BEFORE THE PUBLIC UTILITIES COMMISSION OF OHIO

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In the Matter of the Petition of Communication Options, Inc., for Arbitration of Interconnection Rates, Terms, and Conditions and Related Arrangements with United Telephone Company of Ohio d/b/a Embarq Pursuant to Section 252(b) of The Telecommunications Act of 1996.	:	Case No. 08-45-TP-ARB

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PROCEEDINGS

Before James M. Lynn and Jay S. Agranoff, Hearing Examiners, and Panel Members, Ms. Robbin R. Russell, Ms. Michelle A. Green, at the Public Utilities Commission of Ohio, 180 East Broad Street, Room 11-G, Columbus, Ohio, called at 9:05 a.m. on Tuesday, October 28, 2008.

12/4/08

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Transcript docketed electronically

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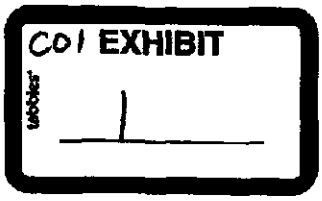

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Petition of	)	
Communication Options, Inc. for Arbitration	)	
of Interconnection Rates, Terms and	)	
Conditions and Related Arrangements with	)	Case No. 08-45-TP-ARB
United Telephone Company of Ohio dba	)	
Embarq Pursuant to Section 252(b) of The	)	
Telecommunications Act of 1996.	)	

PREFILED TESTIMONY OF STEVE VOGELMEIER

On behalf of

Communication Options, Inc.

June 24, 2008

1. **Q. Please state your name and on whose behalf you are testifying.**

A. My name is Steve Vogelmeier and I am President of Communication Options, Inc. ("COI"). My business address is 921 Eastwind Drive, Suite 104, Westerville Ohio. I am testifying on behalf of COI, which is a competitive local exchange company ("CLEC") certificated by the Public Utilities Commission of Ohio ("PUCO" or "Commission"). COI currently has an interconnection agreement with United Telephone Company of Ohio dba Embarq ("Embarq") which commenced on January 2005.

2. **Q. Please state your background with respect to your affiliation with COI.**

A. I have been employed as COI's president since 1990. My duties include representing the company in negotiations with various incumbent local exchange carriers both with respect to interconnection agreements and other commercial agreements. Prior to this proposed Embarq interconnection agreement ("ICA"), COI opted into four (4) prior ICAs to receive service from Embarq. (I am using the term "Embarq" to include the United Telephone Company of Ohio before it changed its name). This is the first ICA proposal that COI felt compelled to resolve through the arbitration process.

3. **Q. Have you previously testified in proceedings before the Commission?**

A. Yes. I have.

4. **Q. What is the purpose of your testimony?**

A. The purpose of my testimony is to explain COI's position with respect to the several unresolved issues that appear on the joint matrix that was provided to the

Staff on May 28, 2008. This matrix shows fewer unresolved issues than appeared on the matrix that was filed with the COI Petition on January 16, 2008. Also on May 28, 2008 the parties provided the Staff with an updated Embarq proposed contract which highlighted the unresolved issues for this arbitration.

At the prehearing for this arbitration held on February 21, 2008, the parties requested a Staff mediation and on March 20, 2008, a mediation session was held at the Commission's offices. As a result of the all day mediation session, several issues were resolved and several more were resolved within the next two weeks as a result of the Staff mediation. COI made another attempt to negotiate with Embarq on May 16, 2008 but no further agreements were reached.

Thus at this time, there are 10 separate issues remaining [Table One, the rates that COI is contesting, comprises a single issue, No. 15 on the matrix.] The matrix provided on May 28, 2008 leaves the original numbering that was used on the matrix filed on January 16, 2008 even though several of the issues have been resolved.

The issues that I will address in this testimony are item 2 pertaining to charges, billing and payment found in Sections 7.2.3 and 7.2.4 of Embarq's ICA provided to the Staff on May 28, 2008; item 7 pertaining to security deposits found in Sections 34.7 and 34.9; and item 10 pertaining to the ordering of dedicated transport circuits found in Section 50.2.2.

5. Q. **Please explain COI's position with respect to the billing and payment provisions (item 2 on the matrix) found in Sections 7.2.3 and 7.2.4 of the most recent version of Embarq's proposed ICA.**

A. The last four ICAs have had the provision that if COI does not pay within 60 days, Embarq will suspend its process of new service orders. Likewise, these ICAs have provided that if an Embarq bill is not paid within 90 days, Embarq may terminate service to COI. Embarq proposes to change the terms for suspension and termination from 60 to 45 days and from 90 to 60 days respectively. COI opposes this change based on the company's 10 year history with Embarq.

Some background for our position is necessary. Each month Embarq renders to COI ten bills (one of which is approximately 1,600 pages, others vary from 50 pages to more than 550 pages). Based on Embarq's past error experience with our company, depending on the month, we are compelled to review approximately 1,000 to 5,000 separate items consisting of charges and credits. A substantial amount of effort on the part of several COI employees is required to verify the bills Embarq renders. I would estimate approximately 126 man hours per month are spent on verification activities for Embarq bills to COI.

COI receives these bills on various dates and thus the due date occurs on various dates each month. Each month, COI pays Embarq in the aggregate approximately $400,000. A number of years ago, Embarq and COI agreed that COI would pay Embarq on a weekly basis and that practice has been in place ever since. Because of the countless billing issues over the years, COI cannot be sure that each bill is always paid within 60 days. However, we can be sure that each undisputed bill is paid within that time and we can assure that we are paying Embarq approximately $100,000 each week. But due to the complexity of the billing we cannot guarantee that each item for each bill is paid within 60 days.

The purpose of the penalties proposed is to secure payment from the CLEC. In COI's case, COI makes substantial payments each week. In order to assure that all items on all the ten voluminous bills "clear" the review process at COI, we require the 60 days. Excluding those situations in which there have been arguments over the proper application of credits and payments, Embarq has not had to invoke the provisions in the current ICA and we know that through no fault of COI, it has sometimes taken nearly the full 60 days to clear some of the bills. Therefore changing this provision after ten years of its working satisfactorily would harm COI. Were it the case that Embarq were not receiving regular weekly streams of revenue from COI or even if it were the case that COI paid once monthly and was consistently tardy, these provisions might be justified. But Embarq gave us no reason in our particular case, why the time lines in these provisions should change. Based upon our particular circumstances of substantial weekly payments, the number and complexity of the bills rendered to us by Embarq and our company's 10 year payment history with Embarq, we believe that shortening the periods without a justification that applies to COI, is unreasonable. Embarq has argued to us that, as a general business practice, it desires to make the changes. Its desire is to have a uniform contract. But its desire for uniformity is not reasonable as it affects COI and in our opinion, these changes should not be permitted.

6. Q. Please explain COI's position with respect to the security deposit provision (item 2 on the matrix) found in Section 37.4 of the most recent version of Embarq's proposed ICA.

COI objects to the security deposit provisions that Embarq proposes several reasons. Embarq's security deposit provisions, which are not in the current ICA, would have COI pay a substantial security deposit, at the whim of Embarq. Worse, Embarq would get to keep the security deposit, without paying interest, for the duration of the new ICA, regardless of the fact that COI may have a satisfactory payment performance record for the prior consecutive 12-month period. The purpose of security deposit provisions is to assure that a vendor is not at risk to customers with poor payment records. If a customer fails to pay, Embarq is assured of payment from the deposit until it can exercise its right to terminate the contract. As noted earlier, Embarq has not borne this type of business risk from COI due to the steady substantial weekly payments that COI makes.

Embarq has not provided any reason for its abandonment of the principles underlying its current ICA security deposit which states:

> 336.1 Sprint reserves the right to secure the account with a suitable form of security deposit, *unless satisfactory credit has already been established through twelve (12) consecutive months of current payments* for carrier services to Sprint and all ILEC affiliates of Sprint.
>
> ...
>
> 36.8 ... *Cash or cash equivalent security deposits will be returned to CLEC when CLEC has made current payments for carrier services to Sprint and all Sprint affiliates for twelve (12) consecutive months.*

Emphasis added. Embarq should not be permitted to disregard the principles and purpose underlying the concept of security deposits at its discretion. Nor should it be permitted to keep security deposits when the need for them is not justified.

There is no risk and thus no reason to apply a security deposit provision to COI.

Furthermore, there is no triggering event provided for in the provision. On its face, the provision allows Embarq to invoke the provision against whomever and whenever it likes. Embarq has informed COI that it intends to invoke the provision when the ICA becomes effective.

The amount of the security deposit is staggering. COI would have to give Embarq an additional $800,000 for Embarq to use to earn additional revenue for Embarq for the period of the ICA, two years. Only at a time when COI terminates its relationship with Embarq would COI get its security deposit back without interest. COI has several additional objections to the provision concerning (1) the length of Embarq's holding the deposit and (2) the fact that Embarq will not even pay COI for the use of COI's money. The PUCO has promulgated a policy with respect to security deposits from residential customers in Ohio Administrative Code ("OAC") Chapter 4901-1-17. Though COI has not argued that this chapter is applicable to non residential transactions, the policy set forth in that chapter provides substantial justification for our position. It is noteworthy that the chapter is entitled "Establishment of Credit" and the chapter proceeds from the underlying principle that a utility has a right to require its customers to satisfactorily establish their financial responsibility, precisely as set forth in Embarq's current ICA security provisions. This test is met in the case of COI. There is no need for a security deposit from COI because COI has proven its financial responsibility for 10 years. Even were there a need, OAC Rule 4901:1-17-06 requires, that as to residential customers, telephone companies shall return the deposit if (a) the customers has paid for service for 12 consecutive months without being terminated; (b) there were no more than two times in the 12 month period when the bills were not paid timely; and (c) the customer is not

delinquent at the time the deposit is to be returned. In addition, OAC Rule 4901:1-17-05 requires that the minimum interest to be paid is 3%. COI contends that the policy set forth by the Commission for security deposits is not met by the Embarq proposals and that Embarq's proposed security deposit terms do not pass the reasonableness test set forth in OAC Chapter 4901:1-17.

COI believes that the Commission should apply the principles set forth in OAC Chapter 4901:1-17 when considering the security deposit provision of Embarq and the Commission's rule that it is not reasonable.

7. **Q. Please explain COI's position with respect to the security deposit provision (also item 2 on the matrix) found in Section 37.9 of the most recent version of Embarq's proposed ICA.**

A. COI proposed to Embarq that if there were to be a security deposit provision in the ICA, the provision should be reciprocal so that COI should likewise be permitted to assess a security deposit on Embarq. Embarq declined to even discuss reciprocity. Currently, Embarq makes payments to COI for services COI provides to Embarq. Moreover, it is Embarq, not COI, who has a history of being dilatory in making payment to COI. Were one to apply the principles and policies that are embedded in OAC Chapter 4901:1-1-17, COI would be completely justified in requiring a security deposit. For example, Embarq withheld payment of invoices from COI for 4 months without issuing a dispute of any type. After COI contacted Embarq for collections numerous times, Embarq sent a dispute, which I consider a bad faith dispute, for 100% of all 4 months invoices instead of just the amount that they really wanted disputed.

8. **Q. Please explain COI's position with respect to item 10 in the matrix, the ordering of unbundled DS1 transport circuits found in Section 50.2.2 of the most recent version of Embarq's proposed ICA.**

A. Embarq's proposed Section 50.2.2 prohibits COI from ordering more than 10 DS1 transport circuits at a time when the next level of service would be a DS3 transport circuit, which has the equivalent capacity of twenty eight DS1 transport circuits. When COI needs to order for example, 11 DS1 transport circuits, this provision would force it to order the significantly more expensive DS3 transport circuit. COI would not choose to order a single DS3 transport circuit when it needs only 11 DS1 transport circuits because the proposed price of the DS3 transport circuit is the equivalent to on average 24 DS1 transport circuits! Thus if COI requires 11 DS1s, it would be effectively compelled to take the capacity of thirteen additional DS1s that it does not need at a cost that is significantly higher than the 11 DS1 transport circuits.

I am addressing the "real world" effect of this provision. As I understand it, Embarq has taken the legal position that it is permitted to limit the maximum number of DS1s that can be ordered at one time and that it is permitted to compel COI to order a DS3 based on the Triennial Review Remand Order ("TRRO")[1] issued by the Federal Communications Commission ("FCC"). The Petition in this case set forth some of our legal arguments and I will not repeat them here (TRRO

[1] *In the Matter of Unbundled Access to Network Elements*, WC Docket No 04-313, and *Review of the Section 251 Unbundling Obligation of Incumbent Local Exchange Carriers*, CC Docket No. 01-338 released December 4, 2004 ("FCC Order").

pages 9 and 10). They are probably the contentions that will have to be briefed at the conclusion of the arbitration hearing.

I will not say more than to emphasize that my understanding is that the FCC's ruling was based upon the evidence that it had before it and that the evidence the FCC had before it may have justified its conclusion based on its belief that a cap of 10 DS1 loops was justified economically; that is, there was a price break point between 10 DS1s and a DS3. This may have been the case for the rates that it reviewed for other ILECs, but it certainly is not the case for Embarq's high rates. Embarq's pricing for DS3s is more than two times the highest ratio that the FCC cited.

Based on the disparity of economics in the case of Embarq and the fact that the FCC recommended the cap based on evidence that does not hold true for this case, COI urges the arbitration panel to consider the evidentiary basis for the FCC's cap and modify it to fit the high ratio that exists due to Embarq's high DS3 prices.

9. **Q. Does this conclude your testimony?**

A. Yes it does.

PUBLIC VERSION

BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Petition of Communication Options, Inc. for Arbitration of Interconnection Rates, Terms and Conditions and Related Arrangements with United Telephone Company of Ohio dba Embarq Pursuant to Section 252(b) of The Telecommunications Act of 1996.	)))))))	Case No. 08-45-TP-ARB

PREFILED TESTIMONY OF

AUGUST H. ANKUM, PH.D.-

On Behalf of

Communication Options, Inc.

June 24, 2008

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LIST OF EXHIBITS

I. INTRODUCTION

Q. 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., ("QSI"), a consulting firm specializing in economics, econometric analysis, and telecommunications cost modeling. My business address is 1027 Arch, Suite 304, and Philadelphia, PA 19107.

Q. WHAT IS QSI CONSULTING, INC.?

A. QSI Consulting, Inc. ("QSI") is a consulting firm specializing in traditional and non-traditional utility industries, econometric analysis and computer aided modeling. QSI provides consulting services for regulated utilities, competitive providers, government agencies (including public utility commissions) and industry organizations.

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, U S 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, including before the Public Utilities Commission of Ohio ("PUCO" or "Commission," is attached hereto as Exhibit (AA-1).

Q. WHAT IS THE PURPOSE OF THIS TESTIMONY?

A. The purpose of this testimony is to recommend to the Commission appropriate rates for the following unbundled network elements ("UNEs") to be included in the Interconnection Agreement ("ICA") between United Telephone Company of Ohio dba Embarq ("Embarq") and Communication Options, Inc. ("COI"):

- 4-Wire xDSL Capable Loop
- 4-Wire Digital Loops (No Electronics)
- DS1 Service and ISDN PRI Loop

Given that Embarq's rate proposals for "4-Wire xDSL –Capable Loop" and "4-Wire Digital Loop (No Electronics)" are the same, this testimony refers to them simply as rates for "4-wire loops." Before I proceed to the subject of my testimony, I need to make several clarifying notes regarding the terminology used in this testimony. First, the term "Embarq" as used in this testimony refers to Embarq's local operating company in Ohio, or equivalently, United Telephone Company of Ohio. Second, the term "Model" or "Embarq's Model" refers collectively to all studies that Embarq provided to COI in relation to this arbitration. Third, the testimony makes references to several Commission cases involving the entity currently known as "AT&T Ohio," but also uses its historical names as they appeared in the Commission's orders and case materials, including "SBC," "Ohio Bell" and "Ameritech."

Q. WHAT ARE YOUR RECOMMENDATIONS?

A. Embarq has proposed rates that are significantly higher than the rates in COI's current Interconnection Agreement. As I will discuss in this testimony, there are a number of reasons why Embarq's proposed rates are unreasonable and should be rejected. I will

further demonstrate that generally accepted Telephone Plant Indices, other price indices and information from Embarq's own cost model can be used to calculate more reasonable rates. The rates that I recommend the Commission approve are contained in Table 1 below:

Table 1. COI's Counter-Proposal for Loop Rates

UNE Loops (Rates Include NO Charges)	MRC
4-Wire xDSL - Capable Loop	
Band 1	$49.57
Band 2	$49.53
Band 3	$81.15
Band 4	$157.88
4-Wire Digital Loop (no electronics)	
Band 1	$49.57
Band 2	$49.53
Band 3	$81.15
Band 4	$157.88
DS1 Service and ISDN PRI Loop	
Band 1	$69.05
Band 2	$68.46
Band 3	$107.27
Band 4	$166.41

II. EMBARQ'S PROPOSED RATES ARE UNREASONABLY HIGH AND NOT COMMISSION APPROVED

Q. IS EMBARQ PROPOSING RATES FOR THESE UNES THAT ARE CONSIDERABLY HIGHER THAN THOSE IN COI'S CURRENT INTERCONNECTION AGREEMENT?

A. Yes. The rates that Embarq is proposing are considerably higher than those in COI's current ICA. This is shown in Table 2 below, which lists Embarq's two proposals made at different points in time (September 2006 and July 2007). As explained below, the rates contained in Embarq's July 2007 (attached as Exhibit AA-2) proposal are the rates contained in Embarq's current ICA with Cincinnati Bell Extended Territories, LLC ("Cincinnati Bell" or "CBT").

Table 2. Comparison of Embarq's Proposals to Current Rates

Loop	Band	COI Current ICA (2/5)	09/06 Proposal	07/07 Proposal
4-wire	1	$43.22	$87.97	$69.74
	2	$43.22	$92.16	$73.13
	3	$69.66	$129.63	$96.36
	4	$134.13	$230.15	$110.70
	5			$182.40
DS1	1	$61.48	$96.97	$76.66
	2	$61.48	$141.56	$111.58
	3	$97.04	$274.18	$184.39
	4	$142.03	$661.84	$276.49
	5			$509.60

As explained below, Embarq later withdrew its July 2007 (lower) proposal, meaning that the higher, September 2006 rates (attached as Exhibit AA-3) constitute, so far as COI is aware, Emabrq's current proposal. Nevertheless, I include the rates from Embarq's now withdrawn proposal in this testimony because, as I explain below, these rates illustrate a very important conceptual point. Moreover, these are the rates that were attached to the contract from which I am told, COI and Embarq were negotiating when the impasse was reached. The July 2007 rate proposal was attached as the Embarq proposed ICA, Exhibit C, to the Petition filed in this proceeding on January 16, 2008.

Q. ARE EMBARQ'S PROPOSED RATES FOR THE 4-WIRE AND DS1 LOOPS COMMISSION APPROVED?

A. No. The Commission has never approved Embarq's cost model or its 4-Wire and DS1 Loop rates.

Q. IS THIS THE TIME AND PLACE TO PERFORM AN EXTENSIVE TELRIC PROCEEDING AND INVESTIGATION INTO THE VALIDITY OF EMBARQ'S COST MODEL AND RATES?

A. No. As the Commission knows, the Total Element Long-Run Incremental Cost ("TELRIC") proceedings – the current standard for UNE loop pricing[1] – are very involved and resource intensive and may take months and sometimes years to adjudicate. Clearly, given that this is an arbitration involving a relatively small company with limited resources, it would not be appropriate to escalate this arbitration into a full blown TELRIC proceeding. In fact, a requirement that small companies, such as COI, engage in full blown TELRIC proceedings when they want to establish interconnection agreements with ILECs would create regulatory barriers that are possibly as severe as the economic barriers that the Telecommunications Act of 1996 sought to overcome.

Q. HAS THE COMMISSION PREVIOUSLY FOUND THAT EMBARQ DOES NOT HAVE COMMISSION-APPROVED TELRIC RATES AND THAT EMBARQ HAS A DUTY TO PROVIDE UNEs AT TELRIC RATES?

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[1] See 47 C.F.R. §51.501 and 503. These rules are further developed in OAC Rule 4901:1-7-19 "Forward-Looking Economic Costs."

A. Yes. In this proceeding, the Commission, in considering Embarq's motion to dismiss the Embarq 2007 pricing proposal as an issue in this Arbitration, found that Embarq does not have Commission-approved TELRIC rates.[2] I am informed by counsel that because the Commission has a specific rule that governs a specific proceeding to approve TELRIC rates, the parties to this Arbitration may present their evidence to support their proposed rates, but Embarq may not consider its presentation of TELRIC studies in this Arbitration to substitute for a full-blown TELRIC proceeding. It is also my understanding that the Staff has expressed this view to both parties.

Q. ARE EMBARQ'S PROPOSED LOOP RATES OUT OF LINE WITH LOOP RATES APPROVED FOR OTHER LECs, SUCH AS AT&T'S IN OHIO AND OTHER MIDWESTERN STATES?

A. Yes. A comparison of Embarq's proposed loop rates with those approved by state commissions for AT&T in the Midwest shows that Embarq's proposal is significantly out of line with the rates in surrounding states. Table 3 below compares loop rates for the following companies:

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[2] *Communication Options, Inc.*, Case No. 08-45-TP-ARB (Entries dated February 28, 2008 and March 26, 2008).

Table 3 AT&T TELRIC Approved Rates in the Midwest

4-Wire xDSL - Capable Loop							
	Embarq 9/6		AT&T IL	AT&T WI	AT&T MI	AT&T OH	AT&T IN
Band 1	$87.97	Metro	$ 8.93	$ 21.25	$ 17.51	$ 17.75	$ 16.95
Band 2	$92.16	Suburban	$ 20.93	$ 22.42	$ 20.96	$ 29.31	$ 19.08
Band 3	$129.63	Rural	$ 33.59	$ 24.53	$ 32.35	$ 31.81	$ 18.18
Band 4	$230.15						
DS1 Service and ISDN PRI Loop							
	Embarq 9/6		AT&T IL	AT&T WI	AT&T MI	AT&T OH	AT&T IN
Band 1	$96.97	Metro	$ 27.72	$ 45.11	$ 40.65	$ 31.77	$ 37.04
Band 2	$141.56	Suburban	$ 40.49	$ 54.41	$ 44.01	$ 46.79	$ 39.35
Band 3	$274.18	Rural	$ 52.82	$ 52.82	$ 50.71	$ 50.38	$ 46.10
Band 4	$661.84						

While AT&T is undoubtedly a different company from Embarq, Embarq's much higher rates for essentially the same facilities are difficult to justify. Embarq's rates in Band 1 (Embarq's lowest for more dense populations) are significantly higher than AT&T's rates in rural areas.

Q. IS A COMPARISON OF EMBARQ – AS A MORE RURAL COMPANY – WITH OTHER ILECS, SUCH AS AT&T, IN OHIO AND OTHER STATES RELEVANT?

A. Yes. While it is true that AT&T operates in large urban areas, the company also operates in more rural areas. Indeed, it is precisely to capture the variation in loop costs between urban, sub-urban, and rural areas, due to such factors as population densities, loop lengths, etc., that state commissions, per the TELRIC requirements of the Federal Communications Commission ("FCC"), have approved de-averaged rates for those

zones.[3] Thus, useful information can be gained from rate comparisons as long as we compare rates for the appropriate rate bands.

Further, while each state has its own geographic characteristics, there is a large degree of similarity between the Midwestern states that permit a meaningful comparison between Commission-approved rates for other ILECs and Embarq's rates. At a minimum, such a comparison can be used to establish a range of reasonableness. Clearly, Embarq's rates fall outside such a range.

Q. TO THE EXTENT THAT EMBARQ'S PROPOSED RATES ARE BASED ON ITS MODEL, ARE THERE REASONS TO BELIEVE THAT EMBARQ'S MODEL PRODUCES ARTIFICIALLY INFLATED COSTS AND RATES?

A. Yes. I have already mentioned that Embarq's rates and Model are not Commission-approved, and, therefore, there can be no presumption that they are just and reasonable and appropriately TELRIC based. There are a number of reasons to believe that Embarq's Model produces costs and rates that are artificially inflated. I will discuss those presently.

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[3] Specifically, the federal rules for pricing UNEs prescribe that "State commissions shall establish different rates for elements in at least three defined geographic areas within the state to reflect geographic cost differences." (47 C.F.R.§51.507[f]).

III. EMBARQ'S MODEL SHOULD BE REJECTED

A. EMBARQ'S OWN RATE PROPOSALS UNDERMINE THE VALIDITY OF EMBARQ'S MODEL

Q. PLEASE EXPLAIN THE CHRONOLOGY OF EMBARQ'S RATE PROPOSALS AND THEIR RELATIONSHIP TO EMBARQ'S COST MODEL.

A. Embarq's original rate proposal to COI, which Embarq later substituted with rates it negotiated with Cincinnati Bell Telephone Company ("CBT") but which Embarq now states are reinstated for the purposes of this Arbitration with COI, was made in September 2006 (referred hereafter as "September 2006 Proposal") and contained rates found in several ICAs approved by the Commission prior to 2006. Specifically, these rates are structured according to four rate bands and can be found in Embarq's ICA with Granite Telecommunications (application dated May 5 2005).[4] In May-June[5] 2008, Embarq provided COI a copy of its Loop Model. Although the Model contained a different set of rates – rates based on a 3-band de-averaging scheme – I verified that if the Model's wire center level costs are aggregated according to the 4-band classification found in the Embarq's September 2006 proposal, the resulting rates would match the rates in the Embarq's September 2006 proposal. In other words, the September 2006 proposal is based on the version of the Model provided to COI.

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[4] Based on my review of the following applications of negotiated agreements: *United Telephone Company of Ohio dba Sprint/Granite Telecommunications, LLC*, Case No. 05-604-TP-NAG (Application filed May 5, 2005); *United Telephone Company of Ohio D/B/A Sprint/Cinergy Telecommunications Network-Ohio, Inc.*, Case No. 05-603-TP-NAG (Application filed May 5, 2005) and *United Telephone Company of Ohio dba Embarq/Pac West Telecomm, Inc.*, Case No. 06-1191-TP-NAG (Application filed October 3, 2006)

[5] As explained below, Embarq's original CD (provided in May 2008) lacked a number of important components, which were provided to COI in June 2008.

Embarq's second proposal was made in July 2007 (referred hereafter as "July 2007 Proposal") and contained rates found in *more recent* Commission-approved ICAs. Specifically, these rates are structured according to five rate bands and can be found in Embarq's ICA with Cincinnati Bell Extended Territories filed on December 31, 2004 in Case No. 07-1275-TP-NAG. The key feature of this rate set is that it is *lower* than Embarq's September 2006 Proposal. This rate set was filed with COI's Petition for Arbitration in this case (dated January 16, 2008). However, following COI's filing of its Petition for Arbitration, Embarq indicated that it withdrew this rate proposal and instead is re-proposing its original *higher* September 2006 rate set (the higher rates that are based on the Model).

There are three sets of recurring loop rates at issue in this dispute: "4-Wire xDSL –Capable Loop," "4-Wire Digital Loop (No Electronics)", and "DS1 Service and ISDN PRI Loop." Again, given that Embarq's rate proposals for "4-Wire xDSL –Capable Loop" and "4-Wire Digital Loop (No Electronics)" are the same, this testimony refers to them simply as rates for "4-wire loops." The following table lists the disputed rates in both proposals and compares them to COI's current rates (rates found in its current ICA with Embarq, which is dated February 11, 2005).

