matching data, or agree as to the availability or status of needed resources. Typical database synchronization errors that fallout include street names that exist in one database that are not duplicated in other databases. Additional fallout occurs when facilities marked as 'spare' in one database are in reality in use or defective, a fact that is reflected in other databases.

Network element denial happens when a needed intelligent network element (for instance, a Local Digital Switch) responds that it cannot perform a task requested by another component of the network for whatever reason. For example the element management system might believe that a certain version of software, needed to activate certain features, exists on a network element, when in reality that installation has not yet been performed.

Communication errors represent the failure of the network to convey needed information at a point in time between the OSS, and element management systems (EMS), a data base, and/or the EMS and the intelligent network element (INE). These errors take place because a valid communication path cannot be found between the elements, and can occur either due to overflow or damage.

Synchronization errors, occur when two separate components attempt to communicate, but fail to establish the necessary communications protocols, even though the link may be functioning.

Generally, a progressive user of this type of technology has a root cause analysis ("RCA") process in place which examines the reasons for the fallout problems and implements action steps to improve flow-through. This is a basic quality process known as continuous improvement.

Because the hot cut process is so manually driven, Verizon has chosen to only look at flow-through at a single step in the beginning of the process; placing the order.

Verizon has worked with the CLECs to improve this step of the process. Verizon claimed to have an overall ordering flow-through rate for hot cut orders for the periods November 2002 through April 2003 of 63.04%, and for bulk hot cuts 83.02%. Verizon's achieved flow through rate, however, was said to be above 99%.[29] The fact that the achieved flow-through rate is so close to 100% indicates that virtually all instances of ordering fallout result from ineligible orders, a fact that has no specific relationship to the hot cut process and one that cannot be cured by hot cut process changes."

However, since this is the end of the totally automated portion of the process, it appears that Verizon's quality improvement process also ends at this point. Verizon further explains:

> "Beyond ordering fallout, an order may be stopped or diverted in the middle of the hot cut process by some hot-cut-specific factor such as a lack of CLEC dialtone or a facility assignment problem. The most common such problems are all clearly identified in Verizon's Flow Chart. This sort of problem does not present a scalability issue."[30]

Orders that are stopped or diverted beyond the initial step in the process, "drop out" of the normal flow and must be processed on a manual basis. Verizon has identified some of the problems that cause an order to "drop out", however, they also state that they

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29 Verizon May 23 Comments at 30.

30 *Id.* at 31.

don't' track "drop out" data. Consequently, it is difficult to understand how "this sort of problem does not present a scalability issue," as they contend.

Q. WHAT ARE THE IMPLICATIONS OF VERIZON FAILING TO TRACK THIS DATA?

A. It is important to view fallout and, to use Verizon's term, "drop out" in the context of the complete process. By only measuring the initial step in the process, Verizon has chosen to overlook the throughput potential of the process that is being impacted by orders "dropping out", which require manual intervention.

Verizon acknowledges that these types of problems exist and admits that manual processing is required to resolve the issues. However, they have consciously decided not to look for ways to improve the efficiency of the overall process. By conducting a root cause analysis, Verizon could determine which process steps contain problems that could be eliminated by changing the process, introducing technology, correcting data base errors, etc. Once the problems were identified, they could be prioritized by the degree of impact that they have on the process. Next, a cost/benefit analysis could be performed based on the recommended solution. Following implementation, the effectiveness of the improvement could be measured, and the focus could shifted toward the next improvement opportunity.

This basic quality improvement process is a fundamental requirement in order to minimize the amount of manual intervention that is the foundation of the current process.

Consequently, we are left with a circular problem.

- The process is manually intensive, limiting throughput, and impacting scalability.
- Verizon acknowledges that orders "drop out" of the process, increasing the need for manual intervention.

– Verizon does not measure or analyze the root cause of orders “dropping out”.

– No plans are developed and implemented to improve the process.

– The process remains manually intensive.

Q. CAN YOU PROVIDE AN EXAMPLE OF A PROCESS STEP THAT FALLS INTO THIS CATEGORY?

A. Yes. At page 1 of Verizon’s Compliance Filing, one manual activity description under the RCCC department is: “Eliminate roadblocks from the order.”[31] According to the worksheets, currently, roadblocks occur on 25% of orders, each taking 9.50 minutes to resolve. Looking at the forward-looking adjustment for this process step on the worksheet, we find that Verizon does not anticipate any change in the percentage of roadblocks or the time it takes to resolve them.

Q. HAS YOUR ANALYSIS REVEALED ADDITIONAL EXAMPLES OF THIS FAILURE TO IMPLEMENT PROCESS IMPROVEMENT.

A. Yes, it is interesting to note that the same worksheets contain an additional activity description related to the same workgroup and process step mentioned previously.

On page 3, another manual step is described as: “Track roadblocks and problems throughout the life of an order using JEP and MFC codes in WFA/C along with proper log documentation.”[32]

This process step takes 19.79 minutes and occurs on 25% of the orders.

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[31] Compliance Filing at 1.

[32] *Id.* at 3.

Consequently, we find that 25% of the orders have problems that require manual intervention, and the problems are logged when they occur. The RCCC employees spend nearly 30 minutes on orders involving these problems, yet Verizon does not use the data to improve the process.

C. VERIZON'S HOT CUT PROCESSES HAVE NOT BEEN DEMONSTRATED TO BE ABLE TO HANDLE CLEC-TO-CLEC MIGRATIONS

Q. HAS YOUR ANALYSIS YIELDED ANY OTHER OPERATIONAL ISSUES WITH VERIZON'S HOT CUT PROCESSES?

A. Yes.

Q. PLEASE EXPLAIN.

A. Verizon has not addressed whether or how its individual or bulk hot cut processes can handle CLEC-to-CLEC migrations.

Q. WHAT IS A CLEC-TO-CLEC MIGRATION?

A. A CLEC-to-CLEC migration occurs when an enduser customer switches his service from one CLEC to another CLEC. In today's current environment, nearly all CLECs providing mass market service in New York do so via UNE-P. In a UNE-P environment, a CLEC-to-CLEC migration does not require a hot cut. But in a marketplace where numerous carriers are providing service via unbundled loops (and not UNE-P), CLEC-to-CLEC migrations would require hot cuts. There would therefore be a need for Verizon to facilitate the CLEC-to CLEC migrations.

Throughout this entire proceeding, including the workshops and the written comments, there has been no attempt by Verizon to present evidence or even argument that its Large Job Hot Cut Process has any application to CLEC-to-CLEC migrations. In MCI's earliest comments in this proceeding, before any of the technical workshops took place, MCI stressed the importance of examining CLEC-to-CLEC migrations.[33] But that discussion has not taken place. The Commission therefore has no assurance that Verizon's Large Job Hot Cut Process has any application to CLEC-to-CLEC migrations, nor any assurance that Verizon's processes can handle a dynamic competitive marketplace in which customers switch between two competitive UNE-L carriers.

Further, given that Verizon has stressed the similarity of its Large Job Hot Cut Process to its individual hot cut processes, the Commission should be especially concerned about Verizon's failure to discuss CLEC-to-CLEC migrations.

Q. BASED ON YOUR EXPERIENCE, CAN YOU DRAW ANY CONCLUSIONS ABOUT THE IMPACT OF CLEC-TO-CLEC MIGRATIONS ON VERIZON'S PROCESSES?

A. Yes. Although Verizon has not discussed CLEC-to-CLEC migrations, based on experience in the industry, certain conclusions can be reached.

All parties agree that the existing hot process is manually intensive. Adding additional process coordination steps that involve three carriers will increase Verizon's work center force requirements.

The ILEC must perform two manual MDF wiring activities when performing a UNE-P to UNE-L hot cut. The first step involves pre-wiring in preparation for the cut over. During this step the technician places a jumper (cross-wire) between the CLEC tie facility and the customer loop. The jumper is terminated at the tie facility and not on the loop side. When the cut is scheduled to begin, the jumper that is connected to the loop side of the

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[33] *See, e.g.,* Letter from Curtis L. Groves, MCI, to Hon. Joel A. Linsider, NYPSC (Feb. 28,

UNE-P arrangement is disconnected and the jumper connected to the CLEC tie facility is terminated in its place.

When the hot cut involves two CLECs, the MDF work steps are similar. In this scenario we begin with the UNE-L connected to the serving CLEC's tie cable facility via ILEC frame wiring. The ILEC will prewire the new CLEC's tie facility to the UNE-L and cut it over as scheduled by disconnecting the serving CLEC's jumper and connecting the new CLEC's jumper to the loop.

The major difference relates to the ordering and coordination steps. Related orders from both CLECs must be processed by the ILEC. An agreeable schedule arranged between the three parties and the cutover must be coordinated in a manner that minimizes customer impact.

Since the ILEC has control over the critical UNE-L connection, the burden of the coordination process resides with them. This additional load will place more stress on this manually intensive process.

Q. WHAT ARE YOUR RECOMMENDATIONS REGARDING CLEC-TO-CLEC MIGRATIONS?

A. Verizon's hot cut processes must factor in CLEC-to-CLEC migrations. In the event that CLECs begin to provide increased volumes of residential service via their own facilities, CLEC-to-CLEC migrations will become more and more prevalent, and Verizon must have processes that can handle them.

2003).

III. RECOMMENDED IMPROVEMENTS TO THE PROVISIONING PHASE OF THE VERIZON LARGE JOB PROJECT HOT CUT PROCESS

Q. WHAT STEPS NEED TO BE TAKEN IN ORDER TO DESIGN A HOT CUT PROCESS THAT IS SCALABLE TO MEET MASS MARKET VOLUMES?

A As discussed above, the recommended improvements to the Coordination Phase will not improve the throughput or scalability of Verizon's process, because the manual provisioning still creates a bottleneck. Therefore, the Provisioning Phase of the process needs to become automated before it can be considered scalable to meet mass market needs.

Q. HOW DO YOU RECOMMEND INTRODUCING AUTOMATION INTO THE HOT CUT PROCESS?

A. The first step in process improvement is to establish measurements and targets for the overall process.

There are three major process measurements:[34]

– Effectiveness: The extent to which the process meets the needs and expectations of its customers. In the case of hot cuts, it would seem reasonable that the appointment interval for a hot cut should not be any longer than the appointment that ILECs offer customers for provisioning orders that do not require a dispatch.

– Efficiency: The extent to which resources are minimized and waste eliminated in the pursuit of effectiveness. For hot cuts, an analysis of each process step is required. This analysis will reveal the amount of rework and "drop out" that could be eliminated, and the value of substituting technology in place of the manual effort required to complete the process step.

– Adaptability: The flexibility of the process to handle future, and changing demand. This is the scalability measurement. What is the volume capacity of

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[34] Taken from Business Process Improvement by H. James Harrington, written under the sponsorship of the American Society for Quality Control

the existing process given the appointment intervals dictated above mirrored against forecasted demand?

Once the measurements of the current process are established and targets are set, the process is redesigned to meet the targets.

Q. IS IT POSSIBLE TO REDESIGN VERIZON'S PROCESS TO MEET A CONTINUOUS HIGH VOLUME OF HOT CUT REQUESTS WITHIN A SHORT APPOINTMENT INTERVAL?

A. There are major provisioning issues that impact the efficiency of the process for both all-copper and fiber-fed loops. For all-copper loops, the process should be redesigned to introduce ADF technology. For fiber-fed loops, the process should be redesigned to introduce electronic unbundling via GR303 compliant IDLC systems.

A. AUTOMATED PROVISIONING OF ALL-COPPER LOOPS VIA AUTOMATED DISTRIBUTION FRAMES

Q. PLEASE EXPLAIN HOW THE MANUAL CROSS-WIRING ACTIVITIES ON THE FRAME CAN BE AUTOMATED.

A. Progress has been made in the area of cross-wiring automation, however, implementing a solution requires some "out of the box" engineering that Verizon has not considered at this point.

Connecting the "outside" facilities to the "inside" facilities currently is accomplished by manually placing cross wire (x-wire) connections, known as jumpers. This is a very labor-intensive "on-site" process requiring the dispatch of a technician to the MDF to physically place the jumpers required to change a service connection. Two dispatches are often required, one to prewire the CLEC connecting facility, and a second on the cut over date when the existing connection is disconnected and the CLEC connection extended to the loop.

In order to gain an appreciation of the magnitude of mechanizing this manual cross-wiring activity, it is helpful to reflect on the impact that the evolution of technology has had on the processes associated with the provisioning of service. During the 1950's and 1960's, most connect and disconnect activities were performed on a manual basis. During the 1970's and early 1980's, mechanization of these activities through the utilization of stand-alone databases began to emerge. Examples include the replacement of paper records with databases, which could be accessed to find information (for example: customer service records or cable pairs). As technology evolved during the 1980's and early 1990's system-to-system interfaces were developed. This technology breakthrough eliminated the need for a lot of manual intervention (hand-offs) and began the era of "flow-through." Flow-through in this context refers to activities that occur by way of systems interacting directly with other systems to provide a given output. For example, using the two databases mentioned above, instead of manually extracting the address information from a customer service record database and manually typing this information into another system which would query the cable pair database to look for a spare pair if a new line wire requested; an entry on an input screen available to the service representative, who has received the request from a customer, would automatically trigger an automated request that would query both databases and print out information on the availability of the spare pair. The 1990's produced the next step, which basically is an integration of the automation described above of all of the support systems and related databases.

Periodically, Bellcore and others have studied the subject of frame mechanization. In fact, the concept of cross-connect mechanization can be traced back to a technical advisory TA-NPL-000407 issued in May of 1989 titled: Fundamental Generic

Requirements for Metallic Automated Cross-Connect Systems (MAXS). However, Bellcore abandoned the effort since cost-effective and scalable technologies did not exist at that time.

Subsequently, micro relay and robotic technology has evolved to a point where they are now being utilized for systems that have the ability to automate the manual wiring function in small central offices serving less than 10,000 lines. These systems are called Automated Distribution Frame (ADFs).

Q. HAS VERIZON INTRODUCED THIS ADF TECHNOLOGY IN NEW YORK?

A. Yes. Verizon has heavily invested in one such product, NHC's ControlPoint, which Verizon has deployed in New York central offices.[35] Verizon has stated that it "utilizes these devices in small, unstaffed central offices that serve an average of about 1,500 lines (and in which, incidentally, there is little if any collocation)."[36]

Q. HAS VERIZON DEPLOYED ADF TECHNOLOGY IN LARGER CENTRAL OFFICES?

A. No. Verizon states that ADFs "can not, however, be efficiently scaled up to serve larger central offices."[37]

Q. DO YOU AGREE WITH VERIZON'S ASSERTION THAT ADF TECHNOLOGY CANNOT BE USED TO FACILITATE HOT CUTS IN A LARGE CENTRAL OFFICE?

A. No. While it is true that these systems still require the pre-wiring manual work associated with establishing connectivity from the MDF through the automated system,

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35 *See* VZ-ATT-24PS.

