

**CONFIDENTIAL**

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

**DECLASSIFIED**  
See DN 01219-03  
DN 2.S.03

In Re: Investigation into Pricing )  
Unbundled Network Elements )  
\_\_\_\_\_ )

DOCKET NO. 990649B-TP

**DIRECT TESTIMONY**

**OF**

**SIDNEY L MORRISON**

**ON BEHALF OF THE ALEC COALITION**

**JANUARY 30, 2002**

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1 **INTRODUCTION**

2  
3 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS FOR THE**  
4 **RECORD.**

5 A. My name is Sidney L Morrison. My business address is 10176 Savannah  
6 Sparrow Way, Highlands Ranch, Colorado 80129.

7  
8 **Q. PLEASE SUMMARIZE YOUR PROFESSIONAL EXPERIENCE.**

9 A. I began my telecommunications career in 1966 in Charlotte, North Carolina as a  
10 cable helper for Southern Bell Telephone and Telegraph. Southern Bell was an  
11 incumbent local exchange carrier managing numerous exchanges throughout  
12 North Carolina (Southern Bell later became a component of the BellSouth  
13 organization). My duties involved splicing underground, buried and aerial cable.  
14 I also worked as a switching technician and special services technician.

15  
16 Beginning in August of 1970, I transferred to Mountain Bell in Denver, Colorado  
17 as a central office technician. In 1972, I was promoted to supervise main  
18 distributing frame operations. My duties included supervising the installation of  
19 plain old telephone service (POTS), special services, central office area cuts, main  
20 distribution frame replacements and many other projects. In 1980 and 1981 I was  
21 assigned to perform time and motion studies for service provisioning on  
22 approximately 75 of Mountain Bell's MDF operations. These time studies  
23 included components for provisioning local exchange services via "jumper

1 running” as well as administrative activities on each of these frames. From 1983  
2 until 1986 I was the switching control center and main distributing frame subject  
3 matter expert for US West. In this position I was responsible for staff level  
4 support for service provisioning and maintenance including the development of  
5 enhancements for operational support systems (OSS) supporting numerous  
6 provisioning activities. From 1986 until 1993, I was responsible for the US West  
7 Automated Message Accounting (AMA) teleprocessing organization for the  
8 fourteen state US West region.

9  
10 In 1993, I retired from US West (Mountain Bell) and began my consulting career.  
11 In 1995 I took an assignment in Kuala Lumpur, Malaysia as a contract/consultant  
12 with a team of specialists building an ALEC network consisting of Global System  
13 for Mobil Communications (GSM) services, fixed network services, cable  
14 television services and data services integrated into a common Synchronous  
15 Digital Hierarchy (SDH) transport backbone.

16  
17 I had a number of responsibilities in Malaysia, the largest of which was  
18 organizing and implementing a Facilities Management Center (FMC) which  
19 controlled the installation and maintenance of all fixed telecommunications  
20 network and cable television services. My responsibilities included the planning,  
21 organizing, staffing and implementation of the FMC, including an installation and  
22 maintenance group, assignment center, dispatch center, test center and a repair

1 center. I was also responsible for developing business processes and OSS  
2 requirements for provisioning and maintenance supporting the FMC.

3  
4 After launching the FMC, my responsibilities included general management as  
5 well as an initiative aimed at refining the FMC center for purposes of achieving  
6 ISO 9002 qualified status. In January 1997, under my supervision, the Binariang  
7 Maxis FMC became the first certified ISO 9002 service organization in Southeast  
8 Asia.

9  
10 I returned from Malaysia in June of 1997 and worked for approximately two years  
11 as a contract OSP/COE engineer for US West. In those positions I was  
12 responsible for training telecommunications engineers on collocation procedures  
13 and policies in US West's service territory.

14  
15 In May 1999 I accepted a contract in Switzerland building a new Alternative  
16 Local Exchange Carrier (ALEC) under the market name of diAx  
17 telecommunications. My responsibilities involved project management to  
18 establish an OSS platform supporting all wireless, wire line, and data services  
19 offered by the company. I also developed business processes supporting the  
20 establishment of the diAx Internet Provider Operations Center (IPOC) and diAx  
21 data services offerings. I established system requirements based on IPOC  
22 business processes for fault management systems, provisioning systems, capacity

1 inventory systems, customer service inventory systems and workflow engines  
2 controlling overall maintenance and provisioning processes.

3  
4 In December 2000, I returned from Switzerland and accepted a position with QSI  
5 as a Senior Consultant. My primary responsibility with QSI involves providing  
6 QSI's telecommunications clients with engineering advice and counsel for  
7 network planning, management and cost-of-service support. My specific areas of  
8 expertise include network engineering, facility planning, project management,  
9 business system applications, incremental cost research and issues related to the  
10 provision of unbundled network elements.

11  
12 Finally, and most specific to my testimony in this proceeding, I have, over the last  
13 30-plus years of my career, had continuous hands-on experience with the work  
14 activities associated with provisioning local exchange facilities/services, data  
15 services, cable television services, wireless networks, switch-based services,  
16 central office cross connection, field installation and maintenance and outside  
17 plant planning and engineering.

18  
19 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.**

20 A. I completed two years of course work in electrical engineering at Central  
21 Piedmont Community College in Charlotte, North Carolina. I also completed  
22 four years of course work in business administration at Regis University in  
23 Denver, Colorado. Throughout my career I have attended numerous industry

1 seminars and vendor training courses on telecommunications technology and  
2 business processes. In 1961 I attended the US Air Force Electronics training  
3 school and Nuclear Weapons Reentry Vehicle School at Lowry AFB, Denver,  
4 Colorado.

5  
6 **Q. WHO ARE THE CLIENTS FOR WHICH YOU ARE FILING**  
7 **TESTIMONY IN THIS CASE?**

8 A. I am filing this testimony on behalf of the “ALEC Coalition.” That coalition is  
9 comprised of AT&T of the Southern States, MCImetro Access Transmission  
10 Services, LLC, MCI WorldCom Communications, Inc., and Florida Digital  
11 Networks.

12  
13 **PURPOSE AND SUMMARY**

14 **Q. PLEASE DESCRIBE THE PURPOSE OF YOUR TESTIMONY.**

15 A. I was asked by the ALEC Coalition to review the cost support provided by  
16 Verizon Florida (hereafter “Verizon”) in an effort to assess the reasonableness of  
17 Verizon’s proposed non-recurring costs (NRCs). My testimony describes for the  
18 Commission the rigorous process I have undertaken in reviewing Verizon’s cost  
19 model and also identifies a number of areas wherein I believe Verizon’s NRC cost  
20 model includes unreasonable assumptions resulting in NRCs substantially higher  
21 than would be expected in an efficient provisioning operation. Further, this  
22 testimony includes a number of recommendations that the Commission should  
23 rely upon in revising Verizon’s proposed NRCs. All of my criticisms and

1 recommendations included in this testimony are based upon my extensive  
2 experience (1) building provisioning systems and organizations responsible for  
3 performing these exact same functions, (2) analyzing efficient processes and  
4 methods by which to improve performance with respect to these same activities,  
5 and (3) actually performing these same functions in the business environment.

6  
7 **Q. WHAT ISSUES ARE YOU ADDRESSING IN YOUR TESTIMONY?**

8 A. As noted above, I am addressing Verizon's NRC studies and results.  
9 Specifically, I am addressing portions of Issue 8 as was described in the  
10 Commission's "Order Establishing Procedures Phase III" dated August 2, 2001 in  
11 this proceeding. Issue 8 was defined as follows:

12 Issue 8: What are the appropriate assumptions and inputs for the following  
13 items to be used in the forward-looking non-recurring UNE cost  
14 studies:

- 15  
16 (a) Network design;  
17 (b) OSS design;  
18 (c) Labor rates;  
19 (d) Required activities;  
20 (e) Mix of manual versus electronic activities;  
21 (f) Other.  
22

23 **Q. DOES YOUR TESTIMONY INCLUDE ANY INSTANCES WHEREIN**  
24 **YOU WERE ABLE TO RECALCULATE VERIZON'S NRC CHARGES**  
25 **AND ACTUALLY PROVIDE THE COMMISSION WITH ALTERNATIVE**  
26 **PROPOSED RATES?**

27 A. Yes. After many hours analyzing and attempting to understand the inner-  
28 workings of Verizon's overly-complex NRC model, I was able to actually



