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RECEIVED
DEC 13 2004
PUBLIC SERVICE COMMISSION

December 13, 2004

Ms. Elizabeth O'Donnell
Executive Director
Public Service Commission
P.O. Box 615
Frankfort, KY 40602

RE: Administrative Case No. 382 – Direct Testimony of NuVox Communications

Dear Ms. O'Donnell:

Enclosed please find ten copies of the direct testimony of August H. Ankum, Ph.D., John Balke, and Sidney L. Morrison, on behalf of NuVox Communications, Inc. This direct testimony includes various references to Kentucky ALLTEL cost information for which ALLTEL has been granted confidential treatment. Accordingly, the testimony is marked as CONFIDENTIAL and should be withheld from public disclosure. A single, redacted version of the testimony is included for filing in the public file. Exhibits 1 through 3 are not confidential.

Exhibits 4 through 6 to the direct testimony are electronic spreadsheets (.xls). These exhibits include references to or are otherwise derivative of cost information ALLTEL has designated as confidential. Accordingly, we are filing these exhibits on a single CD marked as CONFIDENTIAL. Insofar as there is no way to effectively create redacted versions of the spreadsheets, we are not filing paper copies of these large exhibits. To the extent that the Commission needs paper copies of these exhibits our office will supply them on request.

The Commission's most recent procedural order directed that testimony was to be submitted by December 10, 2004. We served the testimony and exhibits electronically to Kentucky ALLTEL on that date. However, a redacted version of the testimony was not completed in time for mailing on Friday. Accordingly, we are filing the testimony one day late with a motion requesting an extension of time. Please indicate receipt of this filing by your office by placing a file stamp on the extra copy of this letter and returning to me via the enclosed, self-addressed, stamped envelope.

Sincerely,

Douglas F. Brent

Enc.

Cc: All parties of record

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

AN INQUIRY INTO THE DEVELOPMENT OF DE-AVERAGED RATES FOR UNBUNDLED NETWORK ELEMENTS	))))	**ADMINISTRATIVE CASE NO. 382**

DIRECT PANEL TESTIMONY

AUGUST H. ANKUM, PH.D.
JOHN BALKE
SIDNEY L. MORRISON

On behalf of

NuVox Communications, Inc.

December 10, 2004

PUBLIC VERSION
CONFIDENTIAL DATA IDENTIFIED AS ***___***

TABLE OF CONTENTS

Exhibits

I. INTRODUCTION

A. QUALIFICATIONS OF PANEL MEMBERS

Q. PLEASE STATE THE NAMES OF THE PANEL MEMBERS SUPPORTING THIS TESTIMONY?

A. The panel members supporting this testimony are Dr. August H. Ankum and Mr. John Balke.

1. Qualifications of August H. Ankum

Q. DR. ANKUM, PLEASE STATE YOUR NAME, OCCUPATION AND BUSINESS ADDRESS.

A. My name is Dr. August H. Ankum. I am a Senior Vice President at QSI Consulting, Inc., a consulting firm specializing in economics and telecommunications issues. My business address is 1261 North Paulina, Suite #8, Chicago, IL 60622.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND WORK EXPERIENCE.

A. I received a Ph.D. in Economics from the University of Texas at Austin in 1992, an M.A. in Economics from the University of Texas at Austin in 1987, and a B.A. in Economics from Quincy College, Illinois, in 1982.

My professional background covers work experiences in private industry and at state regulatory agencies. As a consultant, I have worked with large companies, such as

AT&T, AT&T Wireless and MCI WorldCom ("MCIW"), as well as with smaller carriers, including a variety of competitive local exchange carriers ("CLECs") and wireless carriers. I have worked on many of the arbitration proceedings between new entrants and incumbent local exchange carriers ("ILECs"). Specifically, I have been involved in arbitrations between new entrants and NYNEX, Bell Atlantic, US West, BellSouth, Ameritech, SBC, GTE and Puerto Rico Telephone. Prior to practicing as a telecommunications consultant, I worked for MCI Telecommunications Corporation ("MCI") as a senior economist. At MCI, I provided expert witness testimony and conducted economic analyses for internal purposes. Before I joined MCI in early 1995, I worked for Teleport Communications Group, Inc. ("TCG"), as a Manager in the Regulatory and External Affairs Division. In this capacity, I testified on behalf of TCG in proceedings concerning local exchange competition issues, such as Ameritech's Customer First proceeding in Illinois. From 1986 until early 1994, I was employed as an economist by the Public Utility Commission of Texas ("PUCT") where I worked on a variety of electric power and telecommunications issues. During my last year at the PUCT I held the position of chief economist. Prior to joining the PUCT, I taught undergraduate courses in economics as an Assistant Instructor at the University of Texas from 1984 to 1986.

A list of proceedings in which I have filed testimony is attached hereto as Exhibit - 1.

2. *Qualifications of John Balke*

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

A. My name is John Balke. I am a Senior Consultant in QSI's Telecommunications Division. My business address is 930 Wild Rose Court, Brookfield, Wisconsin 53045-5907.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND WORK EXPERIENCE.

A. Included with this testimony as Exhibit - 2 is a description of my educational background and relevant work experience. I received a Bachelor of Science degree in Electrical Engineering from Marquette University in 1981. I began my career in telecommunications at Wisconsin Telephone (ultimately Ameritech and then SBC) while in a college co-op program where I gained experience in several areas of engineering such as Long Range Planning and Transmission Engineering. After graduation, I accepted a full-time position with Wisconsin Telephone as a capacity planner for digital inter-office transmission facilities. After the Regional Bell Operating Companies ("RBOCs") were divested from AT&T in 1984, I worked for several years for AT&T managing network facility contracts. In 1986, I accepted a position in the Regulatory Department of Wisconsin Telephone as a Network Cost Analyst. Within the Regulatory Department I was tasked with performing cost studies for a number of services including fiber inter-office facilities, DS1s, and loops. In 1989, I was the lead cost analyst on a Wisconsin-specific team that was tasked with developing a loop cost model for Ameritech's Wisconsin services. In 1991, I moved to a similar position at Ameritech Services where I was ultimately promoted and accepted the responsibility for loop cost models for the entire Ameritech region. My primary responsibility during the next several years was the development of a suite of loop cost models that were used in developing UNE loop rates in all the Ameritech states.

I have also spent several months in Budapest Hungary as an Ameritech representative helping to develop loop costing methods and models for Ameritech's subsidiaries. I have managed teams of Cost Analysts both at Ameritech and at SBC after the merger of the two companies. At SBC, my team was responsible for developing the UNE loop cost studies in all the SBC states. I left SBC in 2000 to work as a Senior Consultant on telecommunications issues at TRAIAN Internet Products. I also worked as an independent Telecommunications Consultant on regulatory and cost model issues prior to my employment at QSI.

I have previously testified or provided testimony via affidavit in numerous cases on issues related to loop and transport-related costs.

3. Qualifications of Sidney L. Morrison

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

A. My name is Sidney L Morrison. My business address is 415 Planters Ridge Drive, Sunset Beach, North Carolina 28468.

Q. PLEASE SUMMARIZE YOUR PROFESSIONAL EXPERIENCE.

A. I have over 30 years of experience in the telecommunications industry. I began my telecommunications career in 1966 in Charlotte, North Carolina as a cable helper for Southern Bell Telephone and Telegraph. Southern Bell was an incumbent local exchange carrier managing numerous exchanges throughout North Carolina. My duties involved splicing underground, buried and aerial cable. I also worked as a switching technician and special services technician.

Beginning in August of 1970, I transferred to Mountain Bell in Denver, Colorado as a central office technician. In 1972, I was promoted to supervise main distributing frame operations. My duties included supervising the installation of POTS, Special Services, Central Office area cuts, main distribution frame replacements and many other projects. In 1980 and 1981, I performed time and motion studies for service provisioning on approximately 75 of Mountain Bell's MDF operations. These time and motion studies included components for jumper running and administrative activities on each of these frames. From 1983 until 1986, I was the switching control center and main distributing frame subject matter expert for U S WEST. In this position, I was responsible for staff level support for service provisioning and maintenance including the development of enhancements for operational support systems (OSS) supporting these activities. From 1986 until 1993, I was responsible for the U S WEST AMA ("Automatic Message Accounting") teleprocessing organization for the fourteen state U S WEST region.

In 1993, I retired from U S WEST and began contract engineering work and consulting. In 1995 I took an assignment in Kuala Lumpur, Malaysia as a contractor/consultant with a team of specialists to build a CLEC network consisting of a Global System for Mobile (GSM) communications services, fixed network services, cable television services and data services integrated into a common transport backbone.

I had a number of responsibilities in Malaysia, the most important of which was organizing and implementing a field operations group (FOG) that was responsible for the installation and maintenance of all fixed network and cable television services. My responsibilities included the planning, organizing, staffing and implementation of the FOG, including an installation and maintenance group, assignment center, dispatch center, test center and a repair center. I also had the responsibility of developing business processes and OSS system requirements for provisioning and maintenance supporting the FOG.

After launching the FOG, I managed the day-to-day operations of the department, ultimately refining the organization into an ISO 9002[1] qualified organization. In January 1997, the Binariang Maxis FOG became the first certified ISO 9002 service organization in Southeast Asia.

I returned from Malaysia in June of 1997 and worked for approximately two years as a contract outside plant/central office equipment (OSP/COE) engineer, and trained new engineers for U S WEST collocation efforts.

In May 1999, I accepted a contract in Switzerland building a new CLEC under the market name of diAx telecommunications. My responsibilities involved project management to establish OSS supporting all wireless, wireline, and data services offered by diAx. I also provided consulting services developing business processes supporting the establishment of the diAx Internet Provider Operations Center (IPOC) and diAx data services offerings. I established system requirements based on IPOC business processes for fault management systems, provisioning systems, capacity inventory systems, customer service inventory systems and workflow engines controlling overall maintenance and provisioning processes.

In December 2000, I returned from Switzerland and began working for QSI Consulting Inc. as a Senior Consultant. I provide telecommunications companies

[1] International Organization Standards, ISO 9002 is the standard set of requirements for an organization whose business processes range from, production, installation and servicing.

with engineering advice and counsel for direct network planning, management and cost-of-service support. My specific areas of expertise include network engineering, facility planning, project management, business system applications, incremental cost research and issues related to the provision of unbundled network elements.

A more comprehensive description of my work experience and educational background is included as Exhibit – 3 .

Q. MR. MORRISON, DO YOU BELIEVE YOU ARE QUALIFIED TO REVIEW KENTUCKY ALLTEL'S PROPOSED NONRECURRING COST STUDIES FOR PURPOSES OF EVALUATING THE REASONABLENESS OF THEIR UNDERLYING INPUTS AND ASSUMPTIONS?

A. Yes, I do. I have done exactly the work that is at issue in ALLTEL'S nonrecurring cost studies for more than 30 years. Likewise, I have managed hundreds of individuals doing this same work and labored to create processes and support systems aimed at doing it better, faster and more cost effectively. Indeed, as described above, I have created operational support systems and business processes from scratch and worked continuously with those organizations until they were certified under ISO Standards. Finally, I have conducted numerous time and motion studies within U S WEST, now Qwest, for many of the same activities at issue here.

B. PURPOSE OF TESTIMONY

Q. PLEASE STATE THE PURPOSE OF YOUR TESTIMONY.

A. The purpose our testimony is to examine the DS1 loop recurring and non-recurring rates and supporting cost studies and documentation provided by ALLTEL. While our focus is on the DS1 loop recurring and non-recurring rates, there are a number of issues and adjustments that also impact the costs and rates for other UNE loops and Interoffice Transport. All resulting rates of our adjustments and revisions of ALLTEL's studies are found in Exhibit – 4.

C. SUMMARY OF FINDINGS AND RECOMMENDATIONS

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. We have analyzed the costs studies and supporting documentation presented by ALLTEL in this proceeding. We have also issued discovery to further probe a number of relevant issues affecting the cost studies and specifically the DS1 loop rates. All information was reviewed in light of the FCC's TELRIC methodology as defined in its *Local Competition Order*.[2] (We identify the pertinent TELRIC principles that form the basis of our review below.)

Our main concerns with ALLTEL's cost studies relate to the following:

-- Deprecation lives

-- Cost of capital

[2] FCC's First Report and Order, CC Docket No. 96-98, released August 8, 1996. ("*Local Competition Order*")

-- Cost Factors: Direct Expense factor and Common Cost factor

-- DS1 Study/Network Design assumptions in ALLTEL's study

-- Fill factor assumptions

-- Activity Times for Non-Recurring studies

We will discuss each of these issues in detail and recommend appropriate revisions and adjustments.

Q. HAVE YOU RECALCULATED REVISED STUDIES AND RATES?

A. Yes. A revised study and recalculated rates proposed by NuVox are found in Exhibit 4, attached hereto. (Summary results are provided below.)

Q. WHAT ARE YOUR RECOMMENDED RATE ADJUSTMENTS?

A. In view of the many deficiencies in ALLTEL's cost models, we recommend that the Commission reject ALLTEL's proposed rates. Further, we recommend that the Commission adopt our recommended changes to ALLTEL's models and approve the following recurring loop rates.

Table: QSI Revised Recurring Loop Rates

	Recurring Monthly Costs Zone 1	Zone 2	Zone 3
UNE-P			
2W Analog Loops w/o Switching	$17.06	$23.71	$34.52
Loop (excluding NID)			
2W Switched Loops	$13.26	$18.68	$28.49
2W Analog Loops	$13.26	$18.68	$28.49
4W Analog Loops	$25.86	$36.54	$55.57
2W Digital Loops	$15.23	$21.14	$32.71
4W Digital Loops	$31.78	$43.91	$68.22
DS0 Local Loops	$26.52	$37.36	$56.98
DS1 Local Loops	$63.34	$83.20	$135.68
DS3 Local Loops	$279.44	$221.05	$0.00
NID			
NID – 2 Lines	$0.71	$0.71	$0.71
NID – 6 Lines	$0.82	$0.82	$0.82

Again, the main focus of our testimony is on the DS1 loop. However, a number of adjustments will automatically impact the other recurring loop and interoffice transport rates as well.

Further, as will be discussed in detail, we recommend that the Commission reject ALLTEL's non-recurring loop conditioning charges. First, the loop conditioning charges are inconsistent with the notion that cost studies be based on a newly constructed network under TELRIC. That is, NuVox will be paying ALLTEL recurring charges for newly constructed DS1 loops. To add to those charges loop conditioning charges means (a) the recurring charges are overstated because NuVox does not really get a functioning DS1 loop, and/or (2) there is a double recovery of certain costs on the part of ALLTEL. In a sense, ALLTEL's proposed rates are like charging a price as if the customer gets a new car but adding additional charges for fixing the car so that it can actually be driven out of the dealership. This is wrong. We recommend that the Commission reject the loop-conditioning charges outright as being inconsistent with TELRIC.

However, if the Commission rejects this recommendation, then a number of other adjustments are still in order. Specifically, ALLTEL's activity times that underlie the loop conditioning costs and rates are grossly inflated. We identify certain necessary adjustments and recalculate more appropriate loop conditioning charges. In the event that the Commission rejects our recommendation that the loop conditioning charges are inappropriate, we recommend that the Commission adopt the following revised rates:

Table: NuVox Revised Loop Conditioning Rates

	Description	**PRI-ISDN / DS-1 2 Wire**	**PRI-ISDN / DS-1 4 Wire**
	(a)	(k)	(l)
	<u>RATE SUMMARY:</u>		
1.	Inquiry Fee	$0.00	$0.00
2.	Base Conditioning Fee	$41.34	$41.34
3.	Per Bridge Tap or Load Coil Removed, or Cable or Terminal Throw	$36.89	$36.89
4.	Per Repeater	$36.89	$36.89
5.	Per Repeater Shelf	$36.89	$36.89
6.	Per Repeater	$22.06	$22.06

Again, all rates, calculations, adjustments and revisions to ALLTEL's studies are found in Exhibit – 4.

II. COST PRINCIPLES

A. TELRIC PRINCIPLES

Q. PLEASE DISCUSS THE GENERAL COSTING PRINCIPLES BY WHICH ALLTEL'S COST STUDIES SHOULD BE EVALUATED.

A. In general, ALLTEL's cost studies should be reviewed in light of the FCC's TELRIC principles, as defined in the FCC's *Local Competition Order*, and the Commission's own determinations in the earlier phases of this proceeding.

The pertinent TELRIC principles can be summarized as follows:

Principle # 1: *The firm should be assumed to operate in the long run.*

Principle # 2: *The relevant increment of output should be total company demand for the unbundled network element in question.*

Principle # 3: *Technology choices should reflect least-cost, most efficient technologies.*

Principle # 4: *Costs should be forward-looking.*

Principle # 5: *Cost identification should follow cost causation.*

While these principles do not appear verbatim in the FCC's Local Competition Order, we believe that they accurately summarize the FCC's TELRIC methodology.