36 Letter from Joseph A. Post, Verizon, to Hon. Joel A. Linsider, NYDPS (Mar, 14, 2003) at 2.

37 *Id.* at 3.

Verizon has overlooked an option that can be beneficial to the hot cut process. Specifically, if a small ADF system were placed into a large central office, designed to manage the CLEC tie cable facilities, it would be possible to prewire hot cut connections manually in advance of the hot cut date, and remotely cut over the lines on the cut over date without requiring another frame technician dispatch. This approach would free the technician to do additional prewiring for other hot cuts while reducing the overall cycle time of the process by providing the capability to handle thousands of hot cuts remotely without respect to the lines per day/per central office/per manager area throttle that Verizon uses to pace demand.

Q. WOULD THIS FACILITATE ALL TYPES OF MIGRATIONS ON ALL-COPPER LOOPS INVOLVING CLECS?

A, Yes. The system could easily be configured to facilitate remote hot cut migrations between CLECs and handle ILEC win backs without requiring a frame dispatch. This is a significant value advantage considering the fact that the system will be serving a base of customers that have already demonstrated their willingness to migrate to another carrier. It is generally accepted that this customer base will have a higher probability of "switching" again, creating churn that can now be handled in an automated fashion.

B. ELECTRONIC PROVISIONING OF FIBER-FED LOOPS VIA GR303 COMPLIANT IDLC SYSTEMS

Q. ARE YOUR CONCLUSIONS REGARDING ADFs APPLICABLE TO FIBER-FED LOOPS?

A. No. The above analysis and conclusions apply only to end-to-end copper loops. For fiber-fed loops served by GR303 compliant IDLC systems, the recommendations are different.

Q, WHAT ARE YOUR RECOMMENDATIONS FOR FIBER-FED LOOPS SERVED BY GR303 COMPLIANT IDLC SYSTEMS?

A. While it is relatively easy to envision the local loop as a network consisting of cables filled with individual pairs of wires extending out to serve each customer, actual network configurations are much more complex. Fiber optic transmission and digital loop carrier systems are common (and increasing) network standard serving arrangements. Unfortunately, these carrier systems were not designed with loop unbundling in mind.

Universal digital loop carrier (UDLC) was first deployed for use in a copper analog environment. UDLC equipment, based in a remote terminal (“RT”), converts a customer’s analog signal to a digital signal, and the digital signal is carried on loop feeder facilities from the RT to a central office terminal (“COT”). At the COT, the signal is converted back to an analog signal, before the signal is terminated on the Main Distribution Frame (“MDF”) and cross connected to the switch port.

With the introduction of digital switches, an additional conversion was needed at the MDF. The signal that was converted from digital to analog at the COT had to be converted back to a digital signal by an Analog Interface Unit (“AIU”). The required digital-to-analog conversion at the CO was unnecessary, inefficient, and expensive, as more and more digital switches were deployed. IDLC addressed these problems by eliminating the need for the additional analog-to digital conversions at the CO. The analog signal originating at the customer’s premises is still converted to digital at the RT, but no other analog/digital conversions are necessary. The digital signal enters the switch with no further conversions. Unlike a traditional copper loop, the IDLC loop’s demarcation point is not the MDF, but rather at a Digital Signal Cross-Connect in the central office. IDLC was originally deployed with the Telcordia (then Bellcore) TR-008 digital switch interface. Although TR-008 IDLC is superior to UDLC for basic voice services provisioned via digital switches, a need for a generic IDLC interface to handle the increasing deployment of fiber optical networks emerged. Telcordia developed a new configuration, known as GR-303. GR-303 enables allocation of transport bandwidth dynamically by assigning a feeder channel to a line on a call-by-call basis rather than dedicating channels to lines. IDLC along with GR-303 configuration is often referred to as Next Generation Digital Loop Carrier ("NGDLC"). ILECs have invested heavily in GR-303 compliant IDLC equipment, to the point where it is now recognized as an engineering growth design standard.

Since a number of generations and applications of digital loop carrier reside in the network today, a number of factors need to be considered before an efficient serving arrangement can be implemented.

The first factor that must be considered when unbundling a customer loop in this environment, is the type of loop facility that the customer is already utilizing for service, such as all-copper, UDLC system, or IDLC system.

If the customer is receiving service over all-copper facilities, the transfer of the loop is straightforward. The ILEC removes the central office connection to its switch and places a jumper from the MDF to the meet point at the CLEC's collocation cage. This is the standard hot cut described earlier. With this arrangement, there is no need to rewire the outside plant or visit the customer premises.

If the customer is receiving service over a UDLC system, the ILEC removes the central office connection to its switch and places a jumper from the MDF to the meet point at the

CLEC's collocation cage. Again, there is no need to rewire the outside plant or visit the customer premises.

However, if the customer is served by an IDLC system, numerous unbundling configurations are utilized to address the issues associated with the multiple kinds of interfaces found in RTs today.

Telcordia has developed a variety of "technically feasible" options[38] available to the ILEC to unbundle the loop. However, no standard exists, consequently, each ILEC has established its own set of options along with the corresponding methods, procedures, and practices needed for implementing these options.

Some common IDLC options are:

OPTION #1 - Bypass the IDLC system and transfer the loop to an all-copper pair If there are available spare copper facilities serving the customer's neighborhood, transferring the IDLC customer to a spare all-copper circuit is an option. However, while this procedure appears to be relatively simple, it requires central office and outside plant rewiring to complete the new UNE-L circuit from the MDF to the customer.

In established areas, issues relative to maintaining the copper facility along with the newer facility that the ILEC is utilizing to serve its customers can become problematic. In new neighborhoods/housing developments ILECs frequently utilize IDLC systems and install a very limited number of copper pairs to support certain services. In these areas, spare copper facilities can be quickly exhausted if used for unbundled loops.

OPTION #2 - Bypass the IDLC system and transfer the loop to a UDLC system If there are no spare copper facilities in the customer's neighborhood, the ILEC may transfer the customer's circuit from the IDLC system to a UDLC System. This option is dependent on the availability of UDLC in the serving area and spare capacity within the UDLC systems to support transfers from IDLC systems. In addition, this transfer will involve both central office and outside plant work activity.

OPTION #3 - Utilize the UDLC capability of the IDLC system. If the IDLC system is equipped to support UDLC functionality, the ILEC can electronically re-provision the

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38 Examples taken from: Telcordia Notes on the Networks Issue 4 October 2000

circuit from IDLC to UDLC. No outside plant work activity is needed. However, manual central office work is required to run jumpers from the MDF to the collocation cage and, if necessary, place a UDLC plug-in at the COT. This option is a technological step backwards as a UNE-L serving arrangement.

OPTION #4 - Utilize a separate GR-303 Interface Group for the CLEC customers. The RDT must support the MIG (Multiple Interface Group) capability defined in the GR-303 specification. This configuration allows a CLEC switch to connect to the ILEC's RDT at the GR-303 interface level.

This arrangement may be cost effective for those CLECs having a "critical mass" of subscribers served by the RDT or group of RDTs in a CEV. Once connectivity is established, unbundling can be done electronically, eliminating the need for field and central office manual work activities.

OPTION #5 - Share a GR-303 Interface Group and use the side door port of the switch to transport CLEC traffic out of the ILEC switch. This option utilizes a GR-303 Interface Group sharing ILEC and CLEC traffic. All CLEC traffic is routed through side door port DS1s out of the ILEC's switch. CLEC circuits are provisioned as non-switched, non-locally switched circuits within the IDLC system. The addition of a DCS-1/0 also provides an advantage if the CLEC is not fully utilizing a DS1 from the ILEC LDS to the CLEC, and multiple switch modules with IDCUs are used by the ILEC. If a DCS-1/0 is placed between the LDS DS1 sidedoor port and the CLEC DS1s, it would permit full utilization of the sidedoor LDS/IDCU hardware by enabling CLEC DS0s to be rearranged in the DCS-1/0 and placed on the individual CLEC DS1s.

This option also has the potential of eliminating manual work steps required for unbundling.

OPTION #6 - Utilize separate TR-008 Interface Groups to transport CLEC traffic This option dictates the use of separate TR-008 Interface Groups to carry CLEC traffic while utilizing the GR-303 Interface for ILEC traffic. This is a very inefficient solution that requires manual work activities to perform and is a technological step backwards as a serving arrangement.

Verizon utilizes the copper and UDLC options for IDLC loops, both of which require the dispatch of a field technician. Verizon has explained the rational for their approach as follows:

> IDLC technology multiplexes groups of 24 voice grade channels to specially formatted IDLC interfaces within the central office. There is no direct access to an individual voice grade channel on an IDLC system.
>
> If a CLEC orders UNE-P to serve a Verizon end user whose loop facility is currently provided using IDLC, no transfer and thus no dispatch is required because Verizon continues to provide both

> the switching and the loop to the CLEC. However, if a CLEC orders an UNE Loop only, to serve a Verizon end user whose loop facility is currently provided using IDLC, all such "IDLC orders" require a transfer to alternative facilities (i.e., copper or UDLC) and must be dispatched. The field technician must move one or more non-IDLC portion(s) of the loop (either sub-feeder cable, distribution cable and service wire, or just distribution cable and service wire, or just service wire) to the alternative facility.[39]

Q. DO ANY OF THE IDLC UNBUNDLING OPTIONS THAT YOU DESCRIBED ELIMINATE THE NEED FOR A DISPATCH TO PERFORM THE HOT CUT?

A. Yes. If Verizon adopted either option 4 or 5 as their operating standard, customers served by this type of network configuration could be migrated from UNE-P to UNE- L and CLEC to CLEC migrations could be accomplished without a dispatch.

Q. IS VERIZON INVESTING IN GR303 COMPLIANT IDLC TECHNOLOGIES TODAY?

A. Yes. Verizon has invested heavily in Alcatel's Litespan 2000 IDLC equipment throughout its local service footprint and continues to deploy Litespan equipment in RTs throughout New York. Alcatel's Litespan 2000 IDLC product is specifically designed in compliance with the GR-303 standard and as such, is equipped to accommodate the unbundling/provisioning options described above. *** **BEGIN VERIZON PROPRIETARY**

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IV. <u>VERIZON'S LARGE JOB HOT CUT PROCESS IS NOT LOW COST</u>

Q. WHAT IS THE CURRENT NONRECURRING CHARGE FOR HOT CUTS IN NEW YORK?

A. The current charge is $35.

Q. IS THAT $35 CHARGE BASED ON THE COMMISSION'S FINDINGS IN THE SECOND ELEMENTS PROCEEDING?

A. No. In the Second Elements Proceeding, the Commission established a hot cut nonrecurring charge of approximately $185.[40] That charge is not currently in effect, however, as a result of the VIP. Under the terms of the VIP, Verizon is to charge $35 per hot cut until the VIP expires on February 29, 2004.[41] At that time, the applicable charge is scheduled to revert to $185.

Q. IS THE CURRENT $35 HOT CUT NONRECURRING CHARGE "LOW COST?"

A. No – and the $185 nonrecurring charge produced by the Second Elements Proceeding certainly is not low cost. In fact, as Staff has recognized, the $185 charge could deal a potentially crippling blow to competition in New York.[42] But putting the $185 charge aside, the currently applicable $35 nonrecurring charge is also not low cost. For example, the $35 is more than 10 times greater than the nonrecurring charge to migrate a customer to UNE-P, even though the CLEC receives nearly an identical benefit from the UNE-P migration and from a hot cut (i.e., the CLEC is able to attach its UNE loop to the switching resources required to serve its customer). If CLECs who currently provide mass market service via UNE-P begin to provide that service via UNE-L, they will suddenly have to pay $35 per migration instead of $2.15.[43]

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[40] *See* Discussion of *UNE Rate Order* in Case 00-C-1945, Staff Panel Testimony at 10.

[41] Cases 98-C-1357, 00-C-1945, *Order Instituting Verizon Incentive Plan* (Feb, 27, 2002).

[42] Case 00-C-1945, Staff Panel Testimony at 10.

[43] Verizon Tariff PSC NY No. §5.12.6.1 sets forth a $0.97 service order charge and a $1.18 charge for service connection –provisioning (additional).

Q. WHAT IS AN EXAMPLE OF A LOW-COST HOT CUT NONRECURRING CHARGE.

A. The non-recurring charge associated with migrating a Verizon retail customer to a UNE-P platform used by a CLEC to provide a competitive alternative is an example of a low cost hot cut NRC. The UNE-P migration charge of $2.15 serves as the most logical benchmark against which any other hot cut charge should be judged.

V. HOT CUTS PERFORMED VIA VERIZON'S LARGE JOB PROJECT HOT CUT PROCESS SHOULD BE PRICED ACCORDING TO MCI'S BATCH HOT CUT PRICING MODEL

Q. OBVIOUSLY, MCI DOES NOT BELIEVE THAT VERIZON'S $185 HOT CUT CHARGE (OR THE INTERIM $35 CHARGE) ARE INDICATIVE OF LOW COST HOT CUT PROCESSES. HAS MCI DEVELOPED WHAT IT BELIEVES TO BE A LOW-COST HOT CUT PROCESS/RATE?

A. Yes. MCI has developed a cost model (Attachment 4 hereto) – using Verizon's process and the Commission's determinations in the Second Elements Proceeding as a baseline -- that relies upon a seamless and efficient coordinated hot cut process by which to estimate forward looking hot cut costs. MCI's model develops rates for a batch hot cut process by first developing a "per batch cut project fee" and then a separate fee to be applied to each individual loop to be cut via the batch process (i.e., a "per loop cut fee"). MCI's model produces the following costs:

(1) Batch Hot Cut Project Fee: $34.33

(2) Per Loop Cut Fee: $5.86

Q. PLEASE DESCRIBE HOW THE COSTS YOU'VE IDENTIFIED ABOVE WOULD BE APPLIED.

A. Carriers wishing to establish a batch hot cut project would be assessed a fee of $34.33 per project. This $34.33 fee would recover the costs associated with "setting up" the project and actually provisioning (i.e., cutting) one loop. For each additional loop submitted via the same project, the carrier would be charged an additional $5.86. For example, if a carrier chose to submit 150 loops via a single batch cut project, the table below details all applicable fees:

MCI Proposed Batch Hot Cut Rates/Structure

	Qty.	Rate	Total
Project Fee	1	**$34.33**	$34.33
Loop Cut Fee	149	**$5.86**	$873.14
	150		**$907.47**
	Effective Per Loop Fee:		$6.05

Q. HOW DID MCI DEVELOP ITS COST MODEL?

A. As a baseline, MCI used the cost determinations reached by the Commission in the Second Elements Proceeding, which were based upon the nonrecurring cost model that Verizon filed in that proceeding, and Verizon's existing process.

Q. WHY DID YOU USE THE SECOND ELEMENTS PROCEEDING'S DETERMINATIONS AS A BASELINE?

A. It was our understanding that the Commission has directed parties to determine whether a bulk hot cut process provides efficiencies that could cause a reduction in the existing hot cut costs. It was not our understanding that we were to start over and disregard the Commission's previous cost determinations. Had we started from scratch, dedicating our analysis to a more diligent adherence to the FCC's TELRIC rules, the resultant model would have been quite different than that we've produced for this proceeding.

