

Steve Gatto, P.C.

Attorneys at Law

210 S. Washington Sq., Suite A
Lansing, Michigan 48933
(517) – 896-3978

May 14, 2006

E-file

Mary Jo Kunkle, Executive Secretary
Michigan Public Service Commission
6545 Mercantile Way
Lansing, MI 48911

PART 8 of 8

Dear Ms. Kunkle:

Re: In the Matter of the Petition of Ace Telephone Company, Allendale Telephone Company, Barry County Telephone Company, Blanchard Telephone Company, Bloomingdale Telephone Company, Chippewa County Telephone Company, Deerfield Farmers' Telephone Company, Hiawatha Telephone Company, Kaleva Telephone Company, Midway Telephone Company, Ogden Telephone Company, Ontonagon Telephone Company, Pigeon Telephone Company, Upper Peninsula Telephone Company, Waldron Telephone Company, and Winn Telephone Company, for the Arbitration of Interconnection Rates, Terms, and Conditions and Related Arrangements with Alltel Communications, Inc., Pursuant to Section 252(b) of the Federal Telecommunications Act of 1996
Case No. U-14889

Enclosed for filing are (1) **Petition for Arbitration (with exhibits)**, (2) **Direct Testimony of David S. McCartney (with exhibits)**, and (3) **Certificate of Service**.

This filing is being done in multiple parts due to the nature of e-filing and the filing herein.

Thank you for your assistance in this matter.

Sincerely,

 Steve Gatto

Steve Gatto, P.C.
Steve Gatto

Digitally signed
by Steve Gatto
DN: cn=Steve
Gatto, o=Steve
Gatto, P.C.,
c=US
Date:
2006.05.14
16:23:39 -0400

Enclosures

cc: Cynthia, Austin, Alltel Communications, Inc. (via e-mail and overnight delivery)

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the Matter of the Petition of Ace Telephone)
Company, Allendale Telephone Company,)
Barry County Telephone Company,)
Blanchard Telephone Association, Bloomingdale)
Telephone Company, Chippewa County Telephone)
Company, Deerfield Farmers' Telephone Company,)
Hiawatha Telephone Company, Kaleva Telephone)
Company, Midway Telephone Company, Ogden)
Telephone Company, Ontonagon County)
Telephone Company, Pigeon Telephone Company,)
the Upper Peninsula Telephone Company, Waldron)
Telephone Company and Winn Telephone)
Company, For the Arbitration of Interconnection)
Rates, Terms, and Conditions and Related)
Arrangements with Alltel Pursuant)
to Section 252(b) of the Federal)
Telecommunications Act of 1996)

Case No. U-14889

DIRECT TESTIMONY OF DAVID S. McCARTNEY

Q. Please state your name, business address, and title.

A. My name is David S. McCartney. My business address is 2803 US 41 West, Marquette, Michigan 49855.

Q. By whom are you employed and in what capacity?

A. The firm of McCartney & Company, P.C., Certified Public Accountants employs me. I am a Vice President of the firm and Manager of our Marquette office. In addition, I am responsible for supervising special studies, rate setting and regulatory issues related to the telecommunications industry.

Q. Are you a Certified Public Accountant?

A. Yes, I am a Certified Public Accountant and licensed in the State of Michigan.

Q. Would you detail your educational background?

1 A. I graduated from Michigan Technological University in 1976 with a B.S. in Mathematics.
2 In 1979, I received my M.B.A., with an emphasis in finance, from the University of
3 Notre Dame.
4

5 **Q. Mr. McCartney, would you explain your experience in the field of**
6 **telecommunications?**

7 A. Since 1971, the firm of McCartney & Company, P.C., or its predecessors, has employed
8 me at various times to help on various engagements for many telephone companies in the
9 state of Michigan.

10 With McCartney & Company, P.C., and its predecessors, I have supervised many
11 audits of telephone companies and have had responsibility for preparing the mathematical
12 analysis of various telephone plant account lives to arrive at proposed lives and salvage
13 values.

14 I have developed general ledger systems to properly account for access. Also, I
15 have worked on projects for the independent telephone industry, including the
16 Telecommunications Association of Michigan ("TAM") and the Michigan Exchange
17 Carriers Association ("MECA"), regarding access charges, average schedule access
18 settlements, pooling operations, and deferred tax accounting. I served MECA for several
19 years as assistant pool administrator.

20 Within our firm, I am the subject matter expert on items related to access,
21 interconnection, and the respective cost studies and issues. Additionally, I have been
22 involved in many engagements of a general nature regarding accounting and taxes.
23

24 **Q. Have you ever testified before the Michigan Public Service Commission?**

25 A. Yes. I have testified for Kingsley Telephone Company in Case No. U-6690 regarding a
26 study that I had prepared projecting operating results for ten years. I also testified for
27 Michigan Bell Telephone Company in Case No. U-9214 regarding the validity of
28 Michigan Bell's assertion that the transfer price of net book for the mobile service and
29 assets of Michigan Bell, taken as a whole, is greater than the fair market value. I have
30 also testified in Case No. U-9007 regarding the revenue requirements and demand data
31 for MECA. I have testified for MECA in its general rate case, Case No. U-9590,
32 regarding (a) how the data from the MECA's member companies was compiled; (b) how

1 the projected demand quantities were determined; (c) how projected revenue
2 requirements were determined; (d) how the revenues that MECA's members would
3 generate based on the demand quantities and MECA's intrastate tariff, which mirrored
4 the interstate tariff, were projected; and (e) the mechanism that MECA proposed for
5 recovery of the difference between MECA's revenue requirement and MECA's projected
6 revenues from mirrored rates. I have testified for Baraga Telephone Company in Case
7 Nos. U-10533 and U-10930 on the rates to be charged for various basic local exchange
8 services. I have testified for Allendale Telephone Company in Case No. U-10779
9 regarding rate changes for certain basic local exchange services, discontinuing certain
10 services, and filing revised tariff sheets. I testified on MECA's behalf in Case No. U-
11 11298 involving a dispute between MECA and Ameritech regarding Feature Group C
12 terminating switched access service. I also testified in Case No. U-11446 for Ace
13 Telephone Company et al. regarding the just and reasonableness of these companies'
14 filed local call transport and termination rates. Further, in Case No. U-11898 I testified
15 and prepared exhibits in support of Kaleva Telephone Company's request to (i)
16 restructure the rates of certain basic local exchange services and, (ii) file revised tariff
17 sheets. In Case No. U- 11899, I testified on behalf of the Telecommunications
18 Association of Michigan in relation to the establishment of a Michigan Universal Service
19 Fund. In Case No. U-12146, I testified on behalf of Lennon Telephone Company in
20 relation to their request for authority to restructure the rates of certain basic local
21 exchange services. In Case No. U-12168, I testified on behalf of Baraga Telephone
22 Company in relation to their request for authority to restructure the rates of certain basic
23 local exchange services. In Case No. U-13436, I testified for Allendale Telephone
24 Company to provide support for their proposal to expand their local calling area and to
25 adjust rates for basic local exchange service. In Case No. U-13449, I testified for
26 Deerfield Farmers' Telephone Company to provide support for their proposal to expand
27 their local calling area and to adjust rates for basic local exchange service. In Case No.
28 U-13489, I testified for Ace Telephone Company of Michigan to provide support for
29 their proposal to expand their local calling area and to adjust rates for basic local
30 exchange service. In Case No. U-13605, I testified for Westphalia Telephone Company
31 to provide support for their proposal to expand local calling and to adjust rates for basic
32 exchange service. In Case No. U-13533, I testified for Waldron Telephone Company to

1 provide support for their proposal to expand local calling and to adjust rates for basic
2 exchange service. In Case No. U-13606, I testified for Ogden Telephone Company to
3 provide support for their proposal to expand local calling and to adjust rates for basic
4 exchange service. In Case No. U-13760, I testified for Carr Telephone Company to
5 provide support for their proposal to expand local calling and to adjust rates for basic
6 exchange service. In Case No. U-13625, I testified for Sand Creek Telephone Company
7 for expanded local calling. In Case No. U-14438, I testified for Chapin Telephone
8 Company to provide support for their proposal to for authority to provide expanded local
9 calling and to adjust rates, and I testified in Case No. U-14456, I testified for Chippewa
10 County Telephone Company, Hiawatha Telephone Company, Midway Telephone
11 Company, and Ontonagon County Telephone Company, for authority to provide
12 expanded local calling and to adjust rates. In Case No. U-14678, I provided testimony on
13 the behalf of Ace Telephone Company, Barry County Telephone Company, Deerfield
14 Farmers' Telephone Company, Kaleva Telephone Company, Lennon Telephone
15 Company, Ogden Telephone Company, Pigeon Telephone Company, the Upper
16 Peninsula Telephone Company, and Waldron Telephone Company, related to a petition
17 for arbitration with Verizon Wireless. In Case U-14731, I provided an affidavit on behalf
18 of each of twenty-three Local Exchange Companies on the basis for each of those
19 companies' proposed Primary Basic Local Exchange Service rate.

20
21 **Q. On whose behalf are you testifying?**

22 A. I am testifying on behalf of the Petitioners in this matter. In particular, the Petitioners
23 are: Ace Telephone Company, Allendale Telephone Company, Barry County Telephone
24 Company, Blanchard Telephone Association, Bloomingdale Telephone Company,
25 Chippewa County Telephone Company, Deerfield Farmers' Telephone Company,
26 Hiawatha Telephone Company, Kaleva Telephone Company, Midway Telephone
27 Company, Ogden Telephone Company, Ontonagon County Telephone Company, Pigeon
28 Telephone Company, the Upper Peninsula Telephone Company, Waldron Telephone
29 Company and Winn Telephone Company (collectively, "Petitioners"). Each of the
30 Petitioners requested that Alltel negotiate an interconnection agreement with them. The
31 Petitioners designated agent for the negotiations is the Michigan Exchange Carriers'
32 Association, Inc. ("MECA").

1
2 **Q. Please describe MECA.**

3 A. MECA is an association whose membership is comprised of 33 small incumbent local
4 exchange carriers (“ILECs”) in Michigan. MECA’s members generally serve the rural
5 areas of the state, and its members provide basic local exchange service and access
6 service. Since its inception in 1987, MECA has been involved in representing these
7 ILECs before the Commission, in administering the access and other tariffs that are filed
8 on their behalf, and in providing information, representation, and general assistance to its
9 members in inter-company relations, legislative matters, and general business matters
10 relating to telecommunications issues of interest to its members. MECA has been
11 involved in many proceedings at the MPSC on behalf of its members, including cost
12 study proceedings. All the Petitioners are members of MECA.
13
14

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

16 A. The purpose of my testimony is to do the following:

17 (1) explain the dispute between the Petitioners and Alltel relative to their attempts to
18 negotiate, in an interconnection agreement, terms as to the amount of compensation to be
19 paid for local switching, local transport-termination, and local transport-facility, or a
20 single rate for these services;

21 (2) identify the rates that Petitioners other than the Chippewa County Telephone
22 Company, Hiawatha Telephone Company, Upper Peninsula Telephone Company and
23 Winn Telephone Company proposed for local switching, local transport-termination, and
24 local transport-facilities;

25 (3) identify the rates that Chippewa County Telephone Company proposed for local
26 switching, local transport-termination, and local transport-facilities;

27 (4) identify the rates that Hiawatha Telephone Company proposed for local switching,
28 local transport-termination, and local transport-facilities;

29 (5) identify the single rate that the Upper Peninsula Telephone Company proposed as a
30 combined rate for local switching, local transport-termination, and local transport-
31 facilities;

1 (6) identify the rates that Winn Telephone Company proposed for local switching, local
2 transport-termination, and local transport-facilities; and

3 (7) demonstrate that the rates all Petitioners propose for local switching, local transport-
4 termination, and local transport-facilities, are equal to and based on MPSC-approved
5 Total Service Long Run Incremental Cost (“TSLRIC”) studies, and should therefore be
6 adopted in the Interconnection Agreements between the Petitioners and Alltel.

7
8 **Q. Can you elaborate on the rate issue in dispute about which you are testifying?**

9 A. The “rate issue” about which I am sponsoring testimony actually concerns three sub-
10 issues for all but one of the Petitioners: (1) the rates to be paid for local switching per
11 minute, (2) the rates to be paid for local transport – termination per minute per
12 termination, and (3) the rates to be paid for local transport – facilities per minute per mile.
13 For the Petitioner the Upper Peninsula Telephone Company (“UPTC”), the “rate issue”
14 concerns a single rate for local call termination service. Let me explain what these
15 concepts are.