In addition to these TELRIC principles, the FCC also noted the following:

1. An incumbent LEC must prove to the state commission that the rates for *each element it offers do not exceed the forward-looking economic cost* per unit of providing the element.[3]

2. The ILEC has the burden of proof since "incumbent LECs have greater access to the cost information necessary to calculate the incremental cost of the unbundled elements of the network.[4]" In view of the "asymmetric access to cost data," the FCC notes that "incumbent LECs must *prove* to the state commission the nature and magnitude of any forward-looking cost that it seeks to recover in the prices of interconnection and unbundled network elements.[5]"

3. Cost models should be transparent, open and verifiable by Commissions and intervenors.[6]

In our review of the cost studies, we will refer back to these basic but essential cost study principles and requirements.

Q. THE FCC NOTED THAT COST MODELS SHOULD BE TRANSPARENT, OPEN AND VERIFIABLE. WHY IS THIS SO IMPORTANT?

A. First, it allows the cost analyst to better understand how the model calculates costs and all the assumptions that are implied in the model. By analogy, it is one thing to read a description of an internal combustion engine; it is another to open the hood of a car and to work on the engine. With respect to ALLTEL's models and studies, this means that costs analysts should be able to check all underlying *assumptions* about cost causation against the *reality* of the company's vendor contracts and operations.

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3 FCC's *Local Competition Order*; See 47 CFR § 51.505 (e).
4 Id, paragraph 680.
5 Id, paragraph 680.
6 The FCC also directed that in cases to be arbitrated by the FCC, involving Verizon and three CLECs, computerized cost models "must be submitted in a form that allows the Arbitrator and the parties to alter inputs and determine the effect on cost estimates." Procedures Established for Arbitration of Interconnection Agreements Between Verizon, AT&T, Cox, and WorldCom, DA 01-270 (February 1, 2001), Paras. A.2.1.i; A.3.1.c.

While ALLTEL's switching models are generally open to inspection, there are still a large number of instances where data and calculations are unsupported and remain unsupported even after NuVox has asked for clarification and support in data requests.

III. GENERAL COMMENTS ON ALLTEL'S COST MODELS

Q. NUVOX ASKED ALLTEL[7] TO PROVIDE A LIST OF STATE COMMISSIONS THAT APPROVED THE USE OF ALLTEL'S COST STUDY FOR SETTING UNE RATES. ALLTEL STATED THAT "NEW YORK APPROVED THE MODEL'S METHODOLOGY," AND THE NEBRASKA CASE WAS PENDING. PLEASE COMMENT.

A. We believe that ALLTEL's response is somewhat misleading. The New York Public Service Commission[8] pointed to a number of serious deficiencies in ALLTEL's study concerning network design, fill factors, maintenance cost, depreciation, levels of demand and engineering support for the study:

> ALLTEL's TELRIC study is not adequately supported and does not conform to approved technologies. As Staff and Fairpoint noted, the ALLTEL TELRIC study is premised upon methods we previously disavowed, or criteria we have adopted in other generic proceedings. The deficiencies in the TELRIC study relate to depreciation rates, operating costs as adjusted to reflect maintenance associated with new plant, and the use of a network construct that includes the most

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[7] ALLTEL's Reponse to NuVox Data Request 5. In this response ALLTEL also explained that UNE pricing was not an issue in Pennsylvania, the third state where the model was also filed.

[8] ALLTEL's Follow-Up Response to NuVox Data Request 5 indicated the docket number for the referenced New York case as Case No. 99-C-1337.

> forward-looking, efficient network. ALLTEL failed to produce and sponsor the engineering study used to compute the forward-looking network. Also, ALLTEL's level of demand used in the study was not explained fully and could be inappropriate if current demand were used. Finally, Staff noted the fill factors used in ALLTEL's study do not compare with those used in other studies. This may result in overstatement of the cost of the network required to account for spare capacity and an inflated unbundled loop rate. ALLTEL has not met its burden.[9]

Based on its review and analysis, the New York Commission ordered ALLTEL to file a corrected study.[10]

The Nebraska Public Utilities Commission actually rejected ALLTEL's cost study in favor of an averaging methodology that uses results of established cost models – the HAI, the FCC Synthesis Model and the BCPM.[11] The matter is being considered pending because of the uncertainty caused by the decision of the D.C. Circuit Court,[12] as explained in the recently released Nebraska Commission's Annual Report to the Legislature.[13]

IV. DEPRECIATION LIVES

Q. PLEASE SUMMARIZE THIS SECTION OF YOUR TESTIMONY.

A. We identified three areas in which we make adjustments to ALLTEL's proposed depreciation rates. First, ALLTEL's proposed depreciation life for the Network

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9 New York PSC Case No. 99-C-1337 *Order* issued on 6/6/2000, page 10 (footnotes – all referring to sources – are omitted).

10 Id., page 10.

11 Nebraska PUC *Order Adopting Averaging Methodology*, Application No. C-3012, May 18, 2004.

12 March 2, 2004 decision in USTA vs. FCC (359 F.3d).

13 Nebraska PUC *2004 Report on Telecommunications,* September 30, 2004, page 10.

Interface Device (NID) is too low and inconsistent with ALLTEL's other proposed lives. Second, because of the way ALLTEL's model is structured, the depreciation life of underground cable applies not only to underground cable, but also to conduit investments despite the fact that conduit has a significantly longer life. Third, ALLTEL's study does not contain depreciation lives for a number of network components (such as conduit and poles) and plant non-specific investments (such as land and buildings). We need these depreciation lives to restate ALLTEL's cost factors, as we describe below in the corresponding section of our testimony. In such cases where depreciation lives are missing, we used depreciation lives and salvage values approved by the Commission for BellSouth.[14] This is reasonable since it generally concerns the same facilities and there is no reason why the Commission would approve the use of different lives for the same facilities just because they may be owned by ALLTEL rather than by BellSouth.

Q. WHAT IS THE SOURCE OF ALLTEL'S PROPOSED DEPRECIATION LIVES?

A. "ALLTEL's TELRIC Procedures" document briefly mentions that these lives are based on those utilized in ALLTEL's non-regulated operations.[15] ALLTEL's response to NuVox Data Request 7 further clarified that "non-regulated" operations used to determine depreciation lives were *wireless* operations. ALLTEL did not explain how it determined depreciation lives of "purely wireline" components of the

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14 KPSC Administrative Case No. 382 Appendix C to Order dated December 18, 2001.
15 File *ALLTEL TELRIC Procedures.doc*, page 5, item 4.g.

network such as the Network Interface Device (NID)[16] and other premise termination equipment.

Q. HOW DO YOU EVALUATE ALLTEL'S ASSUMPTION ABOUT THE DEPRECIATION LIFE OF THE NID?

A. ALLTEL's study assumes that the adjusted depreciation life of the NID (net of salvage) is *** [redacted] **years** ***.[17] This number appears to be too low, especially when compared to ALLTEL's proposed depreciation lives of metallic cable accounts *** [redacted] **years** *** with which the NID is associated. Industry cost models typically annualize NID/premise termination investments by applying depreciation lives of metallic cables. For example, the HAI calculates the depreciation life applicable to the NID as an average of depreciation lives of aerial and buried metallic cables.[18] Similarly, SBC's LoopCAT[19] and Qwest's LoopMod[20] assign premises termination investment to buried and aerial metallic cable categories. The FCC Synthesis model does not explicitly associate depreciation life of NID investments with cable investments, but assumes that the adjusted projected life for the NID is 19 years.[21]

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16 NID represents a demarcation point between customer's wiring and the carrier's distribution plant.

17 File KAUNEw1.xls, sheet 'Material Factors,' cells Q22:Q24.

18 HAI Model 5.3, Expense Module R53_expense_wirecenter.xls, sheet 'Inputs,' cell K25.

19 See public exhibit *JRS-5 LoopCAT Documentation*, page 26, section "Premises Terminations" to Direct Testimony of James Smallwood on behalf of SBC Wisconsin filed in Wisconsin case 6720-TI-187 on March 12, 2004.

20 See *LoopMod3.xls* of Qwest's ICM filed publicly in Oregon docket UM1025 on September 2, 2003.

21 *Tenth Report and Order*, CC Dockets No. 96-45 and 97-160, adopted October 21, 1999, (*Inputs Order), Appendix A.*

We propose to set the depreciation life of the NID in ALLTEL's cost study equal to the depreciation rates of metallic cables, which would be consistent with the industry practice of cost modeling and would present a more accurate projection for the life of NID equipment.

Q. HOW DO YOU EVALUATE ALLTEL'S OTHER PROPOSED DEPRECIATION LIVES?

A. As the table below demonstrates, ALLTEL's proposed depreciation lives are somewhat low: only for four out of ten accounts do ALLTEL's lives fall within the range, and for two of these accounts – aerial fiber and buried metallic cable – they barely clear the lower boundary of the FCC range.

[*** [redacted] ***]

Table: Comparison of ALLTEL's Proposed Depreciation Lives with the FCC Ranges

		FCC Range		FCC Range		**FCC Range**		**ALLTEL'S Proposed**	
		Projection Life		Future Net Salvage (%)		**Adjusted Life***		**Adjusted Life****	**Within FCC Range**
Account		Low	High	Low	High	**Low**	**High**		
2212	Digital switching	12	18	0	5	**12.0**	**18.9**	[redacted]	No
2232	Digital circuit	11	13	0	5	**11.0**	**13.7**	[redacted]	No
2411	Poles	25	35	-75	-50	**14.3**	**23.3**	**effectively [redacted] years (aerial)**	Yes
2421	Aerial cable - met	20	26	-35	-10	**14.8**	**23.6**	[redacted]	Yes
2421	Aerial cable - fiber	25	30	-25	-10	**20.0**	**27.3**	[redacted]	Yes
2422	U/G cable – met	25	30	-30	-5	**19.2**	**28.6**	[redacted]	No
2422	U/G cable – fiber	25	30	-20	-5	**20.8**	**28.6**	[redacted]	No
2423	Buried cable - met	20	26	-10	0	**18.2**	**26.0**	[redacted]	Yes
2423	Buried cable – fiber	25	30	-10	0	**22.7**	**30.0**	[redacted]	No
2441	Conduit systems	50	60	-10	0	**45.5**	**60.0**	**effectively [redacted] years (U/G)**	No

* - Calculated from the FCC values for projection lives and net salvage from FCC Docket No. 92-296 Orders released 6/28/94 and 5/4/95, and Docket No. 98-137 Order released 12/30/99. Adjusted Life = Projection Life/(1- Net Salvage/100)

** - Source: ALLTEL's study file KAUNEw1.xls, sheet 'Material Factors,' column (q). Note: net salvage values are set to zero throughout the study.

[*** [redacted] ***]

Q. PLEASE EXPLAIN HOW YOU DETERMINED ALLTEL'S PROPOSED LIVES FOR POLES AND CONDUIT.

A. ALLTEL's Excel study *KAUNEw1.xls* does not contain explicit investments or depreciation lives for conduit and poles. However, the narrative in "ALLTEL's TELRIC Procedures,"[22] as well as the review of the printouts of the backup documents[23] show that conduit is modeled in the Excel study as part of underground investments, and poles – as part of aerial investments. Because depreciation expense is calculated within this study, the effective depreciation life that is being applied to the conduit account is the life of underground cable, and for poles – the depreciation life of aerial cable.

Q. THE FCC RANGE SUGGESTS THAT CONDUIT SHOULD HAVE SIGNIFICANTLY HIGHER DEPRECIATION LIVES THAN UNDERGROUND CABLE. HAS THE COMMISSION MADE A SIMILAR CONCLUSION?

A. Yes, it did. In the BellSouth phase of this UNE rate case the Commission approved depreciation lives and salvage values that produce a 50 year adjusted life for conduit, and much lower adjusted lives for underground cable – 15.8 for metallic and 17.5 for non-metallic.[24]

Q. WHAT IS THE IMPACT OF ALLTEL'S TREATMENT OF CONDUIT AS PART OF UNDERGROUND INVESTMENT?

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22 File *ALLTEL TELRIC Procedures.doc*, page 9, item D.6.

23 Tab BL.

24 KPSC Administrative Case No. 382 Appendix C to Order dated December 18, 2001. Adjusted lives calculated from the Commission approved lives and net salvage values as Adjusted Life = Life/(1- Net Salvage/100).

A. This treatment effectively understates depreciation lives of conduit. Clearly, this understatement results in an overstatement of depreciation expenses and total costs. Because ALLTEL's study does not provide a split between conduit and "purely" underground cable TELRIC investments, we can only approximately calculate the degree of overstatement by using the accounting data (where conduit and underground cable investments are booked under separate accounts).

We propose to correct this overstatement by calculating weighted average depreciation lives – lives that accommodate the logic of ALLTEL's model where underground cable and conduit investments are combined. The following table illustrates this calculation, which adopts the BellSouth Commission approved life of conduit.

[* BEGIN CONFIDENTIAL ***]**

Table: Calculation of the Weighted Average Conduit/Underground Cable Depreciation Life

	% in Booked Investments (at Current Values)*	**Adjusted Life Net of Salvage**	**Source for Adjusted Life**
U/G cable	[redacted]	[redacted]	ALLTEL Proposed
Conduit	[redacted]	50.00	BellSouth KPSC Approved
Combined Conduit and U/G Cable	100%	29.75**	Weighted Average

* -- Based on booked ALLTEL investments from KAUNEs1.xls sheet 'Accounts.' Adjustment to current values is described in section on direct expense factors.

** -- Weighted average life 29.75 = [redacted] * [redacted]+ 35% * 50.00

[* END CONFIDENTIAL ***]**

In this table a combined adjusted life of conduit and underground cable investments is calculated as a weighted average of conduit life and underground metallic cable life with weights being the relative proportions of conduit and underground cable in ALLTEL's booked investment data.[25] This combined life is applied to the model's TELRIC investments for underground metallic cable –sheet 'Loop UG Copper.'

Q. SHOULD ANY OTHER DEPRECIATION LIVES BE ADJUSTED TO ACCOUNT FOR THE SPECIFIC STRUCTURE OF ALLTEL'S STUDY?

A. Yes. Conduit would also appear in fiber loop investments of ALLTEL's sheet 'Loop Fiber Cable' and interoffice fiber investments of sheet 'Transport Facility.' The calculation of the weighted average would be slightly different because fiber is not split by cable type (underground, aerial and buried) in ALLTEL's study. Therefore, conduit would constitute a much smaller portion of total fiber cable investments (underground, aerial and buried cable, conduit and poles), and the resulting upwards adjustment in the combined depreciation life would be smaller than for copper underground loop. The resulting depreciation life of fiber investments that weighs depreciation lives of fiber cable and conduit is only slightly higher than the depreciation life of fiber cable itself – *** [redacted] **years** *** compared to ALLTEL's proposed value for fiber cable – *** [redacted] **years** ***.[26]

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[25] In our adjustment of depreciation lives we assume that 50% of cable investment (including conduit) is associated with fiber and 50% -- with copper. ALLTEL uses the same assumption when calculating direct expense factors.

[26] Detailed calculations are contained in sheet '*QSI Weighted Average Lives*' of the restated cost study Exhibit – 4.

The following table summarizes our adjustments to depreciation lives used in ALLTEL's study.

[* BEGIN CONFIDENTIAL ***]**

Table: NuVox Proposed Depreciation Lives

ALLTEL's Investment Category	ALLTEL's Proposed[27]		NuVox Proposed		
	Depreciation Life	Salvage Value	Depreciation Life	Salvage Value	Comment
Loop Aerial Cable	[redacted]	0	*ALLTEL's Proposed*		
Loop U/G Cable	[redacted]	0	29.75	0	accounts for conduit
Loop Buried Cable	[redacted]	0	*ALLTEL's Proposed*		
Loop Aerial Drop	[redacted]	0	*ALLTEL's Proposed*		
Loop Buried Drop	[redacted]	0	*ALLTEL's Proposed*		
Loop Copper Equipment	[redacted]	0	*ALLTEL's Proposed*		
Loop Fiber Cable	[redacted]	0	21.08	0	accounts for conduit
Loop Fiber Equipment	[redacted]	0	*ALLTEL's Proposed*		
Loop Port	[redacted]	0	*ALLTEL's Proposed*		
End Office Switching	[redacted]	0	*ALLTEL's Proposed*		
SS7 Signaling Switching	[redacted]	0	*ALLTEL's Proposed*		
Tandem Switching	[redacted]	0	*ALLTEL's Proposed*		
IX Transport Facility	[redacted]	0	21.08	0	accounts for conduit
IX Transport Termination	[redacted]	0	*ALLTEL's Proposed*		
NID	[redacted]	0	19.00	0	set to copper cable

[* END CONFIDENTIAL ***]**

Q. HAVE YOU APPLIED THE AFOREMENTIONED CHANGES IN YOUR REVISED COST STUDY?

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27 ALLTEL's study file KAUNEw1.xls, sheet 'Material Factors,' column (q).