Q. SO, YOUR COST MODEL DOES NOT START FROM A BLANK SLATE?

A. No, it does not.

Q. WHAT EFFECT, IF ANY, DID STARTING WITH THE COMMISSION'S COST DETERMINATIONS HAVE ON THE MODEL?

A. The Commission's cost determinations in the Second Elements Proceeding were reached in early 2002, based on a Recommended Decision issued in early 2001. The RD, in turn, relied on evidence that had been filed as early as the February 2000. So, while it seems like just yesterday that the Commission evaluated Verizon's nonrecurring charges and other network element rates, those determinations are actually based on evidence that in some cases is more than three years old.

In particular, the Commission's entire evaluation of Verizon's nonrecurring charges, and the resulting *UNE Rate Order*, pre-dated the FCC's recent decision in the Virginia Arbitration. There, the FCC specifically rejected Verizon's non-recurring cost ("NRC") model based on numerous factors, not the least of which was Verizon's unwillingness to account for newer technologies and/or more efficient practices. The FCC's reasoning is directly pertinent to the issues that will undoubtedly arise in this proceeding. For example, the FCC found that costing based on Verizon's existing, embedded processes is not consistent with TELRIC: "Verizon's model is not based on an optimization constrained only by current switching locations. Rather, it is tied to existing processes and the existing network."[44] The FCC further discredited Verizon's proposed NRC methodology, finding that a proper TELRIC study for NRCs would use forward-looking technology:

> Verizon takes the view that only the technology it expects to install in its network during the study period is "currently available," and it goes so far as to exclude from its non-recurring cost model some equipment that it includes in its recurring cost model (specifically, IDLC equipment). AT&T/[MCI] take the opposite

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[44] *Virginia Arbitration Order* at ¶567.

> approach, interpreting "currently available" as any technology that is theoretically feasible, even if it has not actually been implemented by any carrier….
>
> As a general matter, we conclude that AT&T/[MCI's] approach is more consistent with TELRIC requirements.[45]

If the Commission had had the benefit of the *Virginia Arbitration Order* when it made its NRC determinations, we are confident that the Commission would have based its NRCs on more efficient technology and processes assumptions (instead of relying largely upon Verizon's embedded processes), thereby resulting in substantially reduced rates.

Q. DOES THE FCC'S *VIRGINIA ARBITRATION ORDER* PROVIDE ANY OTHER INFORMATION RELEVANT TO THIS PROCEEDING?

A. Yes, it is important to note that one of the FCC's primary criticisms relative to Verizon's NRC model was that it ignored technology that had specifically been included in calculating its recurring costs. In other words, while Verizon modeled one network for purposes of establishing forward looking recurring rates (i.e., loops using IDLC), it had ignored this very same technology when developing the NRCs it intended to charge for purposes of accessing that network. The fact that the FCC found this to be an unacceptable modeling practice, inconsistent with its TELRIC rules, is directly relevant in this proceeding because, if Verizon's past NRC models relative to the hot cut process are any indication, it intends to do exactly the same thing in New York. That is, while it has been required by this Commission to assume a 100% of its loop network in New York will be served via IDLC, its past hot cut models ignore the capabilities this

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[45] *Id.* at ¶¶568-569.

technology lends to reducing non-recurring costs in the form of increased provisioning efficiency. We discuss this issue in more detail earlier in this testimony.

Q. DO THE RATES YOU'VE PROPOSED IN THIS PROCEEDING COMPORT PERFECTLY WITH THE FCC'S REQUIREMENT THAT RATES BE BASED UPON "…THE MOST EFFICIENT NETWORK POSSIBLE USING CURRENTLY AVAILABLE TECHNOLOGY, CONSTRAINED ONLY BY CURRENT SWITCHING LOCATIONS."

A. No, unfortunately, they do not. Because our model in this proceeding relies on the Commission's previous determinations, altered only slightly to accommodate newer technologies (leaving many of the embedded processes in place), the model yields higher costs than it otherwise would if we had begun with assumptions that are completely consistent with the *Virginia Arbitration Order*.

Q. PLEASE DESCRIBE YOUR COST DEVELOPMENT INITIATIVE.

A. Relying upon forward-looking costing principles and our knowledge of Verizon's hot cut processes, we undertook a two-stage cost development initiative. First, by using information gathered in the workshops, MCI developed an efficient hot cut process flow based on the Verizon Flow Chart. MCI's revised process flow is included with this testimony as Attachment 5. The purpose of MCI's revised process flow was to remove unnecessary and duplicative worksteps and to recognize efficiencies that could be gained by reliance upon the existing technology (e.g., IDLC) described earlier in this testimony, as well as to more fully rely upon the enhancements a work flow manager like WPTS could provide to the process. The result of MCI's modifications was a process flow far more efficient than that proposed by Verizon, and, as a result, far more reliable as a method of determining proper cost recovery.

Second, MCI relied upon Verizon's own Compliance Filing from the Second Elements Proceeding in order to develop forward looking rates consistent with its revised process flow chart. In short, MCI began with Verizon's existing cost model specific to its hot cut process, and where appropriate, made modest changes associated with efficiencies gained by new technology and improved processes. With respect to actual labor time required to perform a given work step, labor rates and/or other financial assumptions, MCI left the majority of Verizon's assumptions intact. MCI's revisions to Verizon's Compliance Filing worksheets are included with this testimony as Attachment 6 and are described in the model description document (Attachment 4).

Q. WHY WAS MCI REQUIRED TO REVISE VERIZON'S HOT CUT PROCESS FLOW IN ORDER TO USE THE PROCESS FLOW IN DEVELOPING TELRIC-COMPLIANT RATES?

A. After having reviewed Verizon's batch hot cut process flow, and having participated in the workshops, it was clear to MCI that Verizon's process flow suffered from a number of problems that would need to be remedied before it could be used to set proper, forward looking rates. First, Verizon's process flow did not recognize the potential economies that could be gained from a batch hot cut process, for purposes of reducing costs and increasing efficiency associated with cutting multiple loops via single project. Second, Verizon's process flow did not anticipate the savings to be realized by the work flow management potential of a system like WPTS. Finally, Verizon's process flow completely ignored available technologies (e.g., IDLC) that could be used to dramatically reduce the amount of manual intervention required to complete a batch hot cut project. In short, Verizon's process flow appeared to map Verizon's existing batch hot cut process, with little, or no, attempt to map potential efficiencies either through enhanced practices or more efficient technology. As such, Verizon's process flow was not, in its unrevised state, useable for purposes of establishing TELRIC-compliant rates.

Q. HOW DID MCI REVISE VERIZON'S HOT CUT PROCESS FLOW?

A. MCI focused on three primary areas wherein Verizon's process flow had done a particularly poor job of capturing potential efficiencies that must be captured in calculating a TELRIC-compliant, forward –looking, cost-based rate:

> (1) Verizon had made no attempt to consider alternative technologies and enhanced practices that could dramatically enhance the automated nature of its hot cut process and reduce associated fallout. In the same vein, Verizon had ignored the network assumptions required by the Commission in Case No. 98-C-1357 (primarily focused on the extensive use of IDLC in the UNE loop network). MCI's revised process flow incorporated these alternative technologies and practices, at the same time ensuring that the technology serving as the foundation for its revisions were consistent with the Commission's past decisions.
>
> (2) Verizon had included in its process flow a number of duplicative manual work steps wherein Verizon employees ensure that the process is progressing as required (referred to as "check" steps). As described earlier, while these "check" steps may very well be required to ensure that Verizon performs as it should, these steps are irrelevant to a forward looking cost analysis. The need to double-check the quality of its processes results from a number of past troubles Verizon has experienced in performing as it should. These past inadequacies are simply not relevant to a forward looking analysis and hence, MCI's cost analysis includes no worktime or expenses associated with these "check" steps.
>
> (3) Verizon's process flow did not adequately capture the economies associated with processing, and ultimately provisioning, UNE loops in bulk via a batch process. As Verizon itself explains, its batch hot cut process was nearly identical to its single loop process except for a very few initiating steps. MCI's revised process flow captures additional economies relative to processing and cutting numerous loops via a single project.

Q. WHAT ARE THE BASELINE NETWORK ASSUMPTIONS THAT ARE INCORPORATED IN THE MCI MODEL?

A. The model incorporates forward-looking provisioning methods, based on 100% IDLC and GR303 technology. From a network configuration perspective, the Commission has found that nonrecurring charges in a TELRIC environment should be based, by 2002, upon a network with 100% IDLC connections. The Commission has also found that an IDLC connection can be made with a single loop.

Q. WHAT OTHER BASELINE ASSUMPTIONS ARE INCLUDED IN THE MODEL?

A. The model applies a 2% fallout rate to the entire process in recognition of Verizon generated flow through rejections that require manual intervention. CLEC generated errors are also recognized as part of the model. These error rates appear at each process step where the error could potentially create manual work for Verizon during reconciliation. WPTS system enhancements have also been incorporated to improve the efficiency and timeliness of the coordination process.

Q. PLEASE EXPLAIN WHY DIFFERENT FALLOUT AND ERROR RATES ARE APPLIED.

A. First, a 2% fallout rate was ordered by the Commission in the *UNE Rate Order.* Second, Verizon has said that its "ordering flow-through rate for hot cut orders for the periods November 2002 through April 2003 was 63.04%; the rate for bulk hot cuts was 83.02%." Verizon has also specified that its achieved flow-through rate – percentage of orders designed to flow through that actually do flow through – is above 99%. Verizon has coined the term "drop out" to distinguish non-automated steps where orders are stopped or diverted beyond the initial step in the process, and must be processed on a manual basis. Verizon has identified some of the problems that cause an order to "drop out"; however, they also state that they do not track "drop out" data.

Our analysis reveals a different picture of fallout beyond the ordering step of the process. As an example, the activity description from the Compliance Filing for the MLAC associated with a two wire initial hot cut states: "Assign outside plant and central office facilities for non-flow through service orders." The typical occurrence is 4% with a 50% forward looking adjustment, which equals 2%. Another example appears in the RCMAC activity step description: "Receive notification through Paris of need to perform a manual translation change on working service." The typical occurrence is 5% with a

40% forward look adjustment, which equals 2%. Contrary to Verizon's explanation, these are both examples of system related fallout that occur beyond the ordering process step. Applying a 2% fallout rate to each of these automated steps compounds the cost and limits the efficiency potential of the overall process. The MCI model recognizes that some fallout will occur and applies a 2% fallout factor once to the overall process. In contrast, errors that are generated by a CLEC that require manual intervention are normally beyond Verizon's control. These types of problems are recognized at each step where the potential for error exists.

Q. HOW DOES THE MCI MODEL ADDRESS VERIZON INITIATED "DROP OUT."

A. Each occasion of "drop out" that appears in the process has been analyzed individually and a determination made relative to the potential for automation or improvement through the application of quality improvement principles.

Q. DOES THE MODEL INCLUDE OTHER WPTS ENHANCEMENTS?

A. Yes. Currently, the WPTS System performs the following functions:

- Automatically retrieves Hot Cut orders from the Verizon Systems
- Automatically forwards the work to the RCCC, Central Office Frame and CLEC's.
- Automatically sends order verify notification to the RCCC
- With human interaction, tracks the progress of the dial tone check, dial tone FIXED, CLEC go ahead,
- Central Office Frame Cut Completion,
- and CLEC Confirm notification.

WPTS provides this functionality through integration with systems like WFA-C. Analyzing the manual coordination activities appearing in Verizon's work papers associated with the compliance filing of the Wholesale Non-recurring Cost Model revealed a number of activities that may be reasonable candidates for elimination through WPTS system enhancements. Each of these enhancement opportunities is highlighted within model work papers.

Q. HAVE OTHER ASSUMPTIONS BEEN INCORPORATED IN THE MCI MODEL?

A. Yes. The model incorporates scale efficiencies for hot cuts involving multiple lines. As an example, Verizon's Compliance Filing incorporates a work step described as "Proceed with the hot cut conversion notify all teams to proceed; advise CLEC when hot cut is complete." They estimate that it will take 20.27 minutes for the first line and 14.24 minutes for each additional line. In order to understand the significance of this estimate consider the impact that this coordination step would have on a 100 line bulk hot cut. Picture all participants on a "conference bridge" waiting as the RCCC coordinator takes 20.27 minutes to ask everyone if they are ready to cut the first line and then directing them to do the cut. After the cut is completed, everyone gets back on the bridge and receives notification that the item is complete. It then takes 14.24 minutes to proceed with each of the remaining 99. If this were the case, it would take 23.8 hours to advise everyone to proceed. This does not take into account any of the time associated with doing the actual hot cut. Obviously, this is not what occurs in the real world of hot cuts.

Q. WHAT IS THE IMPACT OF THESE FORWARD LOOKING ASSUMPTIONS?

A. By overlaying these forward looking assumptions on Verizon's Compliance Filing, the number of manual activity steps reduces from 38 to 11. The number of steps for each additional line drops to 9 from 35. More importantly, this process would enable Verizon to handle mass market migration hot cut activity on a routine basis as opposed to the existing process that is not scalable enough to meet current demand.

Q. HOW CAN THE FRAME WIRING THROUGHPUT RESTRICTION BE ELIMINATED?

A. In a forward looking environment the network serving arrangement will be IDLC, which has remote provisioning and unbundling capabilities. This arrangement eliminates the need for manual cross-wiring.

Q. WHY IS IDLC/GR-303 TECHNOLOGY BENEFICIAL (I.E., EFFICIENT) FROM A HOT CUT OR LOOP PROVISIONING PERSPECTIVE?

A. One of the primary advantages driving the increased deployment of IDLC technology within the ILEC's network (including Verizon's), is IDLC's ability to provision loops on a software basis, without manual intervention. If deployed in the proper manner, IDLC loops can be groomed and provisioned automatically either via user driven software (i.e., "with the click of a mouse"), or in an even more automated fashion via upstream OSS (flowing directly from facility assignment driven by the customer service request). By using IDLC technology more pervasively in providing UNE loops (in the manner described above by Telcordia), this same software driven provisioning scenario is possible in an unbundled environment. It is this automated provisioning scenario which provides tremendous promise for removing manual intervention in the hot cut process, and serves as the basis for assuming IDLC technology in a proper forward looking cost study.

Q. PLEASE DESCRIBE HOW MCI REVISED VERIZON'S COMPLIANCE FILING CONSISTENT WITH THE REVISED PROCESS FLOW.

A. Using the revised process flow to identify relevant work steps, appropriate fallout rates and where applicable, reduced manual intervention (or shortened time associated with the economies of a bulk process), MCI input these revised assumptions into Verizon's existing cost study model. In revising the Verizon Compliance Filing, MCI did not alter the underlying labor rates or other financial assumptions that had been used previously by Verizon. In short, MCI modified the Verizon Compliance Filing only to the extent to which it was required to capture the revisions included within the revised process flow.