16 For definitional purposes, the rates to be paid for local switching concern the
17 amount to be paid for switching voice traffic between loops and/or trunks. The minutes
18 of use costs associated with switching a local terminating Commercial Radio Mobile
19 Service (“CMRS”) are usually referred to in TSLRIC studies as switching, switched
20 transport-host-remote transport-termination, switched transport-host-remote transport-
21 facility, and local usage measure costs, and for billing purposes local switching charges
22 are normally referred to as “Local Switching” and billed per conversation minute.

23 Local transport-termination rates pertain to the amount to be paid for converting
24 the incoming information in order for the switch to be able to use that information. In
25 TSLRIC studies, the costs associated with these rates are normally referred to as Local
26 Transport-Termination or Switched Transport-Common Transport-Termination, and for
27 billing purposes, these rates are referred to commonly as “Tandem Switched
28 Termination” and are billed per conversation minute per termination.

29 Finally, the local transport-facility rate refers to the amount to be paid to account
30 for the means of transport. TSLRIC studies normally refer to the costs associated with
31 these rates as Local Transport-Facility or Switched Transport-Common Transport-

Facility, and for billing purposes these rates are referred to as “Tandem Switched Facility” and are billed per conversation minute per mile.

Q. In the course of your employment either at McCartney & Company or otherwise, have you dealt with issues relating to costs and rates for local switching, local transport-termination, and local transport-facilities?

A. Yes. I have had extensive experience with the concepts of costs for local switching, local transport-termination, and local transport-facilities. My duties as an independent auditor and telecommunications consultant have required me to be familiar with such costs, studies that determine such costs for particular telecommunications companies such as the Petitioners (including MECA’s 1st TSLRIC Study and 2nd TSLRIC Study), and the process to convert such costs into rates. The process of converting costs into rates is commonly referred to as “mapping.”

Q. Are you sponsoring any exhibits?

A. Yes, I am sponsoring the following exhibits:

Exhibit A-____ (DSM-1): relevant portions of MECA’s 1st TSLRIC Study Results

Exhibit A-____ (DSM-2): relevant portions of MECA’s 2nd TSLRIC Study Results

Exhibit A-____ (DSM-3): relevant portions of Chippewa County’s TSLRIC Study Results

Exhibit A-____ (DSM-4): relevant portions of Hiawatha’s TSLRIC Study Results

Exhibit A-____ (DSM-5): relevant portions of UPTC’s TSLRIC Study Results

Exhibit A-____ (DSM-6): relevant portions of Winn’s TSLRIC Study Results

Q. Were these exhibits prepared by you or at your direction?

A. Yes.

Q. What is Exhibit A-___ (DSM-1)?

A. This is a summary of the relevant results of MECA’s 1st TSLRIC study MECA conducted in 1998, in conjunction with MPSC Case No. U-11448.

Q. What is Exhibit A-___ (DSM-2)?

1 A. This is a summary of the relevant results of MECA's 2nd TSLRIC study MECA
2 conducted in 1999 and 2000, in conjunction with MPSC Case No. U-12261.
3

4 **Q. What is Exhibit A-___ (DSM-3)?**

5 A. This is a summary of the relevant results of the TSLRIC study Chippewa County
6 conducted in 1999, in conjunction with MPSC Case No. U-12149.
7

8 **Q. What is Exhibit A-___ (DSM-4)?**

9 A. This is a summary of the relevant results of the TSLRIC study Hiawatha conducted in
10 1999, in conjunction with MPSC Case No. U-11996.
11

12 **Q. What is Exhibit A-___ (DSM-5)?**

13 A. This is a summary of the relevant results of the TSLRIC study UPTC conducted in 2000
14 in conjunction with Case No. U-12471.
15

16 **Q. What is Exhibit A-___ (DSM-6)?**

17 A. This is a summary of the relevant results of the TSLRIC study Winn conducted in 2001
18 and 2002, in conjunction with MPSC Case No. U-13191.
19
20

21 **Q. Can you explain what MECA's 1st TSLRIC Study, MECA's 2nd TSLRIC Study,**
22 **Chippewa County TSLRIC Study, Hiawatha TSLRIC, the UPTC TSLRIC Study**
23 **and Winn TSLRIC Study are?**

24 A. Yes. TSLRIC stands for "Total Service Long-Run Incremental Cost," and a TSLRIC
25 study is performed to gather information related to the forward-looking costs of providing
26 all services, including local switching, local transport-termination, and local transport-
27 facilities. MECA has performed two such cost studies on behalf of its members
28 (including the Petitioners): the first in 1998, and the second in 1999 and 2000. I will
29 refer to the former as MECA's 1st TSLRIC Study, and the latter as MECA's 2nd TSLRIC
30 Study.
31

1 Chippewa County Telephone Company (“CCTC”) also performed such a cost study
2 (“CCTC TSLRIC Study”), doing so in 1999.

3
4 Hiawatha Telephone Company (“HTC”) also performed such a cost study (“HTC
5 TSLRIC Study”), doing so in 1999.

6
7 UPTC also performed such a cost study (“UPTC TSLRIC Study”), doing so in 2000.

8
9 Winn Telephone Company (“Winn”) also performed such a cost study (“Winn TSLRIC
10 Study”), doing so in 2001.

11
12 I will discuss these three studies in more detail in my testimony below.

13
14 **Q. Are there any preliminary points you would like to make with respect to these six**
15 **exhibits?**

16 A. Yes, there are two points. First, consistent with FCC orders, the rates derived from the
17 costs for local switching and transport revealed by the six TSLRIC studies do not include
18 any amounts for recovery of the port or loop costs. The costs for loop and port are
19 separate costs from the costs for local switching and transport revealed by the six
20 TSLRIC Studies.

21 Second, under FCC 97-298, ¶ 20 (August 19, 1997), and MPSC Order in Case
22 No. U-12320, p. 49 (January 13, 2003), Michigan’s TSLRIC Study methodology
23 conforms to the Federal Communications Commission’s Total Element Long-Run
24 Incremental Cost (“TELRIC” Study).

25
26 **Q. Are you aware of the standard for resolving arbitrations under 47 USC 252(b)?**

27 A. Yes, I am. 47 USC 252(b) states that in resolving by arbitration under 47 USC 252(b),
28 “any open issues and imposing conditions upon the parties to the agreement, a State
29 commission shall (1) ensure that such resolution and conditions meet the requirements of
30 [47 USC 251], including the regulations prescribed by the Commission pursuant to [47
31 USC 251]; (2) establish any rates for interconnection, services, or network elements

1 according to [47 USC 252(d)]; and (3) provide a schedule for implementation of the
2 terms and conditions by the parties to the agreement.”

3
4 **Q. You refer to 27 USC 252(d). What does 47 USC 252(d) provide?**

5 A. Section 252(d) provides the rate pricing standard for rates of interconnection. It states as
6 follows:

7 “(d) Pricing standards

8 (1) Interconnection and network element charges

9 Determinations by a State commission of the just and reasonable rate for
10 the interconnection of facilities and equipment for purposes of subsection
11 (c)(2) of section 251 of this title, and the just and reasonable rate for
12 network elements for purposes of subsection (c)(3) of such section—

13 (A) shall be—

14 (i) based on the cost (determined without reference to a
15 rate-of-return or other rate-based proceeding) of
16 providing the interconnection or network element
17 (whichever is applicable), and

18 (ii) nondiscriminatory, and

19 (B) may include a reasonable profit.”

20 (2) Charges for transport and termination of traffic

21 (A) In general

22 For the purposes of compliance by an incumbent local exchange
23 carrier with section 251(b)(5) of this title, a State commission shall
24 not consider the terms and conditions for reciprocal compensation
25 to be just and reasonable unless –

26 (ii) such terms and conditions provide for the mutual
27 and reciprocal recovery by each carrier of costs
28 associated with the transport and termination on
29 each carrier’s network facilities of calls that
30 originate on the network facilities of the other
31 carrier; and

(ii) such terms and conditions determine such costs on the basis of a reasonable approximation of the additional costs of terminating such calls.”

The TSLRIC study methodology is consistent with Section 252(d). The mapping I used to convert the various cost study costs, from MPSC-approved TSLRIC studies, to rates results in rates that are consistent with Section 252(d).

Q. You indicated you are sponsoring testimony on behalf of the Petitioners as to the dispute between the Petitioners and Alltel involving local switching, local transport-facility, and local transport-termination rates for purposes of an interconnection agreement. Please explain the background to this and the dispute that exists.

A. The genesis of the Petition is that each Petitioner seeks to obtain an interconnection agreement with Alltel that, among other things, sets the rates for local switching, local transport-termination, and local transport-facility, equal to those rates that the applicable MPSC-approved TSLRIC-studies support. Petitioners and Alltel, a CMRS provider, are exchanging local traffic today and do not currently have an interconnection agreement, and as a result, Petitioners have provided service and addressed typical “interconnection matters” such as routing and identification of traffic, traffic exchange factors, and interMTA issues, and the rates for switching, local transport-termination, and local transport-facility, through their tariffs. Each of the Petitioners (except for Blanchard), had adopted a tariff that sets rates for, among other things, CMRS interconnection. For all Petitioners other than Blanchard and the UPTC, this tariff is in the form of MECA’s MPSC Tariff No. 24R (hereinafter referred to as the “MECA Tariff”); for the UPTC, the tariff is the UPTC’s Tariff No. 10(R) (“UPTC Tariff”).

In 2005, each of the Petitioners requested Alltel to negotiate an interconnection agreement, and during those ensuing negotiations a dispute arose as to various provisions, including the rates to be paid for local switching, local transport-termination, and local transport-facilities. All Petitioners other than the UPTC have proposed a rate for local switching, a rate for local transport-termination, and a rate for local transport-facility. UPTC has proposed a single, combined rate to be paid for local call termination that includes the above three elements (local switching, local transport-facility, and local transport-facilities). Petitioners’ proposed rates for local switching, local transport-

1 termination, and local transport-facilities are based on and equal to those that the
2 applicable MPSC-approved TSLRIC studies support. Alltel has not agreed to this
3 proposal. A summary of Petitioners' proposed rates is below:

4 Proposal of All Petitioners Except CCTC, HTC, UPTC and WINN

5 Local switching per conversation minute of use: \$0.019705

6 Local transport-termination per conversation minute of use per termination:

7 \$0.001472

8 Local transport-facilities per conversation minute of use per mile: \$0.000161

9 Composite Local Call Termination rate per conversation minute

10 (Based on 8.0 billable miles) \$0.022465

11
12 Proposal of Petitioner CCTC

13 Local switching per conversation minute of use: \$0.012408

14 Local transport-termination per conversation minute of use per termination:

15 \$0.006112

16 Local transport-facilities per conversation minute of use per mile: \$0.008621

17 Composite Local Call Termination rate per conversation minute

18 (Based on 4.05 billable miles) \$0.053435

19
20 Proposal of Petitioner HTC

21 Local switching per conversation minute of use: \$0.030043

22 Local transport-termination per conversation minute of use per termination:

23 \$0.003694

24 Local transport-facilities per conversation minute of use per mile: \$0.000276

25 Composite Local Call Termination rate per conversation minute

26 (Based on 6.57 billable miles) \$0.035550

27
28 Proposal of Petitioner UPTC

29 Local call termination per conversation minute of use: \$0.039028

30
31 Proposal Petitioner WINN

32 Local switching per conversation minute of use: \$0.018288

Local transport-termination per conversation minute of use per termination:
\$0.001265
Local transport-facilities per conversation minute of use per mile: \$0.000477
Composite Local Call Termination rate per conversation minute
(Based on 3.74 billable miles) \$0.021337

Q. What support do you offer for the rates that all Petitioners other than CCTC, HTC, UPTC and WINN proposed for local switching, local transport-termination, and local transport-facility?

A. I will explain that the rates all Petitioners other than CCTC, HTC, UPTC and Winn proposed rates are (1) based on and equal to the rates that MECA's 1st TSLRIC Study and MECA's 2nd TSLRIC Study – both of which were approved by the MPSC – support, and (2) in my judgment, consistent with 47 USC 252(d) (and Section 321 of the MTA).

Q. Please explain your statement that the rates Petitioners other than CCTC, HTC, UPTC and WINN proposed for local switching, local transport-termination, and local transport-facilities are based on the costs approved in MECA's 1st TSLRIC Study and MECA's 2nd TSLRIC Study and are set equal to the costs approved in MECA's 2nd TSLRIC Study.