A. Yes. All of the aforementioned recommendations have been incorporated in our restatement of ALLTEL's cost study, as found in our Exhibit 4.

V. COST OF CAPITAL

Q. DO YOU AGREE WITH ALLTEL'S PROPOSED COST OF CAPITAL USED IN ITS UNE STUDY?

A. No, we do not. ALLTEL uses a value of [*** [redacted]***], which is marked in its UNE study as "interstate rate of return."[28] The same study also lists "intrastate" and "composite" rates of return, with the composite rate being [*** [redacted]% ***].[29] Further, ALLTEL's collocation study filed in this case utilizes the composite rate of return – [*** [redacted]% ***].[30] The composite rate is closer to the cost of capital that the Commission approved in the same proceeding for BellSouth – 10.67%.[31] We propose that the composite rate of return be used in ALLTEL's UNE study.

Note that our proposed cost of capital is somewhat conservative if compared to the levels approved in recent state TELRIC proceedings. For example, in November 2004 the Ohio Commission adopted a 9.02% cost of capital for SBC.[32] In two other

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[28] File KYUNEw1.xls global variable RoR (from sheet "Main Menu" cell O49) and sheet "Cost Factors" cell G46.
[29] File KYUNEw1.xls sheet "Cost Factors" cell G45.
[30] File KYA_ColocationCosts.xls sheet "Factors" cell B36.
[31] KPSC Administrative Case No. 382 *Order* dated December 18, 2001, page 26.
[32] PUCO case No. 02-1280-TP-UNC *Opinion and Order* 11/3/04, page 72.

SBC UNE cases where the state commissions issued decisions within the last three months Michigan adopted a 10.6% value, and Wisconsin – 10.77%.[33]

Q. HAVE YOU APPLIED YOUR RECOMMENDED COST OF CAPITAL IN THE REVISED COST STUDY?

A. Yes. Our recommended cost of capital has been incorporated in our restatement of ALLTEL's cost study, as found in our Exhibit 4.

VI. COST FACTORS

Q. PLEASE PROVIDE A BRIEF DESCRIPTION OF COST FACTORS USED IN ALLTEL'S STUDY.

A. There are two major groups of cost factors in ALLTEL's study: *direct expense factors* recover maintenance and joint expenses, while the *common cost factor* recovers shared and common, as well as general support assets. A portion of support assets – switch support assets – is recovered through a separate percentage that is added to the direct expense factor of switching equipment.[34]

A. <u>DIRECT EXPENSE FACTOR</u>

Q. WHAT IS THE MAIN PROBLEM WITH ALLTEL'S CALCULATION OF MAINTENANCE FACTORS?

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33 MPSC Case U-13531 *Opinion and Order*, 9/21/04 page 13; PSCW Case 6720-TI-187 *Final Decision*, 10/13/04, page 5.

34 Sheet *'Cost Factors'* of ALLTEL's study file KAUNEw1.xls provides a summary of these factors.

A. ALLTEL calculates them from its accounting data as a ratio of booked expense to *booked* investment. For example, the switching maintenance factor is a ratio of dollar amounts booked to switching expense and investment accounts. Note that expense accounts represent current year's expenses, while investment accounts reflect purchases of equipment made *in different years at different prices*. At the same time ALLTEL applies these maintenance factors to forward-looking investments, which in ALLTEL's own words are "re-priced"[35] using current vendor prices. Given that telecommunications equipment has relatively long depreciation lives, and prices for this equipment have been changing noticeably over the years, *booked* investments do not properly measure the value of this equipment at current prices.

Q. HOW DO INDUSTRY COST MODELS ADJUST BOOKED INVESTMENTS TO PROPERLY MEASURE THEIR CURRENT VALUE?

A. Cost models typically utilize "Current Cost to Booked Cost" (CC/BC) ratios that translate booked costs into current prices. ILECs calculate these ratios from their internal investment vintage data and industry-wide Telephone Plant indices. Although these ratios are LEC-specific because they depend on the individual LEC's distribution of investment by vintage year, certain common trends are expected. For example, for switching this ratio is expected to be less than one (indicating that the restatement of booked investment to current cost would result in a lower value) because switch prices have trended down. Network components with particularly

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[35] File *ALLTEL TELRIC Procedures.doc*, page 2, item B.1.

long depreciation lives, such as buildings, poles and conduit, are expected to have higher current values than booked values due to the cumulative effect of inflation.

Q. HOW DO YOU PROPOSE TO ADJUST ALLTEL'S BOOKED INVESTMENT VALUES TO CURRENT COSTS?

A. Because ALLTEL has not provided its CC/BC ratios, we propose to use a surrogate measure – publicly available CC/BC ratios set by the FCC in its *Inputs Order*.[36]

Q. WHAT IS THE EFFECT OF THIS ADJUSTMENT ON THE DIRECT COST FACTORS?

A. Through its effect on the denominator of cost factors, this adjustment reduces joint expense factors and maintenance factors for copper and fiber cable. At the same time maintenance factors for switching and circuit equipment increase. The cumulative effect on the direct expense factors (maintenance plus joint expense factors) is a reduction, with the exception of switching.

B. COMMON COST FACTOR

Q. GENERAL SUPPORT FACILITIES (GSF) CONSTITUTE A SIGNIFICANT PORTION OF COMMON COSTS IN ALLTEL'S STUDY. HOW DID ALLTEL DERIVE THE COSTS OF GENERAL SUPPORT FACILITIES?

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36 *Tenth Report and Order*, CC Dockets No. 96-45 and 97-160, adopted October 21, 1999, (*Inputs Order*), *Appendix D.*

A. ALLTEL's UNE study calculates total general support costs as operating expense times a hard-coded "GSF percentage." Derivation of the GSF percentage is in a separate study – ALLTEL's Annual Cost study, which ALLTEL provided in a recent response to NuVox's follow-up questions.[37] Note that general support facilities represent over [*** [redacted] ***][38] of the common costs in ALLTEL's UNE study.

Q. DO YOU AGREE WITH ALLTEL'S DERIVATION OF THE GSF PERCENTAGE IN ITS ANNUAL COST STUDY?

A. No, we do not agree for one main reason: the Annual Cost study contains conflicting data for GSF investments. In fact, the value used to derive the GSF percentage is higher than the amounts of GSF investments used elsewhere in the same study.

Q. PLEASE EXPLAIN THIS STATEMENT IN MORE DETAIL.

A. The Annual Cost study contains accounting data[39] on the level of 4-digit accounts, including all "general support accounts."[40] These accounts are labeled "GSF," and their sum is labeled as "GSF.TOTAL." This amount is then used to calculate building investments and switch building investments.

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37 File *KYA_ANNUALCOST.xls* provided in response to NuVox follow-up to NuVox data request 18.

38 Compare lines 23 and lines 38 in column (d) of sheet *'Common Costs'* in ALLTEL's study file KAUNEw1.xls.

39 File KYA_ANNUALCOST.xls, sheets "P36Results_KYC" and "P36Results_KYG." The two sheets correspond to formerly Contel and GTE exchanges.

40 Accounts of 21XX series: 2111 Land, 2112 Motor Vehicles, 2113 Aircraft, 2114 Special Purpose Vehicles, 2115 Garage Work Equipment, 2116 Other Work Equipment, 2121 Buildings, 2122 Furniture, 2123 Office Equipment and 2124 General Purpose Computers.

Different sheets of the same study calculate GSF percentage. As a source of GSF investments, these calculations utilize a single[41] number labeled "2100 GSF Investment"[42] – with no split of the total between 4-digit accounts, such as Land, Furniture or Buildings. This total is [*** [redacted] ***] times higher than the total GSF investments from the detailed accounting data.

Further, we compared the above described data with the accounting data contained in the UNE study for the same time period.[43] It turns out that the detailed accounting data in the Annual Cost study closely matched the accounting data from the UNE study, and both diverged significantly from the "2100 GSF Investment" total used to calculate the GSF percentage. Table below summarizes this comparison. Note that the GSF expense amounts match perfectly across all three sources.

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41 There is one entry for formerly Contel exchanges, and another for GTE exchanges.

42 File KYA_ANNUALCOST.xls, sheet "Accounts", row 9.

43 Annual Cost study reflects the 3rd quarter of 2003. UNE study contains monthly data for 12 months in 2003.

[*** [redacted] ***]

Table: Discrepancy in General Support Facilities Investment Amounts

(3rd Quarter 2003, ALLTEL KY Total)

Row	Study	Exact Source	Level of Detail	21XX series accounts	61XX series accounts
				GSF Investment	GSF Expense
1	UNE study *KAUNEw1.xls*	*	7-digit accounts	[redacted]	[redacted]
2	Annual Cost Study *KYA_ANNUALCOST.xls*	**	4-digit accounts	[redacted]	[redacted]
3	Annual Cost Study *KYA_ANNUALCOST.xls*	***	one entry	[redacted]	[redacted]
	Ratio of rows (3) to (2)			**1.36**	

* -- Sheet "Accounts," sum(L66:194) + sum(L867+l896)

** -- Sheets "P36Results_KYC" and "P36Results_KYG," cells E175.

*** -- Sheet "Accounts," cells M9 and N9.

[*** [redacted] ***]

Q. HOW WOULD THE GSF PERCENTAGE CHANGE IF THE COMMISSION RELIES ON THE DETAILED ACCOUNTING DATA TO DERIVE TOTAL GSF INVESTMENT?

A. The GSF percentage would decrease from [*** [redacted] ***] to [*** [redacted] ***].[44] In the common cost study this would translate to a [*** [redacted] ***] reduction of general support common costs – from [*** [redacted] ***] to [*** [redacted] ***].[45]

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44 Support asset percentage is in cell L20 of file *KYA_ANNUALCOST.xls* sheet "Support Asset" Calculated by revising the following formulas in file *KYA_ANNUALCOST.xls*. In sheet "Kentucky-Contel:" a) cell C79 is set to cell E175 of sheet "P36Results_KYC," and b) cells D79 through J79 are calculated as cell C79 times D78 through J78 correspondingly. Similarly, in sheet "Kentucky-GTE:" a) cell C79 is set to cell E175 of sheet "P36Results_KYG," and b) cells D79 through J79 are calculated as cell C79 times D78 through J78 correspondingly.

45 File KAUNEw1.xls, sheet "Common Costs:" value is cell E32 (line 23) is recalculated by adjusting GSF percentage in cell E31 (line 22).

Q. DO YOU PROPOSE TO USE THIS RECALCULATED PERCENTAGE IN YOUR RESTATEMENT OF ALLTEL'S COMMON COST STUDY?

A. No. We choose a different approach for two reasons. First, we derive the GSF costs directly within the UNE study from the accounting data – this makes our restated study transparent and easier to audit than ALLTEL's approach. Second, ALLTEL's Annual Cost study that calculates the GSF percentage is based on a 3-month time period and as such, does not match the time period of the UNE study (12 months of 2003). Further, a shorter time frame of ALLTEL's Annual Cost study makes it more susceptible to short-time fluctuations, which in this particular case produce higher GSF costs than the annual data. The following table illustrates this point: we "annualize" the 3rd quarter GSF data (through a multiplication of expenses by a factor of four) and compare them to the "true" annual 2003 data. As the table demonstrates, GSF costs were higher in the 3rd quarter of 2003 compared to the 2003 year as a whole, particularly GSF expenses.

[* BEGIN CONFIDENTIAL ***]**

Table: Overstatement of 2003 GSF Costs in a Study That Relies on the 3rd Quarter Data[46]

Row	Time Period	21XX series accounts	61XX series accounts
		GSF Investment	GSF Expense
1	3rd Quarter 2003 Annualized	[redacted]	[redacted]
2	2003 Annual	[redacted]	[redacted]
Overstatement (row 1 minus row 2)		$ 846,200	$ 7,788,371

[* END CONFIDENTIAL ***]**

46 Summarized from accounting data in file KAUNEw1.xls, sheet "Accounts."

Q. HOW DO YOU DERIVE GSF COSTS IN YOUR RESTATED COMMON COST STUDY?

A. We start with the annual accounting data as summarized in the table above. We bring investment amounts to current prices by applying the "current cost to booked cost" ratios – an adjustment discussed above in the section on direct cost factors. We then calculate capital annual cost (depreciation, return and income tax) using the same methodology and formulas as ALLTEL's UNE study.[47] We add together GSF annual capital costs and expenses. Finally, we subtract from the total central office land and building costs – a portion of GSF costs that is recovered through a separate Switch Support Assets Factor.[48] The resulting GSF costs net of switch support is [*** [redacted] ***].[49]

Q. WHAT OTHER ADJUSTMENTS DID YOU DO TO THE COMMON COST NUMERATOR?

A. We did one numerically small adjustment. We changed ALLTEL's retail percent of advertising expenses[50] (account 6613) from 90% to 100%. We based this adjustment on the notion that advertising is not a wholesale cost. From the standpoint of economic theory we should not observe advertising in markets where there is one supplier, or the number of buyers is relatively small to justify costs of advertising

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47 ALLTEL's calculations of annual capital costs are contained in investment sheets of its UNE study file KAUNEw1.xls (such as sheet "Loop Aerial Copper") in Excel rows 29-35 (lines 20-26).

48 Follow ALLTEL's methodology, we calculate central office land and building costs by applying ALLTEL's proposed Switch Support Assets Factor to booked switching investments.

49 Restated UNE study Exhibit 4 sheet "Common Costs," cell E32.

50 File KAUNEw1.xls, sheet "Common Costs" cell D10 (line 3, column (c)).

campaigns. UNE markets comply with both conditions. In fact, in its recent *Virginia Order* the FCC ruled that as retail-related expense, advertising and marketing should not be included in the calculation of cost factors for wholesale services.[51] We did not change ALLTEL's proposed retail percentages for two other marketing accounts – product management and sales (both 90%).

Q. WHAT IS YOUR CRITIQUE OF ALLTEL'S PROPOSED DENOMINATOR FOR THE COMMON COST FACTOR?

A. ALLTEL calculates the common factor denominator as *revenues* minus certain costs. Clearly, such approach is valid only in a textbook economy where revenues are assumed to equal economic costs. In real life – complicated by imperfect markets and various regulatory regimes – this assumption is often violated. ALLTEL's own filing in this case that proposes higher UNE rates than the current rates indicates that UNE revenues are lower than ALLTEL's own estimates of economic costs.

Further, the common cost factor is applied to UNE direct costs. Therefore, it is important that both the UNE direct costs and common factor are calculated using a uniform set of assumptions (such as depreciation lives and cost of capital).

Q. HOW DID YOU CALCULATE THE DENOMINATOR OF THE COMMON COST FACTOR?

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51 FCC *Memorandum Opinion and Order*. CC Dockets No. 00-218 and 00-251. Adopted August 28, 2003, paragraph 145 (referred here as *Virginia Order*).

A. As we just said, the common cost factor in ALLTEL's study is applied to direct costs, which means that the common cost denominator has to measure total direct cost. The most straightforward method of calculating direct costs from booked data is to take dollar amounts from all expense and investment accounts and subtract common (non-direct) costs. Of course, as part of this calculation we annualized investment amounts as we already described when discussing General Support Facilities.[52]

Q. DO YOU HAVE ANY OTHER COMMENTS REGARDING THE COMMON COST FACTOR DENOMINATOR?

A. Yes, we do. As we already mentioned, ALLTEL calculates its common factor denominator as revenues (a flawed measure of total costs for reasons explained above) *minus certain costs*. Here we focus on these certain costs – costs that include common, as well as retail costs. We agree that common costs should be excluded from the denominator of the common cost factor, but we disagree with the exclusion of retail costs. By definition, direct costs are those costs that *can* be attributed to a certain service or product, while common costs are those that *cannot* be attributed to a certain service. In other words, a certain expense should be classified as either direct or common, so that direct and common costs would add up to equal total costs. Retail costs, by virtue of their name, are not common, but rather direct costs, and as such, should be included in the denominator of common cost factor. By removing retail

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[52] Calculations are in Exhibit 4 sheets "Common Costs" and "QSI Exp and Inv accounts."

costs from the common factor denominator ALLTEL is effectively re-allocating common costs from retail to wholesale services.