Q. HOW ARE THE COSTS CALCULATED WITHIN THE MODEL?

A. Following Verizon's convention, the amount of time required to perform each activity step has been multiplied by the labor rates presented in Verizon's Compliance Filing. As a general rule, MCI utilized the times presented by Verizon in its Compliance Filing as a baseline for the activity steps that appear in both models. Differences in the times used by Verizon and MCI are largely isolated to the calculation of costs for an "additional" line and can be readily identified in the cost study documentation.

Q. WHAT ARE THE RESULTS OF THE TOTAL COST CALCULATIONS?

A. After having incorporated the revisions described above, MCI's revised cost model generates costs as follows: 2/wire initial hot cut - $34.33 2/wire additional hot cut - $5.86.

Q. WHY HAS MCI REVISED THE RATE STRUCURE PROPOSED BY VERIZON?

A. After having reviewed and revised Verizon's proposed process flow for batch hot cuts, it became clear that costs resulting from the process could be grouped in to two distinct categories: (a) those costs specific to "setting up" a given batch hot cut project, and then (b) costs associated with actually provisioning loops after the project has been established. Because costs logically flow from these two discernable categories of worksteps, it is only logical that the resultant rates should be likewise structured.

Q. ONE OF YOUR PREVIOUS OBJECTIVES WAS TO USE THE EXISTING UNE-P CONVERSION CHARGE/PROCESS AS A BENCHMARK FOR AN EFFICIENT, HOT CUT PROCESS/RATE. HOW DO YOUR PROPOSED BULK HOT CUT RATES ABOVE COMPARE WITH THE EXISTING UNE-P CONVERSION RATES?

A. The existing UNE-P conversion rate is $2.15. This is obviously lower than the hot cut rates proposed above, even if a CLEC were to package a very large number of loops into a single project. This comparison highlights the fact that while we attempted to be diligent in removing from Verizon's inadequate process/cost model all non-TELRIC-compliant components, we likely were unsuccessful in identifying/removing them all. As such, our proposed rates likely exceed a truly TELRIC-compliant rate level. As such, we propose that the Commission adopt our proposed rates as a ceiling, above which Verizon would should not be allowed to set relevant hot cut rates. However, the Commission should also leave open the opportunity for carriers to identify additional efficiencies that we may have missed in our analysis, keeping in mind that the existing UNE-P conversion charge is the most likely benchmark for an efficient hot cut rate.

VI. <u>CONCLUSION</u>

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS TO THE COMMISSION.

A. Consistent with the FCC's rules, the Commission must require Verizon to establish a bulk hot cut process that is seamless, low cost and scalable, with the notion in mind that this process will, at least in part, be required to withstand substantially increased volumes in circumstances wherein unbundled local switching its removed from the list of UNEs available to CLECs. Each of these three criteria (seamless, low cost and scalable) is a stand-alone criteria against which Verizon's process must be judged, and each is a relatively high hurdle wherein existing UNE-P migration charges/processes should serve as the standard. Verizon's existing process fails to satisfy any one of these three criteria. As such, if the Verizon process is ever to reach the type of seamlessness, cost effectiveness and scalability required in a more facilities-centric competitive environment, major changes must be made not only to the very nature of the process, but also to the underlying technology upon which the process relies,. We have, in this testimony, provided the Commission with the first steps to take in appropriately revising Verizon's process toward a more acceptable framework. We've also identified a set of prices that should, in the interim, provide a fairly reasonable estimation of forward looking costs. Toward that end, as a result of this proceeding, Verizon should be allowed to charge no more than $34.33 per Hot Cut Project (including the first loop cut) and $5.86 for each additional loop in the same project.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

ATTACHMENT 4

MCI Coordinated Bulk
Hot Cut Non-Recurring Costs Model

TABLE OF CONTENTS

OVERVIEW

The MCI Coordinated Bulk Hot Cut Non-Recurring Cost Model consists of a process flow chart based in Microsoft PowerPoint presenting a visual representation of the activity steps involved in the coordinated bulk hot cut process and work papers based in Microsoft Excel describing the activities and calculating the associated costs that would be incurred in an efficient forward looking environment. The model is designed to contrast the process steps and one-time costs presented by Verizon during workshop sessions and their Compliance Filing work papers in the Second Elements Proceeding,[1] against a more efficient modified process developed by MCI. In an effort to produce a reader friendly model, and to facilitate direct comparison, MCI has utilized Verizon's submissions as a template for the MCI model.

METHODOLOGY

A. Coordinated Bulk Hot Cut Process Flow Chart

In association with Case 02-C-1425, a series of off-the record workshops were held to discuss the bulk hot cut process currently offered by Verizon in an effort to promote problem solving and make process adjustments aimed at improving efficiency. Following the workshop sessions Verizon issued an updated process flow chart dated July 14, 2003 ("Flow Chart").

On July 1, 2003 Judge Linsider issued a procedural ruling instructing parties that the process of estimating costs specific to the hot cut process should begin, thereby, allowing parties to propose more efficient ways of providing the functionalities depicted in Verizon's revised flow chart. To that end, MCI has modified Verizon's flow chart to depict the proposed enhancements.

The process flow chart is colored to indicate CLEC process steps (yellow, dashed border) and proposed changes impacting Verizon (green, double lined border). In addition, numbered callout boxes (grey, numbered & rectangular) have been added to correlate activities to the costs appearing in the work paper spreadsheet section of the model.

B. Coordinated Bulk Hot Cut Process Work Papers

MCI utilized the information gathered during the hot cut workshop sessions, coupled with the results of previous regulatory rulings and in house technical expertise to produce a process flow superior to Verizon's initial attempt. In order to eliminate confusion associated with different formats and methodologies, MCI has used the Compliance Filing presented by Verizon in the Second Elements Proceeding as a template for the MCI model. A description and explanation of each column of the work paper spreadsheets appears in the cost calculation section of this document.

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[1] Exhibit Part G (BA-NY Wholesale Nonrecurring Costs Model) ("Compliance Filing").

Following Verizon's convention, the amount of time required to perform each activity step has been multiplied by the labor rates presented in Verizon's Compliance Filing. As a general rule, MCI utilized the times presented by Verizon in its Compliance Filing as a baseline for the activity steps that appear in both models. Differences in the times used by Verizon and MCI are largely isolated to the calculation of costs for an "additional" line and can be readily identified in the cost study documentation.

Underlying costs are summarized into four primary categories: 1) service order; 2) CO wiring; 3) provisioning; and 4) field installation. The categories consist of the following:

1. Service Order: Includes the costs related to the process by which Verizon performs any necessary function(s) to issue an order in the NMC organization resulting from a CLEC request for service;

2. Provisioning: Includes the costs incurred during the process by which Verizon performs the necessary functions in the remaining support work groups;

3. CO wiring: Includes the costs associated with the process by which Verizon after receipt of an order performs the necessary function(s) in the CO/frame work group to satisfy a CLEC request for service;

4. Field Installation: Includes the costs related to the process by which Verizon performs the function of dispatching the field forces (Installation and Maintenance (I&M) to install service requested by a CLEC.

The Verizon times (red spreadsheet entries Col. C) included in the MCI model reflect the forward-looking time included in the Verizon Compliance Filing associated with this process. These entries are presented in the MCI model for comparative purposes only, and are not used in MCI's calculations of costs indicative of a more efficient process.

MCI Fall Out Factor

MCI has included an activity described in Col. B as a fall out factor. This factor is applied once to the entire process in recognition of the fact that some process fallout generated by Verizon will occur.

In addition, the model recognizes that the root cause of some fallout may be beyond Verizon's control. Accordingly, fallout of this nature is recognized and included in specific activity steps within the model (example: NMC activity step "Eliminate roadblocks from the order", Connect Typical Occurrence 4%).

Organizations

MCI attempts to use a common description for organizations to eliminate confusion. For this purpose, Attachment A contains the description of each of the organizations presented in Verizon's model, which have been utilized in MCI's model.

Model Tabs

Within the model, each tab is associated with a specific type of hot cut detailing the costs of performing the activities in various functional organizations in order to provision the specific type of hot cut. One example is a 2 wire initial line hot cut, which appears under the "2 wire" tab.

In addition to process specific tabs, the MCI model also includes the "Factors" and "Labor Rates" tabs originally included by Verizon in their compliance studies. These tabs provide various financial factors impacting the cost results including costs of capital, various loading factors and loaded hourly labor rates. The MCI model relies upon the exact same factors and financial assumptions used by Verizon in its compliance studies, i.e., MCI has made no changes to any of these assumptions and uses Verizon's proposed factors and labor rates verbatim.

C. MCI Cost Calculations

The NRC model calculates MCI Forward Looking Cost as follows:

1. Identify and map non-recurring work activities required to perform the hot cut;

2. Determine the average amount of work time required to perform the activities;

3. Apply % typical occurrence factor (the frequency with which an activity is performed) to the estimate of average work time to produce an adjusted time assumption applicable to an average loop (in minutes);

4. Multiply adjusted work time (in minutes), in Step 3, by directly assigned forward-looking labor rate per minute; this yields the forward-looking direct cost;

5. Multiply direct cost, in Step 5, by the common overhead factor to apportion common overhead costs to the direct costs;

6. Assign to the direct plus common costs an allocation of Gross Revenue Loading (GRL) by multiplying the costs identified in Step 6 by GRL factor.

As an example, the description of the total non-recurring cost for a "Two Wire Hot Cut Initial" service in the RCMAC organization is calculated as follows:

TABLE 1

	Two Wire Hotcut Initial – RCMAC	CONNECT			
Correlation **	ACTIVITY DESCRIPTION	Verizon Forward Looking Time (minutes)	MCI Connect Time (minutes)	Connect Typical Occur'nce	Adjusted Connect Time (minutes)
A	B	C	E	F	G=E*F
(F)	Obtain direct notification from RCCC for UNE migration to collocation arrangement which requires the release of translation packets.	0.13	N/A		0.00
(F)	Receive notification through PARIS of need to perform a manual translation change on working service.	0.64	N/A		0.00
(F) (I) #8	Release translation change, (Verizon-assoc.w/number portability fallout) (MCI-to reconfigure IDLC)	0.14	2.00	100%	2.00
(E)	Obtain notification from the RCMC of trouble conditions on a CLEC end-user's line requiring RCMAC analysis and translation changes.	0.45	N/A		0.00
(A) WPTS	Research and refer to the RCCC those translation packets held in March for which no coordination call was received.	0.15	N/A		0.00
	TOTAL	1.51			2.00

** correlation - (A)utomated , (R)edundant, (I)ncluded, (E)liminate, (F)all out factor

Table 1 shows the development of times for each activity of a "Two Wire Hot Cut Initial" element used by the model compared to the activities and times submitted by Verizon in their Compliance Filing.

Each of the columns included in Table 1 above is described in more detail below:

- **Column A**: Correlation
  In a number of instances, the MCI model includes coding intended to inform the reader of a revision made by MCI to the Verizon compliance model. The key at the bottom of Table 1 above provides some brief explanation of each such notation as follows: **(A)utomated , (R)edundant, (I)ncluded, (E)liminate, (F)all out factor.**

  When MCI included a Verizon work step in its model, the # associated with the (I) acronym corresponds to a callout box appearing in the process flowchart at the point where the activity occurs.

- **Column B:** Activity Description
  These are descriptions of activities that appear in Verizon's Compliance Model. Green (light text) entries depict additional description details included in MCI's model.

- **Column C:** Verizon Forward Looking Time (in minutes)
  This is the forward looking time required to complete the activity presented in Verizon's Compliance Model.

- **Column E:** MCI Connect Time (in minutes)
  This is the average work time required to perform the activity. If an activity is not required, the cell is populated with an "N/A".

- **Column F:** Connect Typical Occurrence (in percentage)
  This is the percent of time the activity has to be performed in a forward looking environment.

- **Column G:** Work Times Calculations
  This column calculates adjusted work time using the following formula:
  G=E*F , where

  G= Forward-Looking Time (in minutes)
  E= Connect Time (in minutes)
  F= Connect Typical Occurrence (in percentage)

Example:
As indicated in the excerpt below, the third Activity of the RCMAC appearing in Verizon's model, displayed in Table 1, is: *Release translation change, (Verizon-assoc.w/number portability fallout) (MCI-to reconfigure IDLC)*

correlation	ACTIVITY DESCRIPTION	VERIZON Forward looking Time (minutes)		MCI Connect Time (minutes)	Connect Typical Occur'nce	AdjustedConn. Time (minutes)
A	B	C		E	F	G=E*F
(F) (I) # 8	Release translation change, (Verizon- assoc.w/number portability fallout) (MCI-to reconfigure IDLC)	0.14		2.00	100%	2.00

Note that MCI has added the phrase: (MCI-to reconfigure IDLC) to the description. Likewise, Col. A contains the letters (F) and (I). The (F) indicates that Verizon included this activity to reconcile fallout associated with number portability that did not occur in an automated fashion as designed. Recognition for this event is included in the fallout factor applied to the overall process as part of the MCI model calculation. The (I) indicates that this activity is “included” in the MCI Model. The #8 identifies the reference point wherein the activity appears in the Process Flow Chart. The green (light) text appearing in Col. B describes the activity as it applies to the MCI model. In this case, MCI recognizes that a translation activity is required for a coordinated IDLC reconfiguration, which Verizon excludes from their model. Col. C indicates the Forward Looking time that Verizon presented in its model to handle the translation fallout. Col. E displays the estimated amount of time required to reconfigure IDLC, included in the MCI Model. Col. F indicates that the activity occurs 100% of the time (all orders of this type). Multiplying the estimated work time and percentage of occurrence, produces the Adjusted Connect Time (G) for this activity as follows:

(G)= 2.00 mins. x 1.00 = 2.00 mins. (the adjusted forward-looking connect time).

The resulting forward-looking time is then multiplied by the directly assigned labor rate to calculate the forward-looking cost (displayed later in example).

1. Disconnect Forward-Looking Time

The calculation of the disconnect forward-looking time follows the same process as the connect forward-looking time (see Table 2, below).

TABLE 2

	Two Wire Hotcut Initial – RCMAC	DISCONNECT			
correlation	ACTIVITY DESCRIPTION	Verizon Forward Looking Time (minutes)	MCI Disconnect Time (minutes)	Disconnect Typical Occur'nce	Adjusted Disconnect Time (minutes)
A	B	H	J	K	L+J*K
(F)	Obtain direct notification from RCCC for UNE migration to collocation arrangement which requires the release of translation packets.	0.00	N/A		0.00
(F)	Receive notification through PARIS of need to perform a manual translation change on working service.	0.57	N/A		0.00
(F) (I) #8	Release translation change, (Verizon-assoc.w/number portability fallout) (MCI-to reconfigure IDLC)	0.00	N/A		0.00
(E)	Obtain notification from the RCMC of trouble conditions on a CLEC end-user's line requiring RCMAC analysis and translation changes.	0.35	N/A		0.00
(A) WPTS	Research and refer to the RCCC those translation packets held in March for which no coordination call was received.	0.00	N/A		0.00
	TOTAL	0.92			0.00

The disconnect activities are summed up for a total of 0.00 minutes as shown on the last row in Table 2 indicating that no manual intervention is included in the MCI model for this work group. Note: Correlation indicator (I) #8 is associated with a coordinated activity identified in the connect portion of the hot cut process, however, this coordinated activity step is not required for a disconnect. As a result, 0.00 minutes appears in Col. J.