A. To give such an explanation requires (a) an understanding, as a preliminary matter, as to what is included—and what is not included—in MECA's 1st TSLRIC Study and MECA's 2nd TSLRIC Study; and (b) performance of appropriate calculations and mathematical mapping necessary in order to compare equivalent units. With such a proper understanding and upon performing such a proper calculation, one will realize that the rates these Petitioners proposed for local switching, local transport-termination, and local transport-facilities, are based on the costs from the MPSC-approved MECA's 1st TSLRIC Study and 2nd TSLRIC Study and are set equal to the costs approved by the MPSC in MECA's 2nd TSLRIC Study.

Q. Please explain what you mean by stating your explanation requires an understanding at to what is “included – and what is not included” in the respective TSLRIC studies.

1 A. Billing is based upon multiplying the applicable rate times the number of units obtained
2 by the purchasers. Neither MECA's 1st TSLRIC Study, nor MECA's 2nd TSLRIC Study
3 (nor are the CCTC TSLRIC, HTC TSLRIC, UPTC TSLRIC and WINN TSLRIC Studies
4 for that matter) contains rates; instead, those studies contain costs. Rates are not the
5 equivalent of costs; rather, in order to determine a TSLRIC based rate, the TSLRIC costs
6 must be converted to rates through a process known as mapping.

7
8 **Q. Please explain what you mean by mapping.**

9 A. Put most simply, mapping involves applying a mathematical process wherein one takes
10 the direct and shared costs of all components used in a service from an approved TSLRIC
11 study, factors in common costs associated with those components from that TSLRIC
12 study, calculates the appropriate common cost, and converts the cost of these components
13 (direct, shared, and common) to a cost per the same units as the service is to be sold, and
14 then into a rate. The mapping approach I just described, and which I am employing in
15 this testimony, is the approach I believe is the most accurate way to perform such a
16 conversion of TSLRIC costs to TSLRIC based rates. I note that this same mapping
17 approach was used to arrive at rates that the MPSC approved in MPSC Case No. U-
18 12130 and the MPSC accepted in MPSC Case No. U-14678..

19
20 **Q. Please explain the process one should follow to turn the costs reflected in MECA's**
21 **1st TSLRIC Study and 2nd TSLRIC Study into rates, in order to compare the**
22 **"rates" that MECA's 1st TSLRIC Study and 2nd TSLRIC study support.**

23 A. This involves using the mapping process I just referenced. The first step is to start with
24 the costs reflected in MECA's TSLRIC studies. Exhibit A-____ (DSM-1) and Exhibit
25 A-____ (DSM-2) identify the results of MECA's 1st TSLRIC Study and MECA's 2nd
26 TSLRIC Study, respectively. Because those studies contain costs (not rates), one can
27 only compare the rates Petitioners propose with the rates derived from mapping the two
28 studies by performing a calculation that maps the costs in the two TSLRIC studies into
29 rates. After doing those mapping calculations, one can then compare equivalent units:
30 rates (supported by the two MECA TSLRIC studies) with rates (proposed by Petitioners
31 to be included in interconnection agreements). I will start by addressing the 1st TSLRIC
32 Study, and then the 2nd TSLRIC Study.

1 The 1st TSLRIC Study arose through MPSC Case No. U-11448, and resulted in an
2 MPSC Order in that case on January 28, 1998. MECA's 1st TSLRIC study results
3 revealed the following direct and shared costs for the components shown in the TSLRIC
4 Study that are used in providing Local Switching for CMRS terminating local calls:

- 5
- 6 (1) Switching: \$0.00974 per trunk seizure minute of use
7 (2) Host-Remote Transport: \$0.00604 per trunk seizure minute of use
8 (3) Local Transport-Termination: \$0.00128 per trunk seizure minute of use per
9 termination
10 (4) Local Transport-Facilities: \$0.00044 per trunk seizure minute of use per mile
11

12 **Q. Please explain what a “per trunk seizure minute of use” is.**

13 A. This is the time the trunk is seized by the buyer of service, consisting of both
14 conversation time and non-conversation time (such as ring times, dialing time, etc.).
15

16 **Q. Please continue with your mapping calculation for MECA's 1st TSLRIC Study.**

17 A. To turn these shared and direct costs into rates, the next step is to allocate common costs
18 included in the TSLRIC study evenly over all components in compliance with MPSC
19 rules regarding TSLRIC studies.

20 Put simply, common costs include corporate-type costs (such as the costs of the
21 executive's desk, accounting costs, etc.) that are associated with all components (such as
22 local switching, local transport-termination, and local transport-facility). The 1st TSLRIC
23 Study showed that, to determine a cost that included common costs of that component
24 (such as of local switching), one must multiply the sum of the direct and shared costs by
25 the sum of one (1) plus 23.43%. Doing this with respect to the cost elements at issue, one
26 arrives at the following:

- 27 (1) Switching (with common costs): \$0.0120221 per trunk seizure minute of use
28 (2) Host-Remote Transport (with common costs): \$0.0074552 per trunk seizure
29 minute of use
30 (3) Local Transport-Termination (with common costs): \$0.0015799 per trunk seizure
31 minute of use per termination

(4) Local Transport-Facilities (with common costs): \$0.0005431 per trunk seizure minute of use per mile

Q. How does that common cost allocation you described compare with other companies?

A. That is a question that is not possible to answer, since such figures with respect to other companies are confidential. Nevertheless, I believe the common cost allocation just described is fully appropriate, and common in the industry to convert TSLRIC costs into TSLRIC-based rates consistent with 47 USC 252(d) and the applicable MPSC rules and orders.

Q. Please continue with your mapping explanation.

A. After accounting for the common cost allocation, there is one additional step required before one can arrive at a rate figure that the 1st TSLRIC Study can be said to support: convert costs per trunk seizure minute of use to cost per conversation minute of use. This step is required because the above cost figures from the MECA 1st TSLRIC Study are in terms of costs (with common costs) “per trunk seizure minute of use;” yet Petitioners’ proposed rates are not in the format of “per trunk seizure minute of use,” but instead are the format of “per conversation minute of use.” As such, one must take the additional step of converting the above cost figures from costs per trunk seizure minute of use to costs per conversation minutes of use. The following equation is the appropriate method for such a translation: divide the TSLRIC cost with common cost of each component by 0.9423 (a factor that was used in Petitioners’ rate-rebalancing cases and was used to develop TSLRIC-based rates approved by the MPSC in MPSC Case No. U-12130, December 6, 1999, and also one that rural local exchange carriers and Michigan Bell/SBC Ameritech agreed to use in similar circumstances), and one arrives at the cost per conversation minute of use, which if offered as a rate is then deemed a rate per conversation minute of use. Applying this equation, the following rates can be said to be supported by the 1st TSLRIC Study:

(1) Local Switching: \$0.0127582 per conversation minute of use

(2) Host-Remote Transport: \$0.0079117 per conversation minute of use

(3) Local Transport-Termination: \$0.0016766 per conversation minute of use per termination

(4) Local Transport-Facilities: \$0.0005763 per conversation minute of use per mile

Q. How do Petitioners' (other than CCTC, HTC, UPTC and WINN) proposed rates compare with the rates derived from your mapping of the 1st TSLRIC Study?

A. Although the rates those Petitioners proposed is directly based on MECA's 2nd TSLRIC Study, those Petitioners' proposed are very similar to the TSLRIC-based rates supported by my 1st TSLRIC Study mapping calculation. The following chart is illustrative:

Rates Proposed by All Petitioners Except CCTC, HTC, UPTC and WINN

Local switching per conversation minute of use:	\$0.019705
Local transport-termination per conversation minute of use per termination:	
	\$0.001472
Local transport-facilities per conversation minute of use per mile:	\$0.000161
Composite Local Call Termination rate per conversation minute	
(Based on 8.0 billable miles)	\$0.022465

Rates Supported by 1st TSLRIC Study, Rounded to Six Decimal Places

Local Switching & Host-Remote Transport per conversation minute of use:	
	\$0.020670 (\$0.0127582 + \$0.0079117)
Local transport-termination per conversation minute of use per termination:	
	\$0.001677
Local transport-facilities per conversation minute of use per mile:	
	\$0.000576
Composite Local Call Termination rate per conversation minute	
(Based on 8.0 billable miles)	\$0.026955

Q. Your explanation above relates to the 1st TSLRIC Study. What about with respect to the 2nd TSLRIC Study?

A. While the rates derived from mapping the 1st TSLRIC Study are nearly identical to the rates Petitioners (other than CCTC, HTC, UPTC and WINN) proposed, the rates those

Petitioners propose for inclusion in the Interconnection Agreements are identical to the results of my mapping calculation of MECA's 2nd TSLRIC Study. I will explain this conclusion below, using a similar calculation and mathematical mapping methodology as was done with respect to turning the costs in the 1st TSLRIC Study into TSLRIC-based rates.

The 2nd TSLRIC Study is the last TSLRIC study that those Petitioners submitted to the MPSC. MECA's 2nd TSLRIC Study was the product of MECA's 1999 application for approval of a joint TSLRIC study in MPSC Case No. U-12261. In approving the study, the MPSC ordered certain modifications be made. After making those modifications, the 2nd TSLRIC Study revealed the following relevant costs:

- (1) Local Transport-Termination: \$0.001162 per trunk seizure minute of use per termination
- (2) Local Transport-Facility: \$0.001015 per trunk seizure minute of use
- (3) Switched Transport – Host-Remote Transport – Termination: \$0.000088 per trunk seizure minute of use
- (4) Switched Transport – Host-Remote Transport – Facility: \$0.000113 per trunk seizure minute of use
- (5) Switching: \$0.014293 per trunk seizure minute of use
- (6) Local Usage Measure Cost: \$0.00338 per call (completed)

Note that the first cost above (cost (1)) is the cost of the local transport-termination component, and the second cost above (cost (2)) is the cost for the local transport-facility component. The remaining four costs (costs (3), (4), (5), and (6)), combined, are the costs for the local switching cost component.

The 2nd TSLRIC Study showed that to allocate common costs proportionately across all components, one would multiply the sum of the 2nd TSLRIC Study direct and shared costs by the sum of one (1) plus 19.3633%. I note that the MPSC has approved the 19.3633% common cost allocation factor as part of MPSC Case No. U-12261.

Q. Why is the common cost allocation factor for the 2nd TSLRIC Study different than the common cost allocation factor for the 1st TSLRIC Study?

1 A. If they were the same, I would have been very surprised and suspicious. The common
2 cost allocation factor is calculated by taking all of the approved common costs from a
3 TSLRIC study and dividing that sum by the sum of all of the direct and shared costs from
4 that same study. The odds of any two TSLRIC studies producing the same common cost
5 allocation are very small.

6 With that in mind, the reason the two studies have a different common cost
7 allocation factor is most likely because the studies calculated different items for different
8 companies. In short, a common cost allocation revealed by one TSLRIC study could be
9 different than a common cost allocation revealed by another TSLRIC study for many
10 different reasons, most of which relate to the mathematical formulas applied to calculate
11 the common costs and common cost allocation. In other words, if one changes the
12 numerator (such as, for example, where there are different companies involved in the two
13 studies), or the denominator (such as, for example, different costs per unit, or different
14 units of service), then one changes the end result of the common cost allocation equation
15 and will produce a different common cost allocation.

16
17 **Q. Please continue with your mapping explanation and calculation for the 2nd TSLRIC**
18 **Study.**

19 Q. Applying this common cost allocation factor from the 2nd TSLRIC Study to each of the
20 relevant cost elements from the 2nd TSLRIC Study, the following costs with common
21 costs are calculated:

- 22
- 23 (1) Local Transport-Termination (with common costs): \$0.0013870 per trunk seizure
24 minute of use per termination
 - 25 (2) Local Transport-Facility (with common costs): \$0.0012115 per trunk seizure
26 minute of use
 - 27 (3) Switched Transport – Host-Remote Transport - Termination (with common
28 costs): \$0.0001050 per trunk seizure minute of use
 - 29 (4) Switched Transport – Host-Remote Transport – Facility (with common costs):
30 \$0.0001349 per trunk seizure minute of use
 - 31 (5) Switching (with common costs): \$0.0170606 per trunk seizure minute of use

1 (6) Local Usage Measure Cost (with common costs): \$0.0040345 per call
2 (completed)
3

4 After doing the above, the last step required to properly compare rates supported
5 by the 2nd TSLRIC Study and the rates Petitioners (other than the UPTC) proposed is to
6 convert costs per trunk seizure minute of use to rates per conversation minute of use. As
7 occurred with the 1st TSLRIC Study costs, five of the six above cost figures (direct and
8 shared costs with common costs) from the 2nd TSLRIC Study exist in terms of costs per
9 trunk seizure minute of use; the sixth cost figure above (local usage measure cost) is not
10 in terms of per trunk seizure minute of use but per completed call.