Table 4. Comparison of Embarq's Proposals to Current Rates

Loop Type	Zone	Current ICA (EQ 5/6 Proposal)[5]	Granite/5 ICA (EQ 5/6 Proposal)[5]	CBT 2/5 ICA (EQ 7/7 Proposal)[5]
4-wire	1	$43.22	$87.97	$69.74
	2	$43.22	$92.16	$73.13
	3	$69.66	$129.63	$96.36
	4	$134.13	$230.15	$110.70
	5			$182.40
DS1	1	$61.48	$96.97	$76.66
	2	$61.48	$141.56	$111.58
	3	$97.04	$274.18	$184.39
	4	$142.03	$661.84	$276.49
	5			$509.60

Q. YOU SAID THAT THE SEPTEMBER 2006 PROPOSAL IS BASED ON THE MODEL'S COST ESTIMATES, AND IT CONTAINS HIGHER RATES THAN THE JULY 2007 PROPOSAL (WHICH IS NOW WITHDRAWN). HOW MUCH HIGHER ARE THE MODEL ESTIMATES COMPARED TO THE JULY 2007 PROPOSAL?

A. The Model estimates are higher than the July 2007 Proposal by approximately ***[redacted]***. The following table contains more specific numbers for the disputed 4-wire and DS1 loops, alone with 2-wire loops,[6] showing that the difference is relatively uniform, ranging from ***[redacted].***

[6] Although 2-wire loops are not the subject of dispute in this arbitration, this testimony presents information on 2-wire loops to further demonstrate the flaws in Embarq's model. This is also done because of the close relationship between the 2-wire and 4-wire cost calculations in the model's algorithm, and because wire centers de-averaging is done in the model according to the costs of 2-wire loops. Note also that while Embarq's rate table (Table One of Embarq ICA) distinguishes between "4-wire xDSL- capable loop" and "4-wire digital loop (no

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Q. DOES THE ABOVE TABLE INVALIDATE EMBARQ'S MODEL?

A. Yes. Table 5 above contains a critical observation that Embarq's model generates cost estimates that are *significantly higher* than the rates Embarq is currently agreeing to in

electronics)," the rates for these two products are typically the same (specifically, the model does not distinguish between the two), therefore, the testimony omits this distinction when presenting rate and cost data.

ICAs with other CLECs.[7] *No rational business enterprise would sell products systematically below cost.*[8] An ILEC (a rational company that has leverage in negotiations because of its ownership of bottleneck facilities) would not voluntarily agree to rates below cost. Clearly, Embarq's ICA with CBT invalidates its model and demonstrates that it significantly over-estimates cost.

Q. SHOULD THE RATES IN THE ICAs, TO WHICH EMBARQ VOLUNTARILY ENGAGED, BE VIEWED AS UPPER LIMITS ON REASONABLE RATES?

A. Yes. Because of the above-mentioned leverage that Embarq has in negotiations for ICAs concerning its bottleneck facilities and because of the absence of the PUCO-approved cost methodology or rates for Embarq, the observed ICA rates should be considered an *upper limit* of what Embarq actually considers to be its own cost.

B. EMBARQ'S MODEL IS UNVERIFIED, UNSUPPORTED AND HAS NOT BEEN PROVIDED IN FULL

Q. WHAT COST STUDIES DID EMBARQ PROVIDE TO COI?

A. Embarq provided a CD (dated May 12, 2008) that contained, as explained below, a partial and inoperative version of its loop cost studies. Among other things, these cost studies contained a disclaimer stating as follows:

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[7] Embarq filed for an approval of the ICA with the same rates as recently as April 2008. See *United Telephone Company of Ohio dba Embarq/Bandwidth.com CLEC, LLC*, Case No. 08-393-TP-NAG.

[8] Companies sometimes engage the price practice of "loss leader" to attract customers for complimentary goods, such as below cost razors that require refills for razor blades. That model is not applicable here since the UNEs are not used to generate additional sales of complimentary goods, but rather to compete against Embarq.

> The Loop Module provided to Communication Options, Inc. by EMBARQ™ is representative of the inputs and methods that would be filed in an arbitration proceeding. The results available for review by Communication Options, Inc. do not have the most recent general ledger expenses, do not have the most recent vendor contractor rates, do not have the most recent material prices, do not have the most recent company labor cost. The results produced by the loaded module are indicative of what could be expected in a fully updated EMBARQ™ TELRIC Economic Cost Study but the aforementioned changes could drive the rates higher. [9]

Given that this CD was provided almost four months into the Arbitration,[10] and the current schedule of the arbitration does not include the rebuttal round, it is reasonable to expect that Embarq would provide the model that is intended for this arbitration. However, the disclaimer suggested differently. COI asked for the updated version of the model on June 3, 2008, and received a response on the afternoon of June 17, 2008 (less than a week before the filing deadline for this testimony) that "[t]he requested information is still under review and will be provided once finalized."[11] In other words, while Embarq provided COI a model, Embarq has not provided the model it plans to use to support its proposed rates. This fact alone makes pointless and wasteful the exercise of reviewing, critiquing and re-stating the Model that Embarq provided, and prompted COI to develop a non-model based counter-proposal. Nevertheless, COI below presents its critique of the provided studies, and refers to them collectively as "the Model."

Q. ABOVE YOU SAID THAT EMBARQ'S MODEL CD CONTAINED ONLY A PARTIAL VERSION OF ITS LOOP COST STUDIES. PLEASE EXPLAIN.

A. The May 12, 2008 CD contained only *portions* of its Economic Cost Model. Specifically, the CD contained portions of Embarq's studies that provide detailed

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9 File titled "EMBARQ Disclaimer.txt" contained on the model CD (emphasis added).

10 COI's Petition for Arbitration was filed January 16, 2008.

11 Embarq's Responses to COI's First Set of Interrogatories, Interrogatory No. 1.

calculations of loop *investment*, but lacked studies related to the development of *Cost Factors* used to convert investments into monthly recurring cost, such as maintenance, capital cost, other direct and common cost factors.[12] These Cost Factors appeared on the Model CD in the form of hard-coded values.[13] COI asked for the missing Cost Factor studies in its June 3, 2006 discovery to Embarq. Despite the fact that these studies should presumably be readily available (already exist in order to generate the hard-coded values contained on the Model CD and used in the Loop study), Embarq has provided them only late on June 17, 2008, leaving COI's consultants inadequate time (less than 4 business days before the filing date of this testimony) [14] to adequately review and analyze these materials. Further, even with these additional materials provided late, COI does not have complete studies underlying Embarq's proposed UNE Loop rates because many of the assumptions in the Cost Factors modules are hard-coded and unsupported, including such sizable entries as land and building investments discussed below.

Also missing from the Embarq's data provided to COI are the labor rates studies (an important component of loop installation costs) [15] and the Geographical Module – the

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[12] The CD contained a verbal description of the Loop Module (documents titled "Loop Module Methodology," "Loop Module User Guide" and "Loop Input Definitions").

[13] Note that the limited "final-step" calculations of Cost Factors contained in file "InpOHLoop.xls" do not constitute true factor development because they represent summations or weighting of several hard-coded values. For example, the "Total" ACFs (Tab "Loop") are essentially the sum of the hard-coded "Other Direct Factors" and hard-coded "Annual Charge Factors" from Tab "ACF." For Capital Cost Factors, while the underlying assumptions about depreciation lives, tax rates and cost of capital were provided (in Tab "ACF"), the formulas that would calculate Capital Cost Factors (calculations that simultaneously account for asset-specific depreciation lives, depreciation schedule, cost of money and tax depreciation life) were not provided. The Power Factor (Tab "Power") is based on the numerator derived from hard-coded values of "Power Investment by Wire Center Size."

[14] The issue of timeliness is aggravated by QSI's observation that it takes longer than an eight-hour business day to complete a run of the Loop Module on a business-grade laptop computer.

[15] See for example, *In the Matter of the Application of Ameritech Ohio for Review of TELRIC Costs for Unbundled Network Elements*, Case No. 02-1280-TP-UNC ("SBC Phase I UNE") SBC Ohio's explanation of the importance of labor rate studies in a UNE Loop study as set forth on page 12 of the Public Version of the Direct Testimony of James R. Smallwood filed on March 19, 2004: "In recurring cost studies, the UNE loop study in

Module that designs the physical elements of Embarq's local network and their location, including cable routes and distances, fiber/copper cable mix, the number and locations of Feeder Distribution Interfaces, Digital Loop Carriers, etc.[16]

Q. WHAT ARE THE TWO IMPORTANT IMPLICATIONS TO EMBARQ'S FAILURE TO TIMELY PROVIDE THE COST FACTOR MODULES TO COI?

A. The first implication is that COI (or, for that matter, any party other than Embarq) was unable to run Embarq's Model in order to implement adjustments to such *major inputs* (in the Commission's own opinion[17]) as the cost of debt, cost of equity, capital structure and depreciation lives.[18] Below I explain in detail that Embarq's assumptions for these inputs are unreasonable, not representative of a forward-looking network, or simply contradictory to the Commission's prior decisions, and as such, require adjustments.

The second implication is that COI was unable to replicate, fully review and verify Embarq's logic and data used to derive maintenance, capital cost, other direct cost, common cost and investment factors, as well as labor rates. Again, the Commission's *SBC Phase I UNE Order* demonstrated the importance of these issues by devoting almost half of its volume to the questions surrounding the Factors' calculations.

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particular, the labor component of installing the capital investment associated with constructing UNE loops is a large proportion of the overall total investment."

16 See "Loop Module Methodology" (file provided with the May 12, 2008 Model CD), pp. 13-14.

17 See, for example, SBC Phase I UNE Opinion & Order dated November 2, 2004 ("SBC Phase I UNE Order"), section V "Major Inputs to Cost Studies," where cost of debt, cost of equity, capital structure and depreciation lives where discussed as major inputs alone with two other inputs, fill factors and installation factors.

18 See also page 12 of the Public Version of the Direct Testimony of James R. Smallwood filed on March 19, 2004 in SBC Phase I UNE for the following explanations for its UNE Loop studies: "The major cost drivers in recurring loop cost studies are the cost of capital, depreciation rates, and fill factors."

These two implications show that the provided Model is in violation of Rule 4901: 1-7-20 "Cost Study Requirements," which requires that a model should be accompanied by "a complete set of supporting work papers and source documents" (Rule 4901: 1-7-20 (A)), the "work papers must allow others to replicate the methodology and calculate equivalent or alternative results using equivalent or alternative assumptions" (Rule 4901: 1-7-20 (B)), "identify all source documents used in preparing the cost estimate" (Rule 4901: 1-7-20 (C)), and "the source [of every number used in the study] should be clearly identifiable and readily available (Rule 4901: 1-7-20(D)).

Q. WHAT ELSE CAN YOU ADD REGARDING THE OVERALL ISSUES WITH EMBARQ'S MODEL BEFORE YOU PROCEED TO A DISCUSSION OF SPECIFIC DEFICIENCIES OF EMBARQ'S INPUTS OR MODEL CALCULATIONS?

A. First, it is important to keep in mind that neither the current Embarq Model, nor any of its predecessors have been approved by the Commission. Second, despite the fact that the Model's results are displayed in a Microsoft Excel ® workbook, this model relies predominantly on "invisible" programming, rather than explicit Microsoft Excel ® formulas and links.[19] Given the sheer quantity of the Model's workbooks between which

[19] Note that the accessibility of a model to outside review was one of the reasons that prompted SBC Ohio to switch to the Loop Model that is currently approved by the Commission for setting SBC Ohio UNE loop rates (SBC Ohio Phase I UNE Order). See also page 15 of the Public Version of the Direct Testimony of James R. Smallwood filed March 19, 2004 in the SBC Phase I UNE proceeding for the following explanations of SBC Ohio witness for its UNE Loop studies: "Ultimately, SBC decided to reject the old Ameritech models such as AFAM and LFAM and select LoopCAT as its loop cost model. ...Primary among these was the realization that LFAM contained a significant amount of programming that was not easily accessible to CLECs and Commission staffs. LoopCAT, on the other hand, is spreadsheet-based, which makes LoopCAT significantly easier to audit, update, and operate than LFAM."

information is exchanged in the "invisible" fashion,[20] COI's ability to the audit this Model was extremely handicapped.

Q. YOU SAID ABOVE THAT SEVERAL MAJOR INPUTS TO EMBARQ'S MODEL ARE NOT FORWARD-LOOKING, UNREASONABLE OR CONTRADICTORY TO THE COMMISSION'S PRIOR DECISIONS. PLEASE EXPLAIN.

A. The first major group of inputs that is contradictory to both theoretical logic and specific numerical values adopted by the Commission in other UNE cases is the fill factors – factors that determine the amount of spare capacity modeled in the network. For copper feeder, Embarq's Model uses its actual copper feeder fill factors.[21] For distribution cable, the Model builds two lines to each housing unit, and the resulting fill factors are based on the combined effect of this assumption, the demand for second lines and additional spare capacity resulting from the practical issue that cable comes in fixed (discrete) cable sizes.[22] The table below lists the Embarq Model fill factors and compares them to the fill factors approved by the Commission in the most recent SBC UNE case:

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[20] For example, the Model's "LMA" section contains 28 Microsoft Excel ® files (each with multiple Tabs). See p. 24 of "Loop Module Methodology" listing these files. Note that the Model's "Start" file described in the "Loop Module User Guide" (which appears to be Embarq's interface for running the model and viewing its results) permits the user to review results of only one wire center at a time – not an acceptable method of review given that Embarq has well over one hundred wire centers in Ohio.

[21] This is explained in the following citation from Embarq's "Loop Input Definitions" (p. 16; emphasis added): "Feeder fill factors are developed from company specific data by wire center. Feeder fill factors are calculated by taking feeder pairs in service and dividing by feeder pairs available for each wire center. Actual fill = working pairs/total installed pairs. The inputs into LMA represent actual fill in Embarq's network. LMA contains calculations that adjust the fill factors upward (increased cable utilization) so that the modeled cable utilization in LMA is equivalent to the utilization seen in reality."

[22] This is explained in the following citation from Embarq's "Loop Input Definitions" (p. 15): "Cables are available in a wide range of pair complements; however, cables of larger pair sizes increase by 600 pair increments (2400, 3000, 3600). This means that if the forecasted demand for a new cable called for 3500 pairs, a 3600 pair cable would be placed."

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As demonstrated in the table above, copper cable fill factors used in Embarq's Model are significantly lower than the fill factors approved by the Commission for SBC. In other words, Embarq's Model designs significantly more spare capacity (and as a result, generates significantly higher copper investment and cost) than the spare capacity allowed by the Commission for SBC.

Further, besides the numerical gap between Embarq's proposed and SBC's PUCO-approved fill factors, there is a significant conceptual difference between the two because Embarq's Model fill factors are based on Embarq's actual fill factors, and the Commission specifically disallowed actual fill factors in a TELRIC study. The Commission explained its reasoning as follows:

> [T]he actual current fill factors, based on the existing network, reflect excess capacity beyond the spare capacity needed for the engineering and regulatory requirements stated above. As an example of this excess capacity, the Commission highlights the redundancy resulting from the implementation of new technologies (i.e., overlay of fiber facilities in the

feeder section of the loop) that would not take place in a TELRIC forward-looking network.[23]

The Commission concluded that a forward-looking network and a TELRIC study should have higher fill factors than the carrier's actual fill factors, and ordered the above listed fill factors.

Q. WHAT OTHER MAJOR INPUTS TO EMBARQ'S MODEL ARE NOT FORWARD-LOOKING, UNREASONABLE OR CONTRADICTORY TO THE COMMISSION'S PRIOR DECISIONS?

A. They are the cost of capital and economic depreciation lives of assets. Specifically, while in the recent SBC UNE case the Commission approved a cost of capital of 9.02%[24] and rejected SBC's proposal for a 11.91% cost of capital,[25] the Model assumes cost of capital of ***[redacted]***,[26] which is much higher than the Commission-approved value for SBC. Similarly, a comparison of publicly available depreciation rates approved in the SBC UNE case[27] listed in the table below shows that Embarq is proposing economic lives that are smaller than the Commission-approved lives for SBC.

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23 SBC Phase I UNE Order p. 39.

24 *Id.* at p. 72.

25 Direct Testimony of Kent A. Currie filed March 19, 2004 in SBC Phase I UNE at p. 44.

26 Source: File InpOHLoop.xls, Tab "ACF."

27 The Commission approved SBC proposed depreciation lives (SBC Phase I UNE Order p. 61), but the order does not list these lives. While most of SBC proposed depreciation lives were filed confidentially, some of them are discussed in the public portion of SBC testimony and included in table below. Specifically, economic lives for cable and circuit equipment are listed on page 10 of the Direct Testimony of Lawrence K. Vanston filed March 19, 2004 in SBC Phase I UNE. Also, Dr. Currie explains that SBC proposed future net salvage values/cost of removal (another component of depreciation lives) are zero to be consistent with the current accounting rules, which direct carriers to record costs of removal in their expense, rather than investment accounts. See page 44 footnote 21 of the Direct Testimony of Kent A. Currie filed March 19, 2004 in SBC Phase I UNE.

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As demonstrated in the above table, each one of Embarq's adjusted economic lives is smaller than the Commission-approved lives for SBC. Because SBC-approved depreciation lives are not available publicly for some plant types, the last column of this table also lists the adjusted economic lives used by the FCC in its determination of the non-rural high-cost support funding.[28] The comparison of this column with the Embarq's Model economic lives further underscores the unreasonableness of Embarq's assumptions. For example, for both buildings and conduit Embarq assumes a ***[redacted]***

[28] In the Matter of Federal-State Joint Board on Universal Service and Forward-Looking Mechanism for High Cost Support for Non-Rural LECs, CC Docket Nos. 96-45 and 97-160, *10th Report and Order* ("Inputs Order"), released November 2, 1999. This order determined the input values used in the FCC Synthesis Model, which is the basis of the current federal non-rural high-cost ("Model") support mechanism.

economic life (net of salvage), while the FCC Synthesis Model uses much higher values of 51 and 48 years correspondingly.

Q. WHAT OTHER IMPORTANT ISSUES WITH EMBARQ'S COST STUDIES HAVE YOU NOTICED?

A. One important issue concerns Embarq's Maintenance Factor studies. As explained in the Embarq Model documentation, Maintenance Factors (which represent ratios of maintenance expense and investments for specific types of telecommunications plant, such as poles, cable and circuit equipment) are based on the actual booked maintenance expense.[29] Indeed, for most types of the telecommunications plant, the maintenance expenses and investments used in Embarq's calculation of Maintenance Factors do match its booked amounts. However, there are two notable exceptions: the amounts of maintenance expenses for buried cable and circuit equipment used to calculate Embarq's Maintenance Factors are approximately ***[redacted]*** times higher than the booked amounts,[30] meaning that the Maintenance Factors for these types of plants, and consequently, cost estimated associated with these investments are similarly over-stated. Given that these two plant types constitute more than ***[redacted]*** of the Model's loop

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[29] File "ACF Documentation," p. 4 (pages are not marked).

[30] The amounts used to derive Maintenance Factors are in file MaintenanceFactors.xls, Tab "Sheet 1," cells F15:F17 (buried copper cable) and cell F23 (circuit equipment). The booked amounts are in file "odc07.xls" Tab "Expenses," cells E73 (buried copper cable) and E59 (circuit equipment). Note that the amounts contained in file "odc07.xls" Tab "Expenses" match amounts reported in Embarq's ARMIS 43-01 report, confirming that file "odc07.xls" Tab "Expenses" contains actual booked amounts. (The comparison to ARMIS 43-01 report also established the vintage date of Embarq's Cost Factors study as 2003.)

investment for both 4-wire and DS1 loops,[31] it is no wonder that the resulting loop cost estimates fail the test of reasonableness, as shown by my Price Index analysis below.

Q. DO YOU HAVE ANY OTHER COMMENTS ABOUT EMBARQ'S COST FACTOR STUDIES?

A. Yes. Despite being pressed for time due to Embarq's failure to provide these studies in a timely fashion, I noticed a series of important flaws. These flaws cause an over-statement of cost and make this study not-forward-looking and unreasonable. One flaw is Embarq's failure to properly exclude retail costs from the cost factors. As explained by the Commission in the SBC Phase I UNE Order, retail costs are inappropriate in a TELRIC study – a study that sets wholesale rates.[32] For example, while the Commission directed SBC to remove from the cost factors expenses for account 6613 Product Advertising in its entirety,[33] the Embarq Model included portions of this account in the cost factors applicable to wholesale loops.[34] A proper exclusion of the entirety of this account would result in lower cost factors, and therefore, lower estimated loop cost.

Another example concerns an adjustment of Embarq's cost factors for rent revenues from buildings. This adjustment means that expenses flowed into cost factors are reduced to account for the fact that some expenses are recovered in rent revenues. To

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[31] Calculated from the model's output file LoopSum07.xls, Tabs "4wireLoopCost" and "DS1LoopCost" as the sum of buried copper, buried fiber, buried drop and circuit electronic investment divided by total investment.

[32] SBC Phase I UNE Order, pp. 91-92.

[33] *Id.* at p. 101.

[34] See Embarq's "Other Direct Cost" study, file odc07.xls, Tab "Other Direct:" A comparison of columns D and E shows that Embarq removes only ***[redacted]*** of this account as retail based, and flows the rest of it into the wholesale study.

make this adjustment, Embarq does not use actual data on retail rent revenues, but instead estimates the retail portion by using certain proportional relationships observed in the Model. This adjustment, which is applied separately to two factors (the Other Direct Factors and Common Factor), is done illogically for the Common Factor: On the one hand, when estimating the retail portion of the Other Direct rent revenues, the Model uses the retail percentage of "land and buildings," which is a reasonable approach because rent revenues are associated with land and buildings.[35] On the other hand, when estimating the retail portion of the Common Factor rent revenues, the Model apportions them according to the ratio that is not related to any "retail to total" proportions.[36] The result is that ***[redacted]***[37] of rent revenues are excluded from the Common Factor calculations as if being retail, while a more reasonable allocation is used in the Other Direct Factor calculations and is based on the retail portion of land and building expense, is ***[redacted]***.[38] Note that because rent revenues reduce expenses flowed into the cost factors, the above described illogical allocation of the rent revenue in the Common Factor calculations means an over-stated Common Cost factor, and consequently, over-stated wholesale loop costs.

Q. YOU MENTIONED ABOVE THAT EMBARQ'S LAND AND BUILDING INVESTMENTS ARE NOT SUPPORTED. PLEASE EXPLAIN.

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35 See file odc07.xls, Tab "Other Direct," cell E20.

36 It is done using a ratio between *Land and Buildings Common Expense* and *Land and Buildings Total Expense*. Because this ratio has no relation to retail measures, its use does not make any sense and may be a calculation error. See file odc07.xls, Tab "Common," cell E9.

37 See file odc07.xls, Tab "Common," ratio of cells E9 and D9.

38 See file odc07.xls, Tab "Other Direct," ratio of cells E20 and D20.

A. Building and land investment belong to a category of the *general support assets* that are accounted for in Embarq's Other Direct and Common Cost Factors alone with other general support assets such as furniture, motor vehicles and general support computers. While the majority of numbers found in the Other Direct and Common Cost study come from on Embarq's booked amounts,[39] entries for building and land investments that are used in the Other Direct and Common Cost study exceed Embarq's booked amounts significantly. For example, land investment is almost *** [redacted] *** the booked amount.[40] Documentation to the Other Direct study[41] simply alludes to "Land Usage Analysis" and "Building Usage Analysis" as the source of these investments, but fails to provide this analysis or even mention the basis for the methodology used to arrive at these numbers.

C. THE MODEL PRODUCES INTERNALLY INCONSISTENT AND UNREASONABLE RESULTS

Q. DOES EMBARQ'S COST MODEL PRODUCE INTERNALLY INCONSISTENT AND UNREASONABLE RESULTS?

A. Yes. Again, while I have not performed a comprehensive review of Embarq's cost model, there are some inconsistencies that stand out, most notably, the relationship between 4-wire loops and 2-wire loops. For example, the Model costs of 4-wire loops

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[39] Booked amounts are the general basis of the numerators of Other Direct and Common Cost. The denominator uses Model investments among other things.

[4040] Booked amounts are in file InpOHExpense.xls, Tab "ODC", cells F28 (Land) and F38 (Buildings). Amounts used in the Other Direct and Common Cost Study are in file odc07.xls, Tab "Investments," cells E21 (Land) and E27 (Buildings).

[41] File "ODC Documentation," p. 4 (pages are not marked).

are ***[redacted]*** *times higher* than the cost of 2-wire loops. This is an irrational result since, as acknowledged by the Model's own description, a 4-wire loop is essentially *two* 2-wire loops.[42]

The table below illustrates this irrational result by comparing the ratio of 4-wire and 2-wire loop rates in Embarq's proposal with COI's current rates and rates from other current and historical ICAs between Embarq and other CLECs.

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As seen in the above table, Embarq's past rates contained a more reasonable relation between the 4-wire and 2-wire loop rates, with the 4-wire loop rates being less

[42] See p. 42 of "Loop Module Methodology" stating that "Using the 2-wire loop cost as a base, the cost for 4-wire loops is the incremental cost of an additional pair of copper wires."

than two time the 2-wire loop rates, which was clearly a recognition of certain economies when moving from a 2-wire loop to a 4-wire loop.[43]

Another irrational result generated by the Model is that in 21 Wire Centers the cost of a DS1 is lower than the cost of a 4-wire loop, and in a 1 Wire Center the cost of a DS1 is *lower* than the cost of a 2-wire loop. These results further cast doubts on the validity of the Embarq Model because, by design, DS1 loops are more complex loops than 2-wire loops.

D. COSTS GENERATED BY THE MODEL INDICATE THAT EMBARQ VIOLATES PRICING RULES FOR BASIC LOCAL EXCHANGE SERVICES

Q. PLEASE EXPLAIN WHY THE MODEL RESULTS SUGGEST THAT EMBARQ VIOLATES RETAIL PRICING RULES FOR BASIC LOCAL EXCHANGE SERVICES.

A. This observation concerns the four exchanges where Embarq was recently granted pricing flexibility of Basic Local Exchange Services ("BLES") under Chapter 4901:1-4 of Ohio Administrative Code ("O.A.C.").[44] These exchanges are Lebanon, Mason,

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[43] The observation that the ratio between Embarq's proposed 4-wire and 2-wire loops is unreasonable is further supported by the currently approved UNE loop rates for AT&T-Ohio. For AT&T-Ohio, the ratio of 4-wire to 2-wire loops ranges from 1.76 to 2.08 depending on the zone. (For rates, see the following link on the Commission's web site: http://www.puco.ohio.gov/PUCO/IndustryTopics/Topic.cfm?id=4210.)

[44] See *In the Matter of the Application of United Telephone Company d/b/a Embarq for Approval of an Alternative Form of Regulation of Basic Local Exchange and Other Tier 1 Services Pursuant to Chapter 4901:1-4, Ohio Administrative Code,* Case No. 07-760-TP-BLS (Opinion and Order dated December 19, 2007, p. 30) stating that "BLES and basic caller ID will be subject to the pricing flexibility provided for pursuant to Rule 4901:1-4-11, O.A.C."