1 recalculate 7 individual NRC elements by substituting reasonable assumptions  
 2 and inputs where Verizon had included unrealistic, and overstated time, effort and  
 3 manual processes. The following table identifies those elements and compares  
 4 Verizon's proposed NRCs with the NRC estimates calculated by re-running  
 5 Verizon's model with more reasonable assumptions:

	Proposed by Verizon		Calculated by SLM	
	Manual	Semi-Mech	Manual	Semi-Mech
<b>I. Unbundled Loop</b>				
Exchange-Basic-Initial				
Ordering	\$56.07	\$36.91	\$29.81	\$19.23
Service Connection	\$102.84	\$100.23	\$19.00	\$9.24
<b>II. Unbundled Port</b>				
Exchange-Basic-Initial				
Ordering	\$51.54	\$32.28	\$21.24	\$10.66
Service Connection	\$45.68	\$44.84	\$8.83	\$4.49
<b>III. Enhanced Extended Link (EEL)</b>				
Initial				
Ordering	\$174.68	\$115.54	\$45.01	\$30.93
Service Connection	\$931.87	n/a	\$294.11	n/a

6

7 **Q. WERE YOU ABLE TO RECALCULATE ALL OF VERIZON'S NON-**  
 8 **RECURRING CHARGES FOR PURPOSES OF PROPOSING**  
 9 **ALTERNATIVE RATES FOR ALL VERIZON NRCS?**

10 A. No. As I describe in greater detail below, the Verizon cost models are remarkably  
 11 cumbersome and simply threading through the myriad of Verizon spreadsheets in  
 12 an effort to trace the calculation of a single NRC element requires hours.  
 13 Unfortunately, given limited time and resources I was able to completely trace,  
 14 analyze and review -- in detail sufficient to recalculate an alternative rate -- only  
 15 those rate elements included in the table above.

16

1 **Q. ABSENT YOUR ABILITY TO RECALCULATE ALL OF VERIZON'S**  
2 **PROPOSED NONRECURRING CHARGES, SHOULD THE**  
3 **COMMISSION SIMPLY ADOPT THE REMAINING VERIZON**  
4 **PROPOSALS?**

5 A. No. I believe it would be a mistake to assume the remaining NRCs are accurate  
6 or just and reasonable. My review of Verizon's cost models indicates a number  
7 of systemic problems that are present throughout the calculation of its NRC rates.  
8 It is for that reason that I make the following two-part recommendation. Where I  
9 have been able to completely recalculate an NRC by using Verizon's own model  
10 with revised assumptions and inputs, I would recommend that the Commission  
11 adopt my proposed alternative rate. However, where I have not been able to  
12 completely recalculate an alternative rate, I have calculated a "reduction factor"  
13 that the Commission should apply to those remaining rates to rid the NRC results  
14 of the systemic overestimation caused by the Verizon analysis.

15  
16 **Q. CAN YOU BE MORE SPECIFIC WITH RESPECT TO YOUR**  
17 **RECOMMENDATION THAT THE COMMISSION APPLY A**  
18 **"REDUCTION FACTOR" TO THE NRC ELEMENTS YOU HAVE NOT**  
19 **BEEN ABLE TO RECALCULATE?**

20 A. In the remainder of my testimony I draw the Commission's attention to the  
21 numerous methodological and assumption errors inherent within the Verizon  
22 NRC cost model. In the table above I provide the Commission with actual rates  
23 (for a limited number of elements) that would result if those errors were corrected.

1 In performing this analysis (and from my in-depth review of Verizon's model) I  
2 have developed a very good sense of the inherent magnitude by which the  
3 Verizon cost model overestimates actual, forward-looking NRCs. Based upon my  
4 analysis, it is readily apparent that Verizon's cost model overstates ordering  
5 charges by approximately 50% and overstates provisioning charges by more than  
6 66%. That is, if the Commission were to reduce all Verizon NRCs specific to  
7 ordering activities to 50% of Verizon's proposed rate, and all NRCs specific to  
8 provisioning activities to 33% of Verizon's proposed rate, the resulting rates,  
9 while likely still overstated, would be much closer to the economic, forward-  
10 looking costs. I recommend that the Commission apply these two reduction  
11 factors to all NRCs that I have been unable to recalculate.

12 **COST MODEL ANALYSIS**  
13

14 **Q. WHAT IS YOUR OVERALL IMPRESSION OF THE VERIZON NRC**  
15 **MODELS?**

16 A. In general, the Verizon NRC models appear to be needlessly complex. Many  
17 work steps often appear to be unnecessary, duplicative, or both. The work times  
18 are largely unsubstantiated and are based on numbers of observations of work  
19 activities that have no supporting documentation. Further, those numbers of  
20 observations are multiplied by a number of minutes for which there is no support.  
21 My overall impression is that the Verizon study should not be relied upon in its  
22 present state to set rates for NRCs in the State of Florida.

1 Q. IN ADDITION TO YOUR REVIEW OF VERIZON'S NRC MODEL, ARE  
2 THERE OTHER INDICATIONS THAT SOMETHING IS WRONG WITH  
3 VERIZON'S PROPOSED NRCS?

4 A. Yes, there are. A simple comparison of Verizon's proposed NRCs with those  
5 proposed and/or adopted by state commissions around the country (including the  
6 Florida Commission) yields results that strongly suggest Verizon has made a  
7 mistake. For example, draw a comparison between the proposed Verizon charges  
8 to migrate an ALEC customer to the Unbundled Network Element Platform  
9 (UNE-P) with BellSouth's charges for the same service. Verizon proposes to  
10 charge as much as \*\*\$22.99\*\* to order the migration and an additional \*\*\$1.89\*\*  
11 in service connection charges per line migrated (a total of \$24.88). This compares  
12 to charges approved for BellSouth in Phase A of this docket of \$1.52 (Pg 64, line  
13 N.1.1) to order the migration and an additional \$0.102 (pg 66, line P.1.1) in  
14 service connection charges per line migrated (a total of \$1.622). This is but one  
15 example of where Verizon's NRCs exceed those adopted for BellSouth by  
16 enormous percentages.

17  
18 While BellSouth is indeed a large ILEC and Verizon will undoubtedly argue that  
19 its operations in Florida are smaller, thereby resulting in less efficiency and higher  
20 costs, the Commission should remember that Verizon is the largest ILEC in the  
21 United States. In his testimony, Dr. August Ankum provides a description of the  
22 economies of scale enjoyed by Verizon and why it is unreasonable for the largest

1 ILEC in the country to suggest that its ordering and provisioning costs exceed  
2 those of other similarly situated ILECs by such enormous amounts.

3  
4 **Q. PLEASE DESCRIBE THE GENERAL NATURE BY WHICH THE**  
5 **VERIZON COST MODEL DETERMINES NONRECURRING COSTS.**

6  
7 A. The key to any good NRC model is accurate information on times required to  
8 perform activities. These times result in the various types and magnitudes of  
9 costs that ultimately result in rates. Verizon's cost model, however, utilizes a  
10 very indirect method for determining the minutes per order (see Exhibit SLM-2).  
11 The cost model file -- FL Wholesale Ordering Appendix, worksheet; AMON 1 &  
12 2 -- uses calculations involving the following worksheet columns; Observations,  
13 Direct Minutes, Indirect Percent, Total Minutes Activity Volume to calculate  
14 Minutes per Order, for the seven work items (Enter Time of Receipt in Log,  
15 Reject "Unables" to CLEC, Sort and Staple LSR Pages, Determine LSOG  
16 Number, Enter LSR into Tracking System, File Manual LSR for Processing)  
17 making up the Manual Order Processing; Manual LSR Receipt.

18  
19 **Q. PLEASE DESCRIBE THE COLUMNS AND ASSOCIATED**  
20 **CALCULATIONS.**

21 A. Observations (cell G6) are indicated as variable A (cell G7) and are  
22 referenced in Note: 1 as data obtained through Work Sampling study conducted at  
23 the NOREC.

1 The Observations entries are hard-coded into the study without any supporting  
2 documentation. This is true for all seven of the Observations entries. The  
3 Observations are totaled in cell G18 and then multiplied by the Direct Minutes  
4 (cell H6) entry to produce another variable identified as B (cell H7). The  
5 operators used to determine B are A (total observations) times 15 (a hard-coded  
6 value in the formula for calculation of direct minutes.

7

8 Column I6 Indirect Percent is calculated as the total Indirect Time (cell H56)  
9 divided by Total Direct Production Time (cell H53), which is a hard-coded value,  
10 in this case being 414. This in turn generates a percentage (\*\*10.34%\*\*) used to  
11 calculate Total Minutes (cell J18).