	Leveliz'd Labor Rate per Minute	Connect Forward Looking Cost	Disconn. Forward Looking Cost	Disconn. Forward Looking Present Worth	Connect + Disconn. Forward Looking Cost
	O	P=G*O	Q=L*O	R=Q*pwf	S=P+R
TOTAL	**$0.80**	**$4.10**	**$0.00**	**$0.00**	**$4.10**
EXPEDITE Total	**$1.12**	**$0.00**	**$0.00**	**$0.00**	**$0.00**

The resulting connect forward-looking time (G) is then multiplied by the directly assigned labor rate, O= $0.80 for a total of $4.10 (P= G x O). The disconnect time is calculated in a similar fashion with the primary difference being that the disconnect expenses are expressed as a present value assuming a cost of capital (used as a discount factor in this situation) equal to 10.5% and an assumed location life of 2.5 years. The disconnect expenses are discounted because they reflect expenses that will be incurred in a future timeframe (2.5 years from the connection time consistent with Verizon's model) but for which monies will be recovered today.

Connect Forward-Looking Cost Calculations

The Connect Forward-Looking Cost is calculated by multiplying the total 9.47 minutes by the levelized labor rate per minute, as shown in the first row of Table 3, by using the following formula:.

L=F x K

Where:
L= Connect Forward-Looking Cost
F= Connect Forward-Looking Time (in minutes)
K= Labor Rate per minute.

The labor rates of all functional organizations can be found in the "*Labor Rates"* tab at the bottom of the spreadsheet model.

If the labor rate for RCMAC personnel to perform the job is \$0.80 per minute, then the connect forward-looking cost is:

L=9.47 minutes x \$0.80 per minute

L= \$ 7.58, which is the connect forward-looking cost for RCMAC nonrecurring activities, as shown in row #1 of Table 3.

The expedite total cost is calculated as follows:
L=F x K
= 9.47 minutes x \$1.12 per minute

L= \$10.61, which is the expedite connect forward-looking cost for RCMAC nonrecurring activities, as shown in row #2 of Table 3.

2. Disconnect Forward-Looking Present Worth. (N)

The Present worth factor (pwf) is applied to calculate the current value of a future amount, i.e., the value today of disconnect costs incurred sometime in the future, when the customer disconnects service. Table 3 shows the disconnect forward-looking present worth and the total connect and disconnect forward-looking cost calculations as performed by the model for the RCMAC organization.

Disconnect Forward-Looking Present Worth

3 Two Wire Hotcut Initial

Leveliz'd Labor Rate per Minute	Connect Forward Looking Cost	Disconn. Forward Looking Cost	Disconn. Forward Looking Present Worth	Connect + Disconn. Forward Looking Cost
K	L=F*K	M=J*K	N=M*pwf	O=L+N
			pw factor= 74.33%	
$0.80	$7.58	$1.84	$1.37	$8.94
$1.12	$10.61	$2.57	$1.91	$12.52

Table 3

The Disconnect Forward-Looking Present Worth, as shown in Table 3 is calculated in the following way:

N=M*pwf

Where:

N= Disconnect Forward-Looking Present Worth
M= Disconnect Forward-Looking Cost
Pwf= Present worth factor.

In the example above, if the 2.5 year present worth factor is 0.7433, then

N= $1.84 x 0.7433
= $1.37, which is present worth of the disconnect forward-looking cost discounted at 2.5 years.

The expedite disconnect forward-looking present worth is:

N= $2.57 x 0.7433
= $1.91, which is the expedite present worth of the disconnect forward-looking cost discounted at 2.5 years.

The Total Connect and Disconnect Forward-Looking Cost is therefore calculated as follows:

O=L+N

Where:

O= The Total Connect and Disconnect Forward-Looking Cost
L= Connect Forward-Looking Cost
N= Disconnect Forward-Looking Present Worth.

O= $ 7.58 + $ 1.37
= $ 8.94, which is the total connect and disconnect forward-looking RCMAC cost that will be incurred by BA for this non-recurring service as shown in Table 3.

The expedite connect and disconnect forward-looking cost is therefore:

O= $ 10.61 + $ 1.91
= $ 12.52, which is the total expedite connect and disconnect forward-looking RCMAC cost that will be incurred by BA for this non-recurring service.

The total nonrecurring cost for RCMAC for the "Two Wire Hotcut Initial" is $ 8.94 with the expedite cost being $ 12.52.

INPUT FACTORS

Table 4 provides the values of the common input factors used by the model.

INPUT FACTORS

Line A	Factor B	Value C
1	**Cost of Money**	**10.5%**
2	**At Discount Period (years) of :**	**2.5**
	Present Worth Factor =	**0.78003**
3	**Common Overhead**	**1.075963**
4	**Gross Revenue Loading**	**1.002605**
5	**Labor Trend Factor**	**1.04**

Table 4

A description of the input factors follows:

- Cost of Money and Present Worth Factor

  The model uses a Cost of Money of 10.5%, which is defined as the weighted average of Verizon's cost of debt and the cost of equity. The Cost of Money and the discount period are both used to calculate the Present Worth Factor (pwf) and the Annuity Factor (apf). The model uses a Present Worth factor of 0.7800 to discount the future value of the disconnect costs assuming each connected loop will, on average, remain in service for 2.5 years before being disconnected.

  Present Worth Factors of 0.8881 (pwf1) and 0.7887 (pwf2) are also calculated to levelize the labor rates for years 2000 (year1) and 2001 (year2) respectively.

- Common Overhead
  The model uses a Common Overhead of 1.075963. The Common Overhead expenses include various types of corporate service expenses such as Executive & Planning, Accounting and Finance, Human Resources, Legal, etc., which are developed on the basis of company total expenses. The purpose of a Common Overhead loading is to load a product's costs with Common Overhead cost.

- Gross Revenue Loading
  The model uses a Gross Revenue Loading of 1.002605. The Gross Revenue Loading is a composite of the Gross Receipts Tax levied on our revenues by jurisdictions, the Regulatory Assessment Fees levied by the PSC/PUC and FCC for management of our products' and services' revenues and, the Uncollectible Revenues (contra-revenue account dollars) written off in a given year. Gross receipts Taxes are not included in this calculation in New York.

- Labor Trend Factor
  The model uses a Labor Trend Factor (ltf) of 1.04 per year that is based on forecasted Verizon management and non-management annual salary increases as proposed by salary compensation guidelines and negotiated changes to labor contracts respectively.

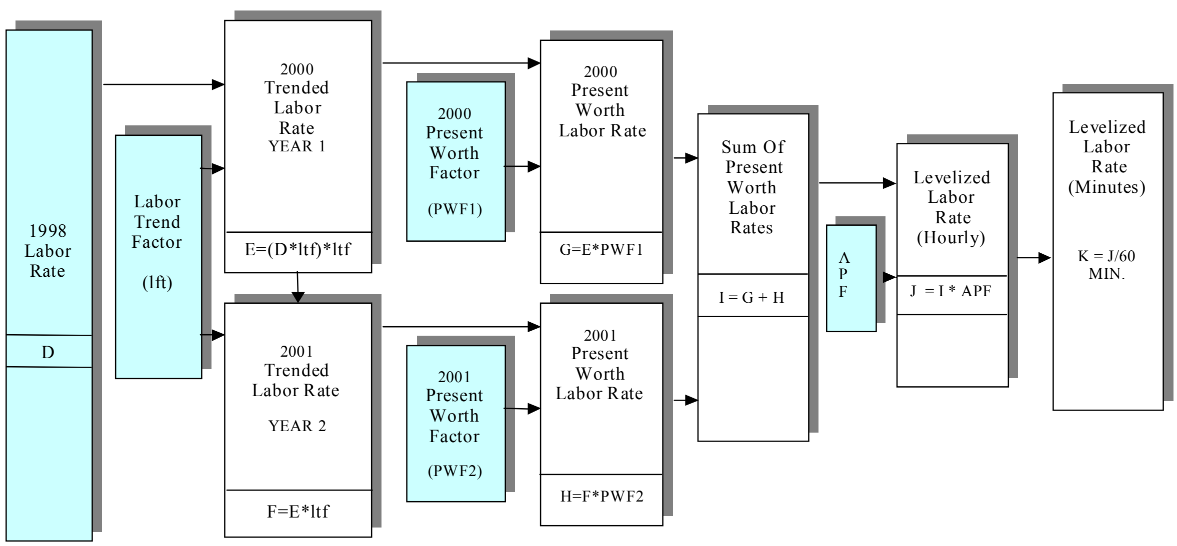
  Labor rates are developed using data accumulated by the Functional Accounting System which collects data from a number of Company sources including payroll, personnel, and timesheets. The labor rates are calculated based on 1998 expenses and trended to years 2000 (year1) and 2001 (year2). The Annual Labor Trend Factor (1.04) was applied twice to inflate the 1998 labor rate to year 2000 and once again to inflate the 2000 labor rate to year 2001, as shown in Table 6. The 1998 labor rate data was levelized over a period of two years by using an Annuity Factor (apf) of 0.5964, based on the interest rate of 12.6%. The process is outlined in flowchart, figure 2.

  The labor rates used in the model have been developed based on the Job Function Codes (JFC) assigned to the individuals performing the various functions within each of the identified organizations. See attachment C for descriptions of the work functions performed by each organization. Attachment D is a list of corresponding JFCs for the organizations identified. JFCs may not be the same in the North and South and depend on the location of the center performing the operations. Verification will be required until consolidation of JFCs is complete.

- Labor Rates

  The flowchart included in Figure 2 and the numeric example below illustrate the process of levelizing trended labor rates.

LEVELIZING OF TRENDED LABOR RATES (Ref: "Labor Rates" Tab)



APF = Annuity from a Present Amount

Figure 2

Labor Trend Factor (ltf) =	1.04
At interest rate of:	10.5%
Present Worth Factor year1 (pwf1) =	0.9054
Present Worth Factor year2 (pwf2) =	0.8197
2-year Annuity Factor (apf) =	0.5797

Table 5

DIRECTLY ASSIGNED LEVELIZED LABOR RATES – RCMAC					
Line	Function	Job Function Code (JFC)	1998 Labor Rate (Hourly)	2000 Trended Labor Rate Year 1	2001 Trended Labor Rate Year 2
A	B	C	D	E=(D*ltf)*ltf	F=E*ltf
1	**Recent Change Memory Administration Center (RCMAC)**	**4372**	$43.81	$47.38	$49.28

Table 6

If the 1998 labor rate for JFC of 4372 of the RCMAC in New York is $43.81, and the labor trend factor is 1.04, then the 2000 labor trended rate is calculated as follows:

Where:

D = the 1998 Labor Rate per hour
Ltf = the labor trend factor of 1.04, and
E = 2000 Trended Labor Rate for year 1, as shown in Table 6

E = (Dxltf) x ltf
= ($43.81) x 1.04 x 1.04
= $47.38; that is 1998 labor rate trended to year 2000.

The trending of the year 2000 labor rate to the year 2001 is calculated as follows:

F is equal to the 2001 Trended Labor Rate for year 2

F = (E x ltf)
= ($47.38) x 1.04
= $49.28; that is the 2000 labor rate trended to the year 2001.

- Present Worth Labor Rates

DIRECTLY ASSIGNED LEVELIZED LABOR RATES – RCMAC

Present Worth Labor Rate Year1	Present Worth Labor Rate Year2	Sum of Present Worth Labor Rates	Levelized Labor Rate (Hourly)	Levelized Labor Rate per Minute	Basis for Labor Rate Application
G=E*pwf1	**H=F*pwf2**	**I=G+H**	**J=I*apf**	**K=J/60**	**L**
$42.90	$40.40	$83.30	$48.29	**$0.80**	NY

Table 7

The trended labor rates for years 2000 (year1) and 2001 (year2) are present worthed by multiplying the present worth factors of 0.9054 (pwf1) and 0.8197 (pwf2) by their respective labor rates, from table 6.

They are calculated as follows:

G= E x pwf1

Where:

G= Present Worth Labor Rate for year 1
E= is the 2000 Labor Trended Rate for year 1
Pfw1= Present Worth Factor year1, from Table 6.

Therefore:

G= ($47.38) x 0.9054
= $42.90; that is the amount in today's value for $47.38 with a 2000 labor trended rate, as shown in Table 6.

Also: H= F x pwf2

Where:

H= Present Worth Labor Rate for year 2
F= is the 2001 Labor Trended Rate for year 2
Pfw2= Present Worth Factor year2.

Thus:

H= ($49.28) x 0.8197
= $40.40; that is the amount in today's value for $49.28 with a 2001 labor trended rate.

As shown in Table 8, G (present worth labor rate for year 2000) and H (present worth labor rate for year 2001) are summed and the result, I (Sum of the two present worth Labor rates), is levelized by multiplying it by the 2-year annuity factor (apf=0.5964).

I= Sum of the two Present Worth Labor Rates.
= G+H
= $42.08 + $38.87
= $80.95.

J = Levelized Labor Rate
apf = 0.5964 (2-year Annuity Factor)
= I x apf
= ($80.95) x (0.5964)
= $48.28.

The levelized labor rate is then converted to a per minute basis:

$$K = J/60$$
$$= (\$48.28)/60$$
$$= \$0.80$$; that is the levelized labor rate per minute for RCMAC.

G, H, I, J, and K are also calculated the same way as the directly assigned levelized labor rates. The expedite labor rates for RCMAC are shown in table 9.

Attachment A

Functional Organizations Description

- **Telecom Industry Services Operating Center (TISOC) *****NMC******

  In today's current process, the TISOC is the initial point of contact for the requesting CLEC. It is essentially the Company's business office for CLECs that wish to resell BA-NY services or purchase UNEs. Links and ports are ordered through the Local Service Request ("LSR") process. When necessary, the CLECs' service order requests are logged and assigned to a representative who examines the request for accuracy and verifies that the request contains all the information necessary to process the order. Errors and further queries related to the order are referred back to the carrier. Upon completion of this review of the request, the order is entered into the appropriate service order system. In addition, the TISOC corrects the order for any inaccurate or missing information and determines whether field surveys are required. The TISOC also issues the orders for termination of service.
  It is anticipated that in the future, the CLEC will submit the majority of service orders electronically through Direct Customer Access System (DCAS) and will not require manual intervention from the TISOC. Only complex orders (e.g. those requesting 10 links or greater) will be unable to flow through the system.