South Lebanon and Waynesville. According to Rule 4901:1-4-11 "Pricing of BLES and other tier one services" states:

> In those telephone exchange areas where an ILEC is granted pricing flexibility for BLES and other tier one services, *an ILEC is not permitted to price its tier one retail service(s) below the LRSIC of each service plus a common cost allocation.* A telephone company may allocate common costs using a fixed allocator of ten per cent.[45] (Emphasis added.)

Although the Model is designed to calculate the "element" (TELRIC) rather than "service" (LRSIC) cost, it nevertheless provides information on the level of "service" cost because a 2-wire loop is a necessary component of the basic local service (along with other components such as local switching and transport). More specifically, the cost of a 2-wire loop is a *lower boundary* of the cost of local service. Therefore, if Embarq complies with the above cited pricing Rule 4901:1-4-11, the retail prices of the basic local service should be higher than the Model costs of 2-wire loops (costs with the common markup) in exchanges where Embarq was granted pricing flexibility. Such comparison of retail rates and the Model costs for 2-wire loops is a simple test that checks whether the model agrees with the pricing flexibility status of the four Embarq exchanges. If this condition is violated, either the model generates unreasonably high cost estimates, or Embarq violates pricing Rule 4901:1-4-11.

A comparison of Embarq's retail rates in the four exchanges with the costs of 2-wire loops generated by the Model show that Embarq fails this simple check. The analysis that leads to this conclusion is presented in the following table:

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[45] O.A.C. Rule 4901:1-4-11(C) *(emphasis added).*

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As shown in the table above, in all four exchanges residential service is priced ***[redacted]*** the cost of the 2-wire loop generated by the Model.[46] In one exchange (Waynesville), business service is also priced ***[redacted]*** the cost of the 2-wire loop. In three exchanges (all but Mason), the weighted average retail rates of residential and business services are ***[redacted]*** the costs generated by the Model. These results demonstrate that either Embarq violates the rule that "an ILEC is not permitted to price its tier one retail service(s) below the LRSIC of each service plus a common cost allocation[,]"[47] or Embarq's Model produces overstated cost estimates.[48] Given a large

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[46] The Model cost includes the common markup and represents a lower boundary for the LSRIC cost plus the common markup.

[47] O.A.C. Rule 4901:1-4-11(C).

[48] Note that these conclusions are re-enforced by several conservative assumptions made in this analysis. First, the table conservatively assumes that the cost of a 2-wire loop is a proxy of costs for local basic service, while ignoring the non-loop (switching and transport) costs of local service. Second, the costs of a 2-wire loop are wholesale costs and as such, exclude certain retail costs. Third, the retail rates presented in the table were calculated by using the highest-rated zone in each exchange, which over-stated the weighted average retail rate. Note also that the common markup of 10% suggested by rule O.A.C. Rule 4901:1-4-11 is very similar to the common cost markup assumed by the Embarq Model, which is ***[redacted]***, as shown in Embarq's Model run, file LoopSum07.xls, Tab "Variables."

number of concerns about Embarq's cost model discussed throughout this testimony, I tend to conclude that the latter is true – that the Model produces grossly inflated cost estimates.

E. EMBARQ'S ICA RATES INVALIDATE ITS COST MODEL

Q. DO EMBARQ'S PROPOSED ICA RATES CAST FURTHER DOUBTS ON THE VALIDITY OF THE EMBARQ MODEL?

A. Yes. As noted previously, the fact that CBT just signed an ICA with rates lower than the model results impeaches the Model. Further, Embarq indicated on June 3, 2008 that it plans to update the Model with higher copper prices, and that the expected results would be even higher cost estimates. This planned update further compromises the integrity of the Model. Similarly, as pointed out above, cost estimates generated by the Model date back to at least May 2005, which was only three months after COI signed its current ICA. Again, these rates were lower than the Model costs, as shown in Table 10 below.

Table 10 below lists rates contained in Embarq's different ICAs and aggregates them into the statewide weighted average level (marked "Total").[49] This aggregation is necessary for an apples-to-apples comparison because different ICAs contain different classifications of wire centers into bands.

[49] This aggregation is based on the wire center level Model line counts.

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As shown in the above table, Embarq's recent rate offerings constitute a dramatic increase over COI's current rates despite the fact that approximately only a single year separates each pair of different rate sets. For example, for DS1 loop rates, Embarq's current proposal to COI (which was made in September 2006) constitutes an aggregate 287% of COI's current rate (the rate that dates to COI's February 2005 ICA), and

Embarq's withdrawn proposal to COI (which was made in June 2007) constitutes 221% of COI's current rate.

A natural question arises: Can the observed dramatic increases in Embarq's rate offerings be cost-based? In other words, is it possible that price increases for telecommunications inputs necessary to provision unbundled loops – inputs such as copper and fiber cables, circuit equipment, labor, general purpose computers, etc. – drove Embarq's cost to levels that justify the above listed rate hikes? A simple way to answer this question is to compare Embarq's rate hikes with the relevant price indices published by the Bureau of Economic Analysis ("BEA") and Bureau of Labor Statistics ("BLS"). This comparison is performed in Table 11 below. This table lists the statewide aggregated rates and their percentage increases (derived in Table 10 above) and compares them to various price indices, including the more general inflation price index – the BEA's GDP Deflator – and more specific price indices of BLS that measure price changes of inputs specific to telecommunications.[50]

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[50] For the purposes of price indices calculation, the vintages of each rate set (each data column in the table) were determined based on COI's examination of ICA applications in the Commission's Docketing Information Systems. They are assumed to correspond to the end of year in which a specific rate set first appeared in an ICA. An exception is COI's current rates, which are conservatively assumed to date to the end of year 2004. This is a conservative assumption because it implies a larger time gap to the next rate hike than the actually observed time gap.

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As is evident from the examination of price indices in Table 11 above, rate hikes contained in Embarq's offerings for UNE loops cannot be justified by the observed changes in prices. For example, from the time of COI's current ICA to Embarq's 2007 proposal (the lower Embarq proposal that is now withdrawn) general prices (the GDP-PI deflator) increased to 109% of the level observed in 2004, while Embarq's rate proposals

for 4-wire and DS1 loops constituted much bigger rate increases over current rate – to 148 and 221% of the 2004 level (correspondingly). Input-specific price indices were also predominantly lower than Embarq's rate hikes: employee's compensation (total labor cost including benefits) in the private industry went up to 109%, fiber optic cable prices remained flat at 100%, prices for telephone equipment went down to 95%, and only copper cable prices exhibited significant growth, reaching 186% of the level observed at the end of 2004.[51]

Although the observed price increases for copper cable are higher than Embarq's rate hike for the 4-wire loops (which is 148% for the same time period), copper cable prices still cannot justify Embarq's rate hikes because copper cable is not the only input to 4-wire and DS1 loops,[52] and because prices for other inputs (particularly, fiber cable and circuit equipment) did not increase as much as for copper. In fact, prices for circuit equipment, which constitutes more than ***[redacted]*** of the Model's loop investment for 4-wire loops and more than ***[redacted]*** of the Model's loop investment for DS1 loops,[53] went, *down* as reflected in the BLS' price index of Telephone and Telegraph

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[51] Another data point to consider (not included in the table) is that fuel and energy prices increased during the same period to "only" 152% of the level observed at the end of 2004. This is also lower than the rate hikes for 4-wire and DS1 loops offered by Embarq. (Based on the BEA Price Indices for Gross Domestic Product, gasoline, fuel oil, and other energy goods.)

[52] For example, even if we focus on loop investment (ignoring other components of loop costs such as common and shared, support assets and maintenance expense) in Embarq's model, we see that copper constitutes only ***[redacted]*** of total investments for 4-wire and DS1 loops respectively, with fiber cable and circuit equipment being two other major investment components. (Calculated from the model's output file LoopSum07.xls, Tabs "4wireLoopCost" and "DS1LoopCost" as the sum of copper cable investment over total investment, or [SUM(E11:G11)+M11+N11]/T11.)

[53] Calculated from the Model's output file LoopSum07.xls, Tabs "4wireLoopCost" and "DS1LoopCost" as the ratio of circuit electronic investment over total investment.

equipment.[54] The changes in input prices discussed above further highlight the unreasonableness of Embarq's rate offerings, which contain more significant rate hikes for 4-wire loops, and particularly, DS1 loops compared to 2-wire loops: given that the most significant input price increase occurred to copper cable, we expect that rates of 2-wire loops (to which copper cable is a more prominent input[55]) would go up by a significantly larger degree than rates of DS1 loops (to which copper is a relatively minor input). However, we see an exactly opposite result in Embarq's rate proposals. Clearly, Embarq's proposals are not cost justified.

Q. APART FROM INPUT PRICES, CAN THE RATE HIKES IN EMBARQ'S OFFERINGS BE EXPLAINED BY OTHER FACTORS, SUCH AS ACCESS LINE LOSS?

A. No, because line losses are typically attributable to wireless telephony and cable, i.e., the market niche served via basic 2-wire loops. In other words, line losses (which mean that fewer economies of scale are realized) would affect the cost of 2-wire loops to a larger degree than the cost of 4-wire and DS1 loops. As shown in the table above, Embarq is proposing larger rate increases for 4-wire and DS1 loops than for 2-wire loops – a result that does not fit with the hypothesis that line losses caused increases in costs.

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[54] This result is also supported by a more specific price index discussed below -- the Telephone Plant Index for Circuit Equipment.

[55] Copper constitutes ***[redacted]*** of investment for 2-wire loops in the Embarq Model. (Calculated from the Model's output file LoopSum07.xls, Tab "2wireLoopCost," as the sum of copper cable investment over total investment, or [SUM(E11:G11)+M11+N11]/T11.)

It is also important to keep in mind that productivity improvements (such as the increase in the BLS' productivity measure captured in the above table) and other cost cutting initiatives help companies like Embarq offset higher input prices, meaning that a given percent increase in input prices translates into a *smaller* percent increase in the company's expenditures on inputs. If a company operates in a competitive market (or, if its output prices are set to mimic competitive markets as done in the contested UNE price cases), the last phenomenon, a *smaller* percent increase in the company's expenditures on inputs is equivalent to a *smaller* percent increase in output prices. In other words, the fact that productivity improvements offset input price increases further reinforces the conclusion that Embarq's rate offerings (including the cost estimates appearing in the Embarq Model) are not cost-justified.

IV. COI'S RATE PROPOSAL

Q. GIVEN THE LARGE NUMBER OF REASONS WHY EMBARQ'S PROPOSALS ARE DEMONSTRABLY UNREASONABLE, SHOULD THE COMMISSION REJECT EMBARQ'S PROPOSED RATES AND ADOPT A REASONABLE ALTERNATIVE?

A. Yes. I have discussed a large number of reasons why Embarq's rates and costs are demonstrably unreasonable and should be rejected. In what follows, I will discuss an alternative set of rates calculated based on a reasonable adjustments to COI's/Emabrq's current rates.

Q. PLEASE EXPLAIN THE GENERAL APPROACH USED BY COI TO ARRIVE AT ITS COUNTER-PROPOSAL FOR RECURRING 4-WIRE AND DS1 LOOP RATES.

A. The starting point of COI's counter-proposal analysis is that the current ICA rates should be considered an *upper limit* of what Embarq actually believed to be its own cost at the time the ICA was signed; otherwise Embarq would not have agreed to these rates. Therefore, instead of trying to re-vamp the Model that is too far off any measures of reasonableness (a complex task that should be addressed in a full-scale UNE case), COI's approach is to start with current rates (as the very upper limit of what Embarq believed its costs were at that time) and adjust them upwards for changes in prices by using price indices of various inputs.

In essence, COI's analysis follows the general logic presented in the above table which compares input price indices to Embarq's rate offerings, but the logic is refined on two accounts: first, COI uses telecommunications-specific input price indices, which are the Telephone Plant Indices ("TPIs") discussed below. Second, COI utilizes information contained in the Embarq Model to properly weigh these indices when deriving the aggregate rate increases driven by input price increases. The resulting estimates reflect rate increases that would be warranted due to increased input costs. They constitute COI's counter-proposal.

Q. PLEASE EXPLAIN IN MORE DETAIL WHAT PRICE INDICES YOU USED AND HOW YOU AGGREGATED THEM TO DETERMINE THE RATE INCREASES WARRANTED DUE TO INCREASED INPUT COST.

A. First, for loop investments, I utilized the TPIs, which are the telephone plant indices maintained at the USOA[56] plant account levels and published by AUS Consultants. These indices are often used by ILECs (including AT&T Ohio[57]) in TELRIC studies to convert booked plant cost to current cost. For expense-driven loop costs (the non-capital portion of annual cost factors such as maintenance and other direct expense, as well as common cost expense), I used the above cited GDP-PI deflator because TPIs are not maintained for these expenses.

Second, I applied these price indices against wire center level investment and expense contained in the Embarq Model. This step essentially adopts the network design and annual cost factors contained in Embarq's cost Model, but prices them out at the different levels of input prices. To be more specific, I priced them out at two different levels – at the level of input prices in 2004 and 2008, which correspond to the "vintage dates" of COI's current loop rates and this arbitration.[58] These two sets of input prices (when applied to the Model's investment and expense) produced two sets of monthly per line loop cost estimates – for 2004 and 2008.

Third, I calculated the ratio between the monthly per line loop cost estimates in 2008 and 2004. This ratio is a measure of loop rate increases attributable to ("justified by") the input price inflation.

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[56] Uniform System of Accounts for Telecommunications Companies required by federal rules.

[57] See page 23 of the Public Version to the Direst Testimony of Dr. Kent A. Currie filed March 19, 2004 in SBC Phase I UNE.

[58] Note that because cost of capital (through the cost of debt and return on equity) accounts for the expected future inflation, TELRIC studies use current input prices (rather than input prices forecasted into the future).

Fourth, I applied this ratio to COI's current 4-wire and DS1 loop rates to produce COI's counter-proposal for these elements.

To further clarify the role of the Embarq Model in COI's counter-proposal analysis: while COI rejects the absolute level of costs generated by the Model as grossly inflated, unsupported and unreliable, it uses the Model's structure (network design and all inputs with exception of input prices) to calculate relative changes in UNE cost estimates that would occur between the present and the vintage date of COI's previous ICA.

Q. BEFORE YOU PRESENT COI'S COUNTER-PROPOSAL RESULTING FROM THE ABOVE-DESCRIBED ANALYSIS, PLEASE EXPLAIN WHY THIS PROPOSAL IS GENEROUS AND LIKELY EXCEEDS EMBARQ'S TELRIC COST OF 4-WIRE AND DS1 LOOPS.

A. This proposal is generous because it is based on a series of conservative assumptions. First, COI's current rates (the starting point of COI's analysis) are likely higher than Embarq's true TELRIC cost at that time. This is because these rates were established in the absence of the Commission-approved TELRIC study and in negotiations where Embarq (United), as an owner of essential bottleneck facilities, had a definite unfair advantage.

Second, this proposal utilizes network design and annual and common cost factors contained in the Embarq Model, which, again, by virtue of being an unapproved model proposed by an owner of essential bottleneck facilities, likely over-designs the network and overstates costs. More specific examples include the deficient model inputs and assumptions addressed previously, including unreasonable fill factors, depreciation lives,

cost of capital and overstated cost factors, which mean that some costs are certainly over-stated, while other costs may be improperly allocated or double-recovered. Another example is the already discussed observation that the Embarq Model produces unreasonably high cost estimates for 4-wire loops compared to 2-wire loops.

Third, COI's analysis captures increases in input prices but does not account for the offsetting effects of productivity improvements and other cost cutting initiatives.

Q. PLEASE PRESENT THE RESULTS OF THE ABOVE-DESCRIBED ANALYSIS AND COI'S COUNTER-PROPOSAL.

A. The COI's counter-proposal resulting from the above-described analysis is contained in Table 12 below, in the column titled "Current Rates Grown by TPIs."

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As seen in this table, under COI's counter-proposal 4-wire loop rates range from $49.57 to $157.88, which on average constitute a 16% increase over current rates. For DS1 loops, COI's counter-proposal is to increase current rates by 11% on average, resulting in rates in the range of $69.05 to $156.41.

Note that the Price Index adjustment generated a result that at first glance is unexpected: COI's proposed DS1 loop rate for Band 2 ($68.46) is now lower than the DS1 loop rate for band 1 ($69.05). On closer inspection, it is clear that this result is justified because band 1 contains a higher percent of copper cable investment (the plant

item that grew most in recent years) than band 2. Similarly unexpected at the first glance is another result, that for Band 4, the DS1 loop rate is less than the 4-wire loop rate. However, given that at the "start" (COI's current ICA) these two rates were close, and during the time that passed, circuit equipment prices (a more sizable input into DS1 loops compared to 4-wire loops) did not increase much, while copper prices (a more sizable input into 4-wire loops compared to DS1 loops) increased significantly, this result is not unreasonable.

Further, while COI's proposal concerns only 4-wire and DS1 loop rates, Table 12 also lists the results of the application of COI's price index analysis to 2-wire loops. This is done to demonstrate the reasonableness of COI's analysis. Specifically, Table 12 shows that COI's analysis implies a 19% increase over COI's current 2-wire prices, which is higher than the increases in the 2-wire loop rates associated in Embarq's current ICA with CBT. This result is likely due to a number of conservative assumptions used in COI's study that were discussed above.

V. LOOP CONDITIONING CHARGES

Q. PLEASE BRIEFLY DESCRIBE THE PRICING RULES FOR LOOP CONDITIONING.

A. These rules, contained in 47 C.F.R.§ 51.319, state as follows:

> Incumbent LECs shall recover the costs of line conditioning from the requesting telecommunications carrier in accordance with the Commission's forward-looking pricing principles promulgated pursuant to section 252(d)(1)

> of the Act and in compliance with rules governing nonrecurring costs in § 51.507(e).[59]
>
> State commissions may, where reasonable, require incumbent LECs to recover nonrecurring costs through recurring charges over a reasonable period of time. Nonrecurring charges shall be allocated efficiently among requesting telecommunications carriers, and shall not permit an incumbent LEC to recover more than the total forward-looking economic cost of providing the applicable element.[60]

In other words, the federal rules mandate that charges for loop conditioning are based on forward-looking cost, and do not permit double-recovery of costs.

Q. DID EMBARQ PROVIDE A COST STUDY OR ANY OTHER PROOF THAT ITS PROPOSED LOOP CONDITIONING CHARGES ARE COST-BASED?

A. No. Embarq did not provide a cost study for loop conditioning charges. As a matter of fact, Embarq proposed loop conditioning charges as non-recurring charges ("NRC"), but it did not provide any NRC studies. Further, because Embarq did not provide NRC studies in support of its proposed loop installation rates, there is no guarantee that loop conditioning costs had not been included in those rates.

Q. DO YOU HAVE ANY OTHER INDICATIONS THAT EMBARQ'S PROPOSED LOOP CONDITIONING CHARGES ARE NOT COST-BASED?

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[59] 47 C.F.R.§ 51.319(a)(1)(iii)(B).

[60] 47 C.F.R.§ 51.507(e).

A. Yes. One indication can be seen from a simple comparison of Embarq's two pricing proposals to COI's current rates. This comparison shows drastic differences that suggest these rates are not cost-based. This is shown in the following table:

Table 13. Comparison of Loop Conditioning Charges in Embarq's Proposals to COI's Current Rates.

Rate Element	COI Current ICA (2/5)	EQ 7/7 and 9/6 COI Proposals	Proposals as % Current Rate
Load Coil Removal for all Digital UNE and xDSL-capable loops that are less than 18,000 feet in length -- per line conditioned (No Engineering or Trip charges - price reflects 25 pair economies)	$0.39	$0.39	100%
Conditioning Engineering Charge - per loop	$37.50	$78.45	209%
Conditioning Trip Charge - per loop	$21.18	$22.84	108%
Load Coil Removal: Loops 18kft or longer			
Unload cable pair, per Underground location	$101.24	$186.07	184%
Unload Addt'l cable pair, UG same time, same location and cable	$2.80	$1.13	40%
Unload cable pair, per Aerial location	$20.08	$76.96	383%
Unload Addt'l cable pair, AE or BU, same time, location and cable	$2.31	$1.13	49%
Unload cable pair, per Buried Location	$20.08	$109.26	544%
Bridged Tap or Repeater Removal - Any Loop Length			
Remove Bridged Tap or Repeater, per Underground location	$101.24	$186.36	184%
Remove each Addt'l Bridged Tap or Repeater, UG same time, location and cable	$2.15	$1.44	67%
Remove Bridged Tap or Repeater, per Aerial location	$19.85	$77.27	389%
Remove each Addt'l Bridged Tap or Reapeater, AE or BU, same time, location and cable	$2.08	$1.44	69%
Remove Bridged Tap or Repeater, per Buried location	$20.08	$109.26	544%

* – The rate for the 9/6 proposal is $78.45, and the rate in the 7/7 proposal is $78.40.

As shown in Table 13 above, the differences in load conditioning charges between Embarq's proposals and COI's current rates are too significant, arbitrary and non-systematic[61] to be cost-driven. For example, while the charges to "unload cable pair" for aerial and buried locations increased by more than three times – from $20.08 in the

[61] Cost-based changes in non-recurring rates (such as the growth in labor rates) are likely gradual and affecting similar non-recurring rates in similar fashions, which I call systematic charges.

current ICA (both aerial and buried) to $76.96 (aerial) and $109.26 (buried) in the proposals, – the charge to unload underground cable went down from $501.24 to $186.07. These changes appear to be a result of simple "rebalancing" of revenue streams rather than a result of significant changes in inputs or technology that simultaneously increased costs of unloading aerial and buried pairs, but decreased costs of unloading underground pairs.

Another indication that the proposed rates do not comply with the forward-looking cost principles is that they are not based on "bulk" conditioning approach (simultaneous conditioning of multiple pairs), or the assumed number of simultaneously conditioned pairs is too small. For example, in Case No. 96-922-TP-UNC the Commission set Ohio Bell's interim loop conditioning rates[62] under an assumption that Ohio Bell simultaneously conditions 75 loops under 17,500 feet in length, and 25 loops over 17,500 feet.[63] Although Embarq did not provide any methodology for determining loop conditioning rates, Embarq's description of rate elements (cited in Table 13) indicates that the very first charge, Load Coil Removal for loops under 18,000 feet, is based on an assumption of 25 pairs being simultaneously conditioned. This is significantly less than the Commission's assumption used to set Ohio Bell's rates, which is 75 pairs.[64] Further, because none of the other elements include any description of "bulk conditioning" assumption, it is fair to conclude there are none.

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[62] This ruling governs Ohio Bell's current rates.

[63] *In the Matter of the Review of Ameritech Ohio's Economic Costs for Interconnection, Unbundled Network Elements and Reciprocal Compensation for Transport and Termination of Local Telecommunications Traffic,* Case No. 96-922-TP-UNC (Entry on Rehearing dated June 10, 2003, p. 2.)

[64] *Id.*

Q. CAN EMBARQ'S CONDITIONING COST BE INCLUDED IN ITS RECURRING RATES SUCH AS RECURRING LOOP RATES?

A. Yes. Because conditioning represents a form of routine network modifications,[65] conditioning costs appear on ILEC's books as maintenance expense. This observation is addressed in the following citations from TRO:

> We note that the costs associated with these modifications often are reflected in the recurring rates that competitive LECs pay for loops. Specifically, equipment costs associated with modifications may be reflected in the carrier's investment in the network element, and labor costs associated with modifications may be recovered as part of the expense associated with that investment (*e.g.*, through application of annual charge factors [ACFs]). The Commission's rules make clear that there may not be any double recovery of these costs (*i.e.*, if costs are recovered through recurring charges, the incumbent LEC may not also recover these costs through a NRC).[66]

> 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.[67]

The key to the FCC's reasoning is that loop conditioning is captured in the annual charge factors used in UNE cost models. This happens because ACFs are typically calculated by

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[65] See, for example, the FCC Triennial Review Order Report and Order and Order on Remand, CC Dockets Nos. 01-338, 96-98, 98-147, *In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, (released August 21, 2003) ("TRO") at ¶ 250: "we find that line conditioning constitutes a form of routine network modifications[.]"

[66] *Id.* at ¶ 640 (footnote omitted).

[67] TRO at ¶ 641 (footnote omitted). See also the FCC *Virginia Arbitration Order (CC Docket Nos. 00-218, 00-251; released August 29, 2003)* ¶ 634 "Verizon proposes to impose a NRC for loop conditioning only in extraordinary cases and will recover ordinary conditioning in recurring charges that cover normal network maintenance....Similarly, because xDSL technologies are generally designed to operate with up to 6,000 feet of bridged tap, Verizon proposes to remove bridged taps as normal network maintenance (*i.e.*, recovering the costs through ACFs rather than NRCs) only on loops with more than 6,000 feet of bridged taps." *(Emphasis added)*; (footnote omitted).

using the ILEC's booked expense data, so that booked maintenance expenses are divided by investments to produce the portion of ACFs known as Maintenance Factors. As discussed, above, this same approach of using booked expense to derive ACFs is utilized in the Embarq model. This means that unless special effort is undertaken to remove loop conditioning cost from the ILEC's booked expense during the calculation of ACFs, loop conditioning costs *are* included in ACFs, and therefore, are included in the recurring rates. Because loop conditioning costs typically are not tracked separately in accounting systems, their removal from ACFs is complicated by the lack of the necessary data.[68]

Q. DID EMBARQ PROVIDE ANY EVIDENCE THAT CONDITIONING COSTS ARE REMOVED FROM ITS ACFs USED IN THE CALCULATION OF RECURRING LOOP RATES?

A. No. As discussed above, when addressing an apparent overstatement of the Model's Maintenance Factors for buried cable and circuit equipment, Embarq's Maintenance Factors are derived as a ratio of expense booked to the specific plant account (such as "underground cable") to investment booked to the same account. The only "adjustment" to the booked data contained in this derivation is the inexplicable overstatement of buried

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[68] See for example, Virginia Arbitration Order, ¶ 155 "Verizon asserts that it has removed all non-recurring expenses from the numerator in its Network ACF because it proposes to recover these costs through NRCs. Because Verizon's accounting system does not actually identify costs as recurring or non-recurring, it has used the amount of non-recurring revenue (retail and wholesale) *as a proxy for non-recurring expenses.*" The FCC concluded as follows in ¶ 157: "Allowing even this limited set of NRCs creates a potential for double recovery without an adjustment to the ACFs. However, AT&T/WorldCom propose no such adjustment and based on the record before us we have no basis on which to develop one. Although Verizon proposes an adjustment based on its retail NRCs, it is unclear whether retail NRCs actually recover all the costs associated with retail non-recurring activities, and there is no evidence as to how Verizon's retail NRC revenues relate to the limited set of expenses we allow it to recover *through NRC is this proceeding.*" (Footnotes omitted).

and circuit equipment cost, which is obviously a result of some *additions*, rather than *removal* of specific expense.[69]

VI. CONCLUSION

Q. PLEASE BRIEFLY SUMMARIZE YOUR TESTIMONY.

A. In this testimony I have demonstrated that Embarq's rate proposal and Model are unreasonable. I recommend that the Commission reject Embarq's proposal and, instead adopt the rates presented in the introduction to this testimony.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

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[69] A further examination of Embarq's Factors studies shows that Embarq does not remove loop conditioning costs through a proxy method, which is the removal of non-recurring revenues (as proposed by Verizon in the Virginia Arbitration case and described in the previous footnote through a citation from the Virginia Arbitration Order, ¶ 155). Specifically, while Embarq's Other Direct and Common Cost Factors study removes certain Service Connection NRCs (see file odc07.xls, Tab "Other Direct," cell D 21), these are Service Connection charges booked to account 5060 "Other Basic Area Revenue" (as seen from the source file for these charges "InpOHExpense.xls, Tab "Revenues" sum of cells G12:G22). However, loop conditioning charges for UNE loops should not be booked to this account according to the federal rules governing financial reporting of Embarq and other telecommunications companies (47 CFR §32): The rules prescribe that revenues derived from the provision of unbundled network elements be booked to a different account – account 5200 "Miscellaneous Revenues" (see 47 CFR §32.5200).