12

13 A hard-coded value for Activity Volume (\*\*561\*\* in this instance) is used as a  
14 variable to calculate Minutes per Order (cell L6) by dividing Total Minutes (D)  
15 by Activity Volume (E). In this case the value for Minutes per Order is \*\*1.18\*\*.

16

17 The following statement is made in Note 1:

18

19

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20

21

22

23

24

The cost team conducted Work Sampling studies in the Durham NMC and  
the San Angelo NOREC in 1999. Work Sampling is a method of work  
measurement. In this study, the cost managers estimated the proportions  
of time spent by the Service Representatives on the pre-ordering and  
ordering activities. These estimates are based on a large number of

1 observations. The underlying assumption is that the proportion of time the  
2 activity is observed in the sample will be the proportion of time spent on  
3 the activity in general. After the cost team recorded their observations for  
4 the Work Sampling study, they worked with SMEs to determine the  
5 frequency of the activities for each of the order processing modes.  
6 Additionally, SMEs provided time estimates for activities that were not  
7 observed during the study. (See Appendix Tab 1 for details of the Work  
8 Sampling study.)

9  
10 The appendix Tab 1 referred to in parenthesis cannot be located in the  
11 documentation supplied by Verizon.

12  
13 Exhibit SLM-2 provides a visual reference for the description of the cost study.

14 The model has the horizontal and vertical grid cell reference printed to make the  
15 identification of individual cells easier.

16  
17 Exhibit SLM-2 also illustrates the complexities of the calculations necessary to  
18 establish Minutes per Order (cell L18) for one process; Manual Order Processing,  
19 and Manual LSR Receipt.

20  
21 **Q. MR MORRISON, YOU HAVE REFERRED TO HARD-CODED VALUES**  
22 **SEVERAL TIMES ARE THESE VALUES A PROBLEM?**

23 A. It is not clear whether the values are problematic. But the fact that the values are  
24 hard-coded makes it impossible for reviewers to determine their source or

1 veracity. Hard-coded values make it impossible to audit the calculations or  
2 results arrived at by their use. In the case of Verizon's cost studies, the 15 values  
3 used in calculating direct minutes, total minutes and minutes per order cannot be  
4 audited or verified.

5  
6 While all studies have some hard-coded information, Verizon's studies fail to  
7 provide any references or cites for that information. The Commission should  
8 require Verizon to provide such references if formulas or other references are not  
9 provided.

10  
11 **Q. DO YOU HAVE ANY OTHER CONCERNS RESPECTING THE**  
12 **VERIZON NRC METHODOLOGY?**

13 A. Yes. As previously noted, Verizon develops direct minutes for work steps by  
14 multiplying the number of observations for each work step times an arbitrary and  
15 unsupported **\*\*15\*\*** minutes. Verizon then grosses-up those minutes by what it  
16 terms an "indirect percent." I have seen instances where Verizon's indirect  
17 percentage gross-up factor has been as much as **\*\*128%\*\***. (See FL Wholesale  
18 Ordering Appendix workbook, worksheet AULS-1 & 2, cell J42.) Nowhere in  
19 the studies did I find any explanations as to why the application of this indirect  
20 percentage is appropriate or necessary.

21  
22 Additionally, for both manual and semi-mechanized orders which I describe  
23 below, Verizon applies a flow-through percentage of **\*\*40%\*\***. Though I have



1 not taken issue with this percentage in this testimony, I have serious concerns  
2 given that its use is not explained in the NRC studies. Moreover, the \*\*40%\*\*  
3 figure is not supported by any data or forecasts in the studies. On its face,  
4 however, a \*\*40%\*\* flow-through is indicative of a very inefficient process. I  
5 would recommend flow through figures far closer to 95% - 98% as those are  
6 definitely achievable figures that Verizon should be striving toward in an effort to  
7 reduce its own costs. Indeed, in a forward-looking study, these are the efficiency  
8 levels that must be assumed, regardless of Verizon's current level of efficiency.

9  
10 **Q. DID YOU ADJUST THE FLOW-THROUGH RATE?**

11 A. No. While I recognized that Verizon's application of 40 percent flow-through  
12 rates was improper for a TELRIC study, this percentage was applied as an  
13 intermediate step. Rather than attempting to change the flow-through rate, I made  
14 changes to the number of observed activities such that the eventual work times for  
15 a particular task were in line with what I have witnessed or encountered in my  
16 experience. The change in observations was used as a proxy for changing the  
17 flow-through rate. The resulting rates reflect my experience with efficient,  
18 forward-looking applications and technology.

19  
20 **Q. PLEASE PROVIDE A LISTING OF THE NRC RATE ELEMENTS YOU**  
21 **HAVE REVIEWED IN THE VERIZON NRC MODEL.**

22 A. I have reviewed the following six (6) NRC rate elements:

1           **ORDERING**

2           **Unbundled Loop**

3                   Exchange – Basic – Initial (100% Manual and Semi-Mechanized Ordering)

4           **Unbundled Port**

5                   Exchange – Basic – Initial (100% Manual and Semi-Mechanized Ordering)

6

7           **Enhanced Extended Links (EELs) – Loop Portion**

8                   DS1 / DS3 – Initial (100% Manual and Semi-Mechanized Ordering)

9

10          **SERVICE CONNECTION**

11          **Unbundled Loop**

12                   Exchange – Basic – Initial (Initial and Additional Unit)

13          **Unbundled Port**

14                   Exchange – Basic – Initial (Initial and Additional Unit)

15

16          **Enhanced Extended Links (EELs) – Loop Portion**

17                   DS1 / DS3 – Initial (Initial Unit)

18          I provided a comparison of Verizon’s proposed rates with my proposed rates  
19          earlier in this testimony. The rates I have reviewed and corrected are in two  
20          categories: Ordering and Service Connection.

21

22   **Q.   PLEASE DESCRIBE THE TYPES OF NRCS PROPOSED BY VERIZON**  
23   **FOR ORDERING.**

24   A.   Verizon proposes two different types of ordering charges. The first type is called  
25   “100% Manual” and assumes that the receipt of an order is accomplished via fax

1 machine and is processed manually. The second type is called “Semi-  
2 Mechanized” and assumes that many of the work steps involved are in some sense  
3 automated, however Verizon does not indicate which tasks are automated and  
4 which tasks are performed manually.  
5

6 **Q. DOES VERIZON PROPOSE AN ORDERING TYPE THAT IS 100**  
7 **PERCENT MECHANIZED?**

8 A. Apparently not. In the testimony of Messrs. Steele and Richter, no such order  
9 type is presented nor does Verizon’s cost study appear to acknowledge the  
10 possibility that an order could be processed without human intervention. This is  
11 an oversight that the Florida Public Service Commission should remedy. While  
12 Dr. Ankum discusses in detail the need to assume efficient, forward-looking  
13 practices when developing TELRIC costs, the Commission should also be aware  
14 that telecommunications carriers (both ILECs and CLECs) are aggressively  
15 pursuing efforts to mechanize as much of the ordering and provisioning process as  
16 possible. For example, the largest CLECs have spent millions of dollars building  
17 Electronic Data Interchange (EDI) systems so that they can interact with ILECs  
18 across the country in a mechanized environment. The CLECs have made this  
19 significant investment to reduce transaction costs and to reduce errors that  
20 ultimately result in poor quality of service. Verizon’s studies largely ignore these  
21 cost-saving efforts in assuming that the majority of ordering and provisioning  
22 activities will be accomplished manually by Verizon personnel.  
23

1 **Q. ARE YOU RECOMMENDING THAT VERIZON DO AWAY WITH THE**  
2 **100% MANUAL FORM OF ORDERING?**

3 A. Not necessarily. There may be some ALECs that wish to provide local service  
4 requests (LSRs) and access service requests (ASRs) to Verizon on a manual basis  
5 using fax machines or other manual means. Should Verizon receive orders in  
6 such a fashion they should be permitted to recover reasonable costs; however, the  
7 processes that Verizon must go through after receipt of a manual order should be  
8 as efficient as possible. In a sense, and with an eye toward a forward-looking  
9 order processing system, the processes Verizon implements after receipt of a  
10 manual order should approach what it terms a semi-mechanized order processing  
11 arrangement. Moreover, the processes that Verizon puts in place when it receives  
12 a semi-mechanized order should approach what would be considered a 100  
13 percent mechanized order process.