11 Those cost figures listed in per trunk seizure minute of use must be converted into
12 conversation minutes of use in order to properly compare Petitioners' proposal with the
13 rates supported by the 2nd TSLRIC Study. To do this, the same equation as was used to
14 convert the 1st TSLRIC Study is used here: divide the cost with common cost allocation
15 by 0.9423 to reach a cost per conversation minute of use. In addition to this conversion
16 calculation, one must also factor into the equation the average conversation time per
17 completed terminating CMRS call.
18

19 **Q. Why do you believe that one must also factor into the equation the average**
20 **completed terminating CMRS call length?**

21 A. Because the 2nd TSLRIC Study has a particular cost element, Local Usage Measure Cost,
22 which is not in terms of costs per trunk seizure minute of use and or per conversation
23 minute of use. The Local Usage Measure Cost is measured per call completed. We must
24 use an average call length to convert the "per call completed" measure to include a
25 conversation minute element to make it consistent with the other rate elements. I believe
26 that one must apply an average completed CMRS terminated call time to the
27 measurement of Local Usage Measure Cost with common costs to get rates.
28

29 **Q. Please continue with your mapping process.**

30 A. For purposes of this matter, I assumed the average completed terminating CMRS call
31 time is three minutes. This average is based on and supported by my professional

1 experience in the industry, as well as call detail records I have reviewed over the past
2 twenty years while working in the industry.

3
4 **Q. Are there any other unit conversions that need to be made?**

5 A. Yes. Because the 2nd TSLRIC Study's costs for local transport-facility after the
6 application of the 0.9423 factor would be per conversation minute while the
7 corresponding proposed rate is per conversation minute per mile, an additional unit
8 conversion calculation needs to be done. For purposes of calculating the cost of local
9 transport-facility in the same unit as the proposed rate, I also divided the local transport-
10 facility TSLRIC cost with common cost by 8.0 billable miles. Based on my knowledge
11 of the Petitioners' network included in the study, it is my professional opinion that 8.0
12 billable miles is a reasonable estimate of the average billable interoffice facility used to
13 terminate local calls for CMRS providers.

14
15 **Q. What are the results of applying these three unit conversation factors?**

16 A. Applying the above three unit conversion factors to the above costs with common costs,
17 the following costs can be said to be directly based on and supported by the 2nd TSLRIC
18 Study:

- 19
20 (1) Local Transport-Termination (with common costs): \$0.0014719 per conversation
21 minute of use per termination
22 (2) Local Transport-Facility (with common costs): \$0.00016072 per conversation
23 minute per mile
24 (3) Switched Transport – Host-Remote Transport - Termination (with common
25 costs): \$0.0001115 per conversation minute of use
26 (4) Switched Transport – Host-Remote Transport – Facility (with common costs):
27 \$0.0001431 per conversation minute of use
28 (5) Switching (with common costs): \$0.0181053 per conversation minute of use
29 (6) Local Usage Measure Cost (with common costs): \$0.0013448 per conversation
30 minute of use
31

1 **Q. How do the above costs derived through your mapping of the 2nd TSLRIC Study**
2 **compare to the rates Petitioners (other than CCTC, HTC, UPTC and WINN)**
3 **propose?**

4 A. The costs derived from my mapping of the costs in the 2nd TSLRIC Study for local
5 transport-termination, local transport-facility, and switching (rounded to six decimal
6 places) are identical to the rates Petitioners other than CCTC, HTC, UPTC and WINN
7 propose. Stated differently, Petitioners propose the rates based upon the costs approved
8 in the 2nd TSLRIC study. See the following chart for illustration purposes:

9
10 Rates Proposed by All Petitioners Except CCTC, HTC, UPTC and WINN

11	Local switching per conversation minute of use	\$ 0.019705
12	Local transport-termination per conversation minute of use	\$ 0.001472
13	Local transport-facilities per conversation minute of use per mile	\$ 0.000161
14	Composite Local Call Termination rate per conversation minute	
15	(Based on 8.0 billable miles)	\$0.022465

16
17 Rates Supported by 2nd TSLRIC Study

18	Local switching per conversation minute of use	\$ 0.019705
19	Local transport-termination per conversation minute of use	\$ 0.001472
20	Local transport-facilities per conversation minute of use per mile	\$ 0.000161
21	Composite Local Call Termination rate per conversation minute	
22	(Based on 8.0 billable miles)	\$0.022465

23
24 **Q. What support do you offer for the rate that the CCTC proposed for local call**
25 **termination service (i.e., local switching, local transport-termination, and local**
26 **transport-facilities)?**

27 A. The rate that CCTC proposed is supported by my mapping calculation derived from
28 CCTC's TSLRIC Study. In other words, CCTC has proposed rates for local switching,
29 local transport-termination, and local transport-facilities, the specific rates that my
30 mapping of the CCTC TSLRIC Study revealed.

31
32 **Q. Please explain.**

A. In 1999, CCTC submitted its TSLRIC filing to the Commission, leading to MPSC Case No. U-12149. The Commission issued its final order in that case on December 23, 1999, accepting CCTC's TSLRIC Study as modified and resubmitted. The CCTC TSLRIC Study is the last TSLRIC study that the CCTC submitted to the Commission.

Relevant here, the CCTC TSLRIC Study showed the following:

(1) Central Office Direct and Shared Cost

(a) Switching - Annual \$279,472

(b) Switched Interoffice Terminations – Monthly

per DS0 Circuit 4.58

(c) Host-Remote Terminations CCTC does not provide this service

(2) Cable and Wire Direct and Shared Cost

(a) Switched Interoffice Facilities – Monthly

per DS0 Circuit 16.64

(b) Host-Remote Facilities CCTC does not provide this service

(3) Carrier Access Billing System Direct and Shared Cost

CCTC did not separately identify

Units in study

(1) Total Switched Usage 29,810,033 Conversation MOU

These units reflect the use of switching and host-remote.

(2) Total Inter-office minute – miles per DS0 circuit per month 2,555

These units reflect the average minute – miles of usage of switched interoffice facilities per month per DS0.

(3) Total Inter-office minute per circuit per month 991

These units reflect the average minute of usage of switched interoffice termination per month per DS0

The TSLRIC results per unit, without common costs, can then be determined by taking the direct and shared costs and dividing those costs by the applicable units. The TSLRIC direct and shared costs per unit are as follows:

- (1) Switched Transport – Common Transport – Termination
\$0.004618257 per conversation minute of use per termination
- (2) Switched Transport – Common Transport – Facility
\$0.006513941 per conversation minute of use per mile
- (3) Switched Transport – Host-Remote Transport - Termination
CCTC does not provide this service
- (4) Switched Transport – Host-Remote Transport – Facility
CCTC does not provide this service
- (5) Switching
\$0.009375099 per conversation minute of use
- (6) Carrier Access Billing Cost
CCTC did not separately identify this cost

Additionally, the CCTC TSLRIC Study showed a common cost allocation factor of 35.25%. Hence, applying the common cost allocation factor to each of the six elements listed produce the following:

- (1) Switched Transport – Common Transport – Termination – with common costs
\$0.006112264 per conversation minute of use per termination
- (2) Switched Transport – Common Transport – Facility – with common costs
\$0.008621200 per conversation minute of use per mile
- (3) Switched Transport – Host-Remote Transport - Termination – with common costs
CCTC does not provide this service
- (4) Switched Transport – Host-Remote Transport – Facility – with common costs
CCTC does not provide this service
- (5) Switching – with common costs
\$0.012407943 per conversation minute of use
- (6) Carrier Access Billing System – with common costs
CCTC did not separately identify these costs

The above costs are in terms of per conversation minute of use so no conversation is necessary to match the billing units.

Q. How do the above costs derived through your mapping of the CCTC TSLRIC Study compare to the rates CCTC proposes?

A. The costs derived from my mapping of the costs in the CCTC TSLRIC Study for local transport-termination, local transport-facility, and switching (rounded to six decimal places) are identical to the rates CCTC proposes. Stated differently, CCTC proposes the rates based upon the costs approved in the CCTC TSLRIC study. See the following chart for illustration purposes:

Rates Proposed by CCTC

Local switching per conversation minute of use	\$ 0.012408
Local transport-termination per conversation minute of use	\$ 0.006112
Local transport-facilities per conversation minute of use per mile	\$ 0.008621
Composite Local Call Termination rate per conversation minute (Based on 4.05 billable miles)	\$0.053435

Rates Supported by CCTC TSLRIC Study

Local switching per conversation minute of use	\$ 0.012408
Local transport-termination per conversation minute of use	\$ 0.006612
Local transport-facilities per conversation minute of use per mile	\$ 0.008621
Composite Local Call Termination rate per conversation minute (Based on 4.05 billable miles)	\$0.053435

Q. What support do you offer for the rate that the HTC proposed for local call termination service (i.e., local switching, local transport-termination, and local transport-facilities)?

A. The rate that HTC proposed is supported by my mapping calculation derived from HTC's TSLRIC Study. In other words, the HTC has proposed rates for local switching, local

transport-termination, and local transport-facilities that my mapping of the HTC TSLRIC Study support.

Q. Please explain.

A. In 1999, the HTC submitted its TSLRIC filing to the Commission, leading to MPSC Case No. U-11996. The Commission issued its final order in that case on August 13, 1999, accepting the HTC's TSLRIC Study as with certain modifications. HTC modified their TSLRIC study per the MPSC ordered and resubmitted their TSLRIC to the MPSC in a document labeled "Hiawatha Telephone Company, Total Service Long Run Incremental Cost Study, September 13, 1999, Modified in Accordance with Commission Order No. U-11996".

Relevant here, the HTC TSLRIC Study showed the following:

(1)	Central Office Direct and Shared Cost	
(a)	Switching	\$764,706
(b)	Switched Interoffice Terminations	92,600
(c)	Host-Remote Terminations	277,802
(2)	Cable and Wire Direct and Shared Cost	
(a)	Switched Interoffice Facilities	\$ 55,399
(b)	Host-Remote Facilities	369,369
(3)	Carrier Access Billing System Direct and Shared Cost	\$ 65,177

Units in study

(1)	Total Switched Usage	63,984,254 Dial Equipment MOU
	These units reflect the use of switching and host-remote.	
(2)	EAS and Toll Usage	31,172,909 Dial Equipment MOU
	These units reflect the use of switched interoffice terminations and facilities	
(3)	Toll Access Usage	31,172,909 Dial Equipment MOU
	These units reflect the use of the carrier access billing system	

1 The TSLRIC results per unit, without common costs, can then be determined by taking
2 the direct and shared costs and dividing those costs by the applicable units. The TSLRIC
3 direct and shared costs per unit are as follows:

- 4
5 (1) Switched Transport – Common Transport – Termination
6 \$0.002970528 per dial equipment minute of use per termination
- 7 (2) Switched Transport – Common Transport – Facility
8 \$0.001777152 per dial equipment minute of use
- 9 (3) Switched Transport – Host-Remote Transport - Termination
10 \$0.004341724 per dial equipment minute of use
- 11 (4) Switched Transport – Host-Remote Transport – Facility
12 \$0.005772811 per dial equipment minute of use
- 13 (5) Switching
14 \$0.011951472 per dial equipment minute of use
- 15 (6) Carrier Access Billing Cost
16 \$0.002090822 per dial equipment minute of use

17
18 Additionally, the HTC TSLRIC Study showed a common cost allocation factor of
19 17.1904%. Hence, applying the common cost allocation factor to each of the six
20 elements listed produce the following:

- 21
22 (1) Switched Transport – Common Transport – Termination – with common costs
23 \$0.003481173 per dial equipment minute of use per termination
- 24 (2) Switched Transport – Common Transport – Facility – with common costs
25 \$0.002082651 per dial equipment minute of use
- 26 (3) Switched Transport – Host-Remote Transport - Termination – with common costs
27 \$0.005088084 per dial equipment minute of use
- 28 (4) Switched Transport – Host-Remote Transport – Facility – with common costs
29 \$0.00676518 per dial equipment minute of use
- 30 (5) Switching – with common costs
31 \$0.014005976 per dial equipment minute of use
- 32 (6) Carrier Access Billing System – with common costs

1 \$0.002450242 per dial equipment minute of use

2
3 The above costs are in terms of per dial equipment minute of use. For purposes of
4 mapping, dial equipment minutes of use and trunk seizure minutes of use are equivalent.

5 However, the proposed rate for HTC for billing terminating CMRS usage are in
6 terms of conversation minute of use. To convert into costs per conversation minutes of
7 use, a factor of .9423 per dial equipment minute of use is used to convert the costs per dial
8 minute of use to costs per conversation minute of use. As noted, this factor is one that
9 was used in Petitioners' rate-restructuring cases and approved by the MPSC in MPSC
10 Case No. U-12130, December 6, 1999, to convert costs, and one that rural local exchange
11 carriers and Michigan Bell/SBC Ameritech had mutually agreed to use in similar
12 circumstances.