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Biography

Dr. Ankum is a founding partner of QSI, serves as Senior Vice President, and is the firm's Chief Economist. Dr. Ankum is a practicing economist and consultant specializing in both domestic and international telecommunications issues. Dr. Ankum also practices in QSI's international transfer pricing group. Before co-founding QSI, Dr. Ankum worked directly with a number of the country's largest communications clients in his own practice. Prior to that he served as Senior Economist for MCI Telecommunications Corporation's Public Policy Division, and before that as a Manager in the Regulatory and External Affairs Division of Teleport Communications Group, Inc. (later purchased by AT&T). In his capacity with both MCI and TCG, Dr. Ankum provided expert testimony regarding the economics of telecommunications and public policy in contested proceedings across the country. Dr. Ankum specializes in competitive telephony issues pertaining to removing barriers to entry in local telecommunications markets. Dr. Ankum began his career in telecommunications with the Texas Public Utility Commission, where he served as the Commission Staff's Chief Telecommunications Economist before leaving in 1994.

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PROCEEDINGS IN WHICH DR. ANKUM HAS FILED EXPERT WITNESS TESTIMONY:

Before the California Public Utilities Commission
Consolidated Docket
Joint Application of AT&T Communications of California, Inc. (U 5002 C) and WorldCom, Inc. for the Commission to Reexamine the Recurring Costs and Prices of Unbundled Switching in Its First Annual Review of Unbundled Network Element Costs Pursuant to Ordering Paragraph 11 of D.99-11-050
On behalf of ATT and MCI

Before the Connecticut Department of Public Utility Control
Docket No. 02-05-17
DPUC Investigation of Intrastate Carrier Access Charges
On behalf of AT&T and MCI

Before the Delaware Public Service Commission
PSC Docket No. 00-025
Petition of Focal Communications Corporation of Pennsylvania For Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Bell Atlantic – Delaware, Inc.
On behalf of Focal Communications Corporation of Pennsylvania

Before the Florida Public Utilities Commission
Docket No. 990649B-TP
Investigation into Pricing of Unbundled Network Elements
On behalf of AT&T Communications of the Southern States, Inc. MCImetro Access Transmission Services, LLC & MCI WorldCom Communications, Inc., Florida Digital Network, Inc. (collectively called the "ALEC Coalition").

Before the Florida Public Utilities Commission
Docket No. 030829-TP
In the Matter of Complaint of FDN Communications for Resolution of Certain Billing Disputes and Enforcement of UNE Orders and Interconnection Agreements with BellSouth Telecommunications, Inc.
On behalf of Florida Digital Network, Inc. d/b/a FDN Communications

Before the Georgia Public Service Commission
Docket No. 6352-U.
AT&T Petition for the Commission to Establish Resale Rules, Rates and terms and Conditions and the Initial Unbundling of Services
On behalf of MCI Telecommunications Corporation

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Before the Illinois Commerce Commission
Docket No. 94-0048
Adoption of Rules on Line-Side Interconnection and Reciprocal Interconnection
On behalf of Teleport Communications Group, Inc.

Before the Illinois Commerce Commission
Docket No. 94-0096
Proposed Introduction of a Trial of Ameritech's Customer First Plan in Illinois
On behalf of Teleport Communications Group, Inc.

Before the Illinois Commerce Commission
Docket No. 94-0117
Addendum to Proposed Introduction of a Trial of Ameritech's Customer First Plan in Illinois
On behalf of Teleport Communications Group, Inc.

Before the Illinois Commerce Commission
Docket No. 94-0146
AT&T's Petition for an Investigation and Order Establishing Conditions Necessary to Permit Effective Exchange Competition to the Extent Feasible in Areas Served by Illinois Bell Telephone Company
On behalf of Teleport Communications Group, Inc.

Before the Illinois Commerce Commission
Docket No. 95-0315
Proposed Reclassification of Bands B and C Business Usage and Business Operator Assistance/Credit Surcharges to Competitive Status
On behalf of MCI Telecommunications Corporation.

Before the Illinois Commerce Commission
Docket 94-480
Investigation Into Amending the Physical Collocation Requirements of 83 Ill. Adm. Code 790
On behalf of MCI Telecommunications Corporation.

Before the Illinois Commerce Commission
Docket No. 95-0458
Petition for a Total Local Exchange Wholesale Tariff from Illinois Bell Telephone Company d/b/a Ameritech Illinois and Central Telephone Company Pursuant to Section 13-505.5 of the Illinois Public Utilities Act
On behalf of MCI Telecommunications Corporation.

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Before the Illinois Commerce Commission
Docket No. 95-0296
Citation to Investigate Illinois Bell Telephone Company's Rates, Rules and regulations For its Unbundled Network Component Elements, Local Transport Facilities, and End office Integration Services
On behalf of MCI Telecommunications Corporation.

Before the Illinois Commerce Commission
Docket No. 96-AB-006
In the Matter of MCI Telecommunications Corporation Petition for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish and Interconnection Agreement with Illinois Bell Telephone Company d/b/a Ameritech Illinois
On behalf of MCI Telecommunications Corporation.

Before the Illinois Commerce Commission
Docket No. 96-AB-007
In the Matter of MCI Telecommunications Corporation Petition for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish and Interconnection Agreement with Central Telephone Company of Illinois ("Sprint")
On behalf of MCI Telecommunications Corporation.

Before the Illinois Commerce Commission
Docket No. 96-0486
Investigation into forward looking cost studies and rates of Ameritech Illinois for interconnection, network elements, transport and termination of traffic.
On behalf of MCI Telecommunications Corporation.

Before the Illinois Commerce Commission
Docket No. 98-0396.
Phase II of Ameritech Illinois TELRIC proceeding
On behalf of MCIWorldCom.

Before the Illinois Commerce Commission
Docket No. 00-0700
Illinois Commerce Commission On its Motion vs Illinois Bell Telephone Company Investigation into Tariff Providing Unbundled Local Switching with Shared Transport
On behalf of AT&T Communications of Illinois, Inc., and WorldCom, Inc.

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Before the Illinois Commerce Commission
Docket No. 02-0864
In the Matter of: Illinois Bell Telephone Company, Filing to Increase Unbundled Loop and Nonrecurring Rates (Tariffs Filed December 24, 2002)
On Behalf of WorldCom, Inc., McLeodUSA Telecommunications Services, Inc., Covad Communications Company, TDS Metrocom, LLC, Allegiance Telecom of Illinois, Inc., RCN Telecom Services of Illinois, LLC., Globalcom, Inc., Z-Tel Communications, Inc., XO Illinois, Inc., Forte Communications, Inc., CIMCO Communications, Inc.

Before the Indiana Regulatory Commission
Cause No. 39948
In the matter of the Petition of MCI Telecommunications Corporation for the Commission to Modify its Existing Certificate of Public Convenience and Necessity and to Authorize the Petitioner to Provide certain Centrex-like Intra-Exchange Services in the Indianapolis LATA Pursuant to I.C. 8-1-2-88, and to Decline the Exercise in Part of its Jurisdiction over Petitioner's Provision of such Service, Pursuant to I.C. 8-1-2.6.
On behalf of MCI Telecommunications Corporation

Before the Indiana Regulatory Commission
Cause No. 40178
In the matter of the Petition of Indiana Bell Telephone company, Inc. For Authorization to Apply a Customer Specific Offering Tariff to Provide the Business Exchange Services Portion of Centrex and PBX Trunking Services and for the Commission to Decline to Exercise in Part Jurisdiction over the Petitioner's Provision of such Services, Pursuant to I.C. 8-1-2.6
On behalf of MCI Telecommunications Corporation.

Before the Indiana Regulatory Commission
Cause No. 40603-INT-01
MCI Telecommunications Corporation Petition for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish and Interconnection Agreement with Indiana Bell Telephone Company d/b/a Ameritech Indiana
On behalf of MCI Telecommunications Corporation.

Before the Indiana Regulatory Commission
Cause No. 40611
In the matter of the Commission Investigation and Generic Proceeding on Ameritech Indiana's Rates for Interconnection Service, Unbundled Elements and Transport and Termination under the Telecommunications Act of 1996 and Related Indiana Statutes
On behalf of MCI Telecommunications Corporation.

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Before the Indiana Regulatory Commission
Cause No. 40618
In the Matter of the Commission Investigation and Generic Proceeding on GTE's Rates for Interconnection, Service, Unbundled Elements, and Transport under the FTA 96 and related Indiana Statutes
On behalf of MCI Telecommunication Corporation.

Before the Indiana Regulatory Commission
Cause No. 40611-S1
In the matter of the Commission Investigation and Generic proceeding on the Ameritech Indiana's rates for Interconnection, Unbundled Elements, and Transport and Termination Under the Telecommunications Act of 1996 and Related Indiana Statutes
On behalf of WorldCom, Inc., AT&T Communications of Indiana, G.P.

Before the Indiana Utility Regulatory Commission
Cause No. 42393
In the Matter of the Commission Investigation and Generic Proceeding of Rates and Unbundled Network Elements and Collocation for Indiana Bell Telephone Company, Incorporated D/B/A SBC Indiana Pursuant to the Telecommunications Act of 1996 and Related Indiana Statues.
On Behalf of WorldCom, Inc. ("MCI") McLeodUSA Telecommunications Services, Inc., Covad Communications Company, Z-Tel Communications, Inc.

Before the Iowa Department of Commerce Utilities Board
Docket No: RPU – 00 – 01
US West Communications, Inc.,
On behalf of McLeodUSA.

Before the Maryland Public Utilities Commission
Case No. 8988
In The matter, The Implementation Of The Federal Communications Commission's Triennial Review Order.
On Behalf of Cavalier Telephone, LLC

Before the Massachusetts Department of Energy and Transportation
D.P.U. 96-83
NYNEX/MCI Arbitration
On behalf of MCI Telecommunications Corporation.

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Before the Massachusetts Department of Energy and Transportation
Docket 01-20
Investigation into Pricing based on TELRIC for Unbundled Network Elements and Combinations of Unbundled Networks Elements and the Appropriate Avoided Cost Discount for Verizon New England, Inc. d/b/a Verizon Massachusetts' Resale Services.
On behalf Allegiance, Network Plus, Inc., El Paso Networks, LLC, and Covad Communications Company.

Before the Massachusetts Department of Energy and Transportation
Docket 01-03
Investigation by the Department of Telecommunications and Energy on its own Motion into the Appropriate Regulatory Plan to succeed Price Cap Regulation for Verizon New England, Inc. d/b/a Verizon Massachusetts' intrastate retail telecommunications services in the Commonwealth of Massachusetts
On behalf of Network Plus, Inc.

Before the Commonwealth Of Massachusetts Department Of Telecommunications and Energy
D.T.E. 03-60
Proceeding by the Department on its own Motion to Implement the Requirements of the Federal Communications Commission's Triennial Review Order Regarding Switching for Mass market Customers
On Behalf of Conversent Communications of Massachusetts, LLC

Before the Michigan Public Service Commission
Case No. U-10647
In the Matter of the Application of City Signal, Inc. for an Order Establishing and Approving Interconnection Arrangements with Michigan Bell Telephone Company
On behalf of Teleport Communications Group, Inc.

Before the Michigan Public Service Commission
Case No. U-10860
In the Matter, on the Commission's Own Motion, to Establish Permanent Interconnection Arrangements Between Basic Local Exchange Providers
On behalf of MCI Telecommunications Corporation.

Before the Michigan Public Service Commission
Case No. U-11280
In the Matter, on the Commission's Own Motion, to consider the total service long run incremental costs and to determine the prices for unbundled network elements, interconnection services, resold services, and basic local exchange services for Ameritech Michigan
On behalf of MCI Telecommunications Corporation.

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Before the Michigan Public Service Commission
Case No. U-11366
In the matter of the application under Section 310(2) and 204, and the complaint under Section 205(2) and 203, of MCI Telecommunications Corporation against AMERITECH requesting a reduction in intrastate switched access charges
On behalf of MCI Telecommunications Corporation.

Before the Michigan Public Service Commission
Case No. U-13531
In the matter, on the Commission's own motion, to review the costs of telecommunications services provided by SBC Michigan
On behalf of AT&T, Worldcom, Inc., McLeodUSA and TDS Metrocom.

Before the Michigan Public Service Commission
Case No. U-11831
In the Matter of the Commission's own motion, to consider the total service long run incremental costs for all access, toll, and local exchange services provided by Ameritech Michigan
On behalf of MCIWorldCom, Inc.

Before the Michigan Public Service Commission
Case No. U-11830
In the matter of Ameritech Michigan's Submission on Performance Measures, Reporting, and Benchmarks, Pursuant to the October 2, 1998 Order in Case No. U-11654
On behalf of Covad Communications, McLeodUSA Telecommunications Services, Inc., LDMI Telecommunications Inc., Talk America Inc., and XO Communications Services, Inc.

Before the Minnesota Public Utilities Commission
PUC Docket No. P-442, 421, 3012 /M-01-1916
In Re Commission Investigation Of Qwest's Pricing Of Certain Unbundled Network Elements,
On behalf of Otter Tail Telecom, Val-Ed Joint Venture D/B/A 702 Communications, McCleoudUSA, Eschelon Telecommunications, USLink.

Before the Minnesota Public Utilities Commission
PUC Docket No . P-421/AM-06-713
OAH Docket No. 3-2500-17511-2
In the Matter of Qwest Corporation's Application for Commission Review of TELRIC rates Pursuant to 47 U.S.C. § 251
On Behalf of Integra Telecom of Minnesota, Inc.; McLeodUSA Telecommunications Services, Inc.; POPP.com, Inc.; DIECA Communications, Inc., d/b/a Covad Communications Company; TDS Metrocom; and XO Communications of Minnesota, Inc.

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Before the Minnesota Public Utilities Commission
PUC Docket #P-421/CI-05-1996
OAH Docket No. 12-2500-17246-2
In the Matter of a Potential Proceeding to Investigate the Wholesale Rate Charged by Qwest
On behalf of Integra Telecom of Minnesota, Inc., McLeodUSA Telecommunications Service, Inc., POPP.com, Inc., DIECA Communications, Inc. d/b/a Covad Communications Company, TDS Metrocom, and XO Communications of Minnesota, Inc.

Before the New Jersey Board of Public Utilities
Petition of Focal Communications Corporation of New Jersey For Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Bell Atlantic
On behalf of Focal Communications Corporation of New Jersey.

Before the New Jersey Board of Public Utilities
Docket No. TO00060356
I/M/O the Board's Review of Unbundled Network Elements Rates, Terms and Conditions of Bell Atlantic-New Jersey, Inc. New Jersey Board of Public Utilities, On behalf of WorldCom, Inc.

Before the State Of New Jersey Public Service Commission
Docket No. TO03090705
In The Matter, The Implementation Of the Federal Communications Commission's Triennial Review Order
On Behalf of Conversent Communications of New Jersey, LLC

Before The New Mexico State Corporation Commission
Docket No. 96-307-TC
Brooks Fiber Communications of New Mexico, Inc. Petition for Arbitration
On behalf of Brooks Fiber Communications of New Mexico, Inc.

Before The New Mexico State Corporation Commission
Utility Case No. 3495, Phase B
In the matter of the consideration of costing and pricing rules for OSS, collocation, shared transport, non-recurring charges, spot frames, combination of network elements and switching.
On behalf of the Commission Staff.

Before the New York Public Service Commission
Case Nos. 95-C-0657, 94-C-0095, 91-C-1174
Commission Investigation into Resale, Universal Service and Link and Port Pricing

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On behalf of MCI Telecommunications Corporation.

Before the New York Public Service Commission
Case 99-C-0529
In the Matter of Proceeding on Motion of the Commission To Reexamine Reciprocal Compensation
On Behalf Of Cablevision LightPath, Inc.

Before the New York Public Service Commission
Case 98-C-1357
Proceeding on the Motion of the Commission to Examine New York Telephone Company's Rates for Unbundled Network Elements
On behalf of Corecomm New York, Inc.

Before the New York Public Service Commission
Case 98-C-1357
Proceeding on Motion of the Commission to Examine New York Telephone Company's Rates for Unbundled Network Elements
On behalf of MCIWorldCom.

Before the State Of New York Public Service Commission
CASE 02-C-1425
In The Matter, Proceeding on Motion of the Commission to Examine the Processes, and Related Costs of Performing Loop Migrations on a More Streamlined (e.g., Bulk) Basic
On Behalf of Conversent Communications of New York, LLC

Before the Public Utilities Commission of Ohio
Case No. 96-888-TP-ARB
In the Matter of MCI Telecommunications Corporation Petition for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish and Interconnection Agreement with Ameritech Ohio
On behalf of MCI Telecommunications Corporation.

Before the Public Utilities Commission of Ohio
Case No. 96-922-TP-UNC.
In the matter of the review of Ameritech Ohio's economic costs for interconnection, unbundled network elements, and reciprocal compensation for transport and termination of local telecommunications traffic
On behalf of MCI Telecommunications Corporation.

Before the Public Utilities Commission of Ohio
Case No. 00-1368-TP-ATA

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In the Matter of the Review of Ameritech Ohio's Economic Costs for Interconnection, Unbundled Network Elements, and Reciprocal Compensation for Transport and Termination of Local Telecommunications Traffic. Case No. 96-922-TP-UNC and In the Matter of the Application of Ameritech Ohio for Approval of Carrier to Carrier Tariff
On behalf of MCIWorldCom and ATT of the Central Region.

Before the Public Utilities Commission of Ohio
Case No. 97-152-TP-ARB
In the matter of the petition of MCI Telecommunications Corporation for arbitration pursuant to section 252(b) of the Telecommunications Act of 1996 to establish an interconnection agreement with Cincinnati Bell Telephone Company
On behalf of the MCI Telecommunications Corporation

Before the Pennsylvania Public Utility Commission
Docket No. I-00940035
In Re: Formal Investigation to Examine Updated Universal Service Principles and Policies for telecommunications Services in the Commonwealth Interlocutory order, Initiation of Oral Hearing Phase
On behalf of MCI Telecommunications Corporation.

Before the Pennsylvania Public Utility Commission
Docket No. M-0001352
Structural Separation of Verizon
On behalf of MCI WorldCom.

Before the Puerto Rico Telecommunications Regulatory Board
Docket No. 97-0034-AR
Petition for Arbitration Pursuant to 47 U.S.C. & (b) and the Puerto Rico Telecommunications Act of 1996, regarding Interconnection Rates Terms and Conditions with Puerto Rico Telephone Company
On behalf of Cellular Communications of Puerto Rico, Inc.

Before the State Of Rhode Island And Providence Plantations Public Utilities Commission
Docket No. 2252
Comprehensive Review of Intrastate Telecommunications Competition
On behalf of MCI Telecommunications Corporation.

Before the State Of Rhode Island And Providence Plantations Public Utilities Commission
Docket Nos. 3550 and 2861
In The Matter, Implementation of the Requirements of the FCC's Triennial Review Order ("TRO")
On behalf of Conversent Communications of Rhode Island, LLC

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Before the Tennessee Public Service Commission
Docket No. 96-00067
Avoidable Costs of Providing Bundled Services for Resale by Local Exchange Telephone Companies
On behalf of MCI Telecommunications Corporation.

Before the Public Utility Commission of Texas
Docket No. 7790
Petition of The General Counsel for an Evidentiary Proceeding to Determine Market Dominance
On behalf of the Public Utility Commission of Texas.

Before the Public Utility Commission of Texas
Docket No. 8665
Application of Southwestern Bell Telephone Company for Revisions to the Customer Specific Pricing Plan Tariff
On behalf of the Public Utility Commission of Texas.

Before the Public Utility Commission of Texas
Docket No. 8478
Application of Southwestern Bell Telephone Company to Amend its Existing Customer Specific Pricing Plan Tariff: As it Relates to Local Exchange Access through Integrated Voice/Data Multiplexers
On behalf of the Public Utility Commission of Texas.

Before the Public Utility Commission of Texas
Docket No. 8672
Application of Southwestern Bell Telephone Company to Provide Custom Service to Specific Customers
On behalf of the Public Utility Commission of Texas.

Before the Public Utility Commission of Texas
Docket No. 8585
Inquiry of the General Counsel into the Reasonableness of the Rates and Services of Southwestern Bell Telephone Company
On behalf of the Public Utility Commission of Texas.

Before the Public Utility Commission of Texas
Docket No. 9301
Southwestern Bell Telephone Company Application to Declare the Service Market for CO LAN Service to be Subject to Significant Competition
On behalf of the Public Utility Commission of Texas.

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Before the Public Utility Commission of Texas
Docket No. 10382
Petition of Southwestern Bell Telephone Company for Authority to Change Rates
On behalf of the Public Utility Commission of Texas.

Before the Public Utility Commission of Texas
Docket No. 14658
Application of Southwestern Bell Telephone Company, GTE Southwest, Inc., and Contel of Texas, Inc. For Approval of Flat-rated Local Exchange Resale Tariffs Pursuant to PURA 1995 Section 3.2532
On behalf of Office of Public Utility Counsel of Texas.

Before the Public Utility Commission of Texas
Docket No. 14658
Application of Southwestern Bell Telephone Company, GTE Southwest, Inc., and Contel of Texas, Inc. For Interim Number Portability Pursuant to Section 3.455 of the Public Utility Regulatory Act
On behalf of Office of Public Utility Counsel of Texas.

Before the Public Utility Commission of Texas
Docket Nos. 16226 and 16285
Application of AT&T Communications for Compulsory Arbitration to Establish an Interconnection Agreement Between AT&T and Southwestern Bell Telephone Company, and Petition of MCI for Arbitration under the FTA96
On behalf of AT&T and MCI.

Before the Public Utility Commission of Texas
Docket No. 21982
Proceeding to examine reciprocal compensation pursuant to section 252 of the Federal Telecommunications of 1996
On behalf of Taylor Communications.

Before the Public Utility Commission of Texas
Docket No. 25834
Proceeding on Cost Issues Severed from PUC Docket 24542
On behalf of AT&T and MCIMetro.

Before the Public Utility Commission of Texas
SOAH Docket No. 473-07-1365
PUC Docket No. 33545
Application of McLeodUSA Telecommunications Services, Inc. for Approval of Intrastate Switched Access rates Pursuant to PURA Section 52.155 and PUC Subst. R. 26.223

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On behalf of McLeodUSA Telecommunications Services

Before the Utah public Service Commission
Docket No. 01-049-85
In the Matter of the Determination of the Costs Investigation of the Unbundled Loop of Qwest Corporation, Inc.
On behalf of AT&T and WorldCom.

Before the Vermont Public Service Board
Docket No. 5713
Investigation into NET's tariff filing re: Open Network Architecture, including the Unbundling of NET's Network, Expanded Interconnection, and Intelligent Networks
On behalf of MCI Telecommunications Corporation.

Before the Public Service Commission of Wisconsin
Cause No. 05-TI-138
Investigation of the Appropriate Standards to Promote Effective Competition in the Local Exchange Telecommunications Market in Wisconsin
On behalf of MCI Telecommunications Corporation.

Before the Public Service Commission of Wisconsin
Docket 670-TI-120
Matters relating to the satisfaction of conditions for offering interLATA services (Wisconsin Bell, Inc. d/b/a Ameritech Wisconsin)
On behalf of MCI Telecommunications Corporation.

Before the Public Service Commission of Wisconsin
Docket Nos. 6720-MA-104 and 3258-MA-101
In the Matter of MCI Telecommunications Corporation Petition for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Wisconsin Bell, Inc. d/b/a Ameritech Wisconsin
On behalf of MCI Telecommunications Corporation.

Before the Public Service Commission of Wisconsin
Docket No. 05-TI-349
Investigation Into The Establishment of Cost-Related Zones For Unbundled Network Elements,
On behalf of AT&T Communications of Wisconsin, McLEODUSA Telecommunications Services, Inc., TDS MetroCom, Inc., and Time Warner Telecom.