14  
15 **UNBUNDLED LOOP NRCs**

16  
17 **Q. WHAT ARE VERIZON'S PROPOSED CHARGES FOR THE FIRST**  
18 **UNBUNDLED LOOP?**

19 A. Verizon proposes a charge of \$56.07 to order the first unbundled loop on a LSR.  
20 This proposed charge is comprised of five components: [1] Establishing a New  
21 Order; [2] Establishing a Disconnect Order; [3] Preordering; [4] Record Order;  
22 and [5] NMC Shared / Fixed Costs. The Verizon NRC study also includes place-

1 holders for OSS transaction costs to be applied; those costs, however, are not  
2 included in this study.

3  
4 **Q. PLEASE DESCRIBE EACH OF THESE FIVE COMPONENTS.**

5 A. What Verizon terms as a “New Order” actually refers to the manual receipt,  
6 manual entry, manual editing, order processing and off-line processing stages of  
7 order delivery. This component accounts for **\*\*\$31.90\*\*** of the entire \$56.07  
8 NRC for ordering an initial loop on a 100% manual basis.

9  
10 **Q. PLEASE DESCRIBE THE “MANUAL RECEIPT” COMPONENT OF**  
11 **THIS COST CATEGORY.**

12 A. Verizon’s “manual receipt of an order” includes a large amount of time dedicated  
13 to entering an ALEC’s LSR into a tracking system. In the second step for manual  
14 entry, the LSR is reviewed and entered into the Verizon secure integrated gateway  
15 system (SIGS).

16  
17 **Q. WOULD YOU EXPECT THE TRACKING MECHANISM TO BE**  
18 **INITIATED WITH THE ENTRY OF AN ORDER?**

19 A. Yes. In a forward-looking system the entry of the order should automatically  
20 populate the tracking system. However, Verizon assumes that a Verizon  
21 employee will need to enter the LSR data first into the tracking system, and then  
22 enter the same LSR information into the actual ordering interface. This isn’t  
23 efficient and is exactly the type of duplication that would be eradicated from the

1 system by any reasonable process engineer. The observations and times  
2 associated with entry of the LSR into a tracking system are redundant and  
3 unnecessary.

4  
5 **Q. PLEASE CONTINUE.**

6 A. The third step references manual edits performed on the LSR. The work steps  
7 listed by Verizon include verification steps once any edits have occurred. These  
8 edits appear to occur in Verizon's SIGS system and hence the multiple  
9 verifications may not be necessary.

10 The fourth step involves order processing. This is determined by calculating the  
11 number of minutes for order entry processing. In this calculation Verizon applies  
12 an unsupported efficiency factor of **15%** and an unsupported flow through  
13 factor of **40%**. These algorithms are used by Verizon to convert a number of  
14 observations into a certain number of minutes per order resulting in  
15 approximately **12** minutes to enter the new LSR into the SIGS system and  
16 **4** minutes to enter a disconnect order into the SIGS system. Other than the  
17 number of observations and a notation in the studies that references work  
18 sampling and studies performed, there is no further support for the actual work  
19 times required.

20  
21 The fifth step for the "New Order" activity is to determine costs associated with  
22 off-line processing. This includes activities such as faxing error reports, working  
23 with directory listings, and a host of unsubstantiated activities such as "Late Order

1 Report”, “State Projects”, and “Miscellaneous Disconnects”. Verizon provides no  
2 indication of what these work activities are intended to do and in no way supports  
3 either the need for these activities or the amount of time assigned to them.  
4

5 **Q. PLEASE DESCRIBE THE SECOND COMPONENT OF UNBUNDLED**  
6 **LOOP NRCS -- [2] ESTABLISHING A DISCONNECT ORDER.**

7 A. For the disconnect component, Verizon identifies work steps and calculates work  
8 times for manual receipt, manual entry, manual editing, order processing and off-  
9 line processing, just as it did for the “New Order” component of the 100% manual  
10 NRC for an initial loop. Many of the same problems exist. Moreover, while  
11 Verizon seeks recovery for disconnection in this component of the NRC, it has  
12 previously included disconnect costs in the “New” component. This component  
13 accounts for \*\*\$15.74\*\* of the \$56.07 for ordering an initial loop on a 100%  
14 manual basis.  
15

16 **Q. PLEASE DESCRIBE THE THIRD COMPONENT OF AN UNBUNDLED**  
17 **LOOP NRC -- [3] PREORDERING**

18 A. The preordering component of the Verizon NRC study accounts for \*\*\$2.52\*\* of  
19 the entire NRC for ordering an initial loop on a 100% manual basis. In auditing  
20 the NRC study to determine the origin of the \*\*\$2.52\*\*, the basis boils down to  
21 54 observations of preordering. No description of the work activities for  
22 preordering is provided whatsoever.  
23

1 Q. PLEASE DESCRIBE THE FOURTH COMPONENT OF AN UNBUNDLED  
2 LOOP NRC -- [4] RECORD ORDER.

3 A. In auditing the Record Order component, which adds \*\*\$1.48\*\* to the entire  
4 NRC for ordering an initial loop on a 100% manual basis, it was discovered that  
5 the NRC model loops back to work times that were already included in the New  
6 component. Further, in order to make this determination, the NRC model has  
7 links to at least six (6) different workbooks and/or worksheets. While this  
8 component is not the most significant in dollar terms, it is duplicative of  
9 components already accounted for in other stages of cost development.

10

11 Q. PLEASE DESCRIBE THE FIFTH COMPONENT OF THE UNBUNDLED  
12 LOOP NRC -- [5] NMC SHARED/FIXED COSTS.

13 A. In its NRC study, Verizon proposes a rate additive of \*\*\$4.44\*\* for each order to  
14 cover the costs of its National Open Market Centers (NMC) where these orders  
15 are processed. In determining this cost, Verizon has estimated costs for three  
16 centers (Idaho, North Carolina and Indiana) and then divides those costs by the  
17 number of orders it expects to process each year (totaling nearly \*\*\$18\*\* million  
18 in costs to be recovered). Even a cursory review of the NMC information  
19 suggests that Verizon has included a myriad of anticipated costs that are  
20 overstated or simply unreasonable. For example, a portion of the \*\*\$18\*\* million  
21 price tag consists of nearly \*\*\$1 million\*\* for recruiting personnel and over  
22 \*\*\$800,000\*\* for anticipated employee relocations.

23



1 **Q DO YOU HAVE ANY OTHER CONCERNS ABOUT THE COST OF THE**  
2 **NMC?**

3 A Yes, not only is the NMC shared and fixed costs of \$18,498 million that Verizon -  
4 FL seeks to recover from each ALEC LSR inappropriate, the total cost is  
5 overstated by the NRC proposed by Mr. Steele.

6  
7 Mr. Ankum's testimony discusses the appropriate cost of capital and  
8 depreciation lives that should be used in Verizon's cost models. Verizon's  
9 NMC annual shared and fixed costs are overstated because they are  
10 determined using a **\*\*12.95%\*\*** cost of capital rate for each of the three states  
11 where the NMCs are located (see Verizon NRC model, FL Wholesale Ordering  
12 Appendix.xls, sheet ACCF). While not disclosed in the NRC capital cost factor  
13 assumptions, it is highly probable that Verizon is also using its financial reporting  
14 lives for the depreciation component of this factor. Combined, the level of these  
15 two components significantly overstates the NMC shared and fixed costs. If the  
16 Commission denies the ALEC Coalition recommendation to reject recovery of  
17 NMC expenses, than it should require Verizon to adjust these costs for  
18 appropriate cost of capital and depreciation assumptions.

19  
20 **Q. WHAT IS YOUR RECOMMENDATION WITH RESPECT TO**  
21 **TREATMENT OF THE NMC COSTS?**

22 A. The NMC costs should be rejected. These are embedded rather than forward-  
23 looking costs as described in more detail by Dr. Ankum. Further, there is no

1 reason that service order processing centers need to be dedicated solely to  
2 processing ALEC orders. Indeed doing so would likely make the process less  
3 efficient as opposed to more efficient. Order and provisioning service (regardless  
4 of who the customer is) is a process whose costs are driven substantially by  
5 economies of scale and scope. Building, staffing and operating two distinct  
6 operation centers so that Verizon can handle its retail business with one system  
7 and its CLEC orders with another is not only discriminatory, it undoubtedly  
8 results in higher costs than would be incurred by a more efficient, integrated  
9 system. The existing Verizon order processing centers should be able to handle  
10 ALEC orders with a minimum of personnel training and additional costs for  
11 center build-out, furnishing, staffing, etc. (i.e., it is generally easier to expand  
12 existing operations handling similar functions than it is to build a new, stand alone  
13 system). In my recalculations, I set the NMC additive to \$0.00 as these costs are  
14 not appropriate.