13
14 **Q. Are there any other unit conversions that need to be made?**

15 A. Yes. Because HTC TSLRIC Study's costs for local transport-facility after the application
16 of the 0.9423 factor would be per conversation minute while the corresponding proposed
17 rate is per conversation minute per mile, an additional unit conversion calculation needs
18 to be done. For purposes of calculating the cost of local transport-facility in the same
19 unit as the proposed rate, I also divided the local transport-facility TSLRIC cost with
20 common cost by 8.0 billable miles. Based on my knowledge of the Petitioners' network
21 included in the study, it is my professional opinion that 8.0 billable miles is a reasonable
22 estimate of the average billable interoffice facility used to terminate local calls for CMRS
23 providers.

24
25 **Q. What are the results of applying these three unit conversation factors?**

26 A. Applying the above three unit conversion factors to the above costs with common
27 costs, the results of these calculations (as applied to the above information) are as
28 follows:

29 (1) Switched Transport – Common Transport – Termination – with common costs

30 \$0.003694337 per conversation minute of use per
31 termination

32 (2) Switched Transport – Common Transport – Facility – with common costs

- 1 \$0.000276272 per conversation minute per mile
- 2 (3) Switched Transport – Host-Remote Transport - Termination – with common costs
- 3 \$0.005399643 per conversation minute of use
- 4 (4) Switched Transport – Host-Remote Transport - Facility – with common costs
- 5 \$0.007179433 per conversation minute of use
- 6 (5) Switching – with common costs
- 7 \$0.014863607 per conversation minute of use
- 8 (6) Carrier Access Billing System – with common costs
- 9 \$0.002600278 per conversation minute of use
- 10

11 **Q. How do the above costs derived through your mapping of the HTC TSLRIC Study**

12 **compare to the rates HTC proposes?**

13 A. The costs derived from my mapping of the costs in the HTC TSLRIC Study for local

14 transport-termination, local transport-facility, and switching (rounded to six decimal

15 places) are identical to the rates HTC proposes. Stated differently, HTC proposes the

16 rates based upon the costs approved in the HTC TSLRIC study. See the following chart

17 for illustration purposes:

18

19 Rates Proposed by HTC

20	Local switching per conversation minute of use	\$ 0.030043
21	Local transport-termination per conversation minute of use	\$ 0.003694
22	Local transport-facilities per conversation minute of use per mile	\$ 0.000276
23	Composite Local Call Termination rate per conversation minute	
24	(Based on 6.57 billable miles)	\$0.035550

25

26 Rates Supported by HTC TSLRIC Study

27	Local switching per conversation minute of use	\$ 0.030043
28	Local transport-termination per conversation minute of use	\$ 0.003694
29	Local transport-facilities per conversation minute of use per mile	\$ 0.000276
30	Composite Local Call Termination rate per conversation minute	
31	(Based on 6.57 billable miles)	\$0.035550

32

1
2 **Q. What support do you offer for the rate that the UPTC proposed for local call**
3 **termination service (i.e., local switching, local transport-termination, and local**
4 **transport-facilities)?**

5 A. The rate that UPTC proposed is supported by my mapping calculation derived from
6 UPTC's TSLRIC Study. In other words, the UPTC has proposed, as a combined rate for
7 local switching, local transport-termination, and local transport-facilities, the specific rate
8 that my mapping of the UPTC TSLRIC Study revealed.

9
10 **Q. Please explain.**

11 A. In 2000, the UPTC submitted its TSLRIC filing to the Commission, leading to MPSC
12 Case No. U-12471. The Commission issued its final order in that case on September 18,
13 2000, accepting the UPTC's TSLRIC Study as filed. The UPTC TSLRIC Study is the
14 last TSLRIC study that the UPTC submitted to the Commission.

15 Relevant here, the UPTC TSLRIC Study showed the following:

16		
17	(1)	Central Office Direct and Shared Cost
18	(a)	Switching \$1,101,879
19	(b)	Switched Interoffice Terminations 638,423
20	(c)	Host-Remote Terminations 56,466
21	(2)	Cable and Wire Direct and Shared Cost
22	(a)	Switched Interoffice Facilities \$ 388,647
23	(b)	Host-Remote Facilities 21,343
24	(3)	Carrier Access Billing System Direct and Shared Cost \$ 164,562

25
26 Units in study

27		
28	(1)	Total Switched Usage 87,040,006 Dial Equipment MOU
29		These units reflect the use of switching and host-remote.
30	(2)	EAS and Toll Usage 68,753,537 Dial Equipment MOU
31		These units reflect the use of switched interoffice terminations and facilities
32	(3)	Toll Access Usage 56,071,795 Dial Equipment MOU

1 These units reflect the use of the carrier access billing system

2 (4) Average Mileage of Interoffice Routes 7.9 Miles

3
4 The TSLRIC results per unit, without common costs, can then be determined by taking
5 the direct and shared costs and dividing those costs by the applicable units. The TSLRIC
6 direct and shared costs per unit are as follows:

- 7
8 (1) Switched Transport – Common Transport – Termination
9 \$0.009285675 per dial equipment minute of use per termination
10 (2) Switched Transport – Common Transport – Facility
11 \$0.000715539 per dial equipment minute of use per mile
12 (3) Switched Transport – Host-Remote Transport - Termination
13 \$0.000648736 per dial equipment minute of use
14 (4) Switched Transport – Host-Remote Transport – Facility
15 \$0.000245209 per dial equipment minute of use
16 (5) Switching
17 \$0.012659455 per dial equipment minute of use
18 (6) Carrier Access Billing Cost
19 \$0.002934845 per dial equipment minute of use

20
21 Additionally, the UPTC TSLRIC Study showed a common cost allocation factor
22 of 17.0316%. Hence, applying the common cost allocation factor to each of the six
23 elements listed produce the following:

- 24
25 (1) Switched Transport – Common Transport – Termination – with common costs
26 \$0.01086717 per dial equipment minute of use per termination
27 (2) Switched Transport – Common Transport – Facility – with common costs
28 \$0.00083741 per dial equipment minute of use per mile
29 (3) Switched Transport – Host-Remote Transport - Termination – with common costs
30 \$0.00075923 per dial equipment minute of use
31 (4) Switched Transport – Host-Remote Transport – Facility – with common costs
32 \$0.00028697 per dial equipment minute of use

- (5) Switching – with common costs
\$0.01481556 per dial equipment minute of use
- (6) Carrier Access Billing System – with common costs
\$0.00343470 per dial equipment minute of use

The above costs are in terms of per dial equipment minute of use. For purposes of mapping, dial equipment minutes of use and trunk seizure minutes of use are equivalent.

However, the proposed rate for UPTC for billing terminating CMRS usage are in terms of conversation minute of use. To convert into costs per conversation minutes of use, a factor of .9423 per dial equipment minute of use is used to convert the costs per dial minute of use to costs per conversation minute of use. As noted, this factor is one that was used in Petitioners' rate-restructuring cases and approved by the MPSC in MPSC Case No. U-12130, December 6, 1999, to convert costs, and one that rural local exchange carriers and Michigan Bell/SBC Ameritech had mutually agreed to use in similar circumstances. The results of these calculations (as applied to the above information rounded to six digits) are as follows:

- (1) Switched Transport – Common Transport – Termination – with common costs
\$0.011532421 per conversation minute of use per termination
- (2) Switched Transport – Common Transport – Facility – with common costs
\$0.000888252 per CMRS EOTS minute per mile
- (3) Switched Transport – Host-Remote Transport - Termination – with common costs
\$0.000805476 per conversation minute of use
- (4) Switched Transport – Host-Remote Transport - Facility – with common costs
\$0.000304574 per conversation minute of use
- (5) Switching – with common costs
\$0.015723230 per conversation minute of use
- (6) Carrier Access Billing System – with common costs
\$0.003645336 per conversation minute of use

Combining these into a combined cost, one arrives at a cost of \$0.039028228 per conversation minute of use.

1
2 **Q. How do the above costs derived through your mapping of the UPTC TSLRIC Study**
3 **compare to the rates UPTC propose?**

4 A. They are identical, when rounded to six decimal places. The UPTC propose a single rate
5 based on the above costs: \$0.039028 per conversation minute per use. My mapping of
6 the UPTC TSLRIC Study, rounded to six decimal places, reveals a rate of \$0.039028 per
7 conversation minute per use.

8
9 **Q. What support do you offer for the rate that the WINN proposed for local call**
10 **termination service (i.e., local switching, local transport-termination, and local**
11 **transport-facilities)?**

12 A. The rate that WINN proposed is supported by my mapping calculation derived from
13 WINN's TSLRIC Study. In other words, the WINN has proposed rates for local
14 switching, local transport-termination, and local transport-facilities that my mapping of
15 the WINN TSLRIC Study support.

16
17 **Q. Please explain.**

18 A. In 2001, the WINN submitted its TSLRIC filing to the Commission, leading to MPSC
19 Case No. U-13191. The Commission issued its final order in that case on February 1,
20 2002, accepting the WINN's TSLRIC Study as revised per Staff comments and
21 resubmitted on January 11, 2002.

22 Relevant here, the WINN TSLRIC Study showed the following:

23
24 (1) Central Office Direct and Shared Cost

- | | | |
|----|---------------------------------------|------------------------------------|
| 25 | (a) Switching | \$206,061 |
| 26 | (b) Switched Interoffice Terminations | 10,571 |
| 27 | (c) Host-Remote Terminations | WINN does not provide this service |

28 (2) Cable and Wire Direct and Shared Cost

- | | | |
|----|-------------------------------------|------------------------------------|
| 29 | (a) Switched Interoffice Facilities | \$ 30,556 |
| 30 | (b) Host-Remote Facilities | WINN does not provide this service |

31 (3) Carrier Access Billing System Direct and Shared Cost \$ 20,904

Units in study

(1) Total Switched Usage 17,907,025 Dial Equipment MOU

These units reflect the use of switching and host-remote.

(2) EAS and Toll Usage 11,465,642 Dial Equipment MOU

These units reflect the use of switched interoffice terminations and facilities

(3) Toll Access Usage 11,465,642 Dial Equipment MOU

These units reflect the use of the carrier access billing system

The TSLRIC results per unit, without common costs, can then be determined by taking the direct and shared costs and dividing those costs by the applicable units. The TSLRIC direct and shared costs per unit are as follows:

(1) Switched Transport – Common Transport – Termination

\$0.000921972 per dial equipment minute of use per termination

(2) Switched Transport – Common Transport – Facility

\$0.002665006 per dial equipment minute of use

(3) Switched Transport – Host-Remote Transport - Termination

WINN does not provide this service

(4) Switched Transport – Host-Remote Transport – Facility

WINN does not provide this service

(5) Switching

\$0.011507272 per dial equipment minute of use

(6) Carrier Access Billing Cost

\$0.001823186 per dial equipment minute of use

Additionally, the WINN TSLRIC Study showed a common cost allocation factor of 29.2727%. Hence, applying the common cost allocation factor to each of the six elements listed produce the following:

(1) Switched Transport – Common Transport – Termination – with common costs

\$0.001191858 per dial equipment minute of use per termination

- (2) Switched Transport – Common Transport – Facility – with common costs
\$0.003445125 per dial equipment minute of use
- (3) Switched Transport – Host-Remote Transport - Termination – with common costs
WINN does not provide this service
- (4) Switched Transport – Host-Remote Transport – Facility – with common costs
WINN does not provide this service
- (5) Switching – with common costs
\$0.014875764 per dial equipment minute of use
- (6) Carrier Access Billing System – with common costs
\$0.002356883 per dial equipment minute of use

The above costs are in terms of per dial equipment minute of use. For purposes of mapping, dial equipment minutes of use and trunk seizure minutes of use are equivalent.

However, the proposed rate for WINN for billing terminating CMRS usage are in terms of conversation minute of use. To convert into costs per conversation minutes of use, a factor of .9423 per dial equipment minute of use is used to convert the costs per dial minute of use to costs per conversation minute of use. As noted, this factor is one that was used in Petitioners' rate-restructuring cases and approved by the MPSC in MPSC Case No. U-12130, December 6, 1999, to convert costs, and one that rural local exchange carriers and Michigan Bell/SBC Ameritech had mutually agreed to use in similar circumstances.