Before the Public Service Commission of Wisconsin
Docket No. 6720-TI-161

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Investigation into Ameritech Wisconsin's Unbundled Network Elements
On Behalf Of AT&T Communications of Wisconsin, Inc., WorldCom, Inc., Rhythms Links, Inc., KMC Telecom, Inc., and McLeodUSA ("CLEC Coalition")

KEY CODES				7/31/2007
MRC	NRC			
		Other than Operator / DA	13.85%	
		Op Assist / DA	16.97%	
		Message Provisioning, per message	$0.000684	
		Data Transmission, per message	$0.00000	
		Media Charge - per CD (Price reflects shipping via regular U.S. Mail)		$18.00
		Temporary Suspension of Service for Resale - SUSPEND		$0.00
		Temporary Suspension of Service for Resale - RESTORE		$21.00
		PIC Change Charge, per change		Per Tariff
		Operator Assistance / Directory Assistance Branding		ICB
	I0005	Tag and Label on a reinstall loop or an existing loop or resale		$8.80
	I0007	Trip Charge		$18.30
	I0008	Manual Service Order NRC		$16.74
	I0009	Manual Service Order - Listing Only		$16.74
	I0010	Manual Service Order - Change Only		$16.74
	I0011	Electronic Service Order (IRES)		$9.26
	I0012	Electronic Service Order - Listing Only		$9.26
	I0013	Electronic Service Order - Change Only		$9.26
	I0014	2-Wire Loop Cooperative Testing		$38.55
	I0015	4-Wire Loop Cooperative Testing		$47.35
	I0016	Trouble Isolation Charge		$71.32
	I0017	Change Telephone Number, per change		$9.26
		LNP Coordinated Conversion - Lines 1 -10		$66.33
		LNP Coordinated Conversion - Each additional line		$4.79
		LNP Conversion - 10 Digit Trigger		$0.00
		UNE to Special Access or Special Access to UNE Conversions or Migrations (includes EEL)		
	I0018	DS1 Loop, per circuit		$103.49
	I0019	DS1 Transport, per circuit		$103.49
		DS3 Loop, per circuit		ICB
		DS3 Transport, per circuit		ICB
		Loop Make-Up Information		$10.69
		2-Wire Analog		
I0020		Band 1	$21.28	
I0021		Band 2	$22.21	
I0022		Band 3	$35.19	
I0023		Band 4	$44.01	
		Band 5	$88.48	
	I0027	First Line		$88.16
	I0028	Second Line and Each Additional Line (same time)		$29.65
	I0029	Re-install (Cut Thru and Dedicated/Vacant)		$42.84
	I0030	Disconnect		$42.82

KEY CODES				7/31/2007
MRC	NRC			
		4-Wire Analog		
I0031		Band 1	$69.74	
I0032		Band 2	$73.13	
I0033		Band 3	$96.36	
I0034		Band 4	$110.70	
		Band 5	$182.40	
	I0038	First Line		$110.30
	I0039	Second Line and Each Additional Line (same time)		$51.75
	I0040	Re-install (Cut Thru and Dedicated/Vacant)		$61.50
	I0041	Disconnect		$42.82
		2-Wire xDSL - Capable Loop		
I0042		Band 1	$21.28	
I0043		Band 2	$22.21	
I0044		Band 3	$35.19	
I0045		Band 4	$44.01	
		Band 5	$86.48	
	I0049	First Line		$88.16
	I0050	Second Line and Each Additional Line (same time)		$29.65
	I0051	Re-install (Cut Thru and Dedicated/Vacant)		$42.84
	I0052	Disconnect		$42.82
		4-Wire xDSL - Capable Loop		
		Band 1	$69.74	
		Band 2	$73.13	
		Band 3	$96.36	
		Band 4	$110.70	
		Band 5	$182.40	
		First Line		$110.30
		Second Line and Each Additional Line (same time)		$51.75
		Re-install (Cut Thru and Dedicated/Vacant)		$61.50
		Disconnect		$42.82
		2-Wire Digital Loop		
I0064		Band 1	$21.28	
I0065		Band 2	$22.21	
I0066		Band 3	$35.19	
I0067		Band 4	$44.01	
		Band 5	$86.48	
	I0071	First Line		$88.16
	I0072	Second Line and Each Additional Line (same time)		$29.65
	I0073	Disconnect		$42.82
		2-Wire ISDN-BRI Digital Loop		
I0074		Band 1	$34.12	
I0075		Band 2	$35.28	
I0076		Band 3	$56.76	
I0077		Band 4	$69.56	
		Band 5	$143.90	
	I0081	First Line		$88.16
	I0082	Second Line and Each Additional Line (same time)		$29.65
	I0083	Disconnect		$42.82
		4-Wire Digital Loop (no electronics)		
		Band 1	$69.74	
		Band 2	$73.13	
		Band 3	$96.36	
		Band 4	$110.70	
		Band 5	$182.40	
		First Line		$110.30
		Second Line and Each Additional Line (same time)		$51.75
		Disconnect		$42.82
		Digital 56k/64k Loop		
I0094		Band 1	$71.94	
I0095		Band 2	$51.31	
I0096		Band 3	$61.10	
I0097		Band 4	$87.50	
		Band 5	$116.77	

KEY CODES				7/31/2007
MRC	NRC			
	I0101	First Line		$202.82
	I0102	Second Line and Each Additional Line (same time)		$144.31
	I0103	Disconnect		$43.47
		DS1 Service and ISDN PRI Loop		
I0104		Band 1	$76.66	
I0105		Band 2	$111.58	
I0106		Band 3	$184.39	
I0107		Band 4	$276.49	
		Band 5	$609.60	
	I0111	First Line		$282.07
	I0112	Second Line and Each Additional Line (same time)		$223.52
	I0113	Disconnect		$42.82
		DS3 Service		
		Add DS3 to existing fiber system	ICB	$107.01
		Disconnect		$17.23
		Load Coil Removal for all Digital UNE and xDSL-Capable loops that are less than 18,000 feet in length - per line conditioned (No Engineering or Trip charges - price reflects 25 pair economies)		$0.39
		Conditioning Engineering Charge - per loop		$78.40
		Conditioning Trip Charge - per loop		$22.84
		The following charges apply to all loops of any length that require Bridged Tap or Repeater removal.		
		Load Coil Removal: Loops 18kft or longer		
		Unload cable pair, per Underground location		$186.07
		Unload Addt'l cable pair, UG same time, same location and cable		$1.13
		Unload cable pair, per Aerial Location		$76.96
		Unload Addt'l cable pair, AE or BU, same time, location and cable		$1.13
		Unload cable pair, per Buried Location		$109.26
		Bridged Tap or Repeater Removal - Any Loop Length		
		Remove Bridged Tap or Repeater, per Underground Location		$186.38
		Remove each Addt'l Bridged Tap or Repeater, UG same time, location and cable		$1.44
		Remove Bridged Tap or Repeater, per Aerial Location		$77.27
		Remove each Addt'l Bridged Tap or Repeater, AE or BU same time, location and cable		$1.44
		Remove Bridged Tap or Repeater, per Buried Location		$109.57
		Sub-Loops Interconnection (Stub Cable)		ICB
		2 Wire Voice Grade and Digital Data Distribution		
I0114		Band 1	$12.07	
I0115		Band 2	$13.37	
I0116		Band 3	$17.94	
I0117		Band 4	$26.93	
		Band 5	$48.97	
	I0121	First Line		$92.81
	I0122	Second Line and Each Additional Line (same time)		$34.30
	I0123	Disconnect		$46.46
		4 Wire Voice Grade and Digital Data Distribution		
I0124		Band 1	$24.14	
I0125		Band 2	$25.74	
I0126		Band 3	$43.47	
I0127		Band 4	$53.86	
		Band 5	$97.94	
	I0131	First Line		$120.29
	I0132	Second Line and Each Additional Line (same time)		$61.74
	I0133	Disconnect		$46.49

KEY CODES				7/31/2007
MRC	NRC			
		DEDICATED INTEROFFICE TRANSPORT	MRC	NRC
	DOH00	DS1	Refer to Dedicated Transport Tab	$94.90
		DS1 Disconnect		$17.23
	DOH01	DS3	Refer to Dedicated Transport Tab	$94.90
		DS3 Disconnect		$17.23
		MULTIPLEXING	MRC	NRC
		Multiplexing elements are only relevant in conjunction with UNE transport.		
I0134	I0135	Multiplexing - DS1-DS0 (per DS1) - (Shelf only, rate does not include cards)	$144.72	$94.90
		DS1-DS0 Disconnect		$17.23
I0136	I0137	Multiplexing - DS3-DS1 (per DS3)	$252.07	$94.90
		DS3-DS1 Disconnect		$17.23
		DARK FIBER	MRC	NRC
		Dark Fiber Application & Quote Preparation Charge		**$247.09**
		Note: These elements are calculated and billed manually using one price per USOC and COS. Detail is provided by the DFA form returned to the customer.		
		Transport		
		Interoffice, per foot per fiber - Statewide Average	$0.00250	
		Additional Charges Applicable to Transport		
		Fiber Patch Cord, per fiber	$0.40	
		Fiber Patch Panel, per fiber	$1.37	
		Central Office Interconnection,1-4 Patch Cords per CO - Install or Disconnect		$178.00
		Dark Fiber End-to-End Testing, Initial Strand		$61.90
		Dark Fiber End-to-End Testing, Subsequent Strand		$17.30
		ENHANCED EXTENDED LINK (EEL)	MRC	NRC
		Enhanced Extended Link (EEL) is a combination of Loop, Transport and Multiplexing (when applicable). Refer to the specific UNE section (transport, loop, multiplexing) in this document to obtain pricing for each specific element.		
		See Rate Element / Service Order / Installation/Repair Center section of this price sheet for EEL Conversion Charges.		
		LOCAL SWITCHING - PER MOU USAGE	MRC	NRC
		End Office - per MOU	$0.003997	N/A
		Tandem Switching - per MOU	$0.002435	N/A
		Shared Transport - per MOU	$0.001641	N/A
		TRANSIT SERVICE	MRC	NRC
		Transit Service Charge - per MOU	$0.005000	
		DATABASE CHARGES (Per Query)	MRC	NRC
		Local Number Portability query (LNP) - Contracted	$0.00030	
		Toll Free Code query (TFC) - Simple - Contracted	$0.00200	
		Toll Free Code query (TFC) - Complex Additive - Contracted	$0.00020	
		Line Information Database query (LIDB) - *Per Interstate Tariff*	Per Tariff	
		Line Information Database query transport (LIDB) - *Per Interstate Tariff*	Per Tariff	
		Calling Name Database Access Service query (CNAM) - *Contracted, MTM*	$0.01450	
		Calling Name Database Access Service query (CNAM) - Contracted, 3 year term	$0.00800	
		Calling Name Database Access Service query (CNAM) - *Contracted, 3 + year term*	$0.00550	
		OPERATOR SERVICES / DIRECTORY ASSISTANCE SERVICES	MRC	NRC
		Operator Services		Refer to Applicable Retail Tariff
		Directory Assistance Services		Refer to Applicable Retail Tariff

KEY CODES				7/31/2007
MRC	NRC			
		Directory - Premium & Privacy Listings		Refer to Applicable Retail Tariff
		911 and E911 Transport - DS1	Refer to Dedicated Transport Tab	$94.90
		Multiplexing - DS1-DS0 (per DS1) - (Shelf only, rate does not include cards)	$144.72	$94.90
		DS0 911 Per Port (minimum of 2 DS0's required)	$19.10	ICB
	I0001	SIG Database Extract Report, per CDROM (price reflects shipping regular U.S. Mail)		$18.00

Loop Banding		
Exchange Name	CLLI	Band
Mason	MASNOHXAR	1
Bellefontaine	BLLFOHXAH	2
Defiance	DFNCOHXAH	2
Lima XAH	LIMAOHXAH	2
Lima XBH	LIMAOHXBH	2
Madisonburg	MDBROHXAR	2
Mansfield XAH	MNFDOHXAH	2
Mansfield XCR	MNFDOHXCR	2
Mansfield XDR	MNFDOHXDR	2
Rittman	RTMNOHXAR	2
South Lebanon	SLBNOHXAR	2
Woodland	WLDROHXAH	2
Warren XAH	WRRNOHXAH	2
Warren XBH	WRRNOHXBH	2
Warren XER	WRRNOHXER	2
Warren XFR	WRRNOHXFR	2
Warren XGR	WRRNOHXGR	2
Waterville	WTVLOHXAR	2
Ada	ADA OHXAR	3
Bucyrus	BCYROHXAR	3
Bluffton	BFTNOHXAR	3
Bellville	BLVLOHXAR	3
Delphos	DLPHOHXAH	3
Greenville	GNVLOHXAH	3
Lebanon	LBNNOHXAH	3
Lordstown	LRTWOHXAR	3
Lexington	LXTNOHXAR	3
Millersburg	MLBGOHXAH	3
Mansfield XBR	MNFDOHXBR	3
Morrow	MRRWOHXAR	3
Mount Gilead	MTGLOHXAH	3
Mount Vernon	MTVROHXAH	3
Marysville	MYVIOHXAH	3
Napoleon	NPLNOHXAH	3
Newton Falls	NWFLOHXAR	3
Orrville	ORVLOHXAH	3
Russells Point XAS	RSPNOHXAS	3
Sidney	SDNYOHXAH	3
Shelby	SHLBOHXAH	3
Van Wert	VNWROHXAR	3
Wooster	WSTROHXAH	3
Waynesville	WYVLOHXAR	3
Alger	ALGROHXAR	4
Alexandria	ALXNOHXAR	4
Anna	ANNAOHXAR	4
Apple Creek	APCKOHXAR	4
Archbold	ARCHOHXAR	4
Arcanum	ARCNOHXAR	4

Loop Banding		
Exchange Name	CLLI	Band
Bristolville	BIVLOHXAS	4
Berlin Center	BRCTOHXAR	4
Bradford	BRFROHXAR	4
Botkins	BTKNOHXAR	4
Butler	BTLROHXAR	4
Beaverdam	BVRDOHXAR	4
Cairo	CARAOHXAR	4
Crooksville	CKVLOHXAR	4
Camden	CMDNOHXAR	4
Centerburg	CNBGOHXAR	4
Cortland	CRLDOHXAR	4
Damascus	DMSCOHXAR	4
Eaton	EATNOHXAR	4
East Liberty	ELBLOHXAR	4
Fredericktown	FRTWOHXAR	4
Glouster	GLSTOHXAS	4
Gettysburg	GTBGOHXAS	4
Hebron	HBRNOHXAR	4
Jefferson	JFSAOHXAR	4
Johnston	JHTNOHXAR	4
Johnstown	JHTWOHXAR	4
Luckey	LCKYOHXAR	4
Lake Milton	LKMLOHXAH	4
Leavittsburg	LVBGOHXAR	4
Moline	MOLNOHXAR	4
Marengo	MRNGOHXAR	4
Metamora	MTMOOHXAR	4
North Lewisburg	NLBGOHXAS	4
New Madison	NWMSOHXAR	4
New Paris	NWPROHXAR	4
Ottawa	OTWAOHXAR	4
Pataskala	PTSKOHXAH	4
Richfield Center	RCCTOHXAR	4
Smithville	SMVLOHXAR	4
Sunbury	SNBYOHXBR	4
Sterling	STNGOHXAR	4
Stony Ridge	STRGOHXAH	4
Stryker	STRYOHXAR	4
Swanton	SWTNOHXAR	4
Utica	UTICOHXAR	4
Versailles	VRSLOHXAR	4
Wauseon	WASNOHXAH	4
Woodville	WDVLOHXAS	4
Windham	WNHMOHXAS	4
Adario	ADAROHXAR	5
Adamsville	ADVLOHXAS	5
Andover	ANDVOHXAH	5
Ansonia	ANSOOHXAS	5
Big Prairie	BGPROHXAR	5
Belle Center	BLCTOHXAR	5
Bloomdale	BMDLOHXAS	5

Loop Banding		
Exchange Name	CLLI	Band
Bartlett	BRTLOHXAS	5
Chesterhill	CHHLOHXAR	5
Chesterville	CHVLOHXAS	5
Caledonia	CLDNOHXAS	5
Cardington	CRDGOHXAR	5
Croton	CRTOOHXAR	5
Chatfield	CTFDOHXAR	5
Cygnet	CYGTOHXAS	5
Danville	DANKOHXAR	5
Degraff	DGRFOHXAR	5
Dunkirk	DNKROHXAS	5
Deshler	DSHLOHXAR	5
Eldorado	ELDROHXAR	5
Elida	ELIDOHXAR	5
Florida	FLRDOHXAR	5
Fredericksburg	FRBGOHXAR	5
Fort Loramie	FTLROHXAR	5
Frazeysburg	FZBGOHXAS	5
Glenmont	GLMTOHXAR	5
Gambier	GMBROHXAR	5
Gomer-Rimer	GOMROHXAS	5
Greene	GRNEOHXAR	5
Green Springs	GRSPOHXAS	5
Grelton/Malinta	GRTNOHXAS	5
Hollansburg	HLBGOHXAS	5
Holgate	HLGTOHXAR	5
Hamler	HMLROHXAS	5
Holmesville	HMVLOHXAR	5
Huntsville	HNVIOHXAR	5
Hartford	HRFROHXAR	5
Jewell	JEWLOHXAR	5
Johnsville	JHVLOHXAR	5
Jackson Center	JKCTOHXAR	5
Junction City	JNCYOHXAS	5
Kidron	KDRNOHXAR	5
Killbuck	KLBCOHXAR	5
Kinsman	KNMNOHXAR	5
Liberty Center	LBCTOHXAR	5
Lafayette	LFYTOHXAR	5
Lucas	LUCSOHXAR	5
Lykens	LYKNOHXAR	5
Lyons	LYNSOHXAR	5
McConnelsville	MCNVOHXAH	5
Magnetic Springs	MGSPOHXAS	5
Milford Center	MLCTOHXAR	5
Martinsburg	MRBGOHXAR	5
Marshallville	MRVLOHXAR	5
Mount Sterling	MTSTOHXAS	5
Mount Victory	MTVCOHXAS	5
North Benton	NBENOHXAR	5
Nashville	NSVLOHXAR	5
New Winchester	NWCHOHXAR	5

Loop Banding		
Exchange Name	CLLI	Band
New Lyme	NWLYOHXAR	5
Old Fort	OLFTOHXAR	5
Pennsville	PEVLOHXAS	5
Portage	PRTGOHXAR	5
Rockford	RCFROHXAS	5
Ridgeway	RDWYOHXAR	5
Reinersville	RNRVOHXAR	5
Rossburg	RSBGOHXAR	5
Rushsylvania	RSHSOHXAR	5
Rising Sun	RSNGOHXAS	5
Rosewood	RSWDOHXAR	5
Raymond	RYMNOHXAR	5
Shiloh	SHLHOHXAR	5
Shreve	SHRVOHXAR	5
Stockport	STPTOHXAS	5
Venedocia	VNDCOHXAR	5
West Liberty	WLBTOHXAR	5
West Manchester	WMCHOHXAR	5
West Mansfield	WMFDOHXAR	5
Westminster	WMNSOHXAR	5
Waynesfield	WYFDOHXAR	5
Wayland	WYLDOHXAR	5
York Center	YRCTOHXAS	5

KEY CODES		ELEMENT/SERVICE DESCRIPTION - OHIO		9/25/2006
MRC	NRC			
		RESALE DISCOUNTS	**MRC**	**NRC**
		Other than Operator / DA	13.85%	
		Op Assist / DA	16.07%	
		USAGE FILE CHARGES	**MRC**	**NRC**
UF01		Message Provisioning, per message	$0.000684	
UF02		Data Transmission, per message	$0.00000	
	DB008	Media Charge - per CD (Price reflects shipping via regular U.S. Mail)		$18.00
		OTHER CHARGES	**MRC**	**NRC**
	UP026	Temporary Suspension of Service for Resale - SUSPEND		$0.00
	UP027	Temporary Suspension of Service for Resale - RESTORE		$21.00
	UP028	PIC Change Charge, per change		Per Tariff
	DA030	Operator Assistance / Directory Assistance Branding		ICB
		LOOP/TAG & LABEL/RESALE TAG & LABEL	**MRC**	**NRC**
	OC013	Tag and Label on a reinstall loop or an existing loop or resale		$8.80
		TRIP CHARGE	**MRC**	**NRC**
	OC003	Trip Charge		$18.30
		MANUAL		
		SERVICE ORDER/MODIFICATION/SUSPEND	**MRC**	**NRC**
	SO001	Manual Service Order NRC		$16.74
	SO002	Manual Service Order - Listing Only		$16.74
	SO003	Manual Service Order - Change Only		$16.74
	SO004	Electronic Service Order (IRES)		$9.26
	SO005	Electronic Service Order - Listing Only		$9.26
	SO006	Electronic Service Order - Change Only		$9.26
	OC008	2-Wire Loop Cooperative Testing		$38.55
	OC009	4-Wire Loop Cooperative Testing		$47.35
	OC010	Trouble Isolation Charge		$71.32
	OC016	Change Telephone Number, per change		$9.26
	OC017	LNP Coordinated Conversion - Lines 1 -10		$66.33
	OC018	LNP Coordinated Conversion - Each additional line		$4.79
	OC023	LNP Conversion - 10 Digit Trigger		$0.00
		UNE to Special Access or Special Access to UNE Conversions or Migrations (includes EEL)		
	OC021	DS1 Loop, per circuit		$103.49
	OC021	DS1 Transport, per circuit		$103.49
	OC022	DS3 Loop, per circuit		ICB
	OC022	DS3 Transport, per circuit		ICB
		UNBUNDLED NETWORK ELEMENTS (UNE)		
		PRE-ORDER/LOOP QUALIFICATION	**MRC**	**NRC**
	PQ001	Loop Make-Up Information		$10.69
		LOOPS/RATES/RECURRING CHARGES	**MRC**	**NRC**
		2-Wire Analog		
AA013		Band 1	$26.50	
AA014		Band 2	$27.62	
AA015		Band 3	$49.45	
AA016		Band 4	$109.04	
	AA002	First Line		$88.22
	AA003	Second Line and Each Additional Line (same time)		$29.67
	AA004	Re-install (Cut Thru and Dedicated/Vacant)		$42.84
	AA005	Disconnect		$43.50
		4-Wire Analog		
AA017		Band 1	$87.97	
AA018		Band 2	$92.16	

KEY CODES		EMBARQ RATE ELEMENT DESCRIPTION		9/25/2006
MRC	NRC			
AA019		Band 3	$129.63	
AA020		Band 4	$230.15	
	AA008	First Line		$110.30
	AA009	Second Line and Each Additional Line (same time)		$51.75
	AA010	Re-install (Cut Thru and Dedicated/Vacant)		$61.50
	AA011	Disconnect		$43.50
		2-Wire xDSL - Capable Loop		
AA013		Band 1	$26.50	
AA014		Band 2	$27.62	
AA015		Band 3	$49.45	
AA016		Band 4	$109.04	
	DX009	First Line		$88.22
	DX002	Second Line and Each Additional Line (same time)		$29.67
	DX003	Re-install (Cut Thru and Dedicated/Vacant)		$42.84
	DD004	Disconnect		$43.50
		4-Wire xDSL - Capable Loop		
DX010		Band 1	$87.97	
DX011		Band 2	$92.16	
DX012		Band 3	$129.63	
DX013		Band 4	$230.15	
	DX014	First Line		$110.30
	DX015	Second Line and Each Additional Line (same time)		$51.75
	DX016	Re-install (Cut Thru and Dedicated/Vacant)		$61.50
	DX017	Disconnect		$43.50
		2-Wire Digital Loop		
AA013		Band 1	$26.50	
AA014		Band 2	$27.62	
AA015		Band 3	$49.45	
AA016		Band 4	$109.04	
	DD002	First Line		$88.22
	DD003	Second Line and Each Additional Line (same time)		$29.67
	DD004	Disconnect		$43.50
		2-Wire ISDN-BRI Digital Loop		
DD013		Band 1	$43.01	
DD014		Band 2	$44.41	
DD015		Band 3	$80.07	
DD016		Band 4	$182.99	
	DD002	First Line		$88.22
	DD005	Second Line and Each Additional Line (same time)		$29.67
	DD004	Disconnect		$43.50
		4-Wire Digital Loop (no electronics)		
DD017		Band 1	$87.97	
DD018		Band 2	$92.16	
DD019		Band 3	$129.63	
DD020		Band 4	$230.15	
	DD006	First Line		$110.30
	DD007	Second Line and Each Additional Line (same time)		$51.75
	DD008	Disconnect		$43.50
		Digital 56k/64k Loop		
DD021		Band 1	$91.62	
DD022		Band 2	$65.09	
DD023		Band 3	$90.38	
DD024		Band 4	$148.84	
	DD030	First Line		$202.96
	DD031	Second Line and Each Additional Line (same time)		$144.41
	DD004	Disconnect		$43.50
		DS1 Service and ISDN PRI Loop		
DD025		Band 1	$96.97	
DD026		Band 2	$141.56	
DD027		Band 3	$274.18	
DD028		Band 4	$661.84	
	DD010	First Line		$282.07

KEY CODES		[illegible]		9/25/2006
MRC	NRC			
	DD011	Second Line and Each Additional Line (same time)		$223.52
	DD008	Disconnect		$43.50
		DS3 Service		
HC002	HC001	Add DS3 to existing fiber system	$774.79	$107.01
	HC003	Disconnect		$17.23
		[illegible]	[illegible]	[illegible]
	LC001	Load Coil Removal for all Digital UNE and xDSL-Capable loops that are less than 18,000 feet in length - per line conditioned (No Engineering or Trip charges - price reflects 25 pair economies)		$0.39
	LC002	Conditioning Engineering Charge - per loop		$78.45
	LC003	Conditioning Trip Charge - per loop		$22.84
		The following charges apply to all loops of any length that require Bridged Tap or Repeater removal.		
		Load Coil Removal: Loops 18kft or longer		
	LC004	Unload cable pair, per Underground location		$186.07
	LC005	Unload Addt'l cable pair, UG same time, same location and cable		$1.13
	LC006	Unload cable pair, per Aerial Location		$76.96
	LC007	Unload Addt'l cable pair, AE or BU, same time, location and cable		$1.13
		Unload cable pair, per Buried Location		$109.26
		Bridged Tap or Repeater Removal - Any Loop Length		
	LC012	Remove Bridged Tap or Repeater, per Underground Location		$186.38
	LC013	Remove each Addt'l Bridged Tap or Repeater, UG same time, location and cable		$1.44
	LC014	Remove Bridged Tap or Repeater, per Aerial Location		$77.27
	LC015	Remove each Addt'l Bridged Tap or Repeater, AE or BU same time, location and cable		$1.44
		Remove Bridged Tap or Repeater, per Buried Location		$109.57
		[illegible]	[illegible]	[illegible]
		Sub-Loops Interconnection (Stub Cable)		ICB
		2 Wire Voice Grade and Digital Data Distribution		
SB002		Band 1	$14.87	
SB003		Band 2	$16.48	
SB004		Band 3	$29.81	
SB005		Band 4	$61.34	
	SB010	First Line		$92.88
	SB011	Second Line and Each Additional Line (same time)		$34.32
	SB012	Disconnect		$46.49
		4 Wire Voice Grade and Digital Data Distribution		
SB006		Band 1	$29.75	
SB007		Band 2	$32.96	
SB008		Band 3	$59.61	
SB009		Band 4	$122.68	
	SB013	First Line		$120.29
	SB014	Second Line and Each Additional Line (same time)		$61.74
	SB015	Disconnect		$46.49
		[illegible]	[illegible]	[illegible]
DT2	DT004	DS1	Refer to Dedicated Transport Tab	$94.90
	DT005	DS1 Disconnect		$17.23
DT3	DT007	DS3	Refer to Dedicated Transport Tab	$94.90
	DT008	DS3 Disconnect		$17.23
		[illegible]	[illegible]	[illegible]
DT023	DT019	Multiplexing - DS1-DS0 (per DS1) - (Shelf only, rate does not include cards)	$144.72	$94.90
	DT020	DS1-DS0 Disconnect		$17.23
DT024	DT021	Multiplexing - DS3-DS1 (per DS3)	$252.07	$94.90

KEY CODES		EMBARQ FLORIDA ELEMENTAL COST SUMMARY		9/25/2006
MRC	NRC			
	DT022	DS3-DS1 Disconnect		$17.23
		UNBUNDLED DARK FIBER	MRC	NRC
	DF007	Dark Fiber Application & Quote Preparation Charge		$247.09
		Note: These elements are calculated and billed manually using one price per USOC and COS. Detail is provided by the DFA form returned to the customer.		
		Transport		
DF009		Interoffice, per foot per fiber - Statewide Average	$0.00250	
		Additional Charges Applicable to Transport		
DF011		Fiber Patch Cord, per fiber	$0.40	
DF012		Fiber Patch Panel, per fiber	$1.37	
	DF003	Central Office Interconnection, 1-4 Patch Cords per CO - Install or Disconnect		$178.00
	OC011	Dark Fiber End-to-End Testing, Initial Strand		$61.90
	OC012	Dark Fiber End-to-End Testing, Subsequent Strand		$17.30
		ENHANCED EXTENDED LINK (EEL) COMBINATIONS	MRC	NRC
		Enhanced Extended Link (EEL) is a combination of Loop, Transport and Multiplexing (when applicable). Refer to the specific UNE section (transport, loop, multiplexing) in this document to obtain pricing for each specific element.		
		See Rate Element / Service Order / Installation/Repair Center section of this price sheet for EEL Conversion Charges.		
		RECIPROCAL COMPENSATION	MOU	NRC
		End Office - per MOU	$0.003997	N/A
		Tandem Switching - per MOU	$0.002435	N/A
		Shared Transport - per MOU	$0.001641	N/A
		TRANSIT SERVICE	MOU	NRC
		Transit Service Charge - per MOU	$0.005000	
		800/8YY ACCESS Application Query Charges	MRC	NRC
DB001		Local Number Portability query (LNP) - Contracted	$0.00030	
DB002		Toll Free Code query (TFC) - Simple - Contracted	$0.00200	
DB003		Toll Free Code query (TFC) - Complex Additive - Contracted	$0.00020	
DB004		Line Information Database query (LIDB) - *Per Interstate Tariff*	Per Tariff	
DB005		Line Information Database query transport (LIDB) - *Per Interstate Tariff*	Per Tariff	
DB006		Calling Name Database Access Service query (CNAM) - *Contracted, MTM*	$0.01450	
DB009		Calling Name Database Access Service query (CNAM) - *Contracted, 3 year term*	$0.00800	
DB010		Calling Name Database Access Service query (CNAM) - *Contracted, 3 + year term*	$0.00550	
		OPERATOR SERVICE/DIRECTORY ASSISTANCE SERVICES	MRC	NRC
	DA002	Operator Services		Refer to Applicable Retail Tariff
	DA002	Directory Assistance Services		Refer to Applicable Retail Tariff
		DIRECTORY SERVICES	MRC	NRC
	DA002	Directory - Premium & Privacy Listings		Refer to Applicable Retail Tariff
		911 AND E911 TRANSPORT AND TERMINATION	MRC	NRC
DT2	DT004	911 and E911 Transport - DS1	Refer to Dedicated Transport Tab	$94.90
DT023	DT019	Multiplexing - DS1-DS0 (per DS1) - (Shelf only, rate does not include cards)	$144.72	$94.90
DB011	DB007	DS0 911 Per Port (minimum of 2 DS0's required)	$19.10	ICB
		TELEPHONE NUMBER (TN) ASSIGNMENT	MRC	NRC
	DB008	SIG Database Extract Report, per CDROM (price reflects shipping regular U.S. Mail)		$18.00