15  
16 **Q. WHAT ALTERNATIVE RECOMMENDATIONS DO YOU HAVE FOR**  
17 **THE NMC COST?**

18  
19 A. If the Commission finds that some of the NMC implementation cost cannot be  
20 rejected. My alternative recommendation would be for the Commission to  
21 expand the base of rate payers as California Public Utilities Commission did in its  
22 Decision 01-09-063 September 20, 2001 ruling. This will lower the impact on  
23 any one group of ratepayers. In the California proceeding, the Californian PUC

1 Settlement Agreement provides that the amount of \$12.0 million will be  
2 recovered over two-years, recovery will be by a surcharge calculated using the  
3 billing base approved in Verizon's Annual Price Cap filing for that year. The  
4 surcharge percentage, as calculated, shall be applied to Verizon's bills for toll,  
5 exchange, and access services. Spreading the recovery over all three major  
6 groups of services in (i.e., local, toll, and access) is reasonable. The larger the  
7 billing base, the smaller the per-customer surcharge, with less effect on individual  
8 customers.

9 **CORRECTED NRCS**

10

11 **Q. EARLIER IN YOUR TESTIMONY YOU DESCRIBED CORRECTED**  
12 **NRC RATES THAT SHOULD BE ADOPTED INSTEAD OF THOSE**  
13 **ADVANCED BY VERIZON. PLEASE EXPLAIN HOW YOU ARRIVED**  
14 **AT THOSE ALTERNATIVE RATES.**

15 A. The processes by which I recalculated Verizon's NRC charges can only be  
16 properly explained by explaining the process required to analyze the Verizon  
17 model generally.

18

19 The Verizon models provided on CD-ROM were transmitted with a read-only  
20 attribute. In order to save any changes made to the Verizon models I had to copy  
21 the files from the CD-ROM to the hard disk of my computer. I then removed the  
22 read-only attribute so I could save my changes. I also had to update the links to  
23 each and every Excel workbook used by the Verizon models. Once this was

1 accomplished I was able to audit Verizon's development of various NRCs make  
2 appropriate changes. Those changes are documented below.

3  
4 **Q. BEFORE YOU DESCRIBE THE CHANGES YOU MADE TO THE**  
5 **VERIZON NRC MODELS, IS THERE ANY INFORMATION YOU NEED**  
6 **TO PRESENT THAT IS RELEVANT TO YOUR CHANGES?**

7 A. Yes, there is. Verizon has developed work times for various tasks by determining  
8 a number of observations of different work activities and then applying a certain  
9 number of minutes to those observations. This is disconcerting since not all work  
10 step observations take the same amount of time. Not only is Verizon's method  
11 cumbersome and prone to substantial inaccuracies, its only function appears to be  
12 to make analyzing the studies more difficult. For example, in order to correct the  
13 work times, I was required to adjust the number of observations in order to alter  
14 existing work times. This is terribly inefficient and not the intuitive way to adjust  
15 studies.

16  
17 **Q. PLEASE DESCRIBE THE CHANGES YOU MADE TO THE**  
18 **UNBUNDLED LOOP NRC FOR AN EXCHANGE-BASIC-INITIAL LOOP**  
19 **ORDERED ON A 100% MANUAL BASIS.**

20 A. I reset the number of observations for entering the LSR into the tracking system  
21 from \*\*29\*\* to 0 as this task should be done during the order entry process for  
22 OSS as opposed to two steps. First the manual process of two entries creates a  
23 situation where input errors can cause data mismatches between systems and lost

1 orders that require additional steps to resolve. Secondly, the entire data mismatch  
2 issue can be resolved with edits in the front end of the OSS order entry process to  
3 eliminate or minimize costly errors. The OSS can also be updated with the  
4 capability of tracking all activity submitted to the system as opposed to having  
5 two systems. In both Malaysia and Switzerland, I developed telecommunications  
6 provisioning systems. We had a one-time entry process for all service requests;  
7 two steps were not required. If Verizon has not developed such an efficient  
8 system, then its processes are inefficient and the resulting costs should be  
9 excluded in the development of TELRIC rates.

10  
11 I also changed the number of observations of the order entry into SIGS from  
12 **\*\*198\*\*** entries to 100 entries.

13 **Q. WHY DID YOU REDUCE THE NUMBER OF OBSERVATIONS BY THIS**  
14 **AMOUNT?**

15 A. By reducing the order entry observations I brought the order entry time down  
16 from **\*\*12 minutes\*\*** to about 6 minutes. This time is more reasonable in that  
17 OSS is typically designed to avoid or minimize manual entries. In my experience  
18 with the implementation of OSS 6 minutes is a more reasonable time than  
19 Verizon's original time of **\*\*12 minutes\*\***.

20  
21 **Q. PLEASE CONTINUE WITH YOUR CORRECTIONS.**

22 A. I set the number of observations for verification of changes from **\*\*3\*\*** to 0  
23 because the electronic system should be able to handle verification activities. The

1 systems I developed always incorporated verification activities. I also set the  
2 number of observations for verification of final steps in SIGS from \*\*19\*\* to  
3 zero. These steps should not be required in a forward-looking system.. By  
4 forward-looking I am not suggesting that this technology is not currently  
5 available. Systems are available today to handle these verifications.

6  
7 I set the number of observations for reviewing the LSR from \*\*25\*\* to 5. Once  
8 again the observations were reduced to arrive at work times I deemed appropriate  
9 as described above. "Review of the LSR" is included in every step. I consider  
10 this number of LSR reviews to be excessive because this type of activity can be  
11 designed into support systems to eliminate this type of redundancy. I would be  
12 extremely surprised if Verizon's retail service order process is so heavily  
13 reviewed by Verizon personnel after the information has been placed in the  
14 electronic ordering system. Again, this is exactly the type of duplication that any  
15 process engineer would strive to remove from a system when evaluating  
16 efficiency and cost savings.

17  
18 I set the number of observations for order processing for order entry from  
19 \*\*106\*\* to 60. This has the effect of providing for 15 minutes of order entry  
20 time. I believe this is more than generous based on my experience. The systems  
21 should be designed to expedite order entry. Screen formatting, automatic editing,  
22 and prompts make this process much more efficient than assumed by Verizon.

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I set the number of observations for directory listing inquiries for resale LMS corrections from \*\*299\*\* to 0 because there was no explanation of this activity. From the cost study description, these items appear to be directory sales items and should not be performed at the expense of the ALECs. All directory activity should pay for itself since this is a profit center for ILECs. Given the complete lack of information on this activity, however, it is not clear how the numbers were generated.

I set the directory listing quality check revisions and correction observations from \*\*38\*\* and \*\*154\*\* respectively to 0 in both instances as accuracy would be accomplished and expected by a properly designed electronic ordering system in a forward-looking process.

I set the number of observations of service activation reports from \*\*201\*\* to 0. I set the late order reports from \*\*32\*\* to 0. I set the state projects observations from \*\*36\*\* to 0. I set the miscellaneous disconnects from \*\*56\*\* to 0. All of these observations were set to zero because no explanations were provided as to why these activities were appropriate and, given my experience, I could not comprehend why they would be necessary. These items appear to be reports without a purpose or benefit to the processing of the ALEC service request. Systems should provide fall-out reports on an exception basis. This minimizes

1 the number of reports and the need to respond to reports. Time is eliminated  
2 keeping track of and resolving report issues.

3  
4 For disconnects order entry into SIGS, I changed the number of observations from  
5 **\*\*31\*\*** to 10. I did so because customer information is generated during the  
6 connect process and the disconnect process generates a disconnect record with  
7 minimum input. The input requirements are those that identify the circuit for  
8 removal from service with the appropriate status changes in systems and the  
9 removal of equipment from service.

10  
11 For manual LSR editing, I set the number of observations for reviewing the LSR  
12 from **\*\*9\*\*** to 0. I considered this to be redundant work given the other order  
13 entry activity. The review would actually be part of the entry in that the  
14 technician inputting the order should monitor their own input to avoid errors in  
15 the beginning of the process rather than adding steps down stream to validate  
16 previous work.

17  
18 For disconnect order processing I set the number of observations for disconnect  
19 order entry from **\*\*25\*\*** to 5. I changed this value due to the fact that disconnect  
20 order entry should be a simpler overall process, only indicating to business  
21 systems that the service is to be removed. The system generates the necessary  
22 response or the manual process alters existing records as to the status change,  
23 whether it is system information or manual information.