Q. ALLTEL IS ALSO REDUCING ITS COMMON NUMERATOR BY A "RETAIL PORTION." DOES THIS ADJUSTMENT COMPENSATE FOR THE REMOVAL OF RETAIL COSTS FROM THE DENOMINATOR?

A. No, it does not. We believe that this adjustment is designed to remove purely retail expense from "common overhead" and "support" accounts because these accounts do not measure common costs perfectly. For example, general support assets associated with call centers and retail stores can be attributed directly to retail services because wholesale services do not require similar facilities (this is reflected in ALLTEL's assumption that 100% of call completion services and number services are retail). We do agree with this adjustment, but recognize a somewhat arbitrary nature of its exact numerical value.

Q. HAVE YOU APPLIED THE AFOREMENTIONED CHANGES IN YOUR REVISED COST STUDY?

A. Yes. All of the aforementioned recommendations have been incorporated in our restatement of ALLTEL's cost study, as found in our Exhibit 4.

VII. NETWORK DESIGN

Q. HAS ALLTEL INCORPORATED A CORRECT FORWARD-LOOKING NETWORK DESIGN AND UTILIZATION FACTORS IN ITS STUDY?

A. No. ALLTEL has developed costs for a network that is not TELRIC compliant. There are numerous areas where the cost study has included costs unrelated to the elements studied, and has included costs based on an incorrect or inefficient design with inherently low utilizations. These include:

a) The utilizations for DLC equipment are too low because only one size DLC system is used in each wire center (when several size choices are available), which results in an inefficient design and artificially high costs.

b) The utilizations for DLC equipment are too low because ALLTEL has essentially assumed "actual" utilizations instead of a TELRIC-compliant forward-looking utilization because ALLTEL's DLC models account for breakage caused by a limited choice of DLC system sizes. This results in an artificially low utilization factor, and artificially high costs.

c) The utilizations for copper cables are based on a snapshot of the existing embedded network, and in essence are "actual" utilizations, not forward-looking utilizations. Use of the low actual utilization and too many copper facilities result in artificially high costs.

d) The utilizations of the fiber cables are based on a theoretically sized fiber network. The actual fiber utilization inherent in the design of this network is the result of a network that has not been optimally sized to meet demand, and results in artificially high costs.

e) The DLC equipment used for DS1s in the ALLTEL study is configured for DS0s, not DS1s. Therefore the costs results are not DS1 specific.

f) The DLC equipment configurations used by ALLTEL for DS0 and DS1 costs contain equipment costs specific to ADSL services. The ADSL equipment should not be included in the cost study.

g) ALLTEL's study has assumed an incorrect forward-looking mixture of copper vs. fiber based loops in its study, which is not geographic specific. This generally has the impact of exaggerating costs.

Q. YOU HAVE LISTED SEVERAL NETWORK DESIGN PROBLEMS IN ALLTEL'S STUDY. PLEASE DESCRIBE THESE IN FURTHER DETAIL

A. We'll begin with the mixture of copper versus fiber based loops assumed in ALLTEL's study. ALLTEL has made a blanket assumption that [***[redacted]***][53] of loops in its forward-looking network will be carried via fiber based DLC systems. We disagree with this assumption because at minimum it will distort costs in distinct geographic areas. Some areas will probably require more fiber based loops in a forward-looking network, while other areas will likely have significantly fewer fiber loops. ALLTEL has provided no engineering guidelines or actual customer specific location data to support this blanket assumption. More importantly this assumption

53 ALLTEL's response to Data Request question No. 33a confirms this percentage assumption.

significantly overstates the forward-looking percentage of fiber based loops which ALLTEL has admitted to in discovery[54]. This overstatement results in an inappropriately large amount of fiber cables and expensive DLC equipment. In addition, since fiber based DLC equipment is normally used for longer loops, any assumption of a forward-looking fiber loop percentage greater than the current percentage should result in a significant decrease in the quantity of copper feeder cables required. Because these longer loops would use fiber cables for feeder, less copper feeder is required in the forward-looking network. This significant reduction in copper facilities has not occurred with ALLTEL's methodology because ALLTEL has retained most of these copper feeder cables and has essentially re-labeled them as copper distribution cables.

Q. PLEASE DESCRIBE THE PROBLEMS WITH ALLTEL'S METHODOLOGY FOR DEVELOPING A FORWARD-LOOKING NETWORK BASED ON EXISTING NETWORK DATA.

A. ALLTEL's method for developing copper and fiber cable investments is mostly based on characteristics of the embedded network. ALLTEL does not specifically assume utilization factors as inputs, but instead uses modeling methods to develop copper and fiber cable investments which contain inherent utilizations. The copper cable loop investment process is described in section "D" of the file "Confidential ALLTEL

[54] ALLTEL's responses to Data Requests No. 31 and 32 confirm that approximately [***[redacted]***] of existing DS1 loops are served via fiber-based DLC technology, and that this percentage is only expected to increase slightly within the near future..

Telric Procedures.doc" which was provided in the study backup materials. That process can be summarized as follows: First, cable section data from the existing copper cable network is extracted from engineering systems. Next multiple cables in the same section are combined into a larger cable. These cable sizes are then rounded up to standard sizes. Some cables are identified as feeder and converted to fiber. However, [***[redacted]***] of the copper feeder cable is retained for distribution.

Our fundamental concern is that ALLTEL's method is heavily based on its existing network instead of a properly designed TELRIC compliant network. The TELRIC standard requires "a reasonable *projection* of the actual usage" (Emphasis added), which requires that use of the network by future users is projected and accounted for.[55] The intuition behind this requirement is that current users should not pay for the facilities put in place for future users. As a result of this FCC requirement, the rate of utilization in the cost study should be higher than the rate of utilization of an exiting network at a specific and finite period of time. Application of a TELRIC compliant utilization factor will result in costs significantly below those developed in ALLTEL's study. ALLTEL's methods results in utilizations that are not TELRIC compliant.

ALLTEL's methodology for converting its existing network data into forward-looking data is riddled with problems that all tend to lower the utilization, and thereby

[55] FCC's *Local Competition Order*, paragraph 682.

increase the costs. The initial problem is that the utilization of the existing network – which is used as the starting point for developing the forward-looking network - is significantly below the utilization of a properly designed TELRIC compliant network. ALLTEL has compounded the problem of using poorly utilized existing facilities by using a method that "rounds-up" to the next cable size, thereby adding even more spare capacity to the network costs.

As we stated previously, ALLTEL has failed to account for the fact that significantly less copper cable investment will be required in the forward-looking network based on their assumption that [***[redacted]***] of all lines will be served via fiber based DLC systems. ALLTEL's allocation method has converted some of the copper feeder cables to fiber cables, but still retains [***[redacted]***] of the copper cable for use in distribution. ALLTEL has created an overbuilt network that contains significant fiber capacity in addition to the retention of most of its current, underutilized copper facilities.

In addition to the network being "overbuilt", the snapshot of the network from ALLTEL's engineering systems also includes legacy equipment that will not be placed in a forward-looking network. For example ALLTEL has included load coil data in its overall copper network costs, (see backup data Tab BL) when in fact load coils would only be used in long copper loops, and would not be included in a network where fiber based DLC systems are intended to serve long loops, which is the design that ALLTEL has attempted to use in its study.

Also, the snapshot of the network from ALLTEL's engineering systems retains legacy characteristics that will be different than in a forward-looking network. ALLTEL's cable investment calculations rely on its existing mixture of cables by gauge. In a forward-looking network that assumes a transmission design incorporating fiber based DLC systems, the need for expensive "heavy" gauge cables will be greatly reduced. If a forward-looking network design was implemented correctly, the copper cable network costs would be significantly below the costs of a network based on existing characteristics.

Q. PLEASE DESCRIBE THE PROBLEMS WITH ALLTEL'S METHODOLOGY FOR DEVELOPING FIBER CABLE INVESTMENTS IN ITS FORWARD-LOOKING NETWORK DESIGN.

A. As we mentioned previously the cable loop investment process is described in section "D" of the file "Confidential ALLTEL Telric Procedures.doc". In that process, for copper cables that have been identified as feeder, an arbitrary process is used to convert the larger sized copper cables to fiber cables. At one stage in the process, depending on the size of the exchange, cables larger than [***[redacted]***] or [***[redacted]***] pairs that have been identified as feeder, are converted to either [***[redacted]***] or [***[redacted]***] fiber cables respectively. We disagree with ALLTEL on this issue because their method for developing fiber cable investments is based entirely on an arbitrary modeling shortcut not supported by engineering design criteria, which results in an arbitrarily developed and overbuilt fiber network. In a properly engineered network the fiber cable sizes are determined by examination of the customer demand and cable routes. The cables are sized based upon the types of equipment, and quantity and types of services demanded or forecasted. In contrast, ALLTEL's method simply adds vast quantities of fiber cable to its network (wherever there is a copper feeder cable larger than [***[redacted]***] or [***[redacted]***] pairs), with no regard for sizing the network based on engineering criteria and customer demand. ALLTEL's method does not attempt to compute the quantity of fibers necessary in order to serve the quantity of DLC systems it assumes in its study. This results in a large quantity of fiber cables that are underutilized. For example, only a few fibers may be required to serve a given DLC system, but ALLTEL's method assumes a much larger cable – in which most of the fiber capacity is not associated with working loops – which results in overstated costs.

This problem is compounded by the fact that there is a second category of utilization associated with fiber. For any given fiber fed DLC system, that DLC may be only partially equipped, and does not therefore use the full capacity of the digital bandwidth associated with that DLC. ALLTEL's method again does not account for this because they have included all the costs for all the arbitrarily calculated fiber cables. It is clear that ALLTEL's method overstates fiber cable costs.

Q. PLEASE DESCRIBE THE NETWORK DESIGN AND UTILIZATION ISSUE FOR DLC EQUIPMENT THAT YOU RAISED PREVIOUSLY.

A. In its cost study and supporting documents, ALLTEL has made assumptions and taken modeling shortcuts related to DLC equipment. In the backup documentation in Tab BD (and other places in the backup documentation) ALLTEL begins by assuming that [***[redacted]***] of lines in each wire center will be served via DLC equipment. ALLTEL then takes several modeling shortcuts to determine the investment for DLC equipment required to serve these lines[56]. In Tab BD, ALLTEL first divides the assumed quantity of DLC lines by a quantity of "Access Nodes" (the quantity of Access Nodes is a derived value based on cable lengths and is listed in Tab BC) which represents the quantity of DLC systems required per wire center. The result is an average quantity of working lines per average DLC system. Using this average quantity of lines, ALLTEL then models (in tab BB) a DLC system with enough capacity to serve these lines. The same size DLC system is assumed for each and every DLC location within a wire center. In Tab BE, ALLTEL then multiplies the investment for the average DLC system by the quantity of DLC systems required.

We disagree with ALLTEL on this issue for several reasons. First, the network within a wire center would not be engineered or designed using the same size DLC system in each location. Secondly, this design results in an inefficient selection of DLC system size for each location resulting in an abnormally low utilization factor, and higher costs per line. A simple example will illustrate our point.

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56 The DLC equipment investment process is described in section "F" of the file "Confidential ALLTEL Telric Procedures.doc" which was provided as part of ALLTEL's study backup material.

ALLTEL uses a limited selection of DLC system sizes in its network, for example, capacities of 120, 240, 480, and 960 lines. In our hypothetical example, assume that the 120 line capacity system costs $45,000, and the 240 line capacity costs $60,000. If a hypothetical office using ALLTEL's methodology had three DLC systems and a total of 400 lines served via DLC, then the average lines per system would be 400/3 = 133 lines. This means that the next available DLC system large enough to serve this average demand is 240 lines. Therefore three DLC systems of capacity 240 lines each are chosen. This results in a total cost of 3 x $60,000 = $180,000, and a calculated utilization of (400 lines)/(3 x 240 capacity) = 55.55%. However it is unlikely each of the three DLC locations in the real world is identically sized. For example two could support 100 lines and the third could support 200 lines for the same grand total of 400 lines. This situation would require two DLC systems with a capacity of 120, and one system with a capacity of 240. The total cost would be (2 x $45,000) + $60,000 = $150,000, and the computed utilization would be (400 lines)/(120+120+240 capacity) = 83.33%. In this example, ALLTEL's methods would result in a cost overstatement of $30,000, or 20%, and a significantly lower utilization factor.

Q. PLEASE DESCRIBE THE PROBLEM WITH DLC EQUIPMENT UTILIZATION RELATED TO THE FACT THAT DLC SYSTEMS ARE ONLY AVAILABLE IN A FEW SPECIFIC CAPACITIES.

A. As we stated previously, the DLC modeling information by wire center can be found in Tab BB of ALLTEL's study documentation. An example based on this information will illustrate our point. For example, ALLTEL's DLC data for

Lexington Southeast[57] indicates that on average, each DLC system has a capacity of [***[redacted]***] lines, while only [***[redacted]***] lines per system are used. The resulting "forward-looking actual" utilization is [***[redacted]***]. We describe this as a "forward-looking actual" utilization, because ALLTEL has sized its network to support its actual current demand, plus a few years growth.

This low utilization is a direct result of the "lumpiness" of available DLC system sizes available. Because there are large gaps between available DLC sizes, a significant amount of "breakage" occurs when one chooses the "next size up" greater than the lines demanded. The total cost for the DLC configuration used for Lexington Southeast is [***[redacted]***], which results in a cost per line of [***[redacted]***]. However, as we discussed previously, the TELRIC standard requires a reasonable projection of actual demand. As we describe later in this testimony, in other jurisdictions DLC utilization is typically 70%-85%. If for example a TELRIC compliant utilization of 75% was assumed, the cost per line would be [***[redacted]***]. In this example, ALLTEL's method has overstated DLC costs by [***[redacted]***]. ALLTEL's modeling method results in utilizations below TELRIC, and costs above TELRIC.

57 The study backup data in Tab BC contains DLC configurations, capacities and pricing for each wire center.

Q. HAS ALLTEL INCLUDED COMPONENTS IN ITS DLC EQUIPMENT DESIGN THAT SHOULD NOT BE INCLUDED IN THE STUDY?

A. Yes. We have confirmed that some of the DLC equipment included in the ALTEL study should not have been included. As we noted previously, the DLC equipment investment process is described in section "F" of the file "Confidential ALLTEL Telric Procedures.doc" which was provided in ALLTEL's backup material. Section F.4.D of this document specifically states that "DLCs are equipped [***[redacted]***] with POTS lines and [***[redacted]***] with ADSL lines". It is clear that costs for ADSL equipment have been included in the cost development for DS0 and DS1 services.

We disagree with the inclusion of the ADSL equipment and costs because they are not necessary for providing DS0 or DS1 services. The costs for the ADSL equipment are added to the total cost of the DLC equipment. Because the total DLC costs are used in the development of DS0 and DS1 costs, the inclusion of ADSL equipment costs has inflated the DS0 and DS1 costs. In response to discovery[58], ALLTEL confirmed that the ADSL cards are not required to support DS1 loops. Therefore the ADSL costs should be removed from the study.

Q. DO YOU HAVE ANY OTHER EVIDENCE TO DEMONSTRATE THAT THE DS1 COSTS DEVELOPED IN ALLTEL'S STUDY ARE NOT SPECIFIC TO A NETWORK DESIGNED TO SERVE DS1S?

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58 AllTEL's response to Data Request Question No. 28b confirmed that the ADSL-related investment is not required to support DS1 loops.

A. Yes. It is clear from ALLTEL's study description and the study backup data that the study did not specifically identify costs associated with DS1 services. ALLTEL's study calculates most costs on a "voice grade equivalent" basis and does not have unique equipment designs for different type loops such as DS1.[59]

Q. WHICH NETWORK DESIGN OR DATA PROBLEMS HAVE BEEN COMPENSATED FOR IN YOUR REVISED COST STUDY[60]?

A. As described in more detail in the following "FILL FACTORS" section of this testimony, we have compensated for most utilization issues related to copper cables, fiber cables and DLC equipment. We have removed the unnecessary ADSL equipment investments in the new study Tab "QSI-Corrected DLC Inv", in column AB. We have also corrected an error in the "loop fiber equip" investment in ALLTEL's study[61].

However, we have not compensated for other issues that tend to increase the costs and/or make the results less accurate. Because of the architecture of the model we were unable to adjust ALLTEL's assumption of an exaggerated [***[redacted]***] mix of fiber fed loops, ALLTEL's assumption of one size capacity DLC system used for

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59 ALLTEL's response to Data Request Question No.29a confirms that the DLC equipment in the study is not configured to support DS1 loops.