Q. Are there any other unit conversions that need to be made?

A. Yes. Because WINN TSLRIC Study's costs for local transport-facility after the application of the 0.9423 factor would be per conversation minute while the corresponding proposed rate is per conversation minute per mile, an additional unit conversion calculation needs to be done. For purposes of calculating the cost of local transport-facility in the same unit as the proposed rate, I also divided the local transport-facility TSLRIC cost with common cost by 7.66 billable miles (per information in study).

Q. What are the results of applying these three unit conversation factors?

A. Applying the above three unit conversion factors to the above costs with common costs, the results of these calculations (as applied to the above information) are as follows:

- (1) Switched Transport – Common Transport – Termination – with common costs
\$0.001264839 per conversation minute of use per termination
- (2) Switched Transport – Common Transport – Facility – with common costs
\$0.000477295 per conversation minute per mile
- (3) Switched Transport – Host-Remote Transport - Termination – with common costs
WINN does not provide this service
- (4) Switched Transport – Host-Remote Transport - Facility – with common costs
WINN does not provide this service
- (5) Switching – with common costs
\$0.015786654 per conversation minute of use
- (6) Carrier Access Billing System – with common costs
\$0.002501202 per conversation minute of use

Q. How do the above costs derived through your mapping of the WINN TSLRIC Study compare to the rates WINN proposes?

A. The costs derived from my mapping of the costs in the WINN TSLRIC Study for local transport-termination, local transport-facility, and switching (rounded to six decimal places) are identical to the rates WINN proposes. Stated differently, WINN proposes the rates based upon the costs approved in the WINN TSLRIC study. See the following chart for illustration purposes:

Rates Proposed by WINN

Local switching per conversation minute of use	\$ 0.018288
Local transport-termination per conversation minute of use	\$ 0.001265
Local transport-facilities per conversation minute of use per mile	\$ 0.000477
Composite Local Call Termination rate per conversation minute (Based on 3.74 billable miles)	\$0.021337

Rates Supported by WINN TSLRIC Study

Local switching per conversation minute of use	\$ 0.018288
Local transport-termination per conversation minute of use	\$ 0.001265
Local transport-facilities per conversation minute of use per mile	\$ 0.000477
Composite Local Call Termination rate per conversation minute (Based on 3.74 billable miles)	\$0.021337

Q. Based on the above testimony, do you have an opinion as to whether the rates all Petitioners proposed for purposes of interconnection agreements with Alltel are consistent with 47 USC 252(d)?

A. Yes. My opinion, based on the above and my experience, is that the rates Petitioners propose are just, reasonable, and consistent with 47 USC 252(d), as well as the MTA, see e.g., MCL 484.2321 et seq., particularly given that the rates proposed are equal to and directly based on the respective MPSC-approved TSLRIC studies, and that I believe they are non-discriminatory.

Q. Are you aware of the rates for local switching, local transport-termination, and local transport-facilities that Alltel has proposed?

A. Yes. Based upon my review of the various drafts, I believe that Alltel is proposing a rate of \$0.006038 per conversation minute of use for indirect or via IXC. This proposal has no support in any of Petitioners' TSLRIC studies and is inconsistent with Section 252(d) as well as Section 331 of the MTA.

Q. Can you summarize your testimony?

A. Yes, I am glad to. In short: (1) Petitioners and Alltel have not been able to agree, in the context of negotiating an interconnection agreement, with the specific rate to be paid for switching, local transport-facility, and local transport-termination, or in the case of UPTC, the rate for local call termination service; (2) the specific rates that Petitioners propose are equal to and based on the applicable MPSC-approved TSLRIC studies, and (3) the specific rates proposed are consistent with 47 USC 252(d) and Section 321 of the MTA.

1

2 **Q. Does this conclude your prepared testimony?**

3 **A. Yes.**

4

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the Matter of the Petition of Ace Telephone)
Company, Allendale Telephone Company,)
Barry County Telephone Company,)
Blanchard Telephone Company)
Bloomingdale Telephone Company, Chippewa)
Telephone Company, Deerfield Farmers')
Telephone Company, Hiawatha Telephone)
Company, Kaleva Telephone Company, Midway)
Telephone Company, Ogden Telephone Company,)
Ontonagon Telephone Company, Pigeon Telephone)
Company, the Upper Peninsula Telephone)
Company, Waldron Telephone Company, and)
Winn Telephone Company, For the Arbitration)
of Interconnection Rates, Terms, and Conditions)
and Related Arrangements with Alltel)
Communications, Inc., Pursuant to Section 252(b))
of the Federal Telecommunications Act of 1996)
_____)

Case No. U-14889

EXHIBIT P- ____ (DSM-1)

**Mapping of MECA First TSLRIC Study to Rates for the Termination of a
Commercial Mobile Radio Service Provider's Local Call**

MPSC Case No. U-14889
Exhibit No. P-____ (DSM-1)
05/12/06
Page 1 of 5

NETWORK COMPONENTS AND SERVICES USED

A Commercial Mobile Radio Service Provider's local call routed through a third party's tandem for termination to an end user served by a Participant in MECA's First TSLRIC Study uses the following network components and services of that Participant:

- 1) Common transport facility from the meet point with the third party tandem to the host switch of the host-remote switching complex that serves the terminating end user of the CMRS local call;
- 2) Common transport termination of the common transport facility at the host switch of the host-remote switching complex that serves the terminating end user of the CMRS local call;
- 3) Host-remote switching complex that services the terminating end user of the CMRS local call, which includes the following components:
 - a) Switching at the Host Location,
 - b) Transport facilities between the Host and the Remote,
 - c) Termination equipment of these transport facilities at the Host and the Remote, and
 - d) Switching at the Remote Location;
- 4) Cost for measuring the CMRS local terminating usage at the Host switching location; and
- 5) Cost for billing and collecting for CMRS local terminating use of the MECA's First TSLRIC Study Participant's network.

**Mapping of MECA First TSLRIC Study to Rates for the Termination of a
Commercial Mobile Radio Service Provider's Local Call**

MPSC Case No. U-14889
Exhibit No. P-___ (DSM-1)
05/12/06
Page 2 of 5

THE TSLRIC STUDY

The TSLRIC based rates (with no loop or port recovery) applicable to Participant's in MECA's First TSLRIC Study for the termination of CMRS local traffic for use of the above pieces of that Participant's network and related services were developed from MECA's First TSLRIC Study as follows:

In 1997, MECA filed their first TSLRIC Study with the Michigan Public Service Commission – U-11448. The Michigan Public Service Commission issued its final order in this case on January 28, 1998. This order required that certain modifications needed to be made to the study as submitted.

Direct and Shared TSLRIC Cost

The study, with the modifications as ordered by the Michigan Public Service Commission, was filed with the Michigan Public Service Commission in June 1998. The Staff of the Michigan Public Service Commission reviewed this filing to confirm the modifications MECA made to their filed TSLRIC Study complied with the MPSC Order in Case U-11448. The revised TSLRIC Study showed the following TSLRIC costs (total of direct and shared cost as included in the TSLRIC Study) for the use of the above network components and services of the Participant in the termination of a CMRS provider's local call.

- 1) Switched Transport – Common Transport – Termination
\$0.00128 per trunk seizure minute of use per termination

This amount represents the cost of the common transport termination assets used in the termination of CMRS local call at the host switch of a host-remote complex per trunk seizure minute of use per termination. Note: the units used in developing this cost were only those trunk seizure minutes of use that used common transport.

- 2) Switched Transport – Common Transport – Facility
\$0.00044 per trunk seizure minute of use per mile

This amount represents the cost of the common transport facility assets used in the transporting a CMRS local call from the meet point with the tandem provider to the host switch of a host-remote complex on a per trunk seizure minute per mile basis. Note: the units used in developing this cost were only those trunk seizure minutes of use that used the common transport times, on a per route basis, the applicable miles of common transport used.

**Mapping of MECA First TSLRIC Study to Rates for the Termination of a
Commercial Mobile Radio Service Provider's Local Call**

- 3) Host – Remote Transport
\$0.00604 per trunk seizure minute of use

This amount represents the cost of the transport termination and facilities between the host and the remote switches of the host-remote complex used in the termination of CMRS local call per trunk seizure minute of use. Note: the units used in developing this cost were all switched trunk seizure minutes of use switched listed in the TSLRIC Study.

- 4) Switching
\$0.00974 per trunk seizure minute of use

This amount represents the cost of the use of the host switch, the use of the remote switch, of measurement and of billing and collection a CMRS local call per trunk seizure minute of use. Note: the units used in developing this cost were all switched trunk seizure minutes of use listed in the TSLRIC Study.

TSLRIC Common Cost

The results of MECA's First TSLRIC Study showed a common cost allocation factor of 23.43%. This common cost allocation factor distributes common cost to all direct and shared TSLRIC cost in a uniform manner consistent with MPSC rules on the allocation of common cost. The common cost allocation factor was calculated by taking all the approved TSLRIC common costs and dividing it by the sum of all the approved TSLRIC direct cost and the approved TSLRIC shared cost.

Applying the common cost allocation factor to each of the four direct and shared TSLRIC cost listed above produce the following:

- 1) Switched Transport – Common Transport – Termination – with common costs
\$0.0015799 per trunk seizure minute of use per termination
- 2) Switched Transport – Common Transport – Facility – with common costs
\$0.0005431 per trunk seizure minute of use per mile
- 3) Host – Remote Transport – with common costs
\$0.0074552 per trunk seizure minute of use
- 4) Switching – with common costs
\$0.0120221 per trunk seizure minute of use

**Mapping of MECA First TSLRIC Study to Rates for the Termination of a
Commercial Mobile Radio Service Provider's Local Call**

MPSC Case No. U-14889
Exhibit No. P-___ (DSM-1)
05/12/06
Page 4 of 5

UNIT CONVERSION

The costs in the above TSLRIC Study are per trunk seizure minute of use. The CMRS local call termination service offering bills for terminating usage based on conversation minutes of use. Conversation time begins when the first point of switching receives answer supervision from the terminating end user's end office, indicating the terminating end user has answered. Conversation time ends when the terminating switch receives disconnect supervision from either the terminating end user's end office, indicating the terminating end user has disconnected, or the CMRS Provider's point of termination, whichever is recognized first by the host-remote switching complex serving the terminating end user.

The difference between trunk seizure minute of use and conversation minute of use in the terminating direction is that trunk seizure time includes non-conversation minutes of use and conversation time does not include non-conversation minute of use. Non-conversation minutes of use include time the network is used when a conversation is not possible, such as ring time.

To take into account the difference in units, a factor of .9423 conversation minutes of use per trunk seizure minute of use was used to covert the cost per trunk seizure minute of use to cost per conversation minute of use. This factor is one that rural local exchange carriers and Michigan Bell / SBC Ameritech had mutually agreed to use in similar circumstances. This factor equates to about 15 seconds a call (whether the call is completed or not) of non-conversation time. The results of this unit conversion were as follow:

- 1) Switched Transport – Common Transport – Termination – with common costs
\$0.0016766 per conversation minute per termination
- 2) Switched Transport – Common Transport – Facility – with common costs
\$0.0005763 per conversation minute per mile
- 3) Host – Remote Transport – with common costs
\$0.0079117 per conversation minute
- 4) Switching – with common costs
\$0.0127582 per conversation minute

**Mapping of MECA First TSLRIC Study to Rates for the Termination of a
Commercial Mobile Radio Service Provider's Local Call**

MPSC Case No. U-14889
Exhibit No. P-___ (DSM-1)
05/12/06
Page 5 of 5

RATE DEVELOPMENT

A TSLRIC Study does not show rates for network components and services. What a TSLRIC Study shows is the cost of components and services that make up the products sold. The Participants in MECA's First TSLRIC Study set the rates for termination of CMRS Provider's local calls routed through a third party's tandem equal to the above TSLRIC cost with common costs converted to conversation minutes rounded to six decimal places of the components and services used. Specifically, the Participants in MECA's First TSLRIC Study have set the following rates for the service performed in termination a CMRS local call over common transport facilities:

- A) Switching \$0.020670 per conversation minute

This rate is set equal to the sum of the TSLRIC of Host – Remote Transport – with common costs and the TSLRIC of Switching with common costs and is the rate for use of the host-remote switching complex of the terminating end user.