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For preordering I changed the number of observations from **\*\*54\*\*** to 0. No explanation of the actual work activities or a description of why these activities are necessary was given and I can think of no need for such extensive preordering activity. I recommend that task items which are not well defined as to their purpose, and have insufficient explanation as to what work is being performed and why, be eliminated from the cost study.

Respecting recording the order, I reduced the number of observations from **\*\*10\*\*** to 0. That has the effect of reducing the minutes spent recording each order from **\*\*31\*\*** to 0. No supporting information was presented for this process and again, an electronic ordering system should provide whatever reports or recording are needed with or without manual intervention.

**Q. WHAT IMPACT DID THE CORRECTIONS YOU DESCRIBE ABOVE HAVE ON THE RATE PROPOSED BY VERIZON FOR ORDERING A UNE LOOP ON A 100% MANUAL BASIS?**

A. Verizon has proposed a charge of **\*\*\$56.07\*\*** for this activity. By making the changes I describe to the Verizon models, those models generate a more appropriate rate of \$29.81.

1 **Q. WHAT CHANGES DID YOU MAKE FOR THE SEMI-MECHANIZED**  
2 **ORDERING PROCESS FOR AN UNBUNDLED LOOP?**

3 A. For this element Verizon proposes a charge of **\*\*\$36.91\*\*** to order the first  
4 unbundled loop on an LSR. This proposed charge is comprised of the same five  
5 components as the 100% manual process: [1] Establishing a New Order; [2]  
6 Establishing a Disconnect Order; [3] Preordering; [4] Record Order; and [5] NMC  
7 Shared / Fixed Costs. The only exception is that there are no costs associated  
8 with item 4, record order. Two precise similarities exist, those being item 3  
9 (preordering) and item 5 (NMC Shared / Fixed Costs).

10  
11 The changes made for ordering a loop on a 100% manual basis generally flowed  
12 through the models to the semi mechanized portions of the Verizon NRC study.  
13 Those changes resulted in a semi mechanized NRC cost of \$19.23, down from  
14 Verizon's proposal of **\*\*\$36.91.\*\***

15  
16 **Q. PLEASE LIST AND DESCRIBE THE CHANGES YOU MADE TO THE**  
17 **VERIZON NRC STUDIES FOR THE INITIAL UNIT OF A SERVICE**  
18 **CONNECTION FOR AN UNBUNDLED LOOP?**

19 A. I changed the time for facilities assignment from **\*\*19.5\*** minutes to 3 minutes for  
20 the New component of the provisioning activities. I further changed the time for  
21 facilities assignment for disconnect from **\*\*11.63\*\*** minutes to 3 minutes. In my  
22 experience these times are more than adequate in an automated assignment  
23 environment. Facilities assignment is a mechanized process for the ILECs. The

1 process of assigning a facility involves making an entry into a mechanized system  
2 to determine the availability of facilities and assigning the facility to the  
3 customer's circuit identifier. Facilities assignment is one of the most repetitious  
4 tasks in an assignment center and technicians become very skilled in the task. In  
5 my experience with systems, facility assignment should rarely take more than 3  
6 minutes.

7  
8 Respecting central office for provisioning a new unbundled loop, I changed the  
9 average drive time from \*\*5.89\*\* minutes to zero. I believe these disconnects  
10 should be part of a dedicated inside plant (DIP) program. Existing cross  
11 connections can be left up and reused for the next inbound service utilizing the  
12 same facility. This would be a much more efficient process. OSSs for facility  
13 assignment support this program and can handle this type of cross connect activity  
14 on a flow-through basis.

15  
16 I changed the time to run jumpers from \*\*8.17\*\* minutes to 2.0 minutes. The  
17 forward-looking network would use an efficient common systems main  
18 interconnect (COSMIC) type main distribution frame (MDF). This is a generous  
19 time for running jumpers on COSMIC MDF configurations supported by OSSs.  
20 On a COSMIC MDF, jumpers are designed to minimize length. The COSMIC  
21 frame is a single sided frame, so the technician never needs to run a cross connect  
22 from one side of the frame to the other. So the technician goes to the first  
23 identified termination point, and uses a punch-on tool to quick connect the

1 jumper. He then lays the jumper into the shelf as he walks to the next termination  
2 point. He adds proper slack to the jumper and terminates the jumper at the second  
3 termination point. This is normally done in about 12 feet of space. An  
4 experienced technician can do these jumpers very quickly.

5  
6 For disconnection I set the numbers to 0 minutes, considering that these jumpers  
7 fall into the DIP program mentioned above. These circuits should be left up so no  
8 additional cross connects are required should the circuit be reassigned. This type  
9 of process eliminates all central office work on this type of circuit.

10  
11 For the fieldwork portion of the calculation for installation of a basic unbundled  
12 loop, Verizon's NRC study links back to a total number of minutes for the  
13 fieldwork portion of the service connection. Though Verizon shows \*\*145.14\*\*  
14 minutes of work for a basic new unbundled loop, its study links to the number of  
15 minutes derived for a complex digital loop of \*\*255.57\*\* minutes. Although this  
16 appears to be an error in the Verizon studies, in my experience it is unlikely that a  
17 field technician could spend \*\*145.14\*\* minutes, or \*\*2 hours and 25.14\*\*  
18 minutes installing a service in the field. The technician must place a cross  
19 connect at the facility distribution interface (FDI) and establish that continuity  
20 exists to the customer premise. In my experience these activities, including  
21 average drive time and the actual work time, should not exceed 40 minutes per  
22 initial circuit.

1 **Q. DESCRIBE THE CHANGES YOU MADE FOR ADDITIONAL BASIC**  
2 **UNBUNDLED LOOPS?**

3 A. I made the same changes for facilities assignment and central office work that I  
4 did for the Initial unit. For fieldwork for an additional line Verizon makes the  
5 same linking mistake. Nevertheless I changed the number of minutes for each  
6 additional circuit in the field from **\*\*255.57\*\*** minutes to 10 minutes. The  
7 technician is adding an additional line while installing the original line, in other  
8 words he is repeating the task he performed to install the initial line while at the  
9 same location as the initial line. Thus, the additional line is more efficient than  
10 the initial line, making ten minutes a reasonable time for this task.

11 **Q. WHAT WERE THE EFFECTS OF YOUR CHANGES ON VERIZON'S**  
12 **SERVICE CONNECTION COST FOR AN INITIAL AND ADDITIONAL**  
13 **UNIT FOR A BASIC UNBUNDLED LOOP?**

14 A. The service connection cost for the initial loop went from **\*\*\$102.84\*\*** to \$19.00.  
15 The service connection cost for each additional loop went from **\*\*\$100.23\*\*** to  
16 \$9.24.

17

## 18 **UNBUNDLED PORTS**

19

20 **Q. PLEASE DESCRIBE YOUR OBSERVATIONS ABOUT THE 100%**  
21 **MANUAL AND SEMI-MECHANIZED INITIAL ORDERING CHARGES**  
22 **FOR UNBUNDLED PORTS AND ANY CHANGES YOU HAVE MADE TO**  
23 **THE VERIZON NRC STUDY TO CORRECT PROBLEMS IDENTIFIED?**

1 A. For these charges Verizon proposes \*\*\$51.54\*\* for the 100% manual order and  
2 \*\*\$32.28\*\* for the semi-mechanized order. The components of these charges are  
3 essentially the same as they were for the unbundled loop. Those components  
4 include [1] Establishing a New Order; [2] Establishing a Disconnect Order; [3]  
5 Preordering; [4] Record Order; and [5] NMC Shared / Fixed Costs. The Verizon  
6 NRC study also includes place-holders for OSS transaction costs to be applied;  
7 those costs, however, are not included in this study.

8

9 **Q. DID ANY OF THE CHANGES YOU MADE TO THE UNBUNDLED LOOP**  
10 **STUDY FLOW THROUGH TO THE UNBUNDLED PORT STUDY?**

11 A. Yes, several changes described for the unbundled loop flowed through to the  
12 unbundled port calculations. Those include changes for the manual LSR entry,  
13 order editing and off-line processing. Further, these changes flowed through for  
14 both 100% manual and semi-mechanized orders.