60 Restated UNE study Exhibit-3.

61 ALLTEL's responses to Data Requests No. 21 and 40 confirm that the values in Column J, "Loop Fiber Equipment" of the worksheet "Import Data" are too high and do not match the supporting backup data in Tab AJ, "Electronic Data". Accordingly we have replaced the data in Column J, "Loop Fiber Equipment" of the worksheet "Import Data" with the values from Tab AJ, "Electronic Data". The Tab AJ data has been replicated in the new study Tab "QSI-DR21 Loop Fiber Equip $"

every DLC in a wire center, and for the fact that the DLC equipment in ALLTEL's study is designed for DS0 services, and not other services such as DS1.

VIII. FILL FACTORS

Q. DOES ALLTEL'S TELRIC STUDY CONTAIN EXPLICIT MEASURES OF PROPOSED UTILIZATION OF NETWORK COMPONENTS?

A. No, it does not, despite the fact that utilization levels (fill factors) constitute one of the key cost drivers in a UNE study.

Q. WERE YOU ABLE TO ESTIMATE FILL FACTORS IMPLIED BY THE INVESTMENT LEVELS IN ALLTEL'S TELRIC STUDY?

A. Yes, we were. Our general approach was to use ALLTEL's line counts as the numerator of the fill factors and the installed capacity counts contained in ALLTEL's documentation as the denominator of the fill factors. This approach reflects the typical formula of a fill factor, although our measures are somewhat unconventional due to the limitations of the data. For example, ALLTEL's UNE study does not provide enough detail to separate distribution and feeder cables, and therefore, we can only calculate a combined feeder/distribution copper cable fill.

Because we use the calculated fill factors to adjust investments in the ALLTEL's study, we calculated a *weighted* copper fill – fill weighted by distance (working pair-feet divided by capacity pair-feet). Note that the conventional formula (working pairs divided by capacity pairs) does not conduct weighting, and therefore is likely to produce a different fill factor because longer cables are likely to have different fills than shorter cable. In ALLTEL's case a conventional un-weighted fill formula produces an even lower fill than the weighted fill (listed in the table below). In other words, the fill factors that we calculate here are not perfectly comparable to the conventional fill factors. Further, we had to make a number of assumptions, particularly with regard to our estimation of the percent of active fiber strands.[62]

The following table summarizes our fill estimates:

[* BEGIN CONFIDENTIAL ***]**

Table: Summary of ALLTEL's Implicit Fill Factors

	KY Total	Lowest across Wire Centers
Copper Cable (Distribution and Feeder)*	[redacted]	[redacted]
DLC**	[redacted]	[redacted]
Percent of Active Fiber Strands**	[redacted]	[redacted]

* -- For calculations see *Exhibit 5 Copper Fill Calculations*

** -- For calculations see *Exhibit 6 Fiber and DLC Fill Calculation*

[* END CONFIDENTIAL ***]**

Q. PLEASE EXPLAIN HOW THESE FILL FACTORS COMPARE TO THE INDUSTRY STANDARDS.

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[62] Percent of active fiber strands would depend on the network routes in each wire center (not provided by ALLTEL in this filing). We derived active fiber strands by using ALLTEL's DLC counts and fiber cable sizing, and assuming that each wire center has four routes, unless logical constraints dictate more or less routes. See Exhibit 6 Fiber and DLC Fill Calculations, sheet "Fiber Strands."

A. As we already mentioned, copper cable fill in the table above reflects both distribution and copper feeder, while typically fill factors for these two network segments are calculated separately. Distribution fills are typically lower than the feeder fill because of the reduced opportunities for concentration in distribution segments. In its *Virginia Order* the FCC reviewed its own past decisions on the TELRIC-compliant fill factors (quoted below), naming 30% and 40% distribution fills as possibly too low, while 48% distribution fill and 69.5% copper feeder fill as not necessarily violating the TELRIC principles:

> 639 See, e.g., Joint Application by BellSouth Corporation, BellSouth Telecommunications, Inc., and BellSouth Long Distance for Provision of In-Region, InterLATA Services in Georgia and Louisiana, CC Docket No. 02-35, Memorandum Opinion and Order, 17 FCC Rcd 9018, 6053, 9054-55, paras. 66, 70 (2002) (allowed use of 69.5 percent for copper feeder, 74 percent for fiber feeder, and 48 percent for distribution as not clear TELRIC error) (Georgia/Louisiana 271 Order); Kansas/Oklahoma 271 Order, 16 FCC Rcd at 6275-76, para. 80 (30 percent distribution fill factor violates TELRIC as too low); Application of Verizon New England Inc., Bell Atlantic Communications, Inc. (d/b/a Verizon Long Distance), NYNEX Long Distance Company (d/b/a Verizon Enterprise Solutions) and Verizon Global Networks Inc., for Authorization to Provide In-Region, InterLATA Services in Massachusetts, CC Docket 01-9, Memorandum Opinion and Order, 16 FCC Rcd 8988, 9007-08, paras. 39-40 (2001) (Massachusetts 271 Order) (40 percent distribution fill factor may be too low).[63]

In the same case the FCC adopted an *effective*[64] distribution fill factor of 52.5%[65] (no numbers for the effective copper feeder fill were quoted in the order).

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[63] FCC *Memorandum Opinion and Order*. CC Dockets No. 00-218 and 00-251. Adopted August 28, 2003, paragraph 243 footnote 639 (referred here as *Virginia Order*).

[64] TELRIC models such as the Synthesis Model used in Virginia case also utilize an "input" fill (cable sizing factor). Effective ("output") fill refers to the final capacity utilization, which is affected by the "input fill," customer locations and discrete cable sizes.

Q. WHAT EFFECTIVE FILL FACTORS DID THE COMMISSION APPROVE FOR BELLSOUTH IN THE UNE DE-AVERAGING CASE?

A. The order approved BellSouth's cable sizing assumptions,[66] but did not quote the exact values for the effective fills. However, expert witnesses from LECG, LLC – the consulting company that provides expert witness services to a number of RBOCs – filed in a number of recent state cost cases an exhibit that surveyed fill factors approved by state commissions.[67] According to the authors, this survey relies on state orders and discussions with company subject matter experts. Based on this exhibit, effective ordered fills for BellSouth Kentucky are 38% for distribution and 74% for copper feeder cable. From this information we derive the combined distribution/copper feeder fill as 50%[68] -- a number that is substantially higher than the copper fill factors implied by ALLTEL's proposed TELRIC investments.

Q. HOW DO THE DLC FILLS DERIVED FROM ALLTEL'S PROPOSED TELRIC INVESTMENTS COMPARE TO BELLSOUTH'S DLC FILLS?

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65 FCC *Memorandum Opinion and Order*. CC Dockets No. 00-218 and 00-251. Adopted August 28, 2003, paragraphs 250 and 254 (referred here as *Virginia Order*).

66 KPSC Administrative Case No. 382 Order dated December 18, 2001, page 15.

67 See for example, Michigan PSC case U-13531 Public Exhibit WCP-R2 to Rebuttal Testimony of William Palmer filed on 3/22/04.

68 The exact formula for the combined weighted fill is (distribution fill * (1 + percent of working lines served by copper feeder)) / (1 + percent of working lines served by copper feeder * distribution fill / copper feeder fill). This formula is based on the relation: working copper feeder pairs = working distribution pairs * percent of working lines served by copper feeder. The percent of working lines served by copper feeder is derived from ARMIS report 43-07, Table II, row 380 "working copper pairs" over row 370 "total working pairs." The percent was calculated for 2001 – the year of the Commission's order – to be consistent with the fill data.

A. The only public value of DLC fills that we found is BellSouth's actual DLC fills that can be calculated from ARMIS Infrastructure report 43-07. In 2003 – the latest year available – DLC fill for BellSouth Kentucky was 82.94%, which is somewhat higher than the national average for all LECs reporting these data to the FCC – 71.88%.[69] Although Kentucky ALLTEL does not file this report with the FCC, it is clear that DLC fill factors implied by its TELRIC study [*** [redacted]***] are out of line with the actual levels of DLC utilization in the country.

Q. HAS THE FCC COMMENTED ON THE APPROPRIATE FILL FACTOR FOR FIBER STRANDS?

A. Yes, it has. The FCC ruled on a number of occasions[70] that *apart from cable sizing*, the fill on fiber feeder should be 100 %. This happens due to the specifics of fiber optic technology and the practice by which it is installed. For example, redundancy is already built into the DLC design because for every working fiber installed, another redundant strand is also installed and connected to backup equipment as a "protect" in case the working fibers or electronics fail. In addition, fiber cable capacity depends largely on the electronics at its ends and can easily be upgraded. Therefore, there is no need to install additional spare capacity for breakage, customer churn, growth or maintenance.

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69 ARMIS 43-07, Table II, (row 370 – row 381) over (row 420 – row 431), which is a ratio of working non-baseband pairs and capacity non-baseband pairs.

70 See *Memorandum Opinion and Order*. CC Dockets No. 00-218 and 00-251. Adopted August 28, 2003, paragraph 264 (*Virginia Order*); FCC *Tenth Report and Order*. CC Dockets No. 96-45 and No. 97-160, Adopted October 21, 1999, paragraph 208.

The main cause for spare capacity in fiber cable comes from discrete cable sizing. For example, in a typical design a DLC system requires a 4-strand fiber cable, but cable sizes only come in strand counts of 6, 12, 24 and etc. In this case, an efficient design would be to install a 6-strand cable, so that the resulting fill would be 4/6 = 67 %. If three DLC systems are serving the area, the segment of the feeder where the three routes join would require 4 * 3 = 12 strands and can be served by one 12-strand cable, which is a 100 % fill. In other words, in this example, the available cable sizes allow the resulting fill to be no less than 67 %.

Q. WHY ARE FILL FACTORS IMPLIED BY ALLTEL'S TELRIC STUDY SO LOW?

A. The main reason is that ALLTEL's study designs a network without much consideration for the demand that this network is supposed to serve. First, the starting point in ALLTEL's "forward-looking design" is its *existing* inventory of copper cable,[71] even though actual capacity might not reflect the current or anticipated demand. In fact, actual network is likely to contain *defective pairs* that cannot be repaired and *redundant capacity* – capacity that was built to support demand that no longer exists (for example, because of population shifts) and capacity that was built due to errors in forecasting demand. One recent example of demand shifts that creates redundant capacity is the decrease of demand for 2nd residential lines caused

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71 File *ALLTEL TELRIC Procedures.doc*, page 8, item D (1).

by wireless substitution and DSL services. The new technologies make the traditional engineering practice of placing 2 distribution capacity lines per household outdated. Interestingly, BellSouth has already responded to changes in demand and started placing only one capacity line per household in new developments.[72] In other words, the actual network would not reflect the forward-looking practice of sizing cables for residential locations. Because of BellSouth's changed engineering practice the North Carolina Utilities Commission ordered in a recent UNE case that BellSouth uses a cable sizing factor of no more than 1.25 pairs (rather than BellSouth's proposed 2 pairs) per residential location.[73]

Second, as we've described previously in this testimony, ALLTEL's study "replaces" copper feeder cables with fiber, but at the same time *retains[*** [redacted] ***] of copper cables for "future distribution."*[74] In other words, ALLTEL's study <u>adds fiber cable, and keeps most of the existing copper cable intact</u>. Such manipulation necessarily creates enormous excessive capacity in copper cable. Besides being questionable from the practical standpoint (can existing feeder cables be economically used in future distribution given that cable is not portable?), this procedure violates TELRIC pricing principles because excessive copper capacity for undefined "future distribution" is being built into current UNE prices. The FCC first commented on this issue in its Universal Service docket, where it explained that model fill factors

72 *Forbes*, Top Stories "Bad Connection" by Scott Woolley, August 12, 2002.
73 North Carolina UC Docket No. P-100, SUB 133d Order dated 12/30/2003, page 59.
74 File *ALLTEL TELRIC Procedures.doc*, pages 8-9, item D (4).

should be based on short-term demand projections (which the FCC refers to as *current* demand[75]), rather than reflect an industry practice of building for longer-term (*ultimate*) demand because longer-term demand is too speculative and leads to inefficiency and excess capacity:

> In concluding that the fill factors should reflect current demand, we recognized that <u>correctly forecasting ultimate demand is a speculative exercise, especially because of rapid technological advances</u> in telecommunications. For example, we note that ultimate demand decreases substantially when computer modem users switch from dedicated lines serving analog modems to digital subscriber lines where one pair of copper wire provides the same function as a voice line and a separate dedicated line. Given this uncertainty, we find that <u>basing the fill factors on current demand rather than ultimate demand is more reasonable because it is less likely to result in excess capacity, which would increase the model's cost estimates to levels higher than an efficient firm's costs</u>...[76]

Later the FCC's Wireline Competition Bureau also confirmed the relevance of current demand rather than ultimate demand in its recent order in the Virginia arbitration proceeding. Below is a quote from the FCC's *Virginia Order* that explains why the same standard of *current* demand – demand that includes only short-term growth – is appropriate when pricing UNE elements:

> Just as the <u>Commission</u> found it inappropriate to include in universal service support the costs of building outside plant designed to meet uncertain ten- or twenty-year demand projections, it is inappropriate for AT&T/WorldCom to bear the cost today of building plant for uncertain ultimate demand.[77]

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75 *Tenth Report and Order*, CC Dockets No. 96-45 and 97-160, adopted October 21, 1999, ¶ 201 (*Inputs Order*): "Significantly, we note that, contrary to GTE's inference, current demand as we define it includes an amount of excess capacity to accommodate short-term growth."

76 *Id.*, ¶ 200 (emphasis added).

77 See FCC *Memorandum Opinion and Order*. CC Dockets No. 00-218 and 00-251. Adopted August 28, 2003, paragraph 254 (*Virginia Order*);

Q. WHAT DESIGN FLAWS DRIVE LOW DLC FILLS IN ALLTEL'S STUDY?

A. There are two main causes. First, as we've described previously in this testimony, ALLTEL's study assumes that [***[redacted]***] of all loops in a wire center will be served by DLCs[78], without regard to economic considerations. Second, the section of ALLTEL's study that determines the number of DLCs in each wire center[79] is based on loop counts that do not match the demand data in the main study *KYUNEw1.xls* (loop counts by which annualized total investments are divided to produce UNE prices). In fact, the line counts in the DLC study are significantly higher than the current or projected line counts in the main study. As a result, total DLC capacity is significantly over-built compared to ALLTEL's own demand projections, which results in too much DLC investment in the study.

The following example for the very first wire center listed in ALLTEL's data, Albany demonstrates these flaws:

On the one hand, the backup data from Tab BD – the basis for total investments – lists [***[redacted]***] total equipped lines, [***[redacted]***] DLC systems, a DLC percent of [***[redacted]***], and a growth rate of [***[redacted]***][80]. From this data, the average size DLC system capacity can be calculated as: [***[redacted]***]. The study sizes DLC to serve [***[redacted]***] lines, i.e. the next larger

[78] ALLTEL's response to NuVox Data Request 33 (a).

[79] Backup documentation Tab BD.

[80] The data from Tab BD has been reproduced in Tab "QSI-Corrected DLC Inv" in Exhibit-3.

available DLC system capacity of [***[redacted]***] is required. On the other hand, the main study contains a different line count for Albany, specifically, [***[redacted]***] total lines.[81] Repeating the same series of calculations based on this quantity of lines produces [***[redacted]***]. This means that a smaller DLC system capacity of [***[redacted]***] is sufficient. In other words, the study includes the investment for the more costly [***[redacted]***] capacity DLC system, when the less costly [***[redacted]***} capacity DLC system could have been used. A similar scenario is repeated for many wire centers in ALLTEL's study. In other words, too much DLC investment is included in the study.

Q. HAVE YOU COMPENSATED FOR THIS PARTICULAR ERROR IN YOUR ADJUSTMENTS TO FILL FACTORS IN YOUR REVISED COST STUDY?

A. No. This particular error could be fixed by re-calculating the size and investment for the DLC systems in each wire center. This adjustment requires access to the program used to produce ALLTEL's paper back up documentation, and we received this program from ALLTEL only one week before filing this testimony[82]. Because we have not had sufficient time to work through this process, our cost study estimate is conservatively high.

Q. HOW DOES ALLTEL'S STUDY SIZE FIBER CABLE?

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[81] Cell GA8 of the "Import Data" tab on ALLTEL's UNE study.

[82] The spreadsheet programs used in this process were provided in response to Data Request Question No. 39.

A. ALLTEL's model description explains that a 48-strand fiber cable is places in small offices, and a 72-strand – in large offices.[83] Again, this procedure does not account for actual anticipated demand for fiber based services and creates excessive fiber cable capacity. For example, in the Sharpsburg office a 48-strand fiber cable would be placed to serve merely [*** [redacted] ***][84] forecasted total loops (note that a typical DLC requires 4 or 2-strand fiber cable). Is it unlikely that a cost-benefit analysis would support such placement of a 48-strand fiber cable, or for that matter, a DLC system in this office.