- **Regional CLEC (Competitive Local Exchange Carrier) Coordination Center (RCCC)/Regional CLEC Maintenance Center (RCMC)**

  The RCCC and RCMC are the coordination centers for all provisioning and maintenance activity associated with POTS (Plain Old Telephone Service) and special services circuits for Unbundled Services and Local Number Portability. When required, these centers are responsible for handing off CLEC requests/troubles to all BA organizations involved in the provisioning and maintenance of Unbundled services. These centers establish partnerships with the CLECs in order to provide efficient, quality and timely service.

- **Trunk Capacity Management (TCM)**
  The Trunk Capacity Management is responsible for requesting the establishment of carrier systems; forecasting, sizing and administering of the message trunk network in addition to updating mechanized systems.

- **Circuit Provisioning Center (CPC)**

  The CPC receives the request for service and accesses TIRKS (Trunk Integrated Record Keeping Systems) to assign network facilities for a complete circuit design.

- **Mechanized Loop Assignment Center (MLAC)**

  When a service order is unable to flow through the mechanized system, the MLAC manually identifies and assigns loop cable and pairs, Central Office Frame locations, and the location and appearance of the CLEC's cage cable and pair. The MLAC also assigns disconnect frame information for termination orders.

- **Recent Change Memory Administration Center (RCMAC)**

  When a service order is unable to flow through the mechanized system, the RCMAC manually inputs translation changes to the Central Office switch memory associated with Company central office-based services.

- **Central Office Frame (CO Frame)**

  The CO Frame group is responsible for provisioning all cross-connections on Central Office distributing frames. In addition, they prepare frame records and perform disconnects when service is terminated.

- **Field Installation and Maintenance (I&M)**

  The I&M Technician is responsible for installing, repairing, and maintaining network terminating wire, network channel terminating equipment and network interfaces for switched services.

- **Software Provisioning (SP)**
  The SP group is responsible for administering End Office (EO), Tandem, and Traffic Operator Position System (TOPS) switch translations such as complex line, Centrex design and trunk translations. They also assign STP ports, build dialing plans, issue trunk numbers, and issue forms for CO routing, Centrex, and complex customer services associated with add, change, or delete orders.

- **Network Operations Center (NOC)**
  This organization is responsible for the administration, provisioning, and maintenance of all switched and non-switched network elements. Specifically, it includes centers that are responsible for provisioning service orders (e.g., assignment, message and software translations, line translations, circuit provisioning, and network administration).

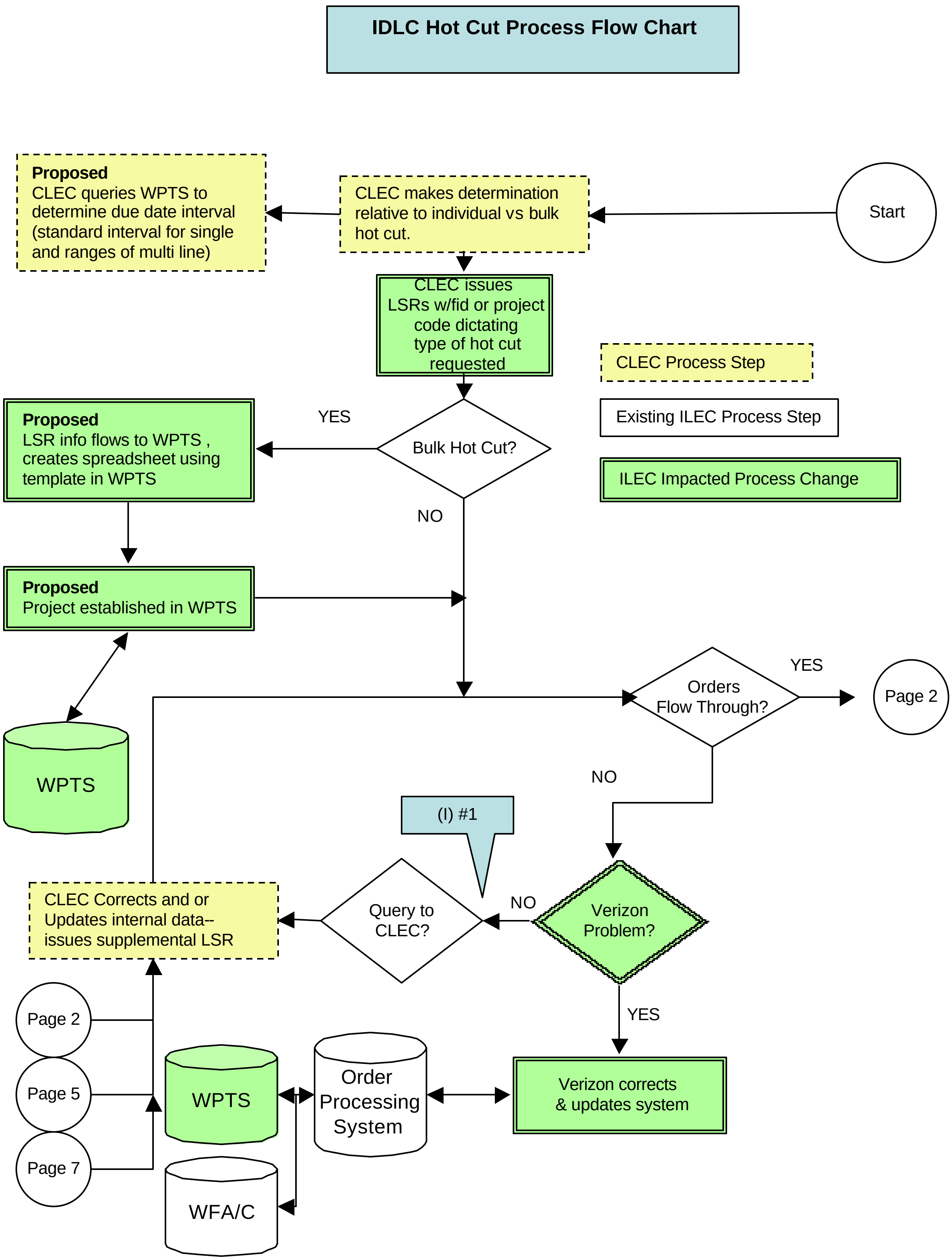
- **Network Engineering (NE)**
  Network Engineering is responsible for all network planning, outside plant engineering, Central Office and interoffice facility engineering, capital management and procurement for Verizon.

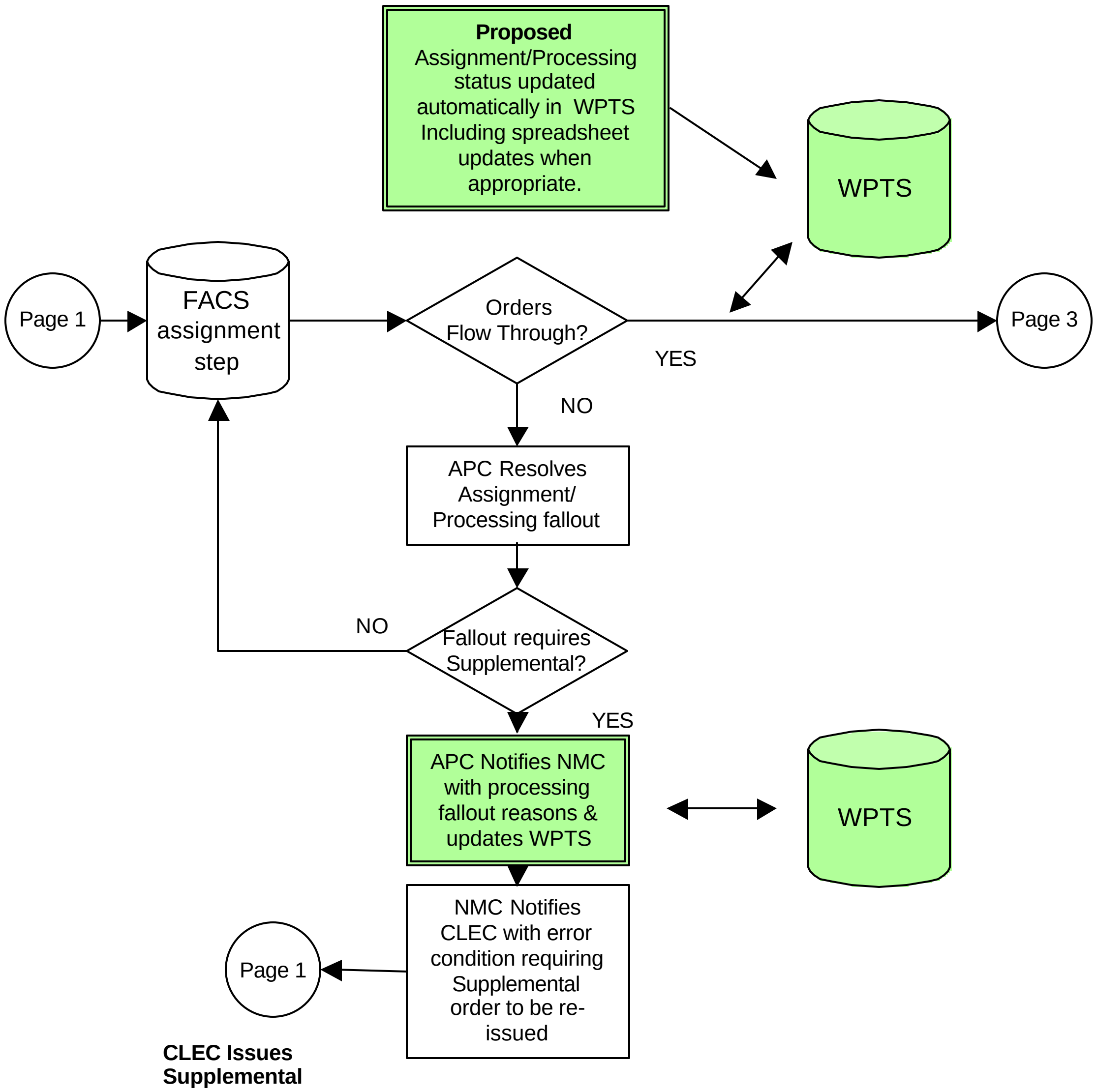
- **Facilities Management Center (FMC)**
  When a request comes in for a manual link qualification, the request is submitted on an LSR (Local Service Request). The LSR is received by the TISOC who in turns fills out a Link Qualification Form. The LQ form is faxed to the Regional Control Center (RCCC) and a MLT test is performed. The MLT test provides load coil, bridge tap, and link length results. This information is added to the form and the form is then faxed to the Facilities Management Center (FMC). The FMC checks for spectrum incompatibilities and also checks for available facilities. (In some cases, the link will not pass the MLT test in the RCCC, therefore, the information is returned to the TISOC who in turn informs the CLEC that the link did not qualify.) Once the FMC performs its tests/checks, the link can again be qualified based on test results (meaning, the spectrum incompatibilities have been checked and are in the acceptable range(s) as identified in the Technical Requirements published for Digital Services). If the loop failed to qualify due to excessive bridged tap or load coils and the CLEC still wants to qualify the link, an engineering work order may be written to inform Construction of the necessary work operations to try and qualify the link.

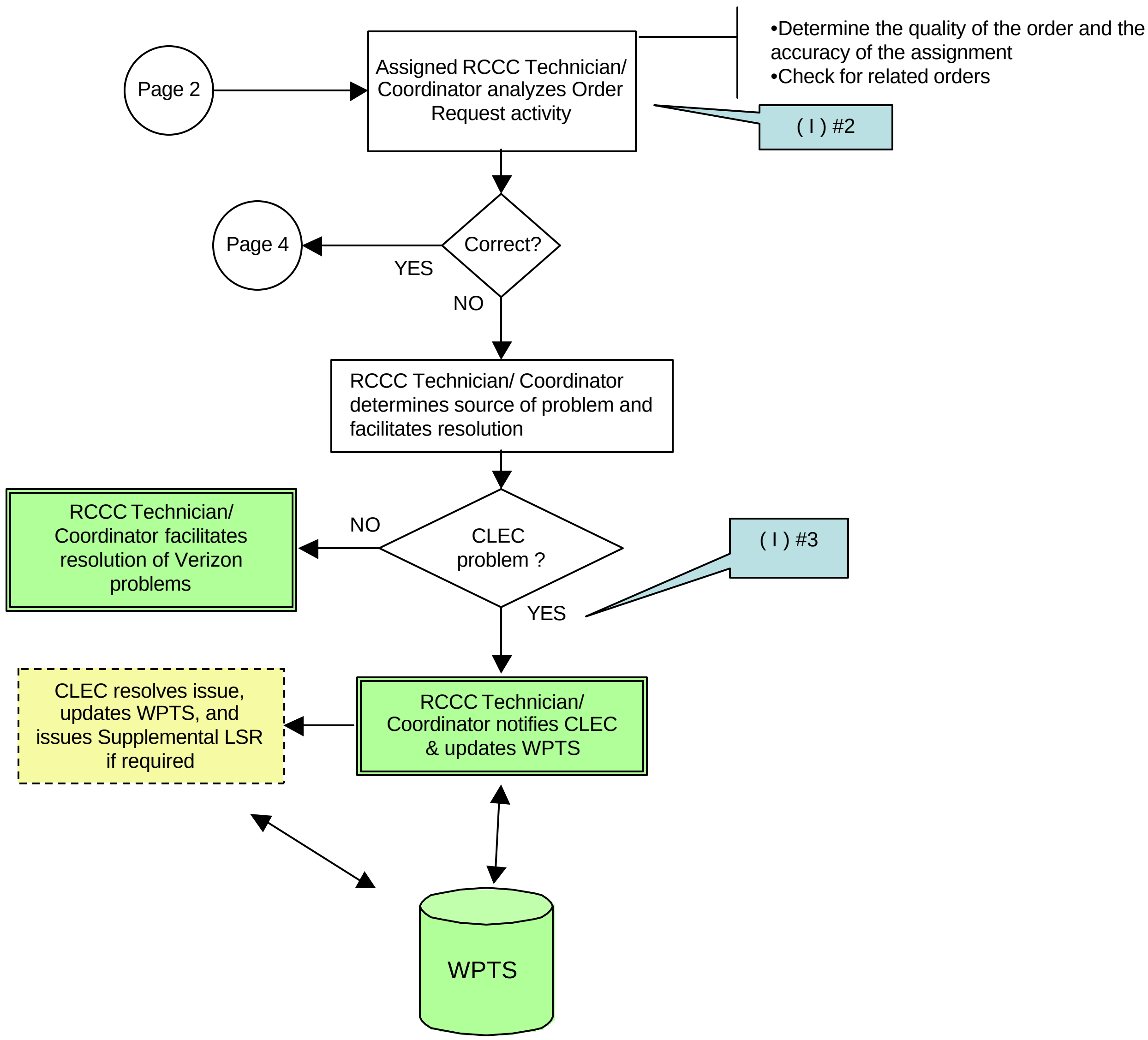
- **Outside Plant Operations/and Logistics**