15

16 **Q. WHAT CHANGES DID YOU MAKE THAT DID NOT FLOW THROUGH**  
17 **FROM YOUR MODIFICATIONS TO THE UNBUNDLED LOOP NRC**  
18 **STUDIES?**

19 A. For order processing I changed the Verizon work time estimate of \*\*31.07\*\*  
20 minutes to 10 minutes. This Verizon work time estimate was a hard coded  
21 number and was not developed in the Verizon NRC study using the same  
22 observation method previously used to develop other work times. Ordering a port

1 differs substantially from ordering a loop in that there are fewer systems that must  
2 be accessed.

3  
4 For disconnect order processing for the unbundled port I changed Verizon's work  
5 time estimate from **\*\*6.07\*\*** to 5 minutes for the same reason noted above.

6  
7 **Q. FOR THE UNBUNDLED PORT DID VERIZON PROPOSE THE SAME**  
8 **NMC RATE ADDITIVE AS IT DID FOR THE UNBUNDLED LOOP AND**  
9 **IF SO HOW HAVE YOU TREATED THAT ADDITIVE?**

10 A. Yes, it did. As I did for the unbundled loop ordering NRC, I set the Verizon  
11 NMC additive to zero for the same reasons noted earlier in this testimony. I have  
12 done so for both the 100% manual and the semi-mechanized ordering types.

13  
14 **Q. PLEASE DESCRIBE THE RESULTS OF YOUR MODIFICATIONS.**

15 A. As previously noted, Verizon proposed a charge of **\*\*\$51.54\*\*** to order an  
16 unbundled port on a 100% manual basis. After making the modifications I  
17 describe above, I recalculated a rate of \$21.24. For the semi-mechanized order of  
18 an unbundled port Verizon calculates a NRC of **\*\*\$32.28\*\***. Based on the  
19 changes I have made to the Verizon studies I develop a charge of \$10.66.

20  
21 **Q. WHAT RATES HAS VERIZON PROPOSED FOR SERVICE**  
22 **CONNECTIONS FOR AN UNBUNDLED PORT?**

1 A. For the first unit Verizon proposes **\*\*\$45.68\*\***. For each additional unit a charge  
2 of **\*\*\$44.84\*\*** is proposed.

3

4 **Q. PLEASE DESCRIBE THE CHANGES YOU MADE TO THE**  
5 **UNBUNDLED PORT NRC STUDY FOR THE SERVICE CONNECTION**  
6 **CHARGES FOR THE INITIAL AND ADDITIONAL UNITS, EXCHANGE-**  
7 **BASIC-INITIAL PORTS ORDERED ON A 100% MANUAL BASIS.**

8 A. The first change I made was to modify the times presented by Verizon for  
9 provisioning (i.e. facility assignment) the unbundled port. I made modifications  
10 in four areas: [1] new service installation for the initial port; [2] disconnection of  
11 service for the initial port; [3] new service installation for the initial port; and [4]  
12 disconnection of service for the initial port.

13

14 **Q. PLEASE, DESCRIBE THE CHANGES YOU MADE TO THESE FOUR**  
15 **ACTIVITIES.**

16 A. For the new service installation times I changed the Verizon estimate of  
17 **\*\*28.47\*\*** minutes to 5 minutes for the initial service connection. I changed the  
18 estimate for the additional service connection from **\*\*28.47\*\*** minutes to 2  
19 minutes. I made these changes to reflect the following work steps for facility  
20 assignment for an unbundled port. First the technician would make an entry into  
21 a switch inventory and provisioning system to establish the circuit and facilities  
22 that make up the ALEC connection. The flow-through from the provisioning and  
23 inventory system establishes any switch data build or translations required to



1 establish the switch-based service. For additional unbundled ports, the inputs  
2 would be the same; however, there would be some timesavings in that the  
3 technician would only be required to gain access to the various facility assignment  
4 systems once.

5  
6 I also made the same changes for the disconnection times used to develop the  
7 unbundled port NRCs for exactly the same reasons stated above.

8  
9 **Q. WHAT IMPACT DID THE CHANGES YOU DESCRIBE ABOVE HAVE**  
10 **ON THE RATES PROPOSED BY VERIZON FOR SERVICE**  
11 **CONNECTION NRCS FOR UNBUNDLED PORTS.**

12 A. As previously noted, for the first unit Verizon proposes an NRC of **\*\*\$45.68\*\***.  
13 After making my modifications this NRC is calculated at \$8.83. For each  
14 additional unit a charge of **\*\*\$44.84\*\*** was proposed by Verizon and I have  
15 calculated a charge of \$4.49.

16  
17 **ENHANCED EXTENDED LINKS**

18  
19 **Q. HAVE YOU REVIEWED THE VERIZON NRC STUDIES FOR THE**  
20 **LOOP PORTION OF ENHANCED EXTENDED LINKS (EELS)?**

21 A. Yes, I have reviewed the NRCs for the service connection and ordering cost for  
22 an initial DS1/DS3 EEL.

1 Q. WHAT CHANGES DID YOU MAKE TO THE VERIZON NRC STUDY  
2 FOR ORDERING A DS1/DS3 EEL ON A 100% MANUAL BASIS?

3 A. I changed the work time for manual faxing from \*\*27.6\*\* minutes to 5 minutes.  
4 I further changed the work time to FAX a firm order of confirmation from \*\*6\*\*  
5 minutes to 3 minutes. Operating a modern fax machine to send even a large  
6 volume of paper is a relatively simple task considering the technology available  
7 today. Therefore, 5 minutes and 3 minutes respectively are adequate for two fax  
8 transmissions. I changed the time to enter a new order from \*\*55.6\*\* minutes to  
9 15 minutes. New order entry utilizing reasonably well-designed systems and  
10 business processes in my experiences do not take this amount of time. Verizon  
11 proposes \*\*21.26\*\* minutes for error correction. I believe this is an unnecessary  
12 step. The order should have been reviewed as a part of the Production Order  
13 Entry with system edits doing the error correction task.

14  
15 I set the number of minutes for escalations and quality checks from <sup>✓</sup>\*\*98.36\*\*  
16 and <sup>✓</sup>\*\*29.35\*\* respectively to 0 in both instances. These business processes are  
17 an indication of failure on the part of the ILEC. These failures typically are  
18 records synchronization issues on a system-to-system basis or a mismatch  
19 between systems status and the actual status of the physical equipment and should  
20 not be paid for by the ALEC.

21  
22 For the disconnect portion of this ordering charge I changed the time required to  
23 enter a disconnect order from \*\*31.13\*\* minutes to 10 minutes. I made these

1 changes given that the Verizon study relied on unexplained time index  
2 calculations that also relied on productive minutes. The productive minutes were  
3 hard coded and no support was provided for this input, which was important to  
4 the calculations. As I have previously stated, disconnect order entry is a relatively  
5 simple task and involves little in building data bases or records entries, but is the  
6 process of removing existing service information from records which is by its  
7 nature a much less time intensive activity. Therefore, I believe 10 minutes is a  
8 reasonable time for disconnect entry.

9  
10 For the reason noted above for the new service order, I set both the error  
11 correction and quality check work times to zero from **\*\*21.26\*\*** minutes and  
12 **\*\*20.78\*\*** minutes respectively. Order entry tasks should be performed  
13 accurately with the first effort. Expensive follow-up tasks that are designed to  
14 ensure accuracy at a later point in the business process are inherently inefficient,  
15 and quality work should replace checks points in an efficient business process.

16  
17 For the record order function I set the minutes for manual receipt of an order from  
18 **\*\*8\*\*** minutes to 2 minutes. For order processing under the record order function  
19 I set the number of minutes from **\*\*43.44\*\*** minutes to 20 minutes for the 100%  
20 manual order. Records orders are one of the simpler orders to process, they  
21 require no actual work on the service delivered to the customer, but are designed  
22 to correct records issues relative to customer service. I further set the number of  
23 minutes from **\*\*43.44\*\*** minutes to 10 minutes for the semi-mechanized order

1 process. The semi-mechanized order process should be utilizing efficiencies  
2 gained from OSS that are designed to speed up tasks such as order processing.

3  
4 **Q. HOW DID THE CHANGES YOU DESCRIBED ABOVE IMPACT THE**  
5 **COST PROPOSED BY VERIZON FOR ORDERING A DS1/DS3 EEL?**

6 A. Verizon has proposed an ordering charge of **\*\*\$174.68\*\*** for ordering on a 100%  
7 manual basis. Given my changes I calculated a more appropriate order charge of  
8 \$45.01. Further, Verizon proposed a semi-mechanized ordering charge of  
9 **\*\*\$115.54\*\*** whereas based on my changes to the Verizon study I derive a charge  
10 of \$30.93.