- B) Common Transport – Termination
 \$0.001677 per conversation minute per termination

This rate is set equal to the TSLRIC of Switched Transport – Common Transport – Termination – with common costs

- C) Common Transport - Facility
 \$0.000576 per conversation minute per termination per mile

This rate is set equal to the TSLRIC of Switched Transport – Common Transport – Facility – with common costs

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the Matter of the Petition of Ace Telephone)
Company, Allendale Telephone Company,)
Barry County Telephone Company,)
Blanchard Telephone Company)
Bloomington Telephone Company, Chippewa)
Telephone Company, Deerfield Farmers')
Telephone Company, Hiawatha Telephone)
Company, Kaleva Telephone Company, Midway)
Telephone Company, Ogden Telephone Company,)
Ontonagon Telephone Company, Pigeon Telephone)
Company, the Upper Peninsula Telephone)
Company, Waldron Telephone Company, and)
Winn Telephone Company, For the Arbitration)
of Interconnection Rates, Terms, and Conditions)
and Related Arrangements with Alltel)
Communications, Inc., Pursuant to Section 252(b))
of the Federal Telecommunications Act of 1996)
_____)

Case No. U-14889

EXHIBIT P- ____ (DSM-2)

Mapping of MECA Second TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

NETWORK COMPONENTS AND SERVICES USED

A Commercial Mobile Radio Service Provider's local call routed through a third party's tandem for termination to an end user served by a Participant in MECA's Second TSLRIC Study uses the following network components and services of that Participant:

- 1) Common transport facility from the meet point with the third party tandem to the host switch of the host-remote switching complex that serves the terminating end user of the CMRS local call;
- 2) Common transport termination of the common transport facility at the host switch of the host-remote switching complex that serves the terminating end user of the CMRS local call;
- 3) Host-remote switching complex that services the terminating end user of the CMRS local call, which includes the following components:
 - a) Switching at the Host Location,
 - b) Transport facilities between the Host and the Remote,
 - c) Termination equipment of these transport facilities at the Host and the Remote, and
 - d) Switching at the Remote Location;
- 4) Cost for measuring the CMRS local terminating usage at the Host switching location; and
- 5) Cost for billing and collecting for CMRS local terminating use of the MECA Second TSLRIC Study Participant's network.

Mapping of MECA Second TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

THE TSLRIC STUDY

The TSLRIC based rates (with no loop or port recovery) applicable to Participant's in MECA's Second TSLRIC Study for the termination of CMRS local traffic for use of the above pieces of that Participant's network and related services were developed from MECA's Second TSLRIC Study as follows:

In 1999, MECA filed their first TSLRIC Study with the Michigan Public Service Commission – U-12261. The Michigan Public Service Commission issued its final order in this case on March 14, 2000. This order required that certain modifications needed to be made to the study as submitted.

Direct and Shared TSLRIC Cost

The study, with the modifications as ordered by the Michigan Public Service Commission, was filed with the Michigan Public Service Commission in April 2000. The Staff of the Michigan Public Service Commission reviewed this filing to confirm the modifications MECA made to their filed TSLRIC Study complied with the MPSC Order in Case U-12261. The revised TSLRIC Study showed the following TSLRIC costs (total of direct and shared cost as included in the TSLRIC Study) for the use of the above network components and services of the Participant in the termination of a CMRS provider's local call.

- 1) Switched Transport – Common Transport – Termination
\$0.001162 per trunk seizure minute of use per termination

This amount represents the cost of the common transport termination assets used in the termination of CMRS local call at the host switch of a host-remote complex per trunk seizure minute of use per termination. Note: the units used in developing this cost were only those trunk seizure minutes of use that used common transport.

- 2) Switched Transport – Common Transport – Facility
\$0.001015 per trunk seizure minute of use

This amount represents the cost of the common transport facility assets used in the transporting a CMRS local call from the meet point with the tandem provider to the host switch of a host-remote complex on a per trunk seizure minute basis. Note: the units used in developing this cost were only those trunk seizure minutes of use that used the common transport.

**Mapping of MECA Second TSLRIC Study to Rates for the Termination of a
Commercial Mobile Radio Service Provider's Local Call**

- 3) Host – Remote Transport - Termination
\$0.000088 per trunk seizure minute of use

This amount represents the cost of the transport termination at the host and the remote switches of the host-remote complex used in the termination of CMRS local call per trunk seizure minute of use. Note: the units used in developing this cost were all switched trunk seizure minutes of use switched listed in the TSLRIC Study.

- 4) Host – Remote Transport - Facility
\$0.000113 per trunk seizure minute of use

This amount represents the cost of the transport facilities between the host and the remote switches of the host-remote complex used in the termination of CMRS local call per trunk seizure minute of use. Note: the units used in developing this cost were all switched trunk seizure minutes of use switched listed in the TSLRIC Study.

- 5) Switching
\$0.014293 per trunk seizure minute of use

This amount represents the cost of the host switch and of the remote switch used in switching a terminating CMRS local call per trunk seizure minute of use. Note: the units used in developing this cost were all switched trunk seizure minutes of use listed in the TSLRIC Study.

- 6) Local Usage Measurement
\$0.00338 per completed call

This amount represents the cost of the measurement, and billing and collection of a terminating CMRS local call per completed call. Note: the units used in developing this cost were completed local calls listed in the TSLRIC Study.

Mapping of MECA Second TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

TSLRIC Common Cost

The results of MECA's Second TSLRIC Study showed a common cost allocation factor of 19.3633%. This common cost allocation factor distributes common cost to all direct and shared TSLRIC cost in a uniform manner consistent with MPSC rules on the allocation of common cost. The common cost allocation factor was calculated by taking all the approved TSLRIC common costs and dividing it by the sum of all the approved TSLRIC direct cost and the approved TSLRIC shared cost.

Applying the common cost allocation factor to each of the four direct and shared TSLRIC cost listed above produce the following:

- 1) Switched Transport – Common Transport – Termination – with common costs
\$0.0013870 per trunk seizure minute of use per termination
- 2) Switched Transport – Common Transport – Facility – with common costs
\$0.0012115 per trunk seizure minute of use
- 3) Host – Remote Transport – Termination with common costs
\$0.0001050 per trunk seizure minute of use
- 4) Host – Remote Transport – Facility with common costs
\$0.0001349 per trunk seizure minute of use
- 5) Switching – with common costs
\$0.0170606 per trunk seizure minute of use
- 6) Local Usage Measurement – with common costs
\$0.0040345 per completed call

Mapping of MECA Second TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

UNIT CONVERSION

The costs in the above TSLRIC Study are generally per trunk seizure minute of use. The CMRS local call termination service offering bills for terminating usage based on conversation minutes of use. Conversation time begins when the first point of switching receives answer supervision from the terminating end user's end office, indicating the terminating end user has answered. Conversation time ends when the terminating switch receives disconnect supervision from either the terminating end user's end office, indicating the terminating end user has disconnected, or the CMRS Provider's point of termination, whichever is recognized first by the host-remote switching complex serving the terminating end user.

The difference between trunk seizure minute of use and conversation minute of use in the terminating direction is that trunk seizure time includes non-conversation minutes of use and conversation time does not include non-conversation minute of use. Non-conversation minutes of use include time the network is used when a conversation is not possible, such as ring time.

To take into account the difference in units, a factor of .9423 conversation minutes of use per trunk seizure minute of use was used to convert the cost per trunk seizure minute of use to cost per conversation minute of use. This factor is one that rural local exchange carriers and Michigan Bell / SBC Ameritech had mutually agreed to use in similar circumstances. This factor equates to about 15 seconds a call (whether the call is completed or not) of non-conversation time.

Additionally, the cost for use of the Switched Transport – Common Transport – Facility component is based on trunk seizure minutes of use while the rate charged for use of this component is based unit of per conversation minutes of use per mile. So in addition to applying the trunk seizure minutes of use to conversation minutes of use factor, a conversion factor needs to be apply that converts conversation minutes of use to conversation minutes of use per mile. For purposes of this conversion, I assumed that the average conversation minute of use would be billed for 8.0 miles of transport. This estimated seemed reasonable based on both my professional opinion and my knowledge of the Participant's in MECA's Second TSLRIC Study at the time of the filing.

Finally, the cost for local usage measurement is based on completed calls while the rates charged are per conversation minute of use. So a conversion factor needs to be applied that converts completed local terminating CMRS calls to conversation minutes of use. For purposes of this mapping process, I assumed that the average completed local terminating CMRS call lasted 3.0 minutes. This seems reasonable based on my own personal experiences, my professional experience in the industry, as well as call detail records I have reviewed over the past twenty years.

**Mapping of MECA Second TSLRIC Study to Rates for the Termination of a
Commercial Mobile Radio Service Provider's Local Call**

The results of these unit conversions were as follow:

- 1) Switched Transport – Common Transport – Termination – with common costs
\$0.0014719 per conversation minute per termination
- 2) Switched Transport – Common Transport – Facility – with common costs
\$0.00016071 per conversation minute per mile
- 3) Host – Remote Transport – Termination - with common costs
\$0.0001115 per conversation minute
- 4) Host – Remote Transport – Facility – with common costs
\$0.0001431 per conversation minute
- 5) Switching – with common costs
\$0.0181053 per conversation minute
- 6) Local Usage Measurement – with common costs
\$0.0013448 per conversation minute

Mapping of MECA Second TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

RATE DEVELOPMENT

A TSLRIC Study does not show rates for network components and services. What a TSLRIC Study shows is the cost of components and services that make up the products sold. The Participants in MECA's Second TSLRIC Study set the rates for termination of CMRS Provider's local calls routed through a third party's tandem equal to the above TSLRIC cost with common costs converted to conversation minutes rounded to six decimal places of the components and services used. Specifically, the Participants in MECA's Second TSLRIC Study have set the following rates for the service performed in termination a CMRS local call over common transport facilities:

- A) Switching \$0.019705 per conversation minute

This rate is set equal to the sum of the TSLRIC of Host – Remote Transport – Termination - with common costs, the TSLRIC of Host – Remote Transport – Facilities – with common costs, the TSLRIC of Switching - with common costs and the TSLRIC of local usage measurement – with common costs and is the rate for use of the host-remote switching complex of the terminating end user.

- B) Common Transport – Termination
\$0.001472 per conversation minute per termination

This rate is set equal to the TSLRIC of Switched Transport – Common Transport – Termination – with common costs

- C) Common Transport - Facility
\$0.000161 per conversation minute per termination per mile

This rate is set equal to the TSLRIC of Switched Transport – Common Transport – Facility – with common costs

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the Matter of the Petition of Ace Telephone)
Company, Allendale Telephone Company,)
Barry County Telephone Company,)
Blanchard Telephone Company)
Bloomingdale Telephone Company, Chippewa)
Telephone Company, Deerfield Farmers')
Telephone Company, Hiawatha Telephone)
Company, Kaleva Telephone Company, Midway)
Telephone Company, Ogden Telephone Company,)
Ontonagon Telephone Company, Pigeon Telephone)
Company, the Upper Peninsula Telephone)
Company, Waldron Telephone Company, and)
Winn Telephone Company, For the Arbitration)
of Interconnection Rates, Terms, and Conditions)
and Related Arrangements with Alltel)
Communications, Inc., Pursuant to Section 252(b))
of the Federal Telecommunications Act of 1996)
_____)

Case No. U-14889

EXHIBIT P- ____ (DSM-3)

Mapping of CCTC TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

NETWORK COMPONENTS AND SERVICES USED

A Commercial Mobile Radio Service Provider's local call routed through a third party's tandem for termination to an end user served by Chippewa County Telephone Company (CCTC) uses the following network components and services of CCTC:

- 1) Common transport facility from the meet point with the third party tandem to the host switch of the host-remote switching complex that serves the terminating end user of the CMRS local call;
- 2) Common transport termination of the common transport facility at the host switch of the host-remote switching complex that serves the terminating end user of the CMRS local call;
- 3) Host-remote switching complex that services the terminating end user of the CMRS local call, which includes the following components:
 - a) Switching at the Host Location,
 - b) Transport facilities between the Host and the Remote,
 - c) Termination equipment of these transport facilities at the Host and the Remote, and
 - d) Switching at the Remote Location;
- 4) Cost for measuring the CMRS local terminating usage at the Host switching location; and
- 5) Cost for billing and collecting for CMRS local terminating use.

Mapping of CCTC TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

THE TSLRIC STUDY

The TSLRIC based rates (with no loop or port recovery) applicable CCTC for the termination of CMRS local traffic for use of the above pieces CCTC's network and related services were developed from CCTC's TSLRIC Study as follows:

In 1999, CCTC filed their TSLRIC Study with the Michigan Public Service Commission – U-12149. The Michigan Public Service Commission issued its final order in this case on December 16, 1999. This order accepted CCTC's TSLRIC study with some modifications. CCTC modified their TSLRIC per the MPSC order in a document labeled "Chippewa County Telephone , Revised TSLRIC Study (MPSC Case No. U-12149), December 23, 1999.