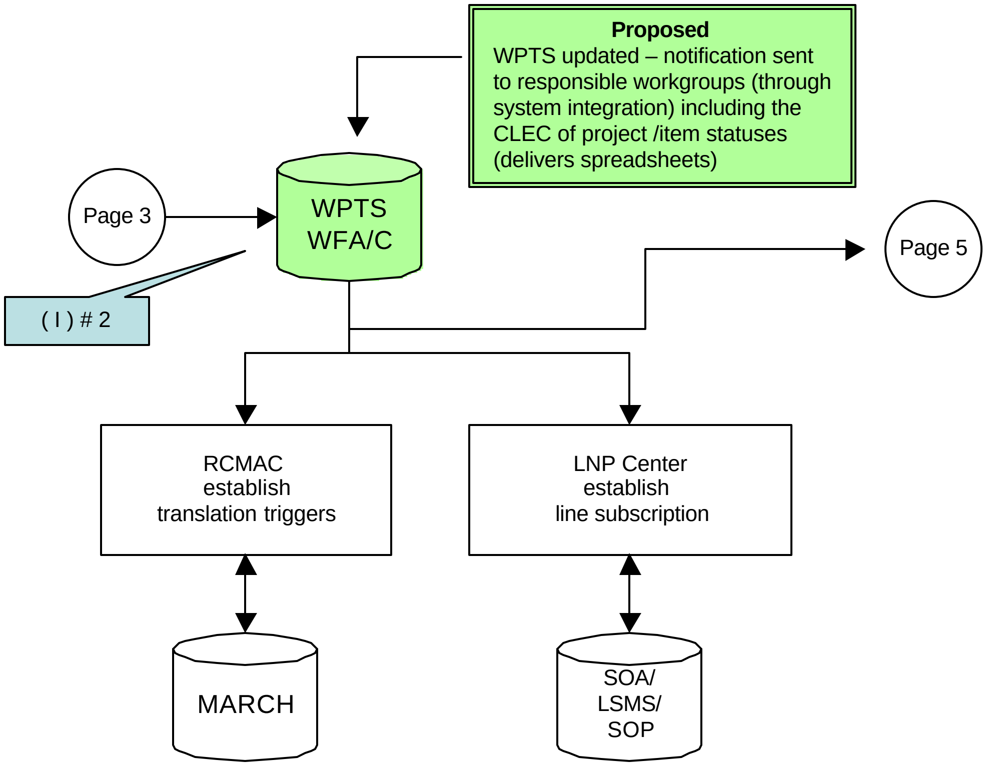
  The Construction organization is responsible for all work in the field on Verizon's OSP (Outside Plant) facilities. Some of the splicing technician's functions include placing new cable/fiber, adding additional sections of cable/fiber, placing poles, terminals, etc. One of their job functions is to receive an EWO (Engineering Work Orders) from the FMC, to remove bridged taps and/or load coils to qualify a link for DSL/ISDN services for a CLEC. This is accomplished by going to the splice location, designated on the EWO, setting up the site, opening the splice, and closing out the work order. This information is then forwarded to the CLEC.

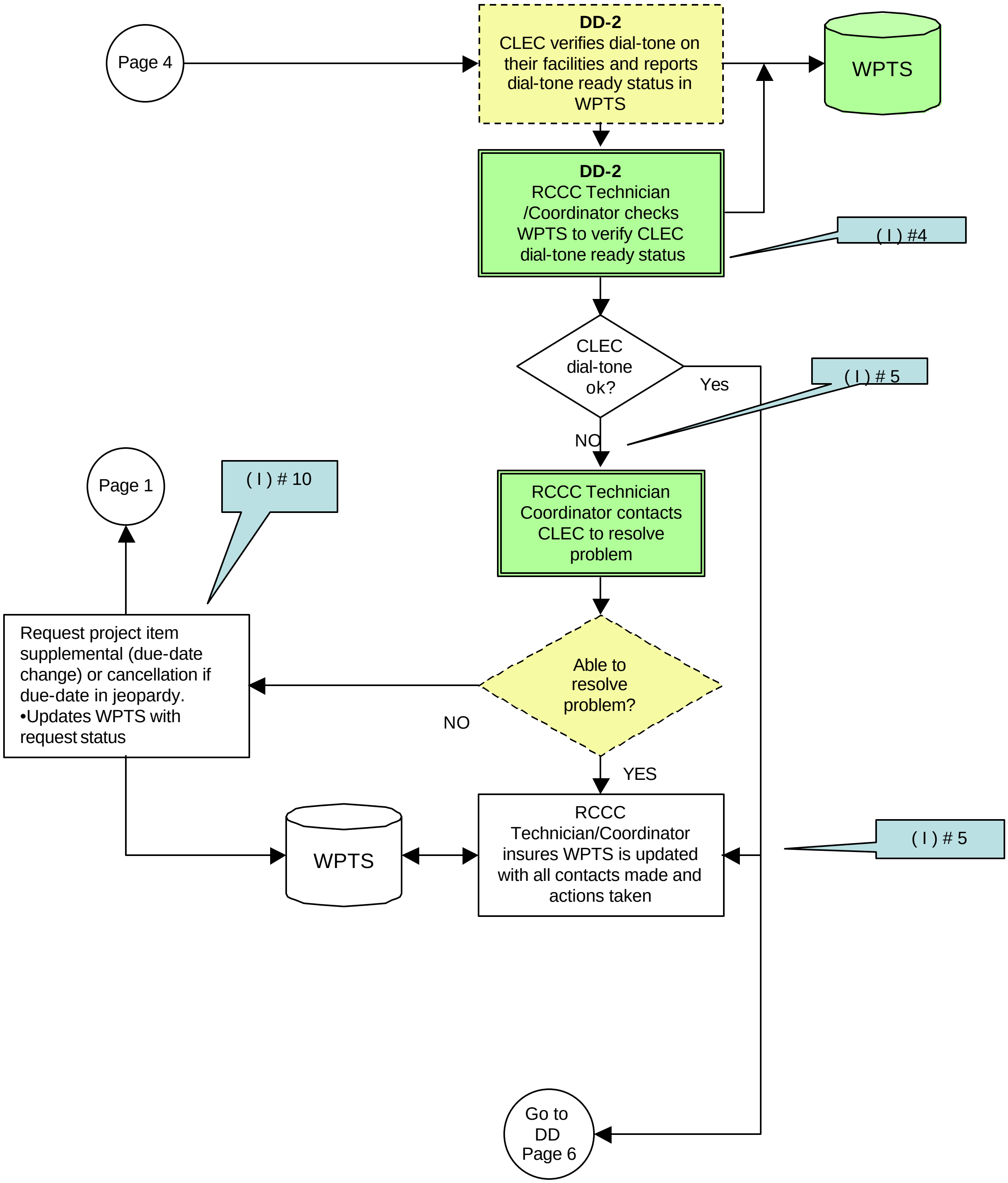
ATTACHMENT 5

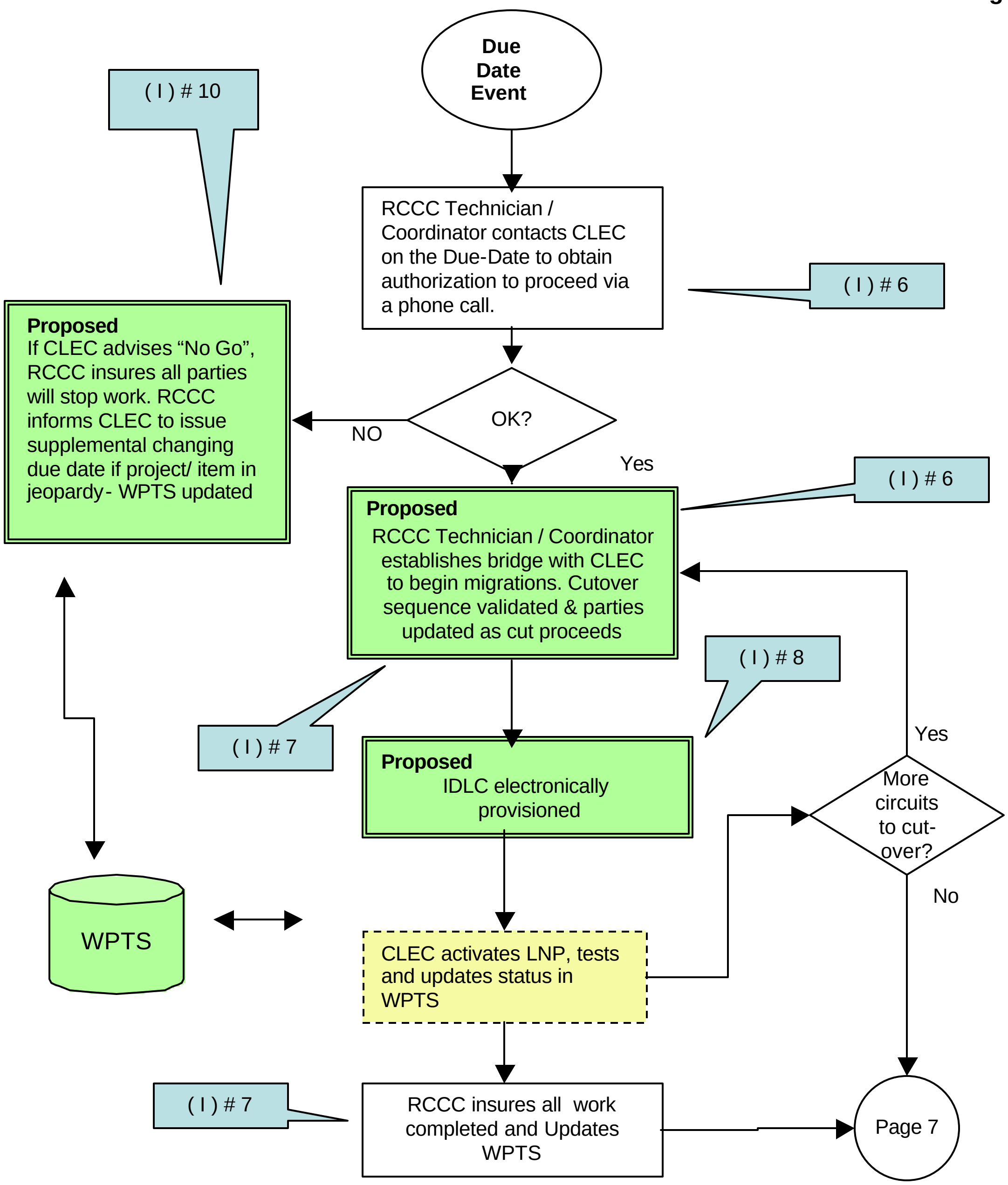

IDLC Hot Cut Process Flow Chart
Proposed
CLEC queries WPTS to determine due date interval (standard interval for single and ranges of multi line)
CLEC makes determination relative to individual vs bulk hot cut.
Start
CLEC issues LSRs w/fid or project code dictating type of hot cut requested
CLEC Process Step
Existing ILEC Process Step
ILEC Impacted Process Change
Proposed
LSR info flows to WPTS , creates spreadsheet using template in WPTS
YES
Bulk Hot Cut?
NO
Proposed
Project established in WPTS
YES
Orders Flow Through?
Page 2
WPTS
NO
(I) #1
CLEC Corrects and or Updates internal data-- issues supplemental LSR
Query to CLEC?
NO
Verizon Problem?
YES
Page 2
Page 5
Page 7
WPTS
Order Processing System
Verizon corrects & updates system
WFA/C

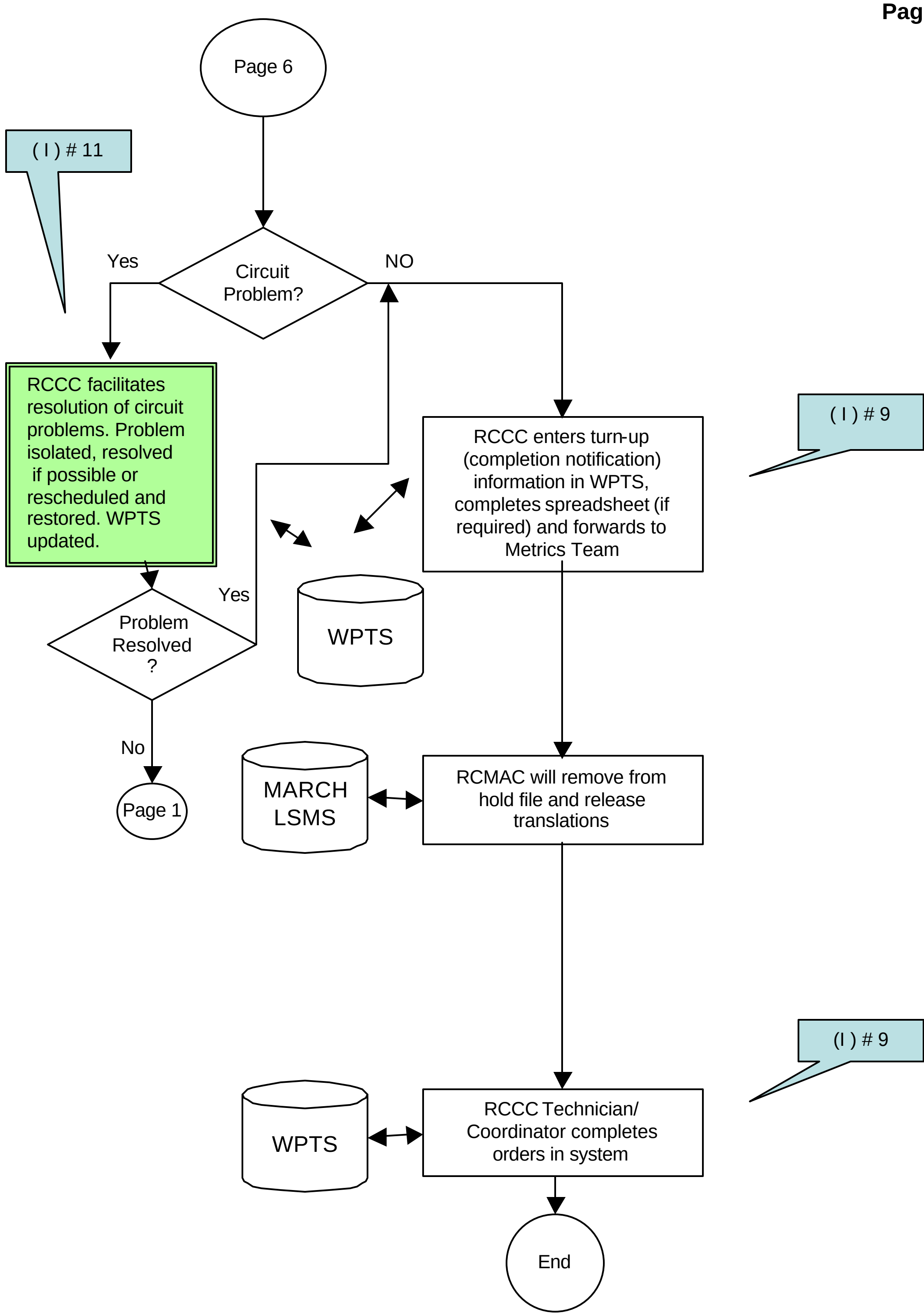

Proposed
Assignment/Processing status updated automatically in WPTS Including spreadsheet updates when appropriate.
WPTS
Page 1
FACS assignment step
Orders Flow Through?
YES
Page 3
NO
APC Resolves Assignment/ Processing fallout
NO
Fallout requires Supplemental?
YES
APC Notifies NMC with processing fallout reasons & updates WPTS
WPTS
NMC Notifies CLEC with error condition requiring Supplemental order to be re-issued
Page 1
CLEC Issues Supplemental