11  
12 **Q. PLEASE DESCRIBE THE CHANGES YOU FOUND NECESSARY FOR**  
13 **THE SERVICE CONNECTION FOR AN INITIAL DS1 EEL?**

14 A. The first change I made was to change the service order entry time from  
15 **\*\*33.59\*\*** minutes to 10 minutes. I changed the facilities assignment for Hi-Cap  
16 prework from **\*\*95.27\*\*** minutes to 15 minutes. I further changed the local loop  
17 assignment time from **\*\*150\*\*** minutes to 10 minutes per occurrence.

18  
19 **Q. PLEASE EXPLAIN WHY YOU REDUCED THESE INPUTS.**

20 A. For the design group activities it must be recognized that, in essence, this is really  
21 not a designed circuit. Forward looking OSS support digital loop assignment and  
22 provisioning of loops for digital service. These forward-looking OSS improves  
23 efficiencies for order entries having qualified facilities inventoried and identified

1 as available for digital services, to increase provisioning efficiencies. For these  
2 same reasons, I have reduced the design group time from **\*\*106\*\*** minutes to 10  
3 minutes. I changed the Verizon estimate for testing from **\*\*79.69\*\*** minutes to  
4 15 minutes.

5  
6 **Q. WHY DID YOU REDUCE THE TESTING TIME BY ABOUT 80%?**

7 A. Modern test equipment is efficient and effective. The industry has designed an  
8 array of test equipment designed to meet the requirements of both ILECs and  
9 ALECs for testing both digital and analog circuits. A wide selection of multi-  
10 purpose test equipment is available to expedite testing. Because of the  
11 widespread availability and use of such equipment, I have lowered the testing  
12 time for EELs to 15 minutes

13  
14 For the central office portion of a service connection for a DS1 EEL, Verizon  
15 shows **\*\*4.42\*\*** hours of work. In my experience, establishing a DS1 service in  
16 the central office involves two to three cross connects. One cross connect on the  
17 MDF from DSX panel cross connect points to the facility, and one or two DSX  
18 panel cross connects, and a continuity test. This work can easily be accomplished  
19 in an hour. Therefore I changed the Verizon estimate of **\*\*4.42\*\*** hours to one  
20 hour.

21  
22 For the field work portion of a service connection for a DS1 EEL, Verizon  
23 suggests that **\*\*2.26\*\*** hours are required. In my experience, the field technician

1 would need to establish high frequency cross connects at the SAI or FDI and then  
2 deliver the service to the ALEC at the customer premise. This work should take  
3 no longer than 1.5 hours to complete.

4  
5 **Q. PLEASE DESCRIBE THE CHANGES YOU FOUND NECESSARY FOR**  
6 **THE SERVICE DISCONNECTION PORTION OF THE DS1 EEL**  
7 **SERVICE CONNECTION CHARGE.**

8 A. The first change I made was to change the service order entry time from  
9 **\*\*33.59\*\*** minutes to 10 minutes. I changed the facilities assignment for Hi-Cap  
10 prework from **\*\*95.27\*\*** minutes to 15 minutes. I further changed the local loop  
11 assignment time from **\*\*150\*\*** minutes to 10 minutes per occurrence.

12  
13 **Q. PLEASE EXPLAIN WHY YOU REDUCED THESE INPUTS.**

14 A. For the design group activities it must be recognized that, in essence, this is really  
15 not a designed circuit. . Forward looking OSS support digital loop assignment  
16 and provisioning of loops for digital service. These forward-looking OSS  
17 improve efficiencies for order entries by having qualified facilities inventoried  
18 and identified as available for digital services. For these same reasons, I have  
19 reduced the design group time from **\*\*106\*\*** minutes to 10 minutes. I changed  
20 the Verizon estimate for testing from **\*\*79.69\*\*** minutes to 15 minutes.

21  
22 **Q. WHY DID YOU REDUCE THE TESTING TIME BY ABOUT 80%?**

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2 array of test equipment designed to meet the requirements of both ILECs and  
3 ALECs for testing both digital and analog circuits. A wide selection of multi-  
4 purpose test equipment is available to expedite testing. Because of the  
5 widespread availability and use of such equipment, I have lowered the testing  
6 time for EELs to 15 minutes

7

8 For the central office portion of a service connection for a DS1 EEL, Verizon  
9 shows **\*\*4.42\*\*** hours of work. In my experience, establishing a DS1 service in  
10 the central office involves two to three cross connects. One cross connect on the  
11 MDF from DSX panel cross connect points to the facility, and one or two DSX  
12 panel cross connects, and a continuity test. This work can easily be accomplished  
13 in an hour. Therefore I changed the Verizon estimate of **\*\*4.42\*\*** hours to one  
14 hour.

15

16 For the fieldwork portion of a service connection for a DS1 EEL, Verizon  
17 suggests that **\*\*2.26\*\*** hours are required. In my experience, the field technician  
18 would need to establish high frequency cross connects at the SAI or FDI and then  
19 deliver the service to the ALEC at the customer premise. This work should take  
20 no longer than 1.5 hours to complete.

21

22 **Q. PLEASE DESCRIBE THE CHANGES YOU FOUND NECESSARY FOR**  
23 **THE SERVICE DISCONNECTION PORTION OF THE DS1 EELNRC.**

1 A. The first change I made was to reduce the service order entry time from  
2 **\*\*33.59\*\*** minutes to 10 minutes. I changed the local loop assignment from  
3 **\*\*6.5\*\*** minutes to zero as the service order entry process for disconnect  
4 automatically performs the local loop and facility assignment disconnect  
5 operations at disconnect.  
6  
7 For a disconnect for the design group, I changed the times from **\*\*106.77\*\***  
8 minutes to 0 given that once again the service order entry should automatically  
9 process this activity. There are no design requirements when a service is  
10 disconnected. The disconnect process, as mentioned previously is one of  
11 reestablishing the availability of circuit elements for reassignment.  
12  
13 For the central office disconnection times I changed Verizon's estimate in excess  
14 of **\*\*two hours\*\*** to 30 minutes. Central office disconnects consist of removing a  
15 physical and/or logical network element arrangement. This consists of physical  
16 connections or network element data build information. By its very nature,  
17 removal of these circuits is efficient. A technician identifies the circuit and its  
18 components from a disconnect order, which is a record of the original service  
19 installation, and removes physical connects or changes data entries in network  
20 elements to reflect the new circuit status.  
21  
22 For disconnection of the service by field personnel, Verizon claims that **\*\*1.05\*\***  
23 hours are required. I take issue with this estimate given that the only activity that



1 need occur is the removal of the high frequency cross connects. The time to  
2 accomplish this activity, including drive time, should not exceed 40 minutes.

3  
4 **Q. GIVEN THE CHANGES YOU HAVE MADE TO THE VERIZON NRC**  
5 **STUDIES FOR THE SERVICE CONNECTION FOR A DS1 EEL, HOW**  
6 **DID THIS EFFECT THE COSTS?**

7 A. For this activity, Verizon proposed a charge of \$\*\*931.87\*\*. The effects of my  
8 changes reduce the rate to \$294.11.

9  
10 **Q. MR. MORRISON, DID YOU PERFORM ANY RECALCULATIONS FOR**  
11 **THE NONRECURRING RATES AND CHARGES PROPOSED BY**  
12 **VERIZON FOR UNE PLATFORMS (UNE-P)?**

13 A. No, I did not. The reason I did not was because I had concerns with certain  
14 portions of the rate structure proposed by Verizon. More specifically, if an ALEC  
15 were to request a UNE-P migration on an "as is" basis where no specified changes  
16 were required, I can think of no reason why any service connection charges would  
17 apply. Hence, I did not audit Verizon's development of the service connection  
18 charges, because they should be set at zero.

19  
20 **Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

21 A. It is clear from my review that Verizon's NRC model suffers from many fatal  
22 flaws. The most egregious flaw is Verizon's failure to utilize simple and direct

1 time and motion studies to support the work times used to derive its cost  
2 estimates. This fundamental flaw undermines any reasonable use of the results.

3  
4 Where I have been able to recalculate more reasonable NRCs, the Commission  
5 should adopt the recalculated charges. For those NRCs that I have not been able  
6 to recalculate, the Commission should take into account the average  
7 overstatement inherent in Verizon's studies and reduce all order activity NRCs to  
8 50% of Verizon's proposed rates and all provisioning activity NRCs to 33% of  
9 Verizon's proposed rates.

10

11 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

12 **A. Yes.**