Embarq - Ohio

Exchange Name	CLLI	Band
Mason	MASNOHXAR	1
Defiance	DFNCOHXAH	2
Lima XAH	LIMAOHXAH	2
Madisonburg	MDBROHXAR	2
Mansfield XAH	MNFDOHXAH	2
Mansfield XCR	MNFDOHXCR	2
Mansfield XDR	MNFDOHXDR	2
Moline	MOLNOHXAR	2
Rittman	RTMNOHXAR	2
South Lebanon	SLBNOHXAR	2
Woodland	WLDROHXAH	2
Warren XAH	WRRNOHXAH	2
Warren XBH	WRRNOHXBH	2
Warren XER	WRRNOHXER	2
Warren XFR	WRRNOHXFR	2
Warren XGR	WRRNOHXGR	2
Waterville	WTVLOHXAR	2
Ada	ADA OHXAR	3
Alger	ALGROHXAR	3
Alexandria	ALXNOHXAR	3
Anna	ANNAOHXAR	3
Apple Creek	APCKOHXAR	3
Archbold	ARCHOHXAR	3
Arcanum	ARCNOHXAR	3
Bucyrus	BCYROHXAR	3
Bluffton	BFTNOHXAR	3
Bristolville	BIVLOHXAS	3
Bellefontaine	BLLFOHXAH	3
Bellville	BLVLOHXAR	3
Berlin Center	BRCTOHXAR	3
Bradford	BRFROHXAR	3
Botkins	BTKNOHXAR	3
Butler	BTLROHXAR	3
Beaverdam	BVRDOHXAR	3
Cairo	CARAOHXAR	3
Crooksville	CKVLOHXAR	3
Camden	CMDNOHXAR	3
Centerburg	CNBGOHXAR	3
Cortland	CRLDOHXAR	3
Delphos	DLPHOHXAH	3
Damascus	DMSCOHXAR	3
Eaton	EATNOHXAR	3
East Liberty	ELBLOHXAR	3
Fredericktown	FRTWOHXAR	3
Glouster	GLSTOHXAS	3
Greenville	GNVLOHXAH	3
Gettysburg	GTBGOHXAS	3
Hebron	HBRNOHXAR	3
Jefferson	JFSAOHXAR	3

Johnston	JHTNOHXAR	3
Johnstown	JHTWOHXAR	3
Lebanon	LBNNOHXAH	3
Luckey	LCKYOHXAR	3
Lima XBH	LIMAOHXBH	3
Lake Milton	LKMLOHXAH	3
Lordstown	LRTWOHXAR	3
Leavittsburg	LVBGOHXAR	3
Lexington	LXTNOHXAR	3
Millersburg	MLBGOHXAH	3
Mansfield XBR	MNFDOHXBR	3
Marengo	MRNGOHXAR	3
Morrow	MRRWOHXAR	3
Mount Gilead	MTGLOHXAH	3
Metamora	MTMOOHXAR	3
Mount Vernon	MTVROHXAH	3
Marysville	MYVIOHXAH	3
North Lewisburg	NLBGOHXAS	3
Napoleon	NPLNOHXAH	3
Newton Falls	NWFLOHXAR	3
New Madison	NWMSOHXAR	3
New Paris	NWPROHXAR	3
Orrville	ORVLOHXAH	3
Ottawa	OTWAOHXAR	3
Pataskala	PTSKOHXAH	3
Richfield Center	RCCTOHXAR	3
Russells Point XAS	RSPNOHXAS	3
Russells Point XBR	RSPNOHXBR	3
Sidney	SDNYOHXAH	3
Shelby	SHLBOHXAH	3
Smithville	SMVLOHXAR	3
Sunbury	SNBYOHXBR	3
Sterling	STNGOHXAR	3
Stony Ridge	STRGOHXAH	3
Stryker	STRYOHXAR	3
Swanton	SWTNOHXAR	3
Utica	UTICOHXAR	3
Van Wert	VNWROHXAR	3
Versailles	VRSLOHXAR	3
Wauseon	WASNOHXAH	3
Woodville	WDVLOHXAS	3
Windham	WNHMOHXAS	3
Wooster	WSTROHXAH	3
Waynesville	WYVLOHXAR	3
Adario	ADAROHXAR	4
Adamsville	ADVLOHXAS	4
Andover	ANDVOHXAH	4
Ansonia	ANSOOHXAS	4
Big Prairie	BGPROHXAR	4
Belle Center	BLCTOHXAR	4
Bloomdale	BMDLOHXAS	4
Bartlett	BRTLOHXAS	4
Chesterhill	CHHLOHXAR	4
Chesterville	CHVLOHXAS	4

Caledonia	CLDNOHXAS	4
Cardington	CRDGOHXAR	4
Croton	CRTOOHXAR	4
Chatfield	CTFDOHXAR	4
Cygnet	CYGTOHXAS	4
Danville	DANKOHXAR	4
Degraff	DGRFOHXAR	4
Dunkirk	DNKROHXAS	4
Deshler	DSHLOHXAR	4
Eldorado	ELDROHXAR	4
Elida	ELIDOHXAR	4
Florida	FLRDOHXAR	4
Fredericksburg	FRBGOHXAR	4
Fort Loramie	FTLROHXAR	4
Frazeysburg	FZBGOHXAS	4
Glenmont	GLMTOHXAR	4
Gambier	GMBROHXAR	4
Gomer-Rimer	GOMROHXAS	4
Greene	GRNEOHXAR	4
Green Springs	GRSPOHXAS	4
Grelton/Malinta	GRTNOHXAS	4
Hollansburg	HLBGOHXAS	4
Holgate	HLGTOHXAR	4
Hamler	HMLROHXAS	4
Holmesville	HMVLOHXAR	4
Huntsville	HNVIOHXAR	4
Hartford	HRFROHXAR	4
Jewell	JEWLOHXAR	4
Johnsville	JHVLOHXAR	4
Jackson Center	JKCTOHXAR	4
Junction City	JNCYOHXAS	4
Kidron	KDRNOHXAR	4
Killbuck	KLBCOHXAR	4
Kinsman	KNMNOHXAR	4
Liberty Center	LBCTOHXAR	4
Lafayette	LFYTOHXAR	4
Lucas	LUCSOHXAR	4
Lykens	LYKNOHXAR	4
Lyons	LYNSOHXAR	4
McConnelsville	MCNVOHXAH	4
Magnetic Springs	MGSPOHXAS	4
Milford Center	MLCTOHXAR	4
Martinsburg	MRBGOHXAR	4
Marshallville	MRVLOHXAR	4
Mount Sterling	MTSTOHXAS	4
Mount Victory	MTVCOHXAS	4
North Benton	NBENOHXAR	4
Nashville	NSVLOHXAR	4
New Winchester	NWCHOHXAR	4
New Lyme	NWLYOHXAR	4
Old Fort	OLFTOHXAR	4
Pennsville	PEVLOHXAS	4
Portage	PRTGOHXAR	4
Rockford	RCFROHXAS	4
Ridgeway	RDWYOHXAR	4

Reinersville	RNRVOHXAR	4
Rossburg	RSBGOHXAR	4
Rushsylvania	RSHSOHXAR	4
Rising Sun	RSNGOHXAS	4
Rosewood	RSWDOHXAR	4
Raymond	RYMNOHXAR	4
Shiloh	SHLHOHXAR	4
Shreve	SHRVOHXAR	4
Stockport	STPTOHXAS	4
Venedocia	VNDCOHXAR	4
West Liberty	WLBTOHXAR	4
West Manchester	WMCHOHXAR	4
West Mansfield	WMFDOHXAR	4
Westminster	WMNSOHXAR	4
Waynesfield	WYFDOHXAR	4
Wayland	WYLDOHXAR	4
York Center	YRCTOHXAS	4

DEDICATED TRANSPORT RATE SUMMARY — Ohio

Origination	Termination	Origination	Termination	Dedicated DS1 Rate	Dedicated DS3 Rate
ADAOHXARS1	ALGROHX	Ada	Alger	$203.13	$4,686.21
ADAOHXARS1	DNKROHX	Ada	Dunkirk	$203.13	$4,686.21
ADAOHXARS1	LFYTOHX	Ada	Lafayette	$203.13	$4,686.21
ADAROHXARS1	MNFDOHX	Adario	Mansfield	$234.63	$5,392.01
ADAROHXARS1	SHLHOHX	Adario	Shiloh	$234.63	$5,392.01
ALGROHXARS1	WMNSOH	Alger	Westminster	$203.13	$4,686.21
ALXNOHXARS1	JHTWOHX	Alexandria	Johnstown	$149.54	$3,185.78
ANOVOHXARS1	KNMNOHX	Andover	Kinsman	$1,308.32	$35,596.29
ANNAOHXARS1	BTKNOHX	Anna	Botkins	$362.51	$7,970.48
ANNAOHXARS1	FTLROHX	Anna	Fort Loramie	$239.87	$4,536.74
ANNAOHXARS1	JKCTOHX	Anna	Jackson Center	$113.55	$2,001.49
ANNAOHXARS1	SDNYOHX	Anna	Sidney	$113.55	$2,001.49
ANSOOHXARS1	ARCNOHX	Ansonia	Arcanum	$633.02	$15,544.55
ANSOOHXARS1	BRFROHX	Ansonia	Bradford	$126.32	$2,535.25
ANSOOHXARS1	GNVLOHX	Ansonia	Greenville	$126.32	$2,535.25
ANSOOHXARS1	GTBGOHX	Ansonia	Gettysburg	$126.32	$2,535.25
ANSOOHXARS1	HLBGOHX	Ansonia	Hollansburg	$633.02	$15,544.55
ANSOOHXARS1	NWMSOH	Ansonia	New Madison	$633.02	$15,544.55
ANSOOHXARS1	RSBGOHX	Ansonia	Rossburg	$126.32	$2,535.25
ANSOOHXARS1	VRSLOHX	Ansonia	Versailles	$126.32	$2,535.25
APCKOHXARS1	FRBGOHX	Apple Creek	Fredericksburg	$204.50	$4,548.21
APCKOHXARS1	KDRNOHX	Apple Creek	Kidron	$204.50	$4,548.21
APCKOHXARS1	MDBROHX	Apple Creek	Wooster*	$204.50	$4,548.21
APCKOHXARS1	ORVLOHX	Apple Creek	Orrville	$204.50	$4,548.21
ARCHOHXARS3	STRYOHX	Archbold	Stryker	$369.03	$9,083.03
ARCHOHXARS3	WASNOH	Archbold	Wauseon*	$120.32	$2,367.54
ARCNOHXARS1	BRFROHX	Arcanum	Bradford	$633.02	$15,544.55
ARCNOHXARS1	ELDROHX	Arcanum	Eldorado	$506.69	$13,009.30
ARCNOHXARS1	GNVLOHX	Arcanum	Greenville*	$506.69	$13,009.30
ARCNOHXARS1	GTBGOHX	Arcanum	Gettysburg	$633.02	$15,544.55
ARCNOHXARS1	HLBGOHX	Arcanum	Hollansburg	$506.69	$13,009.30
ARCNOHXARS1	NWMSOH	Arcanum	New Madison	$506.69	$13,009.30
ARCNOHXARS1	RSBGOHX	Arcanum	Rossburg	$633.02	$15,544.55
ARCNOHXARS1	VRSLOHX	Arcanum	Versailles	$633.02	$15,544.55
ARCNOHXARS1	WMCHOH	Arcanum	West Manchester	$713.68	$17,626.88
BCYROHXARS1	CTFDOHX	Bucyrus*	Chatfield	$255.17	$6,142.95
BCYROHXARS1	LYKNOHX	Bucyrus*	Lykens	$878.45	$23,345.63
BCYROHXARS1	MNFDOHX	Bucyrus*	Mansfield	$357.86	$9,382.58
BCYROHXARS1	NWCHOH	Bucyrus*	New Winchester	$255.17	$6,142.95
BGPROHXARS1	MDBROHX	BigPrairie	Wooster*	$371.05	$8,963.15
BGPROHXARS1	SHRVOHX	BigPrairie	Shreve	$371.05	$8,963.15
BIVLOHXA88C	CRLDOHX	Bristolville	Cortland	$1,551.55	$41,156.10
BIVLOHXA88C	GRNEOHX	Bristolville	Greene	$1,068.43	$29,418.37
BIVLOHXA88C	LVBGOHX	Bristolville	Warren	$243.22	$5,559.81
BLCTOHXARS1	BLLFOHX	Belle Center	Bellefontaine*	$897.64	$24,885.03
BLCTOHXARS1	RSHSOHX	Belle Center	Rushsylvania	$1,406.01	$38,870.29
BLLFOHXA59E	DGRFOHX	Bellefontaine*	DeGraff	$176.89	$3,774.69
BLLFOHXA59E	ELBLOHX	Bellefontaine*	East Liberty	$145.60	$3,039.77
BLLFOHXA59E	HNVIOHX	Bellefontaine*	Huntsville	$176.89	$3,774.69
BLLFOHXA59E	RDWYOHX	Bellefontaine*	Ridgeway	$508.37	$13,985.26
BLLFOHXA59E	RSHSOHX	Bellefontaine*	Rushsylvania	$508.37	$13,985.26
BLLFOHXA59E	SDNYOHX	Bellefontaine*	Sidney	$115.13	ICB
BLLFOHXA59E	WLBTOHX	Bellefontaine*	West Liberty	$145.60	$3,039.77
BLLFOHXA59E	WMFDOH	Bellefontaine*	West Mansfield	$451.36	$11,352.00
BLVLOHXARS1	BTLROHX	Bellville	Butler	$145.53	$2,897.16
BLVLOHXARS1	LUCSOHX	Bellville	Lucas	$145.53	$2,897.16
BLVLOHXARS1	LXTNOHX	Bellville	Lexington	$232.43	$4,329.32
BLVLOHXARS1	MNFDOH	Bellville	Mansfield	$145.53	$2,897.16
BMDLOHXARS1	CYGTOHX	Bloomdale	Cygnet	$916.40	$24,373.96
BMDLOHXARS1	PRTGOHX	Bloomdale	Portage	$916.40	$24,373.96
BRCTOHXARS2	LKMLOHX	Berlin Ctr	Lake Milton	$548.79	$12,937.21
BRCTOHXARS2	NBENOH	Berlin Ctr	North Benton	$548.79	$12,937.21
BRFROHXARS1	GNVLOHX	Bradford	Greenville*	$126.32	$2,535.25
BRFROHXARS1	GTBGOH	Bradford	Gettysburg	$126.32	$2,535.25
BRFROHXARS1	HLBGOHX	Bradford	Hollansburg	$633.02	$15,544.55
BRFROHXARS1	NWMSOH	Bradford	New Madison	$633.02	$15,544.55
BRFROHXARS1	RSBGOH	Bradford	Rossburg	$126.32	$2,535.25
BRFROHXARS1	VRSLOHX	Bradford	Versailles	$126.32	$2,535.25
BRTLOHXA56C	CHHLOH	Bartlett	Chesterhill	$223.62	$5,083.22

DEDICATED TRANSPORT RATE SUMMARY					Ohio
Wire Center CLLI Code		Route (Exchange to Exchange)		Dedicated DS1	Dedicated DS3
Originating	Terminating	Originating	Terminating	Rate	Rates
BTKNOHXARS1	FTLROHX	Botkins	Fort Loramie	$476.05	$9,971.96
BTKNOHXARS1	JKCTOHX	Botkins	Jackson Center	$349.73	$7,436.71
BTKNOHXARS1	SDNYOHX	Botkins	Sidney*	$349.73	$7,436.71
BTLROHXARS1	LUCSOHX	Butler	Lucas	$145.53	$2,897.16
BTLROHXARS1	LXTNOHX	Butler	Lexington	$232.43	$4,329.32
BTLROHXARS1	MNFDOHX	Butler	Mansfield*	$145.53	$2,897.16
BVRDOHXARS1	BFTNOHX	Beaverdam	Bluffton	$282.29	$6,726.14
BVRDOHXARS1	CARAOHX	Beaverdam	Cairo	$536.35	$12,802.97
BVRDOHXARS1	LFYTOHX	Beaverdam	Lafayette	$282.29	$6,726.14
BVRDOHXARS1	LIMAOHX	Beaverdam	Lima*	$282.29	$6,726.14
CARAOHIACM1	GOMROH	Cairo	Gomer	$254.06	$6,076.83
CARAOHIACM1	LIMAOHX	Cairo	Lima*	$254.06	$6,076.83
CHHLOHXARS1	MCNVOH	Chesterhill	McConnelsville*	$223.62	$5,083.22
CHHLOHXARS1	PEVLOHX	Chesterhill	Pennsville	$223.62	$5,083.22
CHHLOHXARS1	STPTOHX	Chesterhill	Stockport	$223.62	$5,083.22
CHVLOHXA76E	JHVLOHX	Chesterville	Johnsville	$443.53	$10,239.24
CHVLOHXA76E	MRNGOH	Chesterville	Marengo	$188.35	$4,096.28
CHVLOHXA76E	MTGLOHX	Chesterville	Mount Gilead	$188.35	$4,096.28
CHVLOHXA76E	MTVROHX	Chesterville	Mount Vernon*	$188.35	ICB
CLDNOHXA845	MTGLOHX	Caledonia	Mount Gilead*	$255.17	$6,142.95
CLDNOHXA845	NWCHOH	Caledonia	New Winchester	$255.17	$6,142.95
CMDNOHXARS1	EATNOHX	Camden	Eaton*	$206.98	$4,617.59
CMDNOHXARS1	ELDROHX	Camden	Eldorado	$713.68	$17,626.88
CMDNOHXARS1	NWPROH	Camden	New Paris	$206.98	$4,617.59
CMDNOHXARS1	WMCHOH	Camden	West Manchester	$206.98	$4,617.59
CNBGOHXARS2	MTVROHF	Centerburg	Mount Vernon*	$149.54	$3,185.78
CRDGOHXARS1	MRNGOH	Cardington	Marengo	$188.35	$4,096.28
CRDGOHXARS1	MTGLOHX	Cardington	Mount Gilead*	$188.35	$4,096.28
CRLDOHXARS1	GRNEOH	Cortland	Greene	$931.00	$25,819.33
CRLDOHXARS1	HRFROHX	Cortland	Hartford	$1,308.32	$35,596.29
CRLDOHXARS1	JHTNOHX	Cortland	Johnston	$1,463.22	$38,755.41
CRLDOHXARS1	KNMNOH	Cortland	Kinsman	$1,308.32	$35,596.29
CRLDOHXARS1	LVBGOHX	Cortland	Warren	$154.89	$3,159.12
CRTOOHXARS2	JHTWOH	Croton	Johnstown	$149.54	$3,185.78
CTFDOHXARL1	LYKNOHX	Chatfield	Lykens	$878.45	$23,345.63
CYGTOHXA655	PRTGOHX	Cygnet	Portage	$470.56	$12,138.95
CYGTOHXA655	RSNGOH	Cygnet	Risingsun	$916.40	$24,373.96
DANKOHXARS2	GMBROH	Danville	Gambier	$407.32	$10,227.07
DANKOHXARS2	MTVROHF	Danville	Mount Vernon*	$407.32	$10,227.07
DFNCOHIA1MD	JEWLOHX	Defiance*	Jewell	$283.81	$7,697.99
DFNCOHIA1MD	MNFDOH	Defiance*	Mansfield	$907.37	ICB
DFNCOHIA1MD	NPLNOHX	Defiance*	Napoleon*	$283.81	$7,697.99
DGRFOHXARS1	RSWDOH	DeGraff	Rosewood	$176.89	$3,774.69
DLPHOHXA69E	GOMROH	Delphos	Gomer	$461.52	$10,883.97
DLPHOHXA69E	VNDCOHX	Delphos	Venedocia	$207.46	$4,807.14
DMSCOHXARS1	NBENOH	Damascus	North Benton	$548.79	$12,937.21
DSHLOHXARS2	GRTNOH	Deshler	Grelton-Malinta	$407.94	$10,420.63
DSHLOHXARS2	HMLROH	Deshler	Hamler	$407.94	$10,420.63
EATNOHXARS1	ELDROHX	Eaton*	Eldorado	$713.68	$17,626.88
EATNOHXARS1	NWPROH	Eaton*	New Paris	$206.98	$4,617.59
EATNOHXARS1	WMCHOH	Eaton*	West Manchester	$206.98	$4,617.59
ELBLOHXARS1	RYMNOH	East Liberty	Raymond	$145.60	$3,039.77
ELBLOHXARS1	WMFDOH	East Liberty	West Mansfield	$451.36	$11,352.00
ELDROHXARS1	HLBGOHX	Eldorado	Hollansburg	$506.69	$13,009.30
ELDROHXARS1	NWMSOH	Eldorado	New Madison	$506.69	$13,009.30
ELDROHXARS1	NWPROH	Eldorado	New Paris	$713.68	$17,626.88
ELDROHXARS1	WMCHOH	Eldorado	West Manchester	$713.68	$17,626.88
FLRDOHXARS1	GRTNOH	Florida	Grelton-Malinta	$691.75	$18,118.61
FLRDOHXARS1	HLGTOHX	Florida	Holgate	$754.37	$19,836.93
FLRDOHXARS1	JEWLOHX	Florida	Jewell	$283.81	$7,697.99
FLRDOHXARS1	LBCTOHX	Florida	Liberty Center	$691.75	$18,118.61
FLRDOHXARS1	NPLNOHX	Florida	Napoleon*	$283.81	$7,697.99
FRBGOHXARS1	HMVLOHX	Fredericksburg	Holmesville	$154.44	$3,146.46
FRBGOHXARS1	MDBROH	Fredericksburg	Wooster*	$154.44	$3,146.46
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FRTWOHXARS1	MTVROHF	Fredericktown	Mount Vernon*	$188.35	$4,096.28
FTLROHXARS1	BLLFOHB	Fort Loramie	Bellefontaine	$239.87	ICB
FTLROHXARS1	DFNCOHI	Fort Loramie	Defiance	$1,072.61	ICB
FTLROHXARS1	GNVLOHX	Fort Loramie	Greenville*	$126.32	ICB
FTLROHXARS1	JKCTOHX	Fort Loramie	Jackson Center	$239.87	$4,536.74
FTLROHXARS1	LIMAOHX	Fort Loramie	Lima*	$848.78	ICB
FTLROHXARS1	MNFDOH	Fort Loramie	Mansfield	$813.01	ICB
FTLROHXARS1	SDNYOHX	Fort Loramie	Sidney*	$126.32	$2,535.25

DEDICATED TRANSPORT RATE SUMMARY					Ohio
CLLI to CLLI		Route (Exchange / Exchange)		Dedicated DS1	Dedicated DS3
Originating	Terminating	Originating	Terminating	Rate	Rate
FTLROHXARS1	VRSLOHX	Fort Loramie	Versailles	$126.32	ICB
GLMTOHXARS2	KLBCOHX	Glenmont	Killbuck	$154.44	$3,146.46
GLMTOHXARS2	MLBGOHX	Glenmont	Millersburg*	$154.44	$3,146.46
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	ICB
GMBROHXARS1	MRBGOHX	Gambier	Martinsburg	$407.32	$10,227.07
GMBROHXARS1	MTVROHX	Gambier	Mount Vernon*	$407.32	$10,227.07
GNVLOHXA51T	HLBGOHX	Greenville*	Hollansburg	$506.69	$13,009.30
GNVLOHXA51T	NWMSOH	Greenville*	New Madison	$506.69	$13,009.30
GNVLOHXA51T	RSBGOHX	Greenville*	Rossburg	$126.32	$2,535.25
GNVLOHXA51T	VRSLOHX	Greenville*	Versailles	$126.32	$2,535.25
GOMROHXA642	LIMAOHX	Gomer	Lima*	$468.39	$11,829.94
GRNEOHXARS2	JHTNOHX	Greene	Johnston	$1,085.90	$28,978.44
GRNEOHXARS2	LVBGOHX	Greene	Warren	$1,001.52	$26,791.78
GRSPOHXARS1	OLFTOHX	Green Springs	Old Fort	$916.40	$24,373.96
GRTNOHXA256	HLGTOHX	Grelton-Malinta	Holgate	$407.94	$10,420.63
GRTNOHXA256	HMLROH	Grelton-Malinta	Hamler	$407.94	$10,420.63
GRTNOHXA256	LBCTOHX	Grelton-Malinta	Liberty Center	$407.94	$10,420.63
GRTNOHXA256	NPLNOHX	Grelton-Malinta	Napoleon*	$407.94	$10,420.63
GTBGOHXARS1	GNVLOHX	Gettysburg	Greenville*	$126.32	$2,535.25
GTBGOHXARS1	HLBGOHX	Gettysburg	Hollansburg	$633.02	$15,544.55
GTBGOHXARS1	NWMSOH	Gettysburg	New Madison	$633.02	$15,544.55
GTBGOHXARS1	RSBGOHX	Gettysburg	Rossburg	$126.32	$2,535.25
GTBGOHXARS1	VRSLOHX	Gettysburg	Versailles	$126.32	$2,535.25
HBRNOHXARS1	PTSKOHX	Hebron	Pataskala	$185.99	$4,029.69
HLBGOHXA997	NWMSOH	Hollansburg	New Madison	$506.69	$13,009.30
HLBGOHXA997	NWPROH	Hollansburg	New Paris	$506.69	$13,009.30
HLBGOHXA997	RSBGOHX	Hollansburg	Rossburg	$633.02	$15,544.55
HLBGOHXA997	VRSLOHX	Hollansburg	Versailles	$633.02	$15,544.55
HLBGOHXA997	WMCHOH	Hollansburg	West Manchester	$206.98	$4,617.59
HLGTOHXA264	LBCTOHX	Holgate	Liberty Center	$407.94	$10,420.63
HLGTOHXA264	NPLNOHX	Holgate	Napoleon*	$407.94	$10,420.63
HMLROHXA274	HLGTOHX	Hamler	Holgate	$407.94	$10,420.63
HMVLOHXARS2	MDBROH	Holmesville	Wooster*	$154.44	$3,146.46
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
HMVLOHXARS2	MLBGOH	Holmesville	Millersburg*	$154.44	$3,146.46
HRFROHXARS2	JHTNOHX	Hartford	Johnston	$1,036.80	$27,780.10
HRFROHXARS2	KNMNOH	Hartford	Kinsman	$1,569.01	$40,716.18
HRFROHXARS2	LVBGOHX	Hartford	Warren	$260.69	$5,119.89
JFSAOHXARS2	NWLYOH	Jefferson*	New Lyme	$1,308.32	$35,596.29
JHTNOHXARS2	BIVLOHX	Johnston	Bristolville	$398.12	$8,718.93
JHTNOHXARS2	KNMNOH	Johnston	Kinsman	$1,463.22	$38,755.41
JHTNOHXARS2	LVBGOHX	Johnston	Warren	$260.69	$5,119.89
JHVLOHXARS1	LXTNOH	Johnsville	Lexington	$255.17	$6,142.95
JHVLOHXARS1	MNFDOH	Johnsville	Mansfield*	$255.17	$6,142.95
JHVLOHXARS1	MTGLOH	Johnsville	Mount Gilead*	$255.17	$6,142.95
JKCTOHXARS1	SDNYOH	Jackson Center	Sidney*	$113.55	$2,177.36
KDRNOHXARS2	WSTROH	Kidron	Wooster*	$204.50	$4,548.21
KDRNOHXARS2	ORVLOH	Kidron	Orrville	$204.50	$4,548.21
KLBCOHXARS1	MLBGOHX	Killbuck	Millersburg*	$154.44	$3,146.46
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
KNMNOHXARS2	LVBGOHX	Kinsman	Warren	$1,414.12	$37,557.06
LBCTOHXARS1	NPLNOHX	Liberty Center	Napoleon*	$407.94	$10,420.63
LBNNOHXA51T	MASNOH	Lebanon	Mason	$92.48	$1,552.73
LBNNOHXA51T	MRRWOH	Lebanon	Morrow	$252.25	$5,885.29
LBNNOHXA51T	SLBNOHX	Lebanon	South Lebanon	$252.25	$5,885.29
LBNNOHXA51T	WYVLOH	Lebanon	Waynesville	$252.25	$5,885.29
LCKYOHXARS2	STRGOH	Luckey	Stony Ridge	$706.12	$18,485.83
LCKYOHXARS2	WDVLOH	Luckey	Woodville	$706.12	$18,485.83
LFYTOHXARS1	LIMAOHX	Lafayette	Lima*	$203.13	$4,686.21
LFYTOHXARS1	WMNSOH	Lafayette	Westminster	$203.13	$4,686.21
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LIMAOHXA22H	DFNCOH	Lima*	Defiance	$611.27	ICB
LIMAOHXA22H	DGRFOH	Lima*	DeGraff	$537.17	ICB
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LIMAOHXA22H	ELBLOHX	Lima*	East Liberty	$831.65	ICB
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LIMAOHXA22H	ELIDOHX	Lima*	Elida	$76.93	ICB
LIMAOHXA22H	GNVLOHX	Lima*	Greenville	$456.29	ICB
LIMAOHXA22H	MNFDOH	Lima*	Mansfield*	$333.31	$8,344.65