•Determine the quality of the order and the accuracy of the assignment
•Check for related orders
Page 2
Assigned RCCC Technician/ Coordinator analyzes Order Request activity
(I) #2
Page 4
Correct?
YES
NO
RCCC Technician/ Coordinator determines source of problem and facilitates resolution
RCCC Technician/ Coordinator facilitates resolution of Verizon problems
NO
CLEC problem ?
(I) #3
YES
CLEC resolves issue, updates WPTS, and issues Supplemental LSR if required
RCCC Technician/ Coordinator notifies CLEC & updates WPTS
WPTS


Proposed
WPTS updated – notification sent to responsible workgroups (through system integration) including the CLEC of project /item statuses (delivers spreadsheets)
Page 3
WPTS
WFA/C
(I) # 2
Page 5
RCMAC
establish
translation triggers
LNP Center
establish
line subscription
MARCH
SOA/
LSMS/
SOP


Page 4
DD-2
CLEC verifies dial-tone on their facilities and reports dial-tone ready status in WPTS
WPTS
DD-2
RCCC Technician /Coordinator checks WPTS to verify CLEC dial-tone ready status
(I) #4
CLEC dial-tone ok?
Yes
(I) # 5
NO
Page 1
(I) # 10
RCCC Technician Coordinator contacts CLEC to resolve problem
Request project item supplemental (due-date change) or cancellation if due-date in jeopardy.
•Updates WPTS with request status
Able to resolve problem?
NO
YES
WPTS
RCCC Technician/Coordinator insures WPTS is updated with all contacts made and actions taken
(I) # 5
Go to DD Page 6


Due Date Event
RCCC Technician / Coordinator contacts CLEC on the Due-Date to obtain authorization to proceed via a phone call.
(I) # 10
(I) # 6
OK?
NO
Yes
Proposed
If CLEC advises "No Go", RCCC insures all parties will stop work. RCCC informs CLEC to issue supplemental changing due date if project/ item in jeopardy- WPTS updated
(I) # 6
Proposed
RCCC Technician / Coordinator establishes bridge with CLEC to begin migrations. Cutover sequence validated & parties updated as cut proceeds
(I) # 8
(I) # 7
Yes
Proposed
IDLC electronically provisioned
More circuits to cut-over?
No
WPTS
CLEC activates LNP, tests and updates status in WPTS
(I) # 7
RCCC insures all work completed and Updates WPTS
Page 7


Page 6
(I) # 11
Yes
Circuit Problem?
NO
RCCC facilitates resolution of circuit problems. Problem isolated, resolved if possible or rescheduled and restored. WPTS updated.
RCCC enters turn-up (completion notification) information in WPTS, completes spreadsheet (if required) and forwards to Metrics Team
(I) # 9
Yes
Problem Resolved ?
WPTS
No
Page 1
MARCH LSMS
RCMAC will remove from hold file and release translations
(I) # 9
WPTS
RCCC Technician/ Coordinator completes orders in system
End

Wholesale Non-Recurring Costs Model
Forward Looking Work Activities, Times, and Costs

IDLC 2/wire Hotcut V8

		CONNECT						DISCONNECT				
correlation **	ACTIVITY DESCRIPTION	VERIZON Forward looking Time (minutes)		MCI Connect Time (minutes)	Connect Typical Occur'nce	AdjustedConnect Time (minutes)		VERIZON Forward looking Time (minutes)		MCI Disconn. Time (minutes)	Disconn. Typical Occur'nce	Adjusted Disconn. Time (minutes)
A	B	C		E	F	G=E*F		H		J	K	L=J*K
	NMC											
(A) WPTS	Receive Local Service Request (LSR) from the CLEC and print, review, type and confirm the order request for new installation and/or account.	11.59		N/A		0.00		N/A		N/A		0.00
(I) #1	Respond and/or change CLEC's pending Local Service Request. CLEC Query	0.88		20.00	4%	0.88		N/A		N/A		0.00
	TOTAL	12.47		20.00		0.88		0.00		0.00		0.00
	RCCC/RCMC											
(R) I#2	Access WFA/C to begin coordination process. (Screener)	1.18		N/A		0.00		N/A		N/A		0.00
(I) #2	Analyze order for work activity and related orders. Update WPTS	2.59		2.59	100%	2.59		N/A		N/A		0.00
(I) # 3	Eliminate roadblocks from the order. (Screener) 4% CLEC root cause-Update WPTS	2.38		9.50	4%	0.42		N/A		N/A		0.00
(R) I#2	Analyze order for related orders (CRO). (Screener)	3.82		N/A		0.00		N/A		N/A		0.00
(A) WPTS	Assign order to Technician. (Screener)	1.06		N/A		0.00		N/A		N/A		0.00
(R) I#2	Perform administrative checks.	7.21		N/A		0.00		N/A		N/A		0.00
(A) WPTS	Contact CLEC to verify activity.	13.51		N/A		0.00		N/A		N/A		0.00
(A) WPTS	Schedule required Bell Atlantic work teams.	17.29		N/A		0.00		N/A		N/A		0.00
(I) # 4	Verify status in WPTS including any CLEC NDT (No Dial Tone) situations.	8.15		8.15	100%	8.15		N/A		N/A		0.00
(I) # 5	Contact CLEC to resolve NDT problems (If problem is not resolved, DD change is initiated). Update WPTS	1.62		16.19	4%	0.65		N/A		N/A		0.00
(R) # 4	Reverify service orders for any DD-1 changes.	9.34		N/A		0.00		N/A		N/A		0.00
(I) # 6	On DD, contact CLEC for final authorization to proceed. If OK, bridge established & cut proceeds	5.89		5.89	100%	5.89		N/A		N/A		0.00
(I) # 7	Proceed with the electronic HOT CUT conversion; notify all teams to proceed; advise CLEC when HOT CUT is complete. Update WPTS	20.27		10.14	100%	10.14		N/A		N/A		0.00
(I) # 9	Complete the order. Update WPTS	18.71		6.17	100%	6.17		N/A		N/A		0.00
(I) # 10	If CLEC postpones HOTCUT, (contact all parties to stop work & inform CLEC to issue order changing DD via WPTS)	2.46		16.42	15%	2.46		N/A		N/A		0.00
(A) WPTS	Notify all work teams in Bell Atlantic about any postponement, DD change or cancellation.	2.22		N/A		0.00		N/A		N/A		0.00
(A) WPTS	Track roadblocks and problems throughout the life of an order using JEP and MFC codes in WFA/C along with proper log documentation.	4.95		N/A		0.00		N/A		N/A		0.00
(I) # 11	Facilitate Problem Resolution & Restoral Requests. Update WPTS	1.62		32.37	5%	1.62		N/A		N/A		0.00
(E)	Service Interruptions prior to conversion: handle the restoral of service related to a premature disconnect.	2.18		N/A		0.00		N/A		N/A		0.00
	TOTAL	126.46		107.42		38.09		0.00		0.00		0.00
	MLAC											

	Leveliz'd Labor Rate per Minute	Connect Forward Looking Cost	Disconn. Forward Looking Cost	Disconn. Forward Looking Present Worth	Connect + Disconn. Forward Looking Cost
	O	P=G*O	Q=L*O	R=Q*pwf	S=P+R
				pw factor= 78.00%	
NMC					
TOTAL	$0.67	$0.59	$0.00	$0.00	$0.59
RCCC/RCMC					
TOTAL	$0.77	$29.33	$0.00	$0.00	$29.33
MLAC					

Wholesale Non-Recurring Costs Model
Forward Looking Work Activities, Times, and Costs

IDLC 2/wire Hotcut V8

		CONNECT					DISCONNECT			
correlation **	ACTIVITY DESCRIPTION	VERIZON Forward looking Time (minutes)	MCI Connect Time (minutes)	Connect Typical Occur'nce	AdjustedConnect Time (minutes)	VERIZON Forward looking Time (minutes)	MCI Disconn. Time (minutes)	Disconn. Typical Occur'nce	Adjusted Disconn. Time (minutes)
A	B	C	E	F	G=E*F	H	J	K	L=J*K
(F)	Assign outside plant and central office facilities for non-flowthrough service orders.	0.17	N/A		0.00	N/A	N/A		0.00
	TOTAL	0.17	0.00		0.00	0.00	0.00		0.00
	RCMAC								
(F)	Obtain direct notification from RCCC for UNE migration which requires the release of translation packets.	0.13	N/A		0.00	0.00	N/A		0.00
(F)	Receive notification through PARIS of need to perform a manual translation change on working service.	0.64	N/A		0.00	0.57	N/A		0.00
(F) (I) # 8	Release translation change, (Verizon-assoc.w/number portability fallout) (MCI-to reconfigure IDLC)	0.14	2.00	100%	2.00	0.00	N/A		0.00
(E)	Obtain notification from the RCMC of trouble conditions on a CLEC end-user's line requiring RCMAC analysis and translation changes.	0.45	N/A		0.00	0.35	N/A		0.00
(A) WPTS	Research and refer to the RCCC those translation packets held in MARCH for which no coordination call was received.	0.15	N/A		0.00	0.00	N/A		0.00
	TOTAL	1.51	2.00		2.00	0.92	0.00		0.00
	CO FRAME								
(A) IDLC	Receive notification from RCCC of pending hotcut. (Hotcut)	2.66	N/A		0.00	2.44	N/A		0.00
(A) IDLC	Retrieve FOMS/TIRKS output (paper copy) and verify the information that was provided by the RCCC.	8.14	N/A		0.00	9.00	N/A		0.00
(A) IDLC	Travel to remote/unmanned central office for the purpose of performing frame provisioning work.	6.50	N/A		0.00	6.30	N/A		0.00
(A) IDLC	Check to insure that existing central office (end-user) dial tone is leaving the central office OK on the correct pair and cable; report back to the RCCC. (Hotcut)	3.62	N/A		0.00	N/A	N/A		0.00
(A) IDLC	Pre-wire the frame by terminating cross-connection at the CLEC port and at any tie pairs. Tie in the wire at the reuse facility and tag the wire for multi-line orders. (Hotcut)IDLC???	6.47	N/A		0.00	N/A	N/A		0.00
(A) IDLC	Confirm assignment by verifying that CLEC dial tone is present at the assigned location. Verify that cable and pair assignment is correct. Notify RCCC of troubles and obtain new assignment.	6.35	N/A		0.00	N/A	N/A		0.00
(A) IDLC	On due date at frame due time, work under direction of RCCC and cut-off/cut-in wire at reuse facility. Perform multi-line hotcuts one line at a time (provide per line time average). Test to insure dial tone leaves central office OK. (Hotcut)	2.99	N/A		0.00	N/A	N/A		0.00
(A) IDLC	Load WFA tickets, check status of order activity, and report completion of order/frame work for WFA tickets (NDSUP and NDSUT) to the RCCC. (Hotcut)	6.03	N/A		0.00	3.36	N/A		0.00
(A) IDLC	Transfer frame wires in unison with field installation technicians to free facilities for the CLEC end-user's service.	8.87	N/A		0.00	N/A	N/A		0.00

	Leveliz'd Labor Rate per Minute	Connect Forward Looking Cost	Disconn. Forward Looking Cost	Disconn. Forward Looking Present Worth	Connect + Disconn. Forward Looking Cost
	O	P=G*O	Q=L*O	R=Q*pwf	S=P+R
				pw factor=	78.00%
TOTAL	$0.69	$0.00	$0.00	$0.00	$0.00
RCMAC					
TOTAL	$0.80	$1.60	$0.00	$0.00	$1.60
CO FRAME					

Wholesale Non-Recurring Costs Model
Forward Looking Work Activities, Times, and Costs

IDLC 2/wire Hotcut V8

correlation **	ACTIVITY DESCRIPTION	CONNECT: VERIZON Forward looking Time (minutes)		MCI Connect Time (minutes)	Connect Typical Occur'nce	AdjustedConnect Time (minutes)		DISCONNECT: VERIZON Forward looking Time (minutes)		MCI Disconn. Time (minutes)	Disconn. Typical Occur'nce	Adjusted Disconn. Time (minutes)
A	B	C		E	F	G=E*F		H		J	K	L=J*K
(A) IDLC	If a problem occurs, resolve the problem with field installation technicians and the RCCC to insure that the CLEC can reach its end-user at the time of installation.	5.37		N/A		0.00		N/A		N/A		0.00
(A) IDLC	When or if service is disconnected, remove the cross-connection (including intermediate tie pair) by disconnecting CLEC dial tone (port) and the vertical cable and pair location.	N/A		N/A		0.00		4.97		N/A		0.00
(A) IDLC	Complete order in FOMS/TIRKS.	2.43		N/A		0.00		2.19		N/A		0.00
	TOTAL	59.44		0.00		0.00		28.26		0.00		0.00
(F)	FALL OUT FACTOR			15.00	2%	0.30				5.00	2%	0.10
	Service Order	12.47		20.00		0.88		0.00		0.00		0.00
	C.O. Wiring	59.44		0.00		0.00		28.26		0.00		0.00
	Provisioning	128.14		124.42		40.39		0.92		5.00		0.10
	Field Installation	0.00		0.00		0.00		0.00		0.00		0.00
	TOTAL	200.04		144.42		41.27		29.18		5.00		0.10

** correlation - (A)utomated , (R)edundant, (I)ncluded, (E)liminate, (F)all out factor

pw factor= 78.00%

	Leveliz'd Labor Rate per Minute	Connect Forward Looking Cost	Disconn. Forward Looking Cost	Disconn. Forward Looking Present Worth	Connect + Disconn. Forward Looking Cost
	O	P=G*O	Q=L*O	R=Q*pwf	S=P+R
TOTAL	$0.79	$0.00	$0.00	$0.00	$0.00
FALL OUT FACTOR	$0.80	$0.24	$0.08	$0.06	$0.30
Service Order		$0.59	$0.00	$0.00	$0.59
C.O. Wiring		$0.00	$0.00	$0.00	$0.00
Provisioning		$31.17	$0.08	$0.06	$31.23
Field Installation		$0.00	$0.00	$0.00	$0.00

= Sub-totals * COH of 1.075963

Service Order	$0.63
C.O. Wiring	$0.00
Provisioning	$33.60
Field Installation	$0.00

=(Sub-totals with COH) * GRL of 1.002605

Service Order	$0.64
C.O. Wiring	$0.00
Provisioning	$33.69
Field Installation	$0.00

TOTAL NONRECURRING COST (R124+R125+R126+R127): $34.33