Direct and Shared TSLRIC Cost

The TSLRIC Study, as submitted, showed the following TSLRIC results:

- 1) Central Office Direct and Shared Cost
 - a) Switching - Annual \$ 764,706
 - b) Switched Interoffice Termination – Monthly Revenue Requirement per DS0 circuit 4.58
 - c) Host-Remote Termination CCTC does not provide
- 2) Cable and Wire Direct and Shared Cost
 - a) Switched Interoffice Facilities – Monthly Revenue Requirement per DS0 circuit \$ 16.64
 - b) Host-Remote Facilities CCTC does not provide
- 3) Carrier Access Billing System Direct and Shared Cost
CCTC did not separately identify

The following units were included in the study to develop the approved TSLRIC direct and shared cost

- 1) Total Switched Usage - Annual 29,810,033 Conversation MOU
These units reflect the use of the host-remote complex
- 2) Total Inter-office minute – miles per circuit per month 2,555

These units reflect the average MOU usage time the applicable route miles per month per DS0 of switch interoffice facilities
- 3) Total Inter-office minute – miles per circuit per month 991

These units reflect the average MOU usage per DS0 of switch interoffice termination

The TSLRIC per unit, without common costs, was then determined by taking the direct and shared TSLRIC costs and dividing those costs by the applicable units. The results of the TSLRIC direct and shared cost per unit calculation are:

Mapping of CCTC TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

- 1) Switched Transport – Common Transport – Termination
\$0.004618257 per conversation minute of use per termination

This amount represents the cost of the common transport termination assets used in the termination of CMRS local call at the host switch of a host-remote complex per dial equipment minute of use per termination. Note: the units used in developing this cost were only those dial equipment minutes of use that used common transport.

- 2) Switched Transport – Common Transport – Facility
\$ 0.006513941 per conversation minute of use per mile

This amount represents the cost of the common transport facility assets used in the transporting a CMRS local call from the meet point with the tandem provider to the host switch of a host-remote complex on a per trunk seizure minute basis. Note: the units used in developing this cost were only those dial equipment minutes of use that used the common transport.

- 3) Host – Remote Transport - Termination
CCTC does not provide

This amount represents the cost of the transport termination at the host and the remote switches of the host-remote complex used in the termination of CMRS local call per dial equipment minute of use. Note: the units used in developing this cost were all switched dial equipment minutes of use switched listed in the TSLRIC Study.

- 4) Host – Remote Transport - Facility
CCTC does not provide

This amount represents the cost of the transport facilities between the host and the remote switches of the host-remote complex used in the termination of CMRS local call per dial equipment minute of use. Note: the units used in developing this cost were all switched dial equipment minutes of use switched listed in the TSLRIC Study.

- 5) Switching
\$0.009375099 per conversation minute of use

This amount represents the cost of the host switch and of the remote switch used in switching a terminating CMRS local call per dial equipment minute of use. Note: the units used in developing this cost were all switched dial equipment minutes of use listed in the TSLRIC Study.

- 6) Local Usage Measurement
CCTC did not separately identify

Mapping of CCTC TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

This amount represents the cost of the measurement, and billing and collection of a terminating CMRS local call per dial equipment minute of use. Note: the units used in developing this cost were dial equipment minute of use listed in the TSLRIC Study that were billed as access.

Mapping of CCTC TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

TSLRIC Common Cost

The results of CCTC's TSLRIC Study showed a common cost allocation factor of 35.25%. This common cost allocation factor distributes common cost to all direct and shared TSLRIC cost in a uniform manner consistent with MPSC rules on the allocation of common cost. The common cost allocation factor was calculated by taking all the approved TSLRIC common costs and dividing it by the sum of all the approved TSLRIC direct cost and the approved TSLRIC shared cost.

Applying the common cost allocation factor to each of the six direct and shared TSLRIC cost listed above produce the following:

- 1) Switched Transport – Common Transport – Termination – with common costs
\$0.006112264 per conversation minute of use per termination
- 2) Switched Transport – Common Transport – Facility – with common costs
\$0.0086212 per conversation minute of use per mile
- 3) Host – Remote Transport – Termination with common costs
CCTC does not provide
- 4) Host – Remote Transport – Facility with common costs
CCTC does not provide
- 5) Switching – with common costs
\$0.012407943 per conversation minute of use
- 6) Local Usage Measurement – with common costs
CCTC did not separately identify

**Mapping of CCTC TSLRIC Study to Rates for the Termination of a Commercial
Mobile Radio Service Provider's Local Call**

UNIT CONVERSION

No unit conversion is necessary because the units in the TSLRIC study are the same as the billing units.

Mapping of CCTC TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

RATE DEVELOPMENT

A TSLRIC Study does not show rates for network components and services. What a TSLRIC Study shows is the cost of components and services that make up the products sold. The CCTC set the rates for termination of CMRS Provider's local calls routed through a third party's tandem equal to the above TSLRIC cost with common costs converted to conversation minutes rounded to six decimal places of the components and services used. Specifically, the CCTC has set the following rates for the service performed in termination a CMRS local call over common transport facilities:

- A) Switching \$0.012408 per conversation minute

This rate is set equal to the sum of the TSLRIC of Host – Remote Transport – Termination - with common costs, the TSLRIC of Host – Remote Transport – Facilities – with common costs, the TSLRIC of Switching - with common costs and the TSLRIC of local usage measurement – with common costs and is the rate for use of the host-remote switching complex of the terminating end user.

- B) Common Transport – Termination
\$0.006112 per conversation minute per termination

This rate is set equal to the TSLRIC of Switched Transport – Common Transport – Termination – with common costs

- C) Common Transport - Facility
\$0.008621 per conversation minute per mile

This rate is set equal to the TSLRIC of Switched Transport – Common Transport – Facility – with common costs

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the Matter of the Petition of Ace Telephone)
Company, Allendale Telephone Company,)
Barry County Telephone Company,)
Blanchard Telephone Company)
Bloomington Telephone Company, Chippewa)
Telephone Company, Deerfield Farmers')
Telephone Company, Hiawatha Telephone)
Company, Kaleva Telephone Company, Midway)
Telephone Company, Ogden Telephone Company,)
Ontonagon Telephone Company, Pigeon Telephone)
Company, the Upper Peninsula Telephone)
Company, Waldron Telephone Company, and)
Winn Telephone Company, For the Arbitration)
of Interconnection Rates, Terms, and Conditions)
and Related Arrangements with Alltel)
Communications, Inc., Pursuant to Section 252(b))
of the Federal Telecommunications Act of 1996)
_____)

Case No. U-14889

EXHIBIT P- ____ (DSM-4)

Mapping of HTC TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

NETWORK COMPONENTS AND SERVICES USED

A Commercial Mobile Radio Service Provider's local call routed through a third party's tandem for termination to an end user served by Hiawatha Telephone Company (HTC) uses the following network components and services of HTC:

- 1) Common transport facility from the meet point with the third party tandem to the host switch of the host-remote switching complex that serves the terminating end user of the CMRS local call;
- 2) Common transport termination of the common transport facility at the host switch of the host-remote switching complex that serves the terminating end user of the CMRS local call;
- 3) Host-remote switching complex that services the terminating end user of the CMRS local call, which includes the following components:
 - a) Switching at the Host Location,
 - b) Transport facilities between the Host and the Remote,
 - c) Termination equipment of these transport facilities at the Host and the Remote, and
 - d) Switching at the Remote Location;
- 4) Cost for measuring the CMRS local terminating usage at the Host switching location; and
- 5) Cost for billing and collecting for CMRS local terminating use.

Mapping of HTC TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

THE TSLRIC STUDY

The TSLRIC based rates (with no loop or port recovery) applicable HTC for the termination of CMRS local traffic for use of the above pieces HTC's network and related services were developed from HTC's TSLRIC Study as follows:

In 1999, HTC filed their TSLRIC Study with the Michigan Public Service Commission – U-11996. The Michigan Public Service Commission issued its final order in this case on August 13, 1999. This order accepted the TSLRIC study with some modifications. HTC modified their TSLRIC per the MPSC order in a document labeled “Hiawatha Telephone Company, Total Service Long Run Incremental Cost Study, September 13, 1999, Modified in Accordance with Commission Order Case No. U-11996”

Direct and Shared TSLRIC Cost

The TSLRIC Study, as submitted, showed the following TSLRIC results:

- | | | |
|----|--|------------|
| 1) | Central Office Direct and Shared Cost | |
| a) | Switching | \$ 764,706 |
| b) | Switched Interoffice Termination | 92,600 |
| c) | Host-Remote Termination | 277,802 |
| 2) | Cable and Wire Direct and Shared Cost | |
| a) | Switched Interoffice Facilities | \$ 55,399 |
| b) | Host-Remote Facilities | 369,369 |
| 3) | Carrier Access Billing System Direct and Shared Cost | \$ 65,177 |

The following units were included in the study to develop the approved TSLRIC direct and shared cost

- | | | |
|----|---|-------------------------------|
| 1) | Total Switched Usage | 63,984,254 Dial Equipment MOU |
| | These units reflect the use of the host-remote complex | |
| 2) | EAS and Toll Usage | 31,172,909 Dial Equipment MOU |
| | These units reflect the use of switch interoffice terminations and facilities not internal to a host-remote complex | |
| 3) | Toll Access Usage | 31,172,909 Dial Equipment MOU |
| | These units reflect the use of the carrier access billing system. | |

The TSLRIC per unit, without common costs, was then determined by taking the direct and shared TSLRIC costs and dividing those costs by the applicable units. The results of the TSLRIC direct and shared cost per unit calculation are:

- | | |
|----|---|
| 1) | Switched Transport – Common Transport – Termination |
| | \$ 0.001777152 per dial equipment minute of use per termination |

This amount represents the cost of the common transport termination assets used in the termination of CMRS local call at the host switch of a host-remote complex per dial equipment minute of use per termination. Note: the units used in

Mapping of HTC TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

developing this cost were only those dial equipment minutes of use that used common transport.

- 2) Switched Transport – Common Transport – Facility
\$ 0.001777152 per dial equipment minute of use

This amount represents the cost of the common transport facility assets used in the transporting a CMRS local call from the meet point with the tandem provider to the host switch of a host-remote complex on a per trunk seizure minute basis. Note: the units used in developing this cost were only those dial equipment minutes of use that used the common transport.

- 3) Host – Remote Transport - Termination
\$0.004341724 per dial equipment minute of use

This amount represents the cost of the transport termination at the host and the remote switches of the host-remote complex used in the termination of CMRS local call per dial equipment minute of use. Note: the units used in developing this cost were all switched dial equipment minutes of use switched listed in the TSLRIC Study.

- 4) Host – Remote Transport - Facility
\$0.005772811 per dial equipment minute of use

This amount represents the cost of the transport facilities between the host and the remote switches of the host-remote complex used in the termination of CMRS local call per dial equipment minute of use. Note: the units used in developing this cost were all switched dial equipment minutes of use switched listed in the TSLRIC Study.

- 5) Switching
\$0.011951472 per dial equipment minute of use

This amount represents the cost of the host switch and of the remote switch used in switching a terminating CMRS local call per dial equipment minute of use. Note: the units used in developing this cost were all switched dial equipment minutes of use listed in the TSLRIC Study.

- 6) Local Usage Measurement
\$0.002090822 per dial equipment minute of use

This amount represents the cost of the measurement, and billing and collection of a terminating CMRS local call per dial equipment minute of use. Note: the units used in developing this cost were dial equipment minute of use listed in the TSLRIC Study that were billed as access.

Mapping of HTC TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

TSLRIC Common Cost

The results of HTC's TSLRIC Study showed a common cost allocation factor of 17.1904%. This common cost allocation factor distributes common cost to all direct and shared TSLRIC cost in a uniform manner consistent with MPSC rules on the allocation of common cost. The common cost allocation factor was calculated by taking all the approved TSLRIC common costs and dividing it by the sum of all the approved TSLRIC direct cost and the approved TSLRIC shared cost.

Applying the common cost allocation factor to each of the six direct and shared TSLRIC cost listed above produce the following:

- 1) Switched Transport – Common Transport – Termination – with common costs
\$0.003481173 per dial equipment minute of use per termination
- 2) Switched Transport – Common Transport – Facility – with common costs
\$0.002082651 per dial equipment minute of use
- 3) Host – Remote Transport – Termination with common costs
\$0.005088084 per dial equipment minute of use
- 4) Host – Remote Transport – Facility with common costs
\$0.00676518 per dial equipment minute of use
- 5) Switching – with common costs
\$0.014005976 per dial equipment minute of use
- 6) Local Usage Measurement – with common costs
\$0.002450242 per dial equipment minute of use

Mapping of HTC TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

UNIT CONVERSION

The costs in the above TSLRIC Study are per dial equipment minute