Q. WHAT FILL FACTORS DO YOU PROPOSE TO USE IN YOUR RESTATEMENT OF ALLTEL'S FILL STUDY?

A. We propose to use rather conservative fill factor values – values that are in line with the industry standards and the fill factors that the Commission approved for Bell South. As we explained above, these fill factors might be conservatively low because carriers started to place less capacity in response to recent changes in residential demand. The following table compares our conservative proposal to the fill factors implied by ALLTEL's TELRIC study:

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83 File *ALLTEL TELRIC Procedures.doc*, pages 8-9, item D (4).

84 See backup documentation Tab BB.

[* BEGIN CONFIDENTIAL ***]**

Table: NuVox's Fill Factor Proposal

	ALLTEL's Implicit Fills	NuVox Proposed Fills -- Conservative
Copper Cable (Distribution and Feeder)*	[redacted]	50.00%
DLC**	[redacted]	75.00%
Percent of Active Fiber Strands**	[redacted]	50.00%

* -- For calculations see *Exhibit 5 Copper Fill Calculations*

** -- For calculations see *Exhibit 6 Fiber and DLC Fill Calculation*

[* END CONFIDENTIAL ***]**

Q. HOW DID YOU REMOVE EXCESSIVE CAPACITY FROM ALLTEL'S STUDY?

A. We removed excess capacity by reducing ALLTEL's loop cable and equipment investments using the ratio between NuVox proposed and ALLTEL's implicit fill factors.[85]

IX. NRC COSTS

A. OVERVIEW NON-RECURRING CHARGES

Q. HAVE YOU REVIEWED ALLTEL'S PROPOSED NON-RECURRING CHARGES AND NONRECURRING COST STUDIES FOR THE DS1 LOOP?

A. Yes. The charges and cost studies are found in the same Excel workbook (KAUNEw1) as the recurring cost studies.

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[85] Exhibit 4 Restated KAUNEw1.xls, sheet "Material Factors."

Q. SHOULD THE COMMISSION APPROVE ALLTEL'S PROPOSED NONRECURRING CHARGES FOR THE DS1 LOOP?

A. No. First, ALLTEL's proposed charges are a radical departure from the rates that NuVox currently pays for service ordering, installation and loop conditioning under its Interconnection Agreement ("ICA") with ALLTEL. In fact, the proposed increases are so drastic as to potentially render economic use of the DS1 loop infeasible. Further, ALLTEL's non-recurring charges for the DS1 loop are not consistent with TELRIC, which explains why the rates have increased so dramatically.

The criticisms and recommendations included in this testimony are based upon the experience of QSI consultants in:

(a) Reviewing cost studies and familiarity with the FCC's TELRIC methodology;
(b) Building provisioning systems and organizations responsible for performing these same functions;
(c) Analyzing efficient processes and methods by which to improve performance with respect to these same activities; and
(d) Actually performing these various functions in a business environment.

The corrected NRC cost studies and rates are again included in Exhibit – 4.

Q. PLEASE COMPARE NUVOX'S CURRENT NON-RECURRING CHARGES PAID UNDER ITS ICA TO ALLTEL'S NEWLY PROPOSED CHARGES.

A. The table below compares the non-recurring charges NuVox currently pays with those that NuVox would be paying if ALLTEL's proposed rates are approved by the Commission:

Existing ICA	
Installation Charge ICA	\$10.64
Loop Facility Charge	\$63.50 (if field work is required)
Service Ordering Charge	\$47.25
Proposed	
DS1 Loop	\$41.40
Service Ordering	\$31.81
Various Conditioning Charges	\$291.24, \$1,428.10, etc.

It is the radical and unsupported increase in the loop conditioning charges—which are as high as \$1,428.10—that may render the availability of a UNE DS1 loop economically useless.

Q. PLEASE SUMMARIZE THE PROBLEMS YOU HAVE FOUND IN ALLTEL'S LOOP CONDITIONING NON-RECURRING COST STUDY.

A. Having reviewed ALLTEL's cost studies, we have found a number of shortcomings which result in ALLTEL's overstatement of costs associated with loop conditioning. The general errors we have found include the following:

<u>TELRIC Principals are Ignored</u>

Using a forward-looking, least-cost network design, no basis exists for assessing loop conditioning charges to CLECs. ALLTEL's loop conditioning study does not comply with the basic TELRIC principles. In fact, TELRIC principles are completely ignored. ALLTEL simply models its existing operations and procedures without taking into account the forward-looking adjustments necessary for TELRIC studies.

<u>Costs are Double Recovered</u>

ALLTEL's proposed loop conditioning rates would result in double recovery in that ALLTEL is seeking to recover loop-conditioning costs once through the nonrecurring charge proposed here, and then again through its monthly recurring loop rates.

Time for Work Group Functions are Overstated

Loop conditioning work group function times are inappropriate for the task being performed and can be performed in much more efficient times when performed by a well-trained forward-looking outside plant engineers and cable splicing technicians.

Inconsistent With Other ILEC Loop Conditioning Charges and Recent Regulatory Rulings

Verizon only seeks to recover loop conditioning charges only in "extraordinary cases" (i.e., for example, in Virginia, Verizon does not impose NRCs for conditioning of loops less than 18,000 feet).[86] Additionally, Qwest, last year, provided notice to CLECs that it would no longer charge for load coil and excessive bridged tap removal.[87]

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS FOR NON-RECURRING CHARGES.

A. Our recommendation is bifurcated with our primary recommendation being that the Commission reject recovery of loop conditioning costs through the nonrecurring charges proposed by ALLTEL for loop conditioning. Allowing ALLTEL to recover loop conditioning costs through a separate nonrecurring charge as ALLTEL proposes in this proceeding would be inconsistent with TELRIC principles. We recommend that the Commission reject ALLTEL's proposed loop conditioning non-recurring charges and revise ALLTEL's cost studies and rates consistent with our testimony and adopt charges of $0.00.

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[86] FCC Memorandum of Opinion and Order CC Docket Nos. 00-218 and 00-251.

[87] Qwest advisory letter April 1, 2003, Document Number TARI.04.01.03.B.000125_Tari_Cont.

Should the Commission determine that recovery of "extraordinary" loop conditioning costs through NRCs is appropriate, we recommend that the Commission require ALLTEL to base those NRCs on costs consistent with those of an efficient carrier, which would condition multiple loops at a time. As will be discussed presently, we have revised ALLTEL's loop conditioning studies and calculate more appropriate rates. Those revisions and rates are discussed below.

B. LOOP CONDITIONING

Q. DOES ALLTEL PROPOSE LARGE NON-RECURRING CHARGES FOR LOOP CONDITIONING?

A. Yes. Under ALLTEL's proposals, CLECs would pay significantly more for what should be a simple field splicing operation than would be appropriate under any circumstance. ALLTEL is proposing six individual loop conditioning rate elements[88]. ALLTEL's proposed cost study includes charges for removing load coils, excessive bridge tap and repeaters under varying circumstances. The excessive nature of these charges is evident from ALLTEL's proposed rates below (we have previously provided a comparison to the current rates under NuVox's ICA with ALLTEL):[89]

[88] See ALLTEL Cost Study KAUNEw1, Tab Conditioning.
[89] This table is taken from ALLTEL Cost Study KAUNEw1, Tab Conditioning.

Description	PRI-ISDN / DS-1 2 Wire	PRI-ISDN / DS-1 4 Wire
(a)	(k)	(l)
RATE SUMMARY:		
1. Inquiry Fee	$291.24	$291.24
2. Base Conditioning Fee	$857.77	$1,428.10
3. Per Bridge Tap or Load Coil Removed, or Cable or Terminal Throw	$218.42	$218.42
4. Per Repeater	$273.02	$273.02
5. Per Repeater Shelf	$218.42	$218.42
6. Per Repeater	$50.13	$50.13

As we will discuss below, any charge whatsoever for these activities is not appropriate in the context of a forward-looking network. However, even if the Commission rejects this observation, ALLTEL's costs and rates are significantly overstated.

In what follows, we will generally discuss the nature of loop conditioning and demonstrate why such loop conditioning charges are irreconcilable with the TELRIC construct on which all UNE charges should be based.

Q. WHAT IS LOOP CONDITIONING?

A. Loop conditioning is the modification or rearrangement of existing outside plant (OSP) facilities to remove interfering plant arrangements and equipment. These OSP arrangements and equipment interfere with digital or DSL services by attenuating frequencies above the voice band of 4,000 Hz including guard band and in the DSL transmission range. For a facility to be digital or DSL capable, these disturbers must be removed.

Q. WHAT IS A LOAD COIL?

A. Load coils can be described as an inductance coils used for improving the transmission performance of the voice band by offsetting the attenuation effect of an increasing loop length, thus increasing the allowed loop length for acceptable voice transmission. As discussed previously, when load coils are present, the loop is unusable for providing DSL and digital services.

Q. WHAT IS A BRIDGED TAP?

A. Bridged tap or multiple plant design extended the number of customers that could be served by a single feeder pair by splicing two or more distribution pairs to a single feeder pair. This provides flexibility for future assignments by providing multiple appearance of the same loop at several distribution points. Finally, this proved to be an ineffective OSP design because of labor intensive line and station transfers required to relieve distribution cable pairs as new feeder pairs were added. Bridged tapped or multiple OSP design was replaced by dedicated plant design to convert from multiple-party line to single-party line service.[90] Bridged tap, when excessive, renders loops unusable for providing DSL and digital services.

Q. WHY IS THE PRESENCE OF THESE DIGITAL SIGNAL OR DSL INHIBITING DEVICES AN ISSUE IN THIS PROCEEDING?

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[90] Telcordia Notes on the Networks, October 2000, pg 12-3

A. Because the rates ALLTEL is seeking to charge for the removal of these items is at issue in this case and because, like bridged tap and load coils, excessive rates for loop conditioning inhibit CLECs' ability to provide DSL service. In order for CLECs to offer DSL services to their customers, they will have to acquire digital or DSL-capable lines from ALLTEL. ALLTEL claims that its network is burdened with bridged tap and load coils that must be removed from loops in order to make them suitable for the provisioning of DSL service. Absent this "loop conditioning", the CLECs would be precluded from offering digital or DSL service to certain customers in Kentucky. The loop conditioning rates contained in ALLTEL's cost study are based on overstated costs. These rates are a deterrent to CLECs providing digital or DSL services.

Q. IS IT EVER APPROPRIATE FOR ALLTEL TO CHARGE FOR LOOP CONDITIONING?

A. No. Using a forward-looking, least-cost network design, no basis exists for assessing loop conditioning charges to CLECs. This stems from the fact that in a forward-looking network design, there is no need to place bridged taps or load coils. In the absence of these devices, which inhibit DSL or digital services, there is obviously no cost incurred to remove them. Therefore, in a forward-looking network configuration, loop conditioning would have associated costs of zero dollars, and with no loop conditioning costs to recover, the charges associated with loop conditioning should be eliminated. ALLTEL has developed non-recurring costs associated with loop conditioning that reflect an antiquated network that is neither forward looking, nor least-cost and totally inconsistent with the TELRIC concept.

Q. DOES ALLTEL DEVELOP ITS RECURRING RATES FOR UNBUNDLED LOOPS IN THE SAME MANNER?

A. No. It appears that ALLTEL's recurring loop rates are priced based on a network specifically designed so that items such as load coils are not necessary.[91] Therefore, non-recurring costs for loop conditioning serve to double recover the costs associated with a forward-looking network. When a CLEC agrees to pay the monthly recurring rate approved by the Commission consistent with a forward-looking network methodology, the CLEC is paying for a loop that should already be fully capable of providing DSL or digital service. Therefore, ALLTEL's additional charges associated with loop conditioning serve only to double recover costs that are already included in the monthly rate. Indeed, it would be inappropriate and inconsistent for the Commission to allow ALLTEL to base its loop rates on forward-looking principles, while it bases its loop conditioning rates on a non-TELRIC network with cost which are greater than the costs of a TELRIC network in the context of loop conditioning. In other words, such a ruling would allow ALLTEL to go back and forth between network assumptions according to whether the particular network assumption produce higher rates for ALLTEL in that particular instance. The

[91] In developing its loop rates, ALLTEL assumes that any loop greater than [***[redacted]***] feet in length will be served over fiber facilities. Because of this copper/fiber cutover assumption, load coils would never appear in ALLTEL's network. See DR 39.

question is -- *If CLECs are already paying for a forward-looking network through monthly charges, why should they be subject to additional up-front charges in order to remedy the fact that the embedded ALLTEL network is not in fact up to those forward-looking standards?*

Q. CAN YOU EXPLAIN IN MORE DETAIL YOUR CONTENTION THAT THE COSTS THAT ALLTEL INTENDS TO RECOVER THROUGH ITS LOOP CONDITIONING CHARGES ARE ALREADY RECOVERED IN THE MONTHLY RECURRING RATE FOR AN UNBUNDLED LOOP?

A. Yes. First, recovering expenses associated with removing load coils or bridged tap is at its very premise, contradictory to setting rates based upon a least cost, forward looking methodology (i.e. TELRIC principles). What these expenses actually recover are costs associated with "retrofitting" the existing, embedded network. Indeed, a network design based upon the least cost, most efficient technology available would result in loop facilities that would include few if any of these types of devices. For example, local exchange carriers rarely load loop plant (*i.e.* place load coils on copper pairs) unless those loops extend beyond 12,000 feet from the central office and most networks are designed with fiber beyond 12,000 feet from the central office. Hence, loop rates set for an ALLTEL unbundled loop are presumably based upon an implicit assumption that no load coils will be used because copper would not extend more than 12,000 feet. Yet even though ALLTEL charges the unbundled loop rates set in a TELRIC proceeding, (rates that should already recover costs associated with a loop absent load coils) ALLTEL insists that in some cases, additional conditioning charges must be assessed to "retrofit" the existing network by removing load coils.

Q. HOW DO RATES ASSOCIATED WITH RETROFITTING THE EXISTING NETWORK SERVE TO DOUBLE RECOVER COSTS?

A. By attempting to apply conditioning charges associated with retrofitting the embedded network, ALLTEL is in essence asking carriers to pay rates associated with the latest technology, yet, when they receive the loops for which they are paying forward-looking rates, they are then asked to pay *additional* charges to revise the existing network to meet that standard. This is akin to buying a Mercedes for $50,000, being provided a $10,000 used Chrysler, and then being asked to pay an additional $40,000 when you want the performance of the Mercedes for which you originally paid. In total, you will have paid $90,000 to receive the $50,000 Mercedes to which you were entitled with your initial payment. More to the point of this case, under ALLTEL's proposal, CLECs would be required to pay a monthly rate for a loop that is up to forward-looking network standards—so what could be the rational to justify imposing any "conditioning" charges thereafter?

If ALLTEL is allowed to charge both the forward-looking monthly loop rate, as well as costs associated with retrofitting the existing network to a point where it complies with the assumptions included in its TELRIC studies, the Commission may as well have simply allowed ALLTEL to establish rates based upon its embedded costs in the first place. Indeed, that is exactly what the result will be. This result violates the

FCC's TELRIC methodology and is detrimental to the growth of advanced services such as DSL or digital line service.

Q. YOU CHARACTERIZE LOOP CONDITIONING AS A ROUTINE ACTIVITY. HAS THE FCC COMMENTED ON THIS?

A. Yes. The FCC's *Triennial Review Order* (TRO), paragraph 643 acknowledges loop conditioning as a routine network activity:

> Instead, line conditioning is properly seen as a routine network modification that incumbent LECs regularly perform in order to provide xDSL services to their own customers. As noted above, incumbent LECs must make the routine adjustments to unbundled loops to deliver services at parity with how incumbent LECs provision such facilities for themselves.[92]

The FCC, therefore, has recognized loop conditioning for what it is, a routine activity that is necessary in order to provide network facilities for CLECs that are on par with the network facilities used by the ILEC to provide retail service.

Q. HAS THE FCC AUTHORIZED INCUMBENTS TO RECOVER CONDITIONING COSTS THROUGH NONRECURRING CHARGES OF THE TYPE AND LEVEL THAT ALLTEL HAS PROPOSED IN THIS CASE AS ALLTEL HAS ARGUED IN THE PAST?

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[92] FCC 03-06, TRO, Page 402, paragraph 643.

A. No. At paragraph 194 of the *UNE Remand Order*, the FCC cautioned state commissions with respect to the danger such charges may pose to the development of the market for xDSL services:

> 194. We recognize, however, that the charges incumbent LECs impose to condition loops represent sunk costs to the competitive LEC, and that these costs may constitute a barrier to offering xDSL services. We also recognize that incumbent LECs may have an incentive to inflate the charge for line conditioning by including additional common and overhead costs, as well as profits. We defer to states to ensure that the costs incumbents impose on competitors for line conditioning are in compliance with our pricing rules for non-recurring costs.