DEDICATED TRANSPORT RATE SUMMARY Ohio

CLLI Originating	CLLI Terminating	Route (Exchange to Exchange) Originating	Terminating	Dedicated DS1 Rate	Dedicated DS3 Rate
LIMAOHXA22H	MTVROHF	Lima*	Mt. Vernon	$331.31	$8,344.65
LIMAOHXA22H	MYVIOHX	Lima*	Marysville*	$333.31	ICB
LIMAOHXA22H	NPLNOHX	Lima*	Napoleon*	$422.66	ICB
LIMAOHXA22H	RSPNOHX	Lima*	Russells Point	$413.15	$10,580.28
LIMAOHXA22H	SDNYOHX	Lima*	Sidney	$333.31	ICB
LIMAOHXA22H	VNWROHX	Lima*	Van Wert	$200.80	ICB
LIMAOHXA22H	WLBTOHX	Lima*	West Liberty	$576.45	ICB
LIMAOHXA22H	WMNSOH	Lima*	Westminster	$203.13	$4,686.21
LIMAOHXBRS1	WSTROH	Lima*	Wooster*	$429.27	ICB
LIMAOHXA22H	WYFDOH	Lima*	Waynesfield	$203.13	$4,686.21
LKMLOHXARS1	NBENOHX	Lake Milton	North Benton	$548.79	$12,937.21
LKMLOHXARS1	WYLDOH	Lake Milton	Wayland	$436.30	$10,965.60
LRTWOHXARS1	BIVLOHX	Lordstown	Bristolville	$313.73	$6,532.26
LRTWOHXARS1	CRLDOHX	Lordstown	Cortland	$331.20	$6,092.34
LRTWOHXARS1	GRNEOHX	Lordstown	Greene	$1,484.63	$38,529.51
LRTWOHXARS1	HRFROHX	Lordstown	Hartford	$331.20	$6,092.34
LRTWOHXARS1	JHTNOHX	Lordstown	Johnston	$331.20	$6,092.34
LRTWOHXARS1	KNMNOH	Lordstown	Kinsman	$1,484.63	$38,529.51
LRTWOHXARS1	NWFLOH	Lordstown	Newton Falls	$70.51	$972.45
LUCSOHXARS1	MNFDOH	Lucas	Mansfield*	$145.53	$2,897.16
LXTNOHXARS1	LUCSOHX	Lexington	Lucas	$145.53	$2,897.16
LXTNOHXARS1	MNFDOHX	Lexington	Mansfield*	$82.44	$1,320.45
LYNSOHXARS1	WASNOH	Lyons	Wauseon*	$1,006.74	$26,903.37
MASNOHXARS1	SLBNOHX	Mason	South Lebanon	$92.48	$1,562.73
MCNVOHXA96E	PEVLOHX	McConnelsville*	Pennsville	$223.62	$5,083.22
MCNVOHXA96E	RNRVOHX	McConnelsville*	Reinersville-Hackney	$274.20	$7,428.54
MCNVOHXA96E	STPTOHX	McConnelsville*	Stockport	$223.62	$5,083.22
MDBROHXA	MNFDOHX	Madisonburg	Mansfield*	$276.37	$6,507.46
MGSPOHXARS1	MYVIOHX	Magnetic Springs	Marysville*	$1,198.13	$32,261.91
MGSPOHXARS1	RYMNOH	Magnetic Springs	Raymond	$1,198.13	$32,261.91
MLBGOHXARS0	MNFDOH	Millersburg*	Mansfield	$131.25	ICB
MLBGOHXARS1	NSVLOHX	Millersburg*	Nashville	$154.44	$3,146.46
MLBGOHXARS1	WSTROH	Millersburg*	Wooster*	$165.53	ICB
MLCTOHXARS1	NLBGOHX	Milford Center	North Lewisburg	$145.60	$3,039.77
[redacted]					
MNFDOHXAPS0	MNFDOHX	Mansfield*	Mansfield*	$357.66	ICB
MNFDOHXAPS0	MNFDOHX	Mansfield*	Mansfield*	$132.32	ICB
MNFDOHXAPS0	MNFDOHX	Mansfield*	Mansfield*	$82.44	$1,320.45
MNFDOHXAPS0	MRNGOH	Mansfield*	Marengo	$333.31	ICB
[redacted]					
MNFDOHXAPS0	MTGLOHX	Mansfield*	Mount Gilead	$315.44	ICB
MNFDOHXAPS0	MTVROHF	Mansfield*	Mount Vernon*	$131.25	$2,687.03
[redacted]					
MNFDOHXAPS0	ORVLOHX	Mansfield*	Orrville	$317.66	ICB
MNFDOHXAPS0	SHLHOHX	Mansfield*	Shiloh	$234.63	$5,392.01
MNFDOHXAPS0	SHLBOHX	Mansfield*	Shelby	$234.63	$5,392.01
[redacted]					
MNFDOHXAPS0	SMVLOHX	Mansfield*	Smithville	$276.37	ICB
[redacted]					
MNFDOHXAPS0	WLDROH	Mansfield*	Woodland	$82.44	$1,320.45
MNFDOHXAPS0	WSTROH	Mansfield*	Wooster*	$131.25	$2,687.03
MOLNOHXARS2	STRGOHX	Moline	Stony Ridge	$791.72	$20,633.41
MOLNOHXARS2	WDVLOH	Moline	Woodville	$791.72	$20,633.41
MRBGOHXARS1	MTVROHF	Martinsburg	Mount Vernon*	$407.32	$10,227.07
MRBGOHXARS1	UTICOHX	Martinsburg	Utica-Homer	$407.32	$10,227.07
MRNGOHXARS1	MTGLOHX	Marengo	Mount Gilead*	$188.35	$4,096.28
MRRWOHXARS1	SLBNOHX	Morrow	South Lebanon	$252.25	$5,885.29
MRVLOHXARS2	ORVLOHX	Marshallville	Orrville	$187.71	$4,254.60
[redacted]					
MTVCOHXARS1	RDWYOH	Mount Victory	Ridgeway	$508.37	$13,985.26
MTVROHRACM1	UTICOHX	Mount Vernon*	Utica-Homer	$407.32	$10,227.07

DEDICATED TRANSPORT RATE SUMMARY — Ohio

Origination	Termination	Origination	Termination	Dedicated DS1 Rate	Dedicated DS3 Rate
MYVIOHXARS1	MLCTOHX	Marysville*	Milford Center	$145.60	$3,039.77
MYVIOHXARS1	NLBGOHX	Marysville*	North Lewisburg	$145.60	$3,039.77
MYVIOHXARS1	RYMNOHX	Marysville*	Raymond	$145.60	$3,039.77
MYVIOHXARS1	YRCTOHX	Marysville*	York Center	$653.96	$17,025.04
NPLNOHXA	WTVLOHX	Napoleon	Waterville	$277.45	ICB
NSVLOHXARS2	SHRVOHX	Nashville	Shreve	$154.44	$3,146.46
NWFLOHXARS1	LVBGOHX	Newton Falls	Warren	$70.51	$972.45
NWMSOHXARS1	NWPROH	New Madison	New Paris	$713.68	$17,626.88
NWMSOHXARS1	RSBGOH	New Madison	Rossburg	$633.02	$15,544.55
NWMSOHXARS1	VRSLOHX	New Madison	Versailles	$633.02	$15,544.55
NWMSOHXARS1	WMCHOH	New Madison	West Manchester	$506.69	$13,009.30
NWPROHXARS1	WMCHOH	New Paris	West Manchester	$206.98	$4,617.59
ORVLOHXARS1	MDBROH	Orrville	Wooster*	$187.71	$4,254.60
ORVLOHXARS1	SMVLOHX	Orrville	Smithville	$187.71	$4,254.60
PEVLOHXA557	STPTOHX	Pennsville	Stockport	$223.62	$5,083.22
RDWYOHXARS1	RSHSOH	Ridgeway	Rushsylvania	$508.37	$13,985.26
RSBGOHXARS1	VRSLOHX	Rossburg	Versailles	$126.32	$2,535.25
RSHSOHXARS1	RDWYOH	Rushsylvania	Ridgeway	$508.37	$13,985.26
RTMNOHXARS2	STNGOH	Rittman	Sterling	$187.71	$4,254.60
RYMNOHXARS1	YRCTOHX	Raymond	York Center	$508.37	$13,985.26
SHLBOHXARS1	SHLHOH	Shelby	Shiloh	$234.63	$5,392.01
SHRVOHXARS1	MDBROH	Shreve	Wooster*	$154.44	$3,146.46
SLBNOHXARS1	WYVLOH	South Lebanon	Waynesville	$252.25	$5,885.29
SMVLOHXARS1	MDBROH	Smithville	Wooster*	$187.71	$4,254.60
STPTOHXA559	BRTLOHX	Stockport	Bartlett	$223.62	$5,083.22
STRGOHXARS1	WDVLOH	Stony Ridge	Woodville	$706.12	$18,485.83
VNWROHXARS1	VNDCOH	Van Wert*	Venedocia	$207.45	$4,807.14
WDVLOHXA849	MOLNOH	Woodville	Moline	$791.72	$20,633.41
WMFDOHXARS2	YRCTOHX	West Mansfield	York Center	$1,410.73	$39,127.11
WYFDOHXARS2	WMNSOH	Waynesfield	Westminster	$203.13	$4,686.21

FILE

EXHIBIT 3a

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BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Petition of Communication Options, Inc. for Arbitration of Interconnection Rates, Terms and Conditions and Related Arrangements with United Telephone Company of Ohio dba Embarq Pursuant to Section 252(b) of The Telecommunications Act of 1996.	)))))))	Case No. 08-45-TP-ARB

PREFILED SUPPLEMENTAL TESTIMONY OF

AUGUST H. ANKUM, PH.D.

On Behalf of

Communication Options, Inc.

PUBLIC VERSION

CONFIDENTIAL DATA ARE MARKED AS * [redacted] ***

August 20, 2008

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I. INTRODUCTION

Q. 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., ("QSI"), a consulting firm specializing in economics, econometric analysis, and telecommunications cost modeling. My business address is 1027 Arch, Suite 304, Philadelphia, PA 19107.

Q. ARE YOU THE SAME DR. ANKUM WHO FILED DIRECT TESTIMONY IN THIS CASE ON JUNE 24, 2008?

A. Yes.

Q. WHAT IS THE PURPOSE OF THIS TESTIMONY?

A. In accordance with the Attorney's Examiner Order of July 15, 2008, the purpose of this testimony is to explain how Embarq's filing of the new version of its Model and the associated new pricing proposal[1] impact the analysis and conclusions of my direct testimony.

A few notes on the terminology and organization of this testimony: First, the new version of Embarq's Model and the pricing proposal associated with this Model were

[1] The new version of Embarq's Model and the pricing proposal associated with this Model were contained in the Direct Testimony of Christy V. Londerholm and the supporting CD attachments filed on June 24, 2008.

contained in the Direct Testimony of Christy V. Londerholm, which was filed on June 24, 2008 (i.e., simultaneously with my direct testimony); I will refer to that version of the Model, the CD attachments and associated pricing proposal contained in Ms. Londerholm's testimony as the "New Model," "New CD" and "Embarq's New Proposal," correspondingly. To the version of the Model addressed in my Direct testimony I will refer as the "Previous Version of the Model." Second, several tables in this testimony constitute supplemental (amended) versions of tables contained in my Direct testimony. In such cases the title of the table includes a note referencing the number under which this table appeared in my Direct testimony.

Q. WHAT IS THE MAIN CONCLUSION OF YOUR SUPPLEMENTAL DIRECT TESTIMONY?

A. The main conclusion is that recommendations contained in my Direct testimony still stand:

- Embarq has proposed rates that are significantly higher than the rates in Communication Options, Inc.'s ("COI") current Interconnection Agreement.
- Embarq's New Proposal is unreasonable and should be rejected.
- COI's counter-proposal that I presented in my Direct testimony and that was developed by using the generally accepted Telephone Plant Indices, other price indices and information from Embarq's own cost model, constitute a more reasonable proposal.

I reiterate COI's counter-proposal in Table 1 below:

Table 1. COI's Counter-Proposal for Loop Rates

4-Wire xDSL - Capable Loop	
Band 1	**$49.57**
Band 2	**$49.53**
Band 3	**$81.16**
Band 4	**$157.88**
4-Wire Digital Loop (no electronics)	
Band 1	**$49.57**
Band 2	**$49.53**
Band 3	**$81.16**
Band 4	**$157.88**
DS1 Service and ISDN PRI Loop	
Band 1	**$69.06**
Band 2	**$68.46**
Band 3	**$107.27**
Band 4	**$166.41**

Note that the price bands contained in this proposal correspond to the price bands in COI's current ICA. In other words, while Embarq proposes changes in the price bands,[2] under COI's proposal, the wire center classification into bands would remain the same.

[2] This is different from Embarq's New proposal, which completely revises the wire center classification into bands, including a somewhat unusual proposal to have separate band classifications for 4-wire, DS1 and 2-wire loops. The following hypothetical example demonstrates these separate band classifications: under Embarq's New Proposal, the same wire center may be classified as Band 1 for 4-wire loops, Band 2 for DS1 loops and Band 3 for 2-wire loops.

II. EMBARQ'S NEWLY PROPOSED RATES ARE UNREASONABLY HIGH AND NOT COMMISSION APPROVED

Q. ARE EMBARQ'S NEWLY PROPOSED RATES CONSIDERABLY HIGHER THAN THOSE IN COI'S CURRENT INTERCONNECTION AGREEMENT?

A. Yes. The rates that Embarq is proposing are considerably higher than those in COI's current ICA. This is shown in Table 2 below, which lists COI's current rates, Embarq's New Proposal, as well as Embarq's two other proposals that were made previously (in September 2006 and July 2007). Amounts in rows titled "TOTAL" and "Increase over Current COI Rates" are not part of the rate structure, but are measures that I am providing in order to make an "apples to apples" comparison. They are based on a weighted average calculation and are necessary because different rate sets are associated with different de-averaging schemes (wire center classifications to bands).

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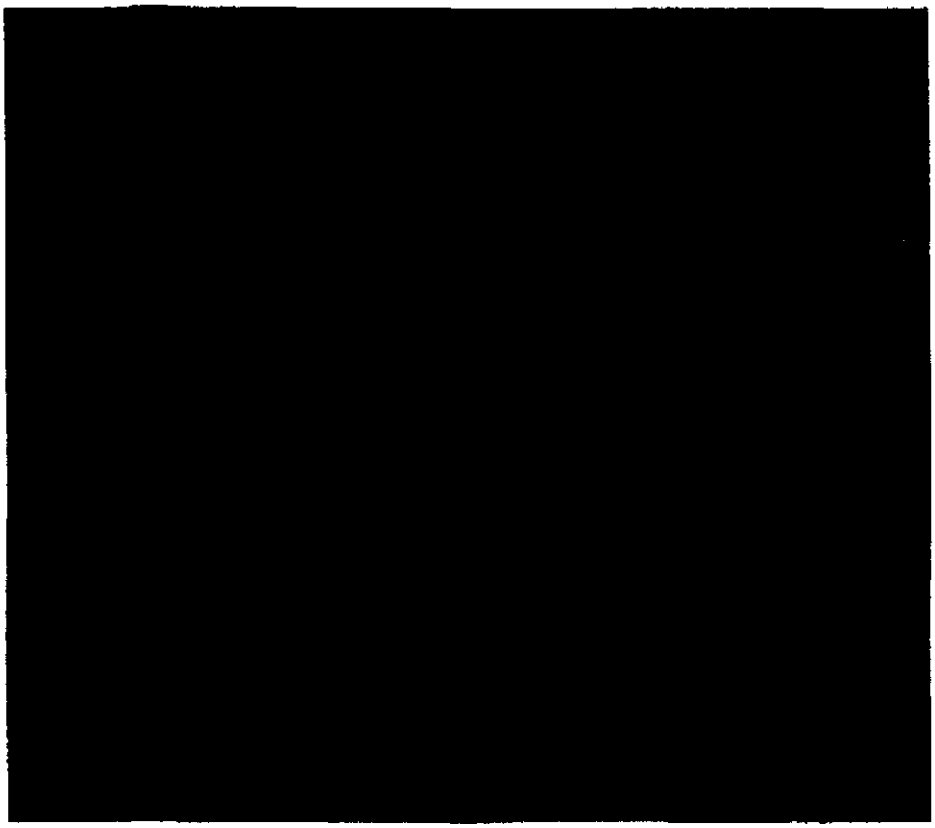

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As shown in Table 2 above, on average, Embarq's New Proposal is to increase COI's DS1 loop rates to *** [redacted] *** of the rates in its current ICA, and 4-wire loop rates to *** [redacted] *** of the rates in COI's current ICA.

It is important to note that the average percent increases depicted in Table 2 above do not capture the true scale of increases associated with Embarq's New Proposal. Specifically, in 39 wire centers that are classified as "Band 3" in COI's Current ICA and where DS1 loop rates are currently equal to **$97.04** per month, Embarq is proposing a rate of **$514.72** per month (the rate that correspond to the new Band 3). In other words, Embarq is proposing that DS1 loop rates increase to **530%** of their current level in 39 wire centers. This is a totally unreasonable price increase by any measure. A more than five-fold

increase (530%) in the price of a UNE loop would likely mean that a CLEC cannot sustain business in these wire centers. Similarly, there are 63 other wire centers that, under COI's current ICA, are classified as "Band 4" and where DS1 loop rates are equal to $142.03. In these wire centers Embarq is proposing a DS1 loop rate of $514.72 per month (the rate that correspond to the new Band 3), or equivalently, Embarq's New Proposal is to set this rate to 362% of the current level. These two groups of wire centers constitute more than half of Embarq's wire centers in Ohio.[3]

Similarly, the average statistics depicted in Table 2 above do not capture the true scale of Embarq's new proposed rate increases for 4-wire loops. Specifically, in four wire centers the increase is to 245% of the current level (from $69.66 to $170.98), and in 57 other wire centers the increase is approximately to 160% of the current level (from $43.22 to $70.40 and from $69.66 to $109.59). Again, these increases are beyond what is reasonable and so large as to call into question the very sustainability of a CLEC business in these wire centers.

Q. HOW DOES EMBARQ'S NEW PROPOSAL COMPARE TO ITS PREVIOUS PROPOSALS—PROPOSALS THAT ARE ADDRESSED IN YOUR DIRECT TESTIMONY?

A. As shown in Table 2 above, numerically these proposals differ, both in terms of band-specific and average rates, as well as the number of bands. For example, for DS1 loop rates, Embarq's New Proposal (on average, an increase to *** [redacted] *** of the current

[3] The first group (39 wire centers) and the second group (69 wire centers) total 102 wire centers, while the statewide count of Embarq's wire centers is 174.

level) lies in the middle between Embarq's two other proposals.[4] For 4-wire loops Embarq's New Proposal calls for a somewhat lower increase (on average, to *** [redacted] *** of the current level) than the two other proposals.[5] However, qualitatively Embarq's New Proposal is similar to the two other proposals because Embarq's newly proposed increases are out of line and unreasonable. I explain this assessment below.

Q. WHAT WAS THE BASIS FOR YOUR CONCLUSION THAT EMBARQ'S NEW PROPOSAL IS UNREASONABLE?

A. I made this conclusion by using the same approach as I used in my Direct testimony. First, I start with a "red-face test" and ask the basic question: Can the dramatic increases in Embarq's rate offerings be cost-based? In other words, is it possible that price increases for telecommunications inputs necessary to provision unbundled loops—inputs such as copper and fiber cables, circuit equipment, labor, general purpose computers, etc.—drove Embarq's cost to levels that justify the above discussed rate hikes? As I explain below, the answer to this question is "no, Embarq's New Proposal implies rate hikes that are in excess of the observed changes in input prices."

Second, I look at the foundation of Embarq's New Proposal, which is its New Model, to answer the question: Does the New Model properly and reasonably estimate costs of providing 4-wire and DS1 UNE loops? As I explain further below, the answer to this question is again "no", the New Model—like the Previous Version of the Model—over-states costs.

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[4] Embarq's July 2007 proposal meant that DS1 loop rates would increase on average to *** [redacted] *** of the current level, and Embarq's September 2006 proposal meant that DS1 loop rates would increase on average to *** [redacted] *** of the current level.

[5] Embarq's July 2007 proposal meant that four wire loop rates would increase on average to *** [redacted] *** of the current level, and Embarq's September 2006 proposal meant that four wire loop rates would increase on average to *** [redacted] *** of the current level.

Q. PLEASE ELABORATE ON YOUR FIRST APPROACH, THE ASSESSMENT OF THE PROPOSED RATE INCREASES AGAINST PRICE INCREASES IN TELECOMMUNICATIONS INPUTS.

A. I implement this approach by comparing Embarq's rate hikes with the relevant price indices published by the Bureau of Economic Analysis ("BEA") and Bureau of Labor Statistics ("BLS")—the same exercise that I summarized in Table 11 on page 34 of my direct testimony. The supplemental version of that table is below. This table lists the statewide aggregated rates and their percentage increases and compares them to various price indices, including the general inflation price index—the BEA's GDP Deflator—and more specific price indices of the BLS that measure price changes of inputs specific to telecommunications.[6]

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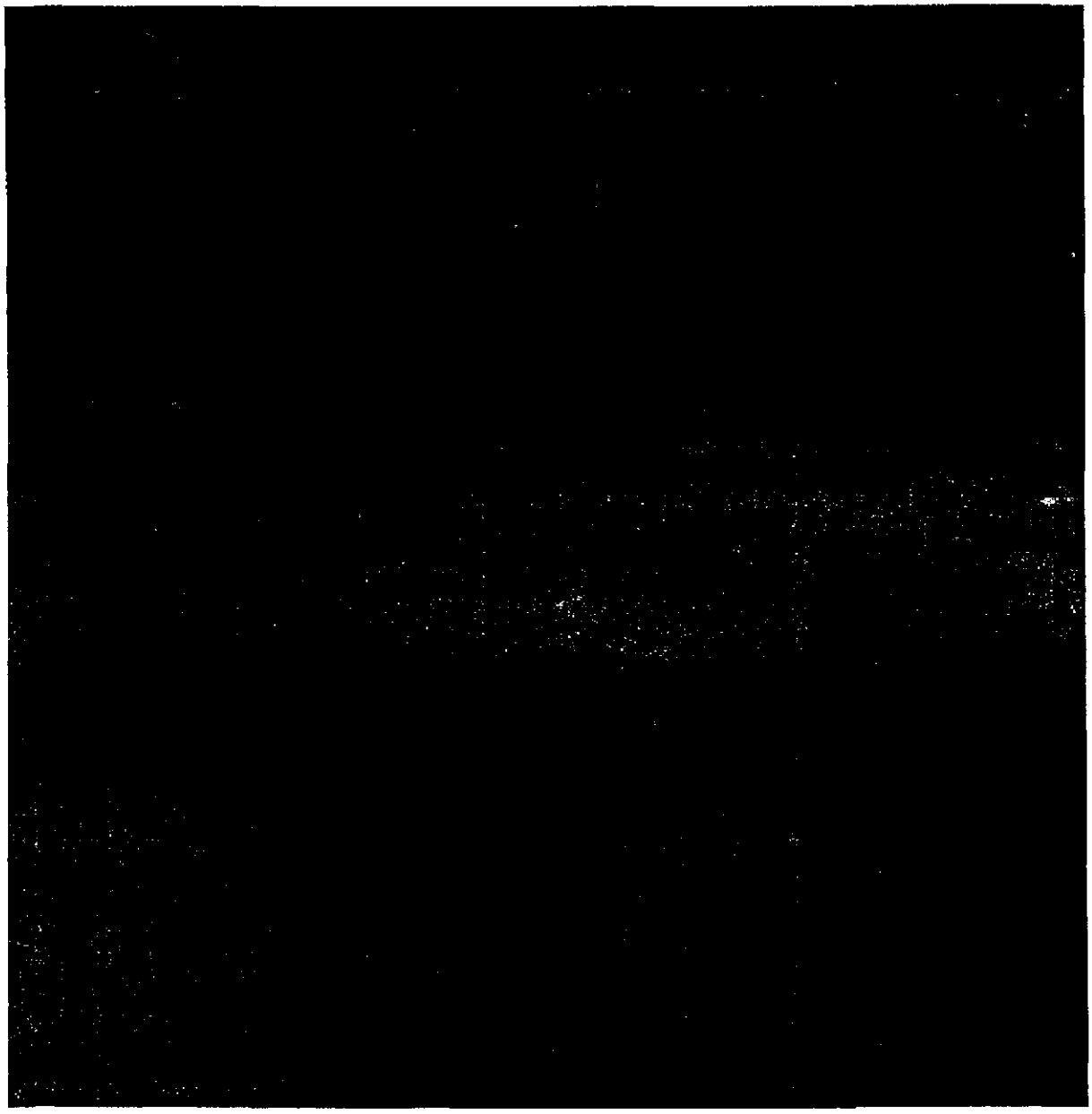
[6] For the purposes of price indices calculation, the vintages of each rate set (each data column in the table) were determined based on COI's examination of ICA applications in PUCO's online Docket Information System. They are assumed to correspond to the end of year in which a specific rate set first appeared in an ICA. An exception is COI's current rates, which are conservatively assumed to date to the end of year 2004. This is a conservative assumption because it implies a larger time gap to the next rate hike than the actually observed time gap.