Therefore, while the FCC appears to hold open the possibility of nonrecurring charges for loop conditioning, it defers to state commissions to ensure that any such charges are consistent with its pricing rules for nonrecurring costs. The FCC's rules implementing the conditioning portion of the UNE Remand Order (as well as Rule 51.319(a)(1)(iii)(B) implemented by the *Triennial Review Order*) also specifically require that any conditioning charges be based on forward-looking economic costs and reference 47 C.F.R. 51.507(e), which states that the sum of the recurring and nonrecurring costs for a given network element (in this case conditioned loops) cannot exceed total forward-looking economic costs. Taken together, these rules preclude any nonrecurring conditioning charges for ALLTEL because the network design assumptions in the company's recurring loop cost studies eliminate any need for any additional conditioning costs.

The FCC further states in the UNE Remand Order, that state commissions should be cautious in setting such rates as ILECs have strong incentives to overstate these costs in order to inflate profits and to prevent competitors from entering the DSL market. Thus even if it were appropriate for ALLTEL to levy any nonrecurring conditioning charges, the establishment of nonrecurring charges at the levels that pose a substantial barrier to entry is clearly not what the FCC intended.

Q. HAS THE FCC RECOGNIZED IN ITS RECENTLY RELEASED TELRIC NRPM THAT THE ABOVE LANGUAGE FROM THE UNE REMAND ORDER HAS CAUSED SOME CONFUSION AT THE STATE LEVEL?

A. Yes. The FCC addresses the issue of loop conditioning in its TELRIC NRPM, specifically recognizing that the language in the UNE Remand Order (discussed above) has resulted in multiple disputes at the state level. In addition to recognizing these state-level disputes, the FCC also recognizes that the *Triennial Review Order* provides states with discretion to determine whether loop conditioning costs are forward-looking costs and whether those costs should be recovered through recurring charges or non-recurring charges or at all.[93]

Q. DOES THE FCC INTEND TO ADDRESS THE ISSUE OF LOOP-CONDITIONING MORE THOROUGHLY IN ANY UPCOMING PROCEEDINGS?

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[93] TRO at paragraph 641.

A. Yes, the FCC in its TELRIC NRPM has sought comments from parties regarding loop conditioning. It is clear from the TRO and the NRPM that loop conditioning issues will be fully addressed in the coming months at the federal level. Preliminary indications are that the FCC will preclude ILECs from loop conditioning recovery in all but extraordinary cases. This is based on recent rulings in DA-03-2738[94], and comments made by the FCC in the FCC's *TELRIC NRPM* (paragraph 130) and *Triennial Review Order* (paragraph 641).

Q. HAS THE FCC GIVEN STATE COMMISSIONS ANY GUIDANCE IN SETTING RATES FOR LOOP CONDITIONING?

A. Yes, the FCC provides clarification and guidance with respect to how state commissions should treat loop-conditioning cost recovery at paragraph 641 of the TRO, leaving it to the state commissions to decide whether such costs "should be recovered from a competitive LEC through a recurring charge, a nonrecurring charge, or not at all". The FCC, in the same paragraph even goes so far as to provide an example to state commissions specific to loop-conditioning, saying: .

> "A state commission could decide for example, that loop conditioning costs should be recovered through a NRC only in ***extraordinary situations***, such as removing load coils on loops that exceed 18,000 feet in length, and that any other conditioning costs should be recovered in recurring charges just like other loop maintenance costs"[95]. (emphasis added)

[94] FCC 03-224 at paragraph 130.
[95] FCC 03-06, TRO, Page 401, paragraph 641

Q. HOW DO OTHER ILECS SEEK TO RECOVER LOOP CONDITIONING CHARGES FROM CLECS?

A. Other ILECs have taken a far less extreme approach with respect to cost recovery for loop conditioning activities. For example, Verizon only seeks to recover loop conditioning charges only in "extraordinary cases" (i.e., for example, in Virginia, Verizon does not impose NRCs for conditioning of loops less than 18,000 feet).[96] Additionally, Qwest, last year, provided notice to CLECs that it would no longer charge for load coil and excessive bridged tap removal.[97] ALLTEL should follow the example of other major ILECs and not seek to double recover these costs.

Q. WOULD IT EVEN BE APPROPRIATE FOR ALLTEL TO CHARGE FOR LOOP CONDITIONING ON LOOPS GREATER THAN 18,000 FEET IN LENGTH?

A. No. Conditioning is not required in a forward-looking environment for loops of any length. In a forward-looking environment, loops in excess of 18,000 feet would be provisioned using digital loop carrier (DLC). Because DLC facilities do not require load coils it would be unnecessary to load DLC loops. Combining this fact with the fact that load coils are never required on loops less than 18,000 feet leads to the conclusion that in a forward-looking network environment, load coils would be virtually non-existent, and ALLTEL would incur nothing for their removal. It follows, that based on forward-looking principles, no charges whatsoever should be

[96] FCC Memorandum of Opinion and Order CC Docket Nos. 00-218 and 00-251.
[97] Qwest advisory letter April 1, 2003, Document Number TARI.04.01.03.B.000125_Tari_Cont.

assessed to CLECs for load coil removal, regardless of loop length. In other words, based on a strict interpretation of TELRIC standards, loop conditioning charges would *never* be assessed on CLECs. To do otherwise would result in tacking back and forth between forward-looking, and embedded costs in the calculation of UNE rates – to the exclusive benefit of the ILEC.

Q. HAVE OTHER STATES ADDRESSED THE LOOP CONDITIONING ISSUES YOU RAISE ABOVE RECENTLY?

A. Yes. The Massachusetts Department of Telecommunications and Energy (DTE) in Docket No. 01-20 addressed the very issues we discussed previously, finding that to allow Verizon to recover loop conditioning costs would amount to "a mismatching of network assumptions between recurring and nonrecurring costs" that could result in "Verizon choosing the network design that is most advantageous to itself for cost recovery."[98] The DTE went on to reject any charges for the conditioning of loops except for the most extraordinary circumstances, resulting in a $0.00 charge for loops conditioned less than 18 kft.

The DTE rejected Verizon's attempt to do precisely what ALLTEL seeks to do in this docket, i.e., charging recurring rates for a network that is presumably DSL ready, and

[98] D.T.E. 01-20. Investigation by the Department of Telecommunications and Energy on its own Motion into the Appropriate Pricing, based upon Total Element Long-Run Incremental Costs, for Unbundled Network Elements and Combinations of Unbundled Network Elements, and the Appropriate Avoided-Cost Discount for Verizon New England, Inc. d/b/a/ Verizon Massachusetts' Resale Services in the Commonwealth of Massachusetts. July 11, 2002.

then, charging NRCs for loop conditioning that is required to make the network DSL ready.

Q. IS IT APPROPRIATE TO RECOVER THE COSTS ASSOCIATED WITH THE REMOVAL OF BRIDGE TAPS?

A. Similar to the situation with load coils, bridged taps have very limited application in a forward-looking network. While it can be argued that at one time bridged taps provided carriers with added flexibility to provide customers with service in an environment in which multiparty service was a prime offering and significantly lower subscriber-ship levels existed, such flexibility is no longer desired or necessary in today's environment, with many homes and businesses served by multiple lines. Because virtually all homes and businesses currently have at least one phone line, the wide deployment of bridged tap is no longer required in order to optimize copper usage in a modern network. In short, bridged taps have no purpose on loops of any length in a forward-looking network, and therefore any costs associated with the removal of these disturbers should be set at $0.

Q. IS THAT CHARGE APPROPRIATE?

A. As noted above, any non-zero charge for loop conditioning would constitute an over-recovery of costs for ALLTEL, and would therefore be inappropriate. As we have discussed above, even if ALLTEL sought only to recover loop conditioning costs incurred by an efficient carrier, that manages its network in a least-cost manner, NRCs for loop conditioning would be inappropriate. However, ALLTEL's NRCs for loop conditioning reflect inefficient network design, and are therefore grossly overstated.

Q. SPECIFICALLY, HOW HAS ALLTEL OVERSTATED ITS PROPOSED LOOP CONDITIONING CHARGES?

A. As the FCC noted, ILECs have the incentive to inflate loop conditioning costs. The overstatement of these costs by ALLTEL derives from two main areas, first, ALLTEL has overstated the times associated with performing loop conditioning tasks, and second, because ALLTEL has included charges for restoring bridge taps.

In each of these instances, ALLTEL has ignored efficiencies which the Commission and Kentucky consumers should expect ALLTEL to avail itself of. Because of ignoring these efficiencies, the charges for loop conditioning have been grossly overstated.

Q. DO YOU RECOMMEND ALTERNATIVE RATES FOR LOOP CONDITIONING IN THIS PROCEEDING?

A. As noted, our recommendation is for the Commission to adopt a rate of $0 for loop conditioning. This recommendation is consistent with TELRIC principles, and is appropriate because ALLTEL already fully recovers all loop conditioning costs through its monthly recurring rates. Any additional compensation for ALLTEL through a nonrecurring charge would clearly be a windfall to ALLTEL, and would represent double recovery.

If, however, the Commission determines that loop conditioning costs for loops greater than 18,000 (i.e., extraordinary situations) should be recovered through a special nonrecurring rate, we strongly recommend that such rates be based on the efficient and achievable task times we discuss in the next section of our testimony.

C. IF ALLOWED, CONDITIONING CHARGES SHOULD BE BASED ON APPROPRIATE TIMES FOR CONDITIONING TASKS

Q. WHAT COSTS DOES ALLTEL SEEK TO RECOVER FOR LOOP CONDITIONING IN THIS PROCEEDING?

A. Again, ALLTEL is proposing the rates in the table below:

Description	PRI-ISDN / DS-1 2 Wire	PRI-ISDN / DS-1 4 Wire
(a)	(k)	(l)
RATE SUMMARY:		
1. Inquiry Fee	$291.24	$291.24
2. Base Conditioning Fee	$857.77	$1,428.10
3. Per Bridge Tap or Load Coil Removed, or Cable or Terminal Throw	$218.42	$218.42
4. Per Repeater	$273.02	$273.02
5. Per Repeater Shelf	$218.42	$218.42
6. Per Repeater	$50.13	$50.13

Q. HOW DOES ALLTEL CALCULATE THESE RATES?

A. ALLTEL's cost study for non-recurring costs/rates is particularly simple in construction. Basically, the costs study consists of a list of activities and the times that it takes for technicians, etc., to perform those activities. The non-recurring charges are then calculated by simply multiplying the activity labor time estimates times the hourly labor rates.

The table below provides a list of the task times that ALLTEL used in its study to develop loop conditioning NRCs in this case.

[*Begin Confidential***]**

Table: ALLTEL'S Proposed Labor Time Estimates

	PRI-ISDN / DS-1 2 Wire	PRI-ISDN / DS-1 4 Wire
Inquiry Fee - determines if conditioning is required	[redacted]	[redacted]
Basic Conditioning – determines specific conditioning and drawing preparation	[redacted]	[redacted]
Per Bridge Tap, Load Coil, Cable or Terminal Throw	[redacted]	[redacted]
Per Repeater	[redacted]	[redacted]
Per Repeater Shelf	[redacted]	[redacted]

[*End Confidential***]**

Again, each of these activity times is multiplied by an hourly labor rate to get the non-recurring costs (which are then marked-up by shared and common costs to get the UNE rates.)

Q. DID YOU ASK ALLTEL FOR BACKGROUND INFORMATION ON HOW THESE LABOR TIMES ESTIMATES WERE CALCULATED?

A. Yes. We asked ALLTEL provide the source materials for these labor time estimates and for the detail underling these general categories. The response, however, was to refer back to the cost study itself.[99] That is, apparently there is no more detail than what has already been provided by ALLTEL in the cost study.

Q. DOES THE ALLTEL STUDY LACK THE DEGREE OF DETAIL TO ACCURATELY REFLECT THE PROCESS OF LOOP CONDITIONING AND SUPPORT THE PROPOSED RATE INCREASES?

A. Yes. The ALLTEL lacks the detail necessary to support the proposed rate increases.

Q. ON ITS FACE. HOWEVER, ARE THE LABOR TIME ESTIMATES IN THE ALLTEL STUDY EXCESSIVE?

A. Yes. While the cost study lacks detail, the labor time estimates are greatly exaggerated. In what follows, we will discuss each of these activities and propose more reasonable labor time estimates.

1. Activity # 1: Inquiry Fee

Q. PLEASE DISCUSS THIS ACTIVITY AND PROPOSE AN ALTERNATIVE TIME ESTIMATE.

A. This activity concerns an inquiry to determine whether a loop is suitable for a digital signal. As we discussed previously, given that CLECs are paying for DS1 loops based on a TELRIC construct—i.e., based on costs that assume a newly constructed network—it seems irrational to have CLECs also pay to examine whether the newly

[99] See Data Request 23 and ALLTEL's response. A follow-up Data Request 40 elicited no more information from ALLTEL.

constructed DS1 loop is capable of being a DS1 loop. Nevertheless, if the Commission rejects are recommendation for $0 loop conditioning charges, then at least the Commission should recognize that CLECs should be able to access ALLTEL's systems to determine whether a digital loop is available. They should not be charged for this activity. (ALLTEL includes a cost of $291.24 in the rates for this activity.)

As noted, CLECs should have access to the same systems that ALLTEL's own technicians use for this type of access. As the FCC repeatedly notes:[100]

> Section 251(c)(3) requires incumbent LECs to provide nondiscriminatory access to unbundled network elements. In addition, section 251(c)(6) imposes an obligation on incumbent LECs "to provide, on rates, terms and conditions that are just, reasonable, and nondiscriminatory, for physical collocation of equipment necessary for interconnection or access to unbundled network elements. . . ."

In fact, ALLTEL's practice here to charge for this type of activity is out of line with other ILECs, such as SBC, who do not charge for this service and permit CLECs to perform this task for themselves.

Q. WHAT REVISED ACTIVITY TIME DO YOU RECOMMEND?

A. Once ALLTEL permits CLECs access to its databases, CLECs can perform this task without any additional costs to ALLTEL. Thus, a labor time for ALLTEL of *0* hours is appropriate.

[100] See for example, FFC's Advanced Services Order, CC 98-147, page 8.

2. *Activity #2: Basic Conditioning*

Q. WHAT IS INVOLVED IN THIS ENGINEERING TASK?

A. The engineering task consists of acquiring existing information on the current design of the loop facility, then indicating the points on the design that disturbers exist and changing the status from a connection to a disconnection or removal. Design information currently resides in ALLTEL mechanized engineering systems. This means the task consists of collecting existing information and changing the status to indicate the disconnection task to be performed. This is nothing more than restating or copying the existing records and drawings to indicate the final condition of the facility (in this case disconnected) and then transmitting the work orders to the construction group that will perform the physical rearrangement of the facility. The loop conditioning engineering activity is analogous to a disconnect service order, where nothing more than a change of status of network elements with the final reconfiguration of the circuit implemented in the field.

Q. HOW HAS ALLTEL EXAGGERATED THE ENGINEERING OF THE LOOP CONDITIONING ACTIVITIES?

A. Yes. The times to perform the task of engineering a disconnect for load coils, bridge taps or repeaters, should never exceed 45 minutes regardless of the number of loop conditioning elements in the circuit. Modern forward-looking OSS support the OSP engineering effort and as a result the systems transactions should be nothing more than a command to change the loop conditioning status of a single cable facility or a binder group of cable facilities. The system then transmits the appropriate work orders to the construction organization for implementation. With modern outside plant engineering support systems these task types are virtually automated. The engineer need only issue commands that direct the engineering systems in taking the appropriate actions for the task at hand. Indeed, if this automated process is followed to its ultimate configuration, a service request would flow directly from the ordering system or systems directly to the engineering support system and the process would be automated up to the delivery of the work order too the cable splicing technician.

Q. WHAT REVISED LABOR TIME DO YOU RECOMMEND?

A. Based on our experience, we recommend a labor time of 45 minutes for this activity.

3. Activities # 3 – 5: Removal of Bridge Tap, Load Coils, Repeaters

Q. ARE THERE THREE DISTINCT CIRCUMSTANCES IN WHICH THE ACTIVITIES OF REMOVING DISTURBERS FROM THE LOOP CAN TAKE PLACE?

A. While ALLTEL's study does not provide any detail in this regard, there are in fact three distinct circumstances in which these activities take place: (1) underground, (2) aerial, and (3) buried cables. Since these are three distinct environments in which the activities have to be performed, different activities apply.