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As is evident from the examination of price indices in Table 3 above, rate hikes contained in Embarq's New Proposal cannot be justified by the observed changes in prices. For example, from the time of COI's current ICA (which, as explained in a footnote above, is associated with vintage year 2004) to Embarq's New Proposal general prices (the GDP-PI deflator) increased to 110% of the level observed in 2004, while Embarq's rate

proposals for 4-wire and DS1 loops constituted much bigger rate increases over current rate—to *** [redacted] *** and *** [redacted] *** of the 2004 level (correspondingly). Input-specific price indices were also predominantly lower than Embarq's rate hikes: Employee's compensation (total labor cost including benefits) in the private industry went up to 110%; prices for fiber optic cable and telephone equipment went down to 96%; and only copper cable prices exhibited significant growth, reaching 214% of the level observed at the end of 2004.[7]

Although the observed price increases for copper cable (214%) are higher than Embarq's rate hike for the 4-wire loops (which is *** [redacted] *** for the same time period), copper cable prices still cannot justify Embarq's rate hikes because copper cable is not the only input to 4-wire and DS1 loops,[8] and because prices for other inputs (particularly, fiber cable and circuit equipment) did not increase, but rather decreased, during the same time. In fact, prices for fiber cable and circuit equipment, which together constitute approximately *** [redacted] *** of the New Model's loop investment for 4-wire loops and more than *** [redacted] *** of the New Model's loop investment for DS1 loops,[9] went *down* as reflected in the BLS' price indices of Fiber Optic Cable and Telephone and Telegraph equipment.

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[7] Another data point to consider (not included in the table) is that fuel and energy prices increased during the same period to "only" 161% of the level observed at the end of 2004. This is also lower than the rate hikes for 4-wire and DS1 loops offered by Embarq. (Based on the BEA Price Indices for Gross Domestic Product, Gasoline, fuel oil, and other energy goods.)

[8] For example, even if we focus on loop investment (ignoring other components of loop costs such as common and shared, support assets and maintenance expense) in Embarq's model, we see that copper constitutes *** [redacted] *** of total investments for 4-wire and DS1 loops respectively, with fiber cable and circuit equipment being the two other major investment components. (Calculated from the New Model's output file LoopSum08.xls, Tabs "4wireLoopCost" and "DS1LoopCost" as the sum of copper cable investment over total investment, or [SUM(E11:G11)+M11+N11]/T11.)

[9] Calculated *from the New Model's output* file LoopSum08.xls, Tabs "4wireLoopCost" and "DS1LoopCost" as the ratio of circuit electronic and fiber cable investment over total investment, or (SUM(H11:J11)+P11)/T11.

The above-discussed changes in input prices further highlight the unreasonableness of Embarq's rate offerings, which contain more significant rate hikes for DS1 loops compared to 4-wire loops.[10] Given that the most significant input price increase occurred to copper cable, we expect that rates of 4-wire loops (to which copper cable is a more prominent input compared to DS1 loops[11]) would go up by a significantly larger degree than rates of DS1 loops (to which copper is a relatively minor input). However, we see an exactly opposite result in Embarq's New Proposal, as well as in its previous proposals. Clearly, Embarq's New Proposal, just like its previous proposals, *is not cost justified*.

Q. APART FROM INPUT PRICES, CAN THE RATE HIKES IN EMBARQ'S OFFERINGS BE EXPLAINED BY OTHER FACTORS, SUCH AS ACCESS LINE LOSS?

A. No. The fact that DS1 loops would experience the more significant rate increase under Embarq's New Proposal than 4-wire loops is a particularly clear illustration of why line losses cannot explain rate hikes estimated by Embarq's New Model: DS1 loop counts actually *increased significantly*,[12] rather than decreased in Embarq's New Model compared to its Previous Version. *An increase in line counts (which means that more*

[10] Note that in my direct testimony I made a more extended comparison by looking at rate hikes of 2-wire, 4-wire and DS1 loops. Because Embarq's New Proposal does not contain 2-wire loops, I do not make that extended comparison here.

[11] As mentioned above, copper constitutes *** [redacted] *** of investment for 4-wire loops, and *** [redacted] *** of investment for DS1 loops in Embarq's New Model. (Calculated from the model's output file LoopSum08.xls, Tabs "4wireLoopCost" and "DS1LoopCost" as the sum of copper cable investment over total investment, or [SUM(E11:G11)+M11+N11]/T11.)

[12] Statewide DS1 Loop count is *** [redacted] *** in the New Model, and *** [redacted] *** in the Previous Version of the Model, meaning that DS1 Loop counts in the New Model are *** [redacted] *** of the counts in the Previous Version of the Model. (Sources: files LoopSum08.xls and LoopSum07.xls, Tab "DS1LoopCost," cell D11.)

economies of scale are realized) should decrease, not increase per line cost and the associated recurring rate.[13]

To summarize, DS1 loop rates demonstrate particularly well why Embarq's New Proposal fails any tests of reasonableness.[14] While Embarq is proposing an average of *** [redacted] *** increase in DS1 loop rates compared to COI's current rates, the prices of inputs that comprise cost of DS loops did not increase that much. In fact, prices of fiber cable and circuit equipment—inputs that constitute more than *** [redacted] *** of total DS1 loop investments—went down to 96% of the level that corresponds to the vintage date of the current rates. Prices of copper cable—a minor input to DS1 loops, though went up significantly (to 214%), but still by a relatively smaller percent than Embarq's DS loop rate proposal. At the same time, DS1 loop counts increased by *** [redacted] ***, meaning that Embarq is enjoying increased economies of scale (i.e., additional cost savings). Clearly, Embarq's New Proposal is unreasonable and not cost based.

Q. PLEASE ELABORATE ON YOUR SECOND APPROACH FOR TESTING REASONABLENESS OF EMBARQ'S NEW PROPOSAL—THE ASSESSMENT OF THE NEW MODEL ON WHICH THIS NEW PROPOSAL IS BASED.

A. I reviewed Embarq's New Model, focusing on the deficiencies that I discussed in my Direct testimony with regard of the Previous Version of the Model. The main conclusion from this review is that in most parts, the New Model repeats flaws observed in the

[13] The true test of reasonableness is a comparison of COI's current rates to Embarq's New Proposal. Because the vintage date of the Previous Version of the Model is close to the vintage date of COI's current rates, DS1 loop counts in the Previous Version can serve as a proxy for DS loop counts at the time when COI's current rates were established. Therefore, because DS1 loop counts increased significantly between the date of COI's current ICA and present, it is reasonable to expect that the new DS1 loop rates would be lower than COI's current rates (other things being equal) to reflect the increased economies of scale—a result that is *not* observed in Embarq's New Proposal.

[14] All numbers cited in this paragraph were explained above in Table 3 or in the text following Table 3.

Previous Version of the Model, including the use of inputs that are (i) not forward-looking, (ii) unreasonable and (iii) contradictory to the Commission's decision in TELRIC cases. These flaws cause Embarq's New Model to produce costs and rates that are artificially inflated. I will discuss those flaws below.

III. EMBARQ'S MODEL SHOULD BE REJECTED

Q. DO YOU HAVE ANY GENERAL COMMENTS REGARDING THE OVERALL ISSUES WITH EMBARQ'S MODEL BEFORE YOU PROCEED TO A DISCUSSION OF SPECIFIC DEFICIENCIES OF EMBARQ'S INPUTS OR MODEL CALCULATIONS?

A. Yes. The New Model, just like its predecessor, relies predominantly on "invisible" programming, rather than explicit Microsoft Excel ® formulas and links. Given the sheer quantity of the Model's workbooks between which information is exchanged in "invisible" fashion, as well as the limited time and other resource constraints[15] in preparation of this supplemental testimony, the audit of this Model was extremely handicapped.

Another important issue is that Embarq's run of the New Model appears to be accompanied by a large number of computer errors. Specifically, the New Model CD contains two "log" files: one file appears to be associated with the creation of the Loop

[15] COI is a relatively small company and should not be expected to dedicate the same amount of resources to this arbitration as, say, AT&T and MCI did in full-fledged TELRIC proceedings involving the former Ameritech. Not only does COI not have those resources, but, as I have argued in my direct testimony, a CLEC should not be required to perform a full review of an ILEC's costs outside of a TELRIC proceeding, *which this is not.*

Module Inputs file,[16] and another—with the processing of the Loop Module.[17] Each log file contains over one thousand error messages, including error messages "Operation is not supported for this type of object," "Data type conversion error," and "Microsoft Jet engine could not find the object." These errors cast further doubt on the validity of the New Model results and its ability to operate.

Q. YOU SAID ABOVE THAT SEVERAL MAJOR INPUTS TO EMBARQ'S NEW MODEL ARE NOT FORWARD-LOOKING AND ARE UNREASONABLE OR CONTRADICTORY TO THE COMMISSION'S PRIOR DECISIONS. PLEASE EXPLAIN.

A. The first major group of inputs that is contradictory to both theoretical logic and specific numerical values adopted by the Commission in other UNE cases is the fill factors—factors that determine the amount of spare capacity modeled in the network. Just like the Previous Version, the New Model uses its *actual* copper feeder fill factors;[18] and for distribution cable, the New Model builds two lines to each housing unit, and the resulting fill factors are based on the combined effect of this assumption, the demand for second lines and additional spare capacity resulting from the practical issue that cable comes in fixed (discrete) cable sizes.[19] Just like in the Previous Version, copper cable fill factors used in Embarq's New Model are significantly lower than the fill factors approved by the Commission for SBC. For example, for copper feeder, Embarq's New Model uses fill

16 File LM.txt in folder Modules\Loop\LM\Inputs.

17 File LM.txt in folder Modules\Loop\LM.

18 See Embarq's "Loop Input Definitions," pp. 15-16

19 Id.

factors ranging between *** [redacted] ***,[20] which fill factors are lower than the Commission-approved copper feeder fill factors in the SBC UNE case (between 61.87 and 69.14%[21]). In other words, Embarq's New Model designs significantly more spare capacity (and as a result, generates significantly higher copper investment and cost) than the spare capacity allowed by the Commission for SBC.

Further, just like in the Previous Version of the Model, besides the numerical gap between Embarq's proposed and SBC's PUCO-approved fill factors, there is a significant conceptual difference between the two because Embarq's Model fill factors are based on Embarq's actual fill factors, and *the Commission specifically disallowed actual fill factors* in a TELRIC study.[22] The Commission concluded that a forward-looking network and a TELRIC study should have higher fill factors than the carrier's actual fill factors, and ordered fill factors that are *above* SBC's actual fill factors.

Q. WHAT OTHER MAJOR INPUTS TO EMBARQ'S MODEL ARE NOT FORWARD-LOOKING AND ARE UNREASONABLE OR CONTRADICTORY TO THE COMMISSION'S PRIOR DECISIONS?

A. They are economic depreciation lives of assets. Just like in the Previous Version of the Model, the New Model uses depreciation lives that are generally lower than the publicly

[20] File Loop Workpaper_Copper Feeder Fill Factor_OH; Tab "Fill Summary."

[21] Order in Case No. 02-1280-TP-UNC *In the Matter of the Review of SBC Ohio's TELRIC Costs of Unbundled Network Elements* (November 3, 2004) ("SBC Phase I UNE Order") p. 44 (range is across rate zones).

[22] The Commission explained its reasoning as follows: "[T]he actual current fill factors, based on the existing network, reflect excess capacity beyond the spare capacity needed for the engineering and regulatory requirements stated above. As an example of this excess capacity, the Commission highlights the redundancy resulting from the implementation of new technologies (i.e., overlay of fiber facilities in the feeder section of the loop) that would not take place in a TELRIC forward-looking network." (SBC Phase I UNE Order, p. 39).

available depreciation rates approved in the SBC UNE case[23] or depreciation lives used by the FCC. This is captured in the table below:

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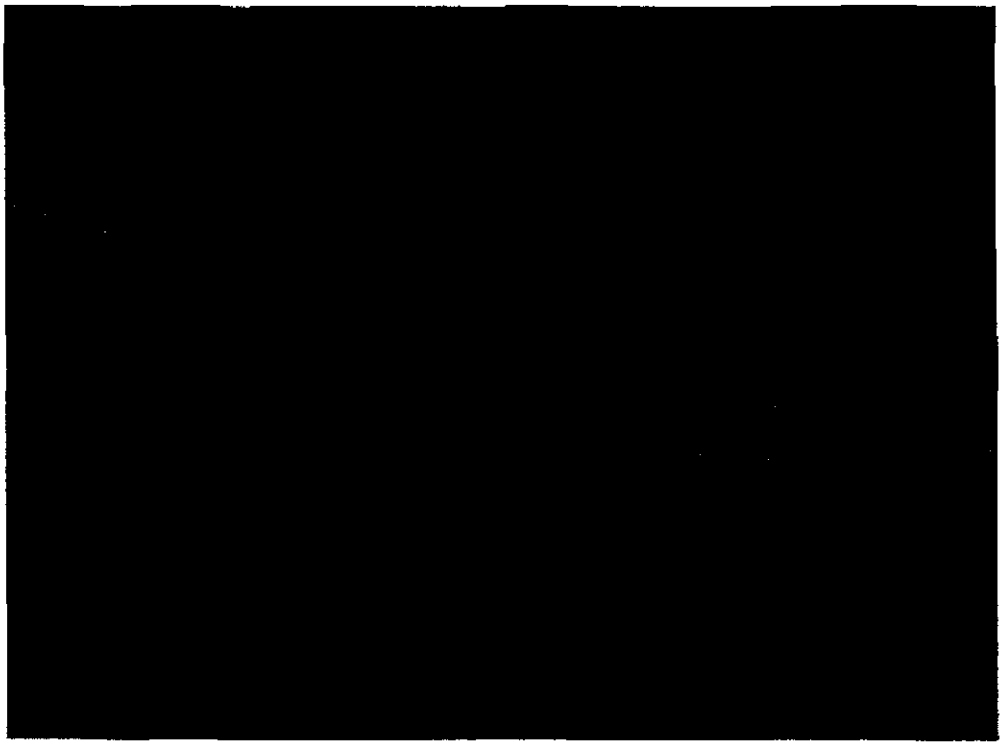

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Unreasonably low depreciation lives mean that the New Model overstates economic cost, and, consequentially, the proposed loop rates.

[23] The Commission approved SBC proposed depreciation lives (SBC Phase I UNE Order, p. 61), but the order does not list these lives. While most of SBC proposed depreciation lives were filed confidentially, some of them are discussed in the public portion of SBC testimony and are included in the table below. Specifically, economic lives for cable and circuit equipment are listed in the testimony of Dr. Vanston (Case No. 02-1280-TP-UNC, Direct Testimony of Lawrence K. Vanston behalf of SBC Ohio, March 19, 2004, pp. 10-11.). Also, Dr. Currie explains that SBC proposed future net salvage values/cost of removal (another component of depreciation lives) are zero to be consistent with the current accounting rules, which direct carriers to record costs of removal in their expense, rather than investment accounts. (Case No. 02-1280-TP-UNC, Direct Testimony of Kent A. Currie on behalf of SBC Ohio, March 19, 2004, p. 44 footnote 21.)

Q. WHAT IS YOUR OPINION ABOUT THE COST OF CAPITAL USED IN EMBARQ'S NEW MODEL?

A. The cost of capital decreased significantly compared to the Previous Version of the Model, with the new value *** [redacted] ***[24] being slightly above the Commission approved cost of capital of 9.02% for SBC.[25] However, there appears to be an error, either in the Model or in Ms. Londerholm's testimony that describes derivation of the cost of capital. It is not clear where the error is made because the cost of capital is a hard-coded value in the New Model. Generally, the cost of capital is derived as a weighted average calculation by using four components: the Cost of Debt, the Debt Share, the Cost of Equity and the Equity Share. Ms. Londerholm's testimony at page 35 lists these components as follows: the Cost of Debt is *** [redacted] ***, the Debt Share is *** [redacted] ***, the Cost of Equity is *** [redacted] ***and the Equity Share is *** [redacted] ***. It follows from Ms. Londerholm's listing of these four components that the cost capital should be *** [redacted] ***,[26] which is much lower than the value used in the New Model. If Ms. Londerholm's listing of the components of the cost of capital is correct, the New Model over-estimates cost of capital (and consequently, loop costs and rates) even under Embarq's own assumptions about the compositions of capital, and the cost of debt and equity.

Q. WHAT OTHER IMPORTANT ISSUES WITH EMBARQ'S NEW MODEL HAVE YOU NOTICED?

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24 InpOH08.xls, Tab "ACF," cell C9.

25 SBC Phase I UNE Order, p. 72.

26 Calculated as *** [redacted] ***.

A. The New Model preserves many of the other flaws of the Previous Version—flaws that cause an over-statement of cost and make this study not-forward-looking and unreasonable. One flaw is Embarq's failure to properly exclude retail costs from the cost factors. As explained by the Commission in the SBC Phase I UNE Order, retail costs are inappropriate in a TELRIC study—a study that sets wholesale rates.[27] For example, while the Commission directed SBC to remove from the cost factors expenses for account 6613 Product Advertising in its entirety,[28] Embarq's New Model, just like its predecessor, included portions of this account in the cost factors applicable to wholesale loops.[29] A proper exclusion of the entirety of this account would result in lower cost factors, and therefore, lower estimated loop cost.

Another systematic flaw is the use of unsupported and unexplained hard-coded adjustments. One example is the land and building investment, which constitute sub-categories of the *general support assets*—assets that are accounted for in Embarq's Other Direct and Common Cost Factors. Just like the Previous Version, the New Model replaces booked land and building investments with the unsupported hard-coded numbers. The only "explanation" of these numbers is a reference to "Land Usage Analysis" and "Building Usage Analysis" in the Documentation to the Other Direct study[30]—a reference that is not accompanied by Land and Building Usage studies, or even by a commentary about the methodology used to arrive at these numbers.

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27 SBC Phase I UNE Order, pp. 91-92.

28 SBC Phase I UNE Order, p. 101.

29 See Embarq's "Other Direct Cost" study, file odc08.xls, Tab "Other Direct" rows 64 and 66, and file InpOH08.xls" Tab ODC" cells C14: C16. These cells show that Embarq removes only *** [redacted] *** of this account as retail based, and flows the rest of it into the wholesale study, which is an even lower percent than was used in the Previous Version of the Model.

30 File "ODC Documentation," p. 4 (pages are not marked).

Another example is explained more fully below when addressing loop conditioning and is related to unexplained adjustments to expense accounts that flow into the Annual Charge Factors. For example, the New Model adjusts buried cable and pole expense upwards from the booked amounts without explaining the reason or source of the adjustment.

Just like in the Previous Version of the Model, the New Model contains the irrational result that in a number of wire centers the costs of a DS1 are lower than the costs of a 4-wire loop. This result further cast doubts on the validity of Embarq's Model because, by design, DS1 loops are more complex loops than 4-wire loops.

Q. IN YOUR DIRECT TESTIMONY YOU POINTED OUT THAT THE MODEL RESULTS SUGGEST THAT EMBARQ VIOLATES RETAIL PRICING RULES FOR BASIC LOCAL EXCHANGE SERVICES IN THE FOUR EXCHANGES WHERE EMBARQ WAS RECENTLY GRANTED PRICING FLEXIBILITY.[31] IS THIS STILL THE CASE WITH THE NEW MODEL?

A. Yes. Using the New Model, I restated Table 9 of my direct testimony to show that, while the numbers changed, the qualitative result still stands: The New Model does not agree with the pricing flexibility requirement of the four Embarq exchanges, which is the requirement that "[i]n those telephone exchange areas where an ILEC is granted pricing flexibility for BLES and other tier one services, an ILEC is not permitted to price its tier

[31] I am referring to pricing flexibility of Basic Local Exchange Services ("BLES") under Chapter 4901:1-4 of Ohio Administrative Code ("O.A.C."). See Opinion and Order (December 19, 2007) *in* Case No. 07-760-TP-BLS *In the Matter of the Application of United Telephone Company d/b/a Embarq for Approval of an Alternative Form of Regulation of Basic Local Exchange and Other Tier 1 Services Pursuant to Chapter 4901:1-4, Ohio Administrative Code*, stating at p. 30 that "BLES and basic caller ID will be subject to the pricing flexibility provided for pursuant to Rule 4901:1-4-11, O.A.C." These exchanges are Lebanon, Mason, South Lebanon and Waynesville.

one retail service(s) below the LRSIC of each service plus a common cost allocation."[32]

The restated table is as follows:

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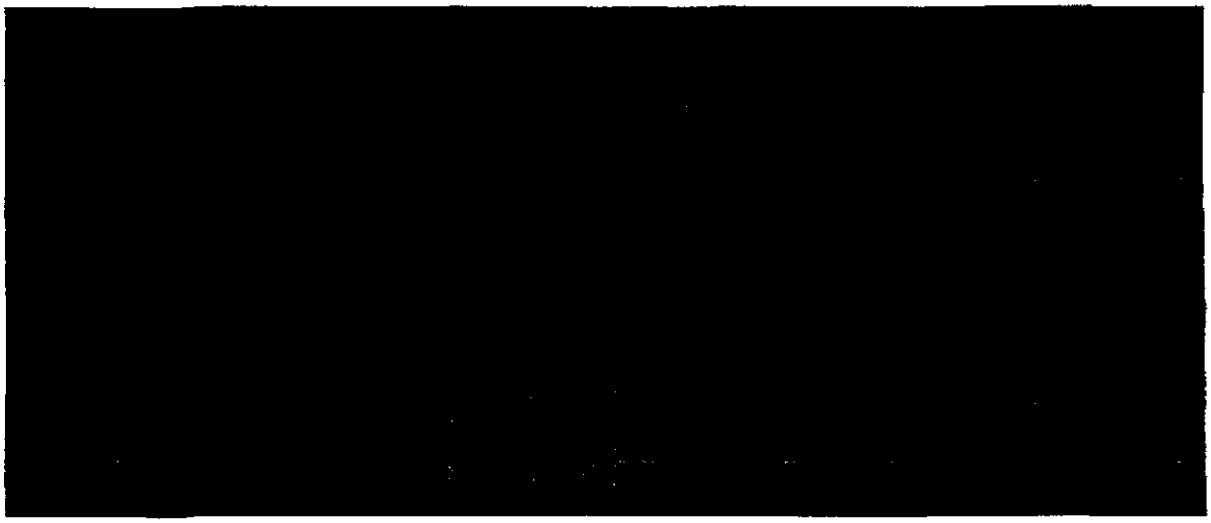

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As I explained in the direct testimony, the cost of a 2-wire loop is a *lower boundary* of the LRSIC cost of local service. Therefore, if Embarq complies with the above cited pricing O.A.C. Rule 4901:1-4-11, the retail prices of the basic local service should be higher than the Model costs of 2-wire loops (costs with the common markup) in exchanges where Embarq was granted pricing flexibility. As shown in Table 5 above, in all four exchanges residential service is priced *** [redacted] *** the costs of the 2-wire loop generated by the Model.[33] In one exchange (Waynesville), business service is also priced *** [redacted] *** the cost of the 2-wire loop. In three exchanges (all but Mason), the weighted average retail rates of residential and business services are *** [redacted] *** the costs generated by the Model. These results demonstrate that either Embarq violates the

[32] O.A.C. Rule 4901:1-4-11(C).

[33] The Model cost includes the common markup and represents a lower boundary for the LSRIC cost plus the common markup.

rule that "an ILEC is not permitted to price its tier one retail service(s) below the LRSIC of each service plus a common cost allocation[,]"[34] or Embarq's New Model produces overstated cost estimates. Given a large number of concerns about Embarq's cost model discussed throughout this testimony, I tend to conclude that the latter is true—*the New Model produces grossly inflated cost estimates.*

IV. LOOP CONDITIONING CHARGES

Q. YOUR DIRECT TESTIMONY NOTED THAT, BECAUSE CONDITIONING COSTS APPEAR ON ILEC'S BOOKS AS MAINTENANCE EXPENSES FOR OUTSIDE PLANT, THEY ARE PASSED ONTO RECURRING LOOP RATES THROUGH ANNUAL CHARGE FACTORS—UNLESS SPECIAL EFFORT IS UNDERTAKEN TO REMOVE LOOP CONDITIONING COSTS FROM THE BOOKED EXPENSE. DID EMBARQ PROVIDE ANY EVIDENCE THAT CONDITIONING COSTS ARE REMOVED FROM ITS ACFs USED IN THE CALCULATION OF RECURRING LOOP RATES IN THE NEW MODEL?

A. No. While the New Model contains some "Service Order-related" adjustments to the booked expenses associated with cable and wire accounts, these adjustments do not appear to relate to loop conditioning charges. Specifically, Ms. Londerholm mentions on pp. 33-34 of her testimony that, during the calculation of maintenance factors, the New Model removes service provisioning non-recurring costs ("Rearrange & Change costs via a Service Order"[35]) for aerial drop, buried drop and circuit equipment accounts. This narrow list of accounts—the list that omits aerial, buried and underground "non-drop"

[34] O.A.C. Rule 4901:1-4-11(C), O.A.C.

[35] See file InpOH08.xls, Tab "Main_Factors" cell C37.

cable—indicates that this adjustment does not capture the proposed loop conditioning charges. For example, Embarq's proposed loop conditioning charges, such as unloading of underground cable and the removal of repeaters, are not associated with the short list of accounts (aerial drop, buried drop and circuit equipment) to which the New Model applies an adjustment for service provisioning non-recurring cost.

Further, just like the Previous Version of the Model, the New Model contains unexplained *additions* to some expense accounts, including the buried cable (other than drop), buried drop and poles expense accounts.[36] To summarize, Embarq failed to provide evidence that loop-conditioning costs were removed from the New Model's recurring cost estimates of loops.

V. CONCLUSION

Q. PLEASE BRIEFLY SUMMARIZE YOUR TESTIMONY.

A. In this supplemental testimony I have demonstrated that Embarq's New Proposal and the New Model are unreasonable. I recommend that the Commission reject Embarq's proposal and, instead, adopt the rates presented in the introduction to this testimony.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

[36] See file InpOH08.xls, Tab "Expenses_Revenues" columns F, G and H. (The amounts that flow into the calculation of cost factors are in column H, and they are adjusted from the booked values by amounts in column G.)

CERTIFICATE OF SERVICE

This is to certify that on this 20th day of August 2008, a copy of the Supplemental Testimony of August H. Ankum (both Confidential and Public) was electronically served upon Embarq as listed below.

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