In what follows, we will first discuss the three different environments in which these activities take place and provide appropriate and detailed estimates for each activity. We will then discuss how to blend the various activity times into an averaged situation based on the number of facilities in ALLTEL's network that are underground, aerial and buried. These blended activity times will then be used in the cost study as an alternative to ALLTEL's inflated activity times.

Q. PLEASE DEFINE UNDERGROUND PLANT AND THE PROCESS REQUIRED TO REMOVE LOAD COILS, REPEATERS AND BRIDGE TAPS FROM UNDERGROUND PLANT.

A. Underground plant consists of cable that is installed in underground conduit which passes through a manhole system. There are several steps necessary to de-load or remove a load coil from a manhole where the splice closure exists in the underground network.

Prepare work site with safety equipment – Some manholes are located in the middle of roadways or streets. In order to comply with safety regulations, the technician must properly prepare the work location with traffic signs and cones.

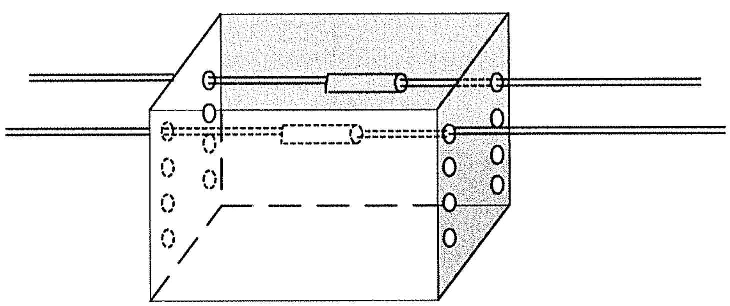
Open and prepare manhole – The technician must remove the lid from the manhole and pump any water from the manhole. He must also test the manhole for oxygen levels and purge the manhole with fresh air to ensure safe working conditions.

Pumping water from the manhole and purging the manhole with air can be performed simultaneously.

Enter manhole, locate and open splice case – Cables in manholes are racked horizontally along the walls of the manhole. Typically, cables are racked on two (2) of the four (4) walls of the manhole. Depending on the size of the manhole, there are one (1) to four (4) cables racked in the manhole per cable entry side (see Manhole Diagram, below). The splice closures are typically marked with a combination of numbers and letters that identify the cable contained within the closure. Splice closures are typically large stainless steel cylinders sealed with bolts at the top and bottom of the closure. Most closures will have six (6) to eight (8) bolts that will need to be removed. Technicians carry ratcheting tools that can remove the bolts easily and quickly.

Manhole Diagram

Figure 1



Cut cable pair from "disturber" stub and re-splice pair – Cables are divided up into twenty-five (25) pair binder groups. Within the binder groups, the individual pairs are color coded for identification purposes. This enables the technician to easily locate the pair or binder group to be conditioned. In most cases, the twenty-five pair binder groups are spliced using splicing connectors that actually connect twenty-five pair at one time. An example of this type of splice is the MS^2 splice connector, as shown in Figure 3 and 4, below.

Figure 2

Splicing Example 1 - Straight Splice

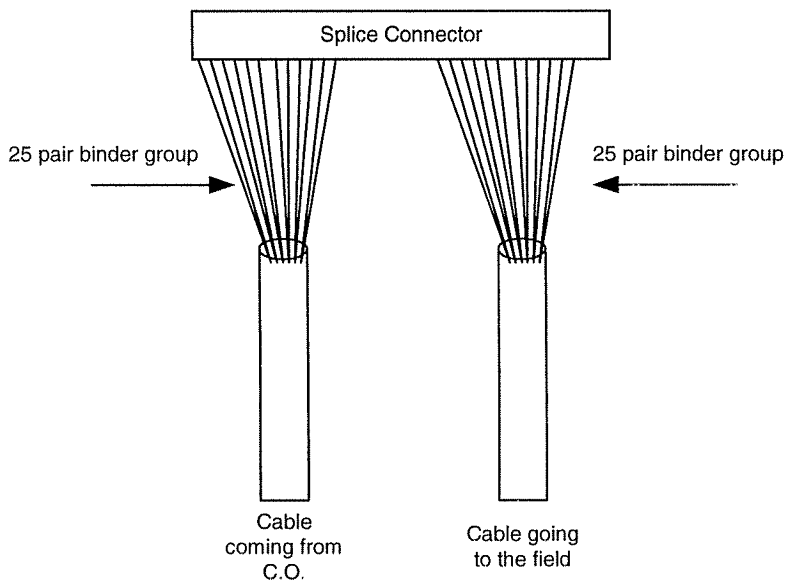
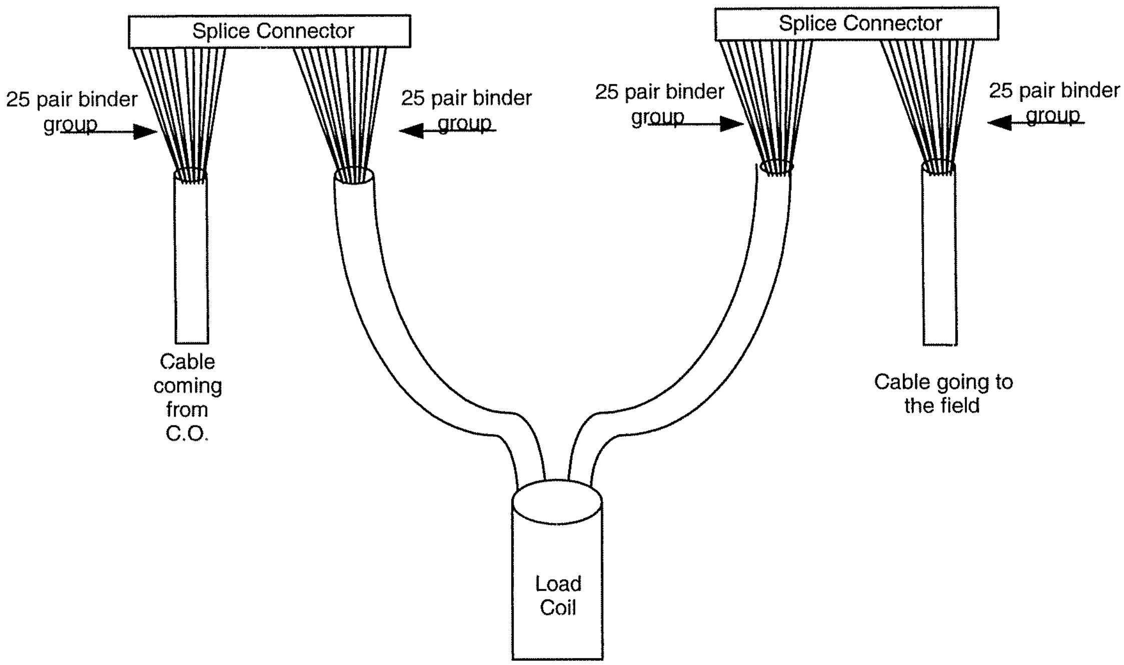


Figure 3

Splicing Example 2 - Load Coil



To remove the "disturber" pair from the splice connector, you simply pull the pair from the splicing connector. You can pull one pair at a time or several pairs at once if you wish. You then need to reconnect the feeder side of the pair to the field side of the pair to complete connectivity through the splice. Once again, this can be performed one pair at a time or all twenty-five at once if so desired. After the splicing activities have been performed, the technician then closes and seals the splice closure by installing the closure sealing bolts.

Remove splicing and safety equipment and load on truck – This consists of removing the traffic safety equipment, test equipment and purging equipment and placing it back on the truck.

Q. PLEASE PROVIDE THE PROPER WORK ACTIVITY TIMES ASSOCIATED WITH CONDITIONING LOOPS IN UNDERGROUND PLANT FACILITIES.

A. The table below sets forth the proper work activity times associated with conditioning loops in underground plant facilities.

Table: Work Activity Times

Work Activity Times – Underground Plant Facilities		
STEP	**DESCRIPTION**	**ACTIVITY TIME**
1	Prepare Work site with safety equipment	15
2	Open and prepare manhole	15
3	Enter manhole, locate and open splice case	10
4	Cut cable pair from disturber, re-splice cable pairs	5
5	Close and seal splice closure	10
6	Remove splicing and safety equipment and load truck	15
Total Minutes		**70**

These activities and activity times are based on the collective experience of QSI consultants and the specific subject matter expertise of Mr. Sidney L. Morrison. Mr. Morrison has personally performed and supervised these activities during, among other instances, his tenure at U.S. West. Mr. Morrison has also developed processes for these activities in a management capacity. Mr. Morrison has also testified as an expert witness on these issues in numerous cases around the country. A complete description of Mr. Morrison's work experience and expertise is found at the beginning of this testimony and in his CV, found in Exhibit 3.

Q. PLEASE DEFINE UNDERGROUND PLANT AND THE PROCESS REQUIRED TO REMOVE LOAD COILS, REPEATERS AND BRIDGE TAPS FROM AERIAL PLANT.

A. Aerial plant is cable that is installed and attached to poles which support the cable in the air. The closures used to house splices vary in size and architecture. Some aerial splice closures are stainless steel and have the same architecture as those used in underground plant. These are typically used on very large cables where multiple splice connectors will need to be housed. There are also polyurethane splice closures which are much easier to access and make up the majority of closures used in aerial plant. Many of the steps to condition aerial plant are very similar to those used to condition underground plant.

Prepare work site with safety equipment – The conditioning of aerial cable will most likely involve the technician working out of a bucket truck. The technician will have to put cones around the truck to mark the work area and will need to place traffic safety signs in the proper locations. Cable routes typically follow roads and utility right-of-way corridors. Utility right-of-way corridors most often are located in areas where there is no public access or traffic flow. When conditioning is done in these locations, there is no need for the placement of traffic signs.

Approach aerial terminal and open terminal -- At this point, the technician will enter the bucket and approach the aerial terminal. He will open the terminal and either remove a few bolts from a stainless steel type closure or slip some simple fastening clips from the poly style closure.

Locate and remove pair from "disturber" – As mentioned previously, the pairs will be color coded for easy identification. The technician simply locates the pair to be conditioned and removes the pair from the "disturber" (load coil, bridge tap, repeater). This is accomplished by the same method as described previously. Additional pairs can be conditioned simultaneously very quickly and easily as described previously in this testimony.

Store pairs, close splice closure, and descend pole – This consists of arranging the splice connectors back in the splice case and closing the case. After the technician has closed the splice closure he will descend the pole, store tools and remove safety cones and traffic equipment.

Q. PLEASE PROVIDE THE PROPER WORK ACTIVITY TIMES ASSOCIATED WITH CONDITIONING LOOPS IN AERIAL PLANT FACILITIES.

A. The table which follows provides the proper work activity times associated with conditioning loops in aerial plant facilities.

Table: Work Activity Times

Work Activity Times – Aerial Plant Facilities		
STEP	**DESCRIPTION**	**ACTIVITY TIME**
1	Prepare Work site with safety equipment	10

2	Approach aerial splice closure, open closure	5
3	Cut cable pair from disturber, re-splice cable pairs, close and seal closure	5
4	Store pairs, close splice closure, retreat from splice	5
5	Remove splicing and safety equipment and load truck	5
Total Minutes		**30**

As before, these activities and activity times are based on the collective experience of QSI consultants and the specific subject matter expertise of Mr. Sidney L. Morrison. Mr. Morrison has personally performed and supervised these activities during, among other instances, his tenure at U.S. West. Mr. Morrison has also developed processes for these activities in a management capacity. Mr. Morrison has also testified as an expert witness on these issues in numerous cases around the country. A complete description of Mr. Morrison's work experience and expertise is found at the beginning of this testimony and in his CV, found in Exhibit 3.

Q. PLEASE DEFINE BURIED PLANT AND DISCUSS THE METHODS OF CONDITIONING PAIRS IN BURIED PLANT.

A. Buried plant consists of cable that is directly buried in the ground. It is not housed in a protective conduit like underground plant. The types of splice closures used for buried plant are normally metal boxes that stick out of the ground. To enter the splice closure you simply loosen one or possibly two bolts and remove the lid. Some larger splice closures actually have doors that conveniently swing open. The conditioning times and activities for buried plant are very similar to aerial plant. The only basic difference is that the technician has slightly less time involved in approaching the splice closure since it is located on the ground. In most instances it also takes a little less time to open the splice closure due because there is only one or possibly two bolts to loosen to enter the closure.

Q. PLEASE PROVIDE THE PROPER WORK ACTIVITY TIMES ASSOCIATED WITH CONDITIONING LOOPS IN BURIED PLANT FACILITIES.

A. The table which follows sets forth the proper work activity times associated with conditioning loops in buried plan facilities.

Table: Work Activity Times

Work Activity Times – Buried Plant Facilities		
STEP	**DESCRIPTION**	**ACTIVITY TIME**
1	Prepare Work site with safety equipment	10
2	Open buried splice pedestal	3
3	Locate and remove pairs from disturber	5
4	Store pairs, close splice closure	3
5	Remove splicing and safety equipment and load truck	5
Total Minutes		**26**

Again, these activities and activity times are based on the collective experience of QSI consultants and the specific subject matter expertise of Mr. Sidney L. Morrison. Mr. Morrison has personally performed and supervised these activities during, among other instances, his tenure at U.S. West. Mr. Morrison has also developed processes for these activities in a management capacity. Mr. Morrison has also testified as an expert witness on these issues in numerous cases around the country. A complete description of Mr. Morrison's work experience and expertise is found at the beginning of this testimony and in his CV, found in Exhibit 3.

Q. PLEASE DISCUSS HOW TO BLEND THESE THREE SETS OF ACTIVITIES—UNDERGROUND, AERIAL AND BURIED-TO CALCULATE AN AVERAGE THAT CAN BE USED AS AN ALTERNATIVE TO ALLTEL'S INFLATED ESTIMATE?

A. A blended average can be calculated based on the relative percentages of underground, aerial and buried facilities in ALLTEL's network. This data is available from ALLTEL's own cost study as follows:[101]

[*Begin Confidential***]**

Table: Relative Weights for Activity Times

Facilities	Facilities Pair Foot	Percentage of Total
Under-Ground	[redacted]	[redacted]
Aerial	[redacted]	[redacted]
Buried	[redacted]	[redacted]
Total	[redacted]	*100%*

[*End Confidential***]**

Thus, the above percentages can be used to weight the activities for the three separate circumstances under which load coils, repeaters and bridge taps have to be removed. The result of this blending is as follows:

[101] KAUNEw1, Tab: Import Data.

[*Begin Confidential***]**

Table: Blended Times Load Coils, repeaters and Bridge Taps Removal

Facilities	Activity Time (in Minutes)	Weight	Minutes
Under-Ground	[redacted]	[redacted]	[redacted]
Aerial	[redacted]	[redacted]	[redacted]
Buried	[redacted]	[redacted]	[redacted]
Blended Time			[redacted]
			[redacted]
Travel Time[102]			[redacted]
Total Blended Time			[redacted]

[*End Confidential***]**

The complete calculation of this weighting is found in Exhibit 4, Tab: Blended Activity Times.

D. <u>REVISED RATES FOR LOOP CONDITIONING</u>

Q. HOW WILL THE ADJUSTMENTS THAT YOU HAVE MADE TO LOOP CONDITIONING WORK ACTIVITY TIMES AFFECT THE RATES IN THIS PROCEEDING.

A. We have applied the revised activity times (in the above tables) we provided for engineering, underground, buried and aerial outside plant to our revised ALLTEL Loop Conditioning Cost study.[103] When the appropriate loop conditioning activity times are used the loop conditioning cost drop to a more reasonable level, but it should be pointed out that these reduced cost are only an alternative and are not

[102] The travel times are adopted from the ALLTEL study, KAUNEw1, Tab: NRC Install.
[103] Exhibit - 4.

intended to be our primary recommendation. As stated before, our primary recommendation is that loop conditioning cost be reduced to $0.00.

The revised rates are as follows:

Table: NuVox Revised Loop Conditioning Rates

	Description	PRI-ISDN / DS-1 2 Wire	PRI-ISDN / DS-1 4 Wire
	(a)	(k)	(l)
RATE SUMMARY:			
1.	Inquiry Fee	$0.00	$0.00
2.	Base Conditioning Fee	$41.34	$41.34
3.	Per Bridge Tap or Load Coil Removed, or Cable or Terminal Throw	$36.89	$36.89
4.	Per Repeater	$36.89	$36.89
5.	Per Repeater Shelf	$36.89	$36.89
6.	Per Repeater	$22.06	$22.06

X. CONCLUSION

Q. WHAT IS YOUR RECOMMENDATION?

A. A summary of our conclusions and recommendation is found at the beginning of this testimony. Our revised cost study and proposed rates are found in exhibit-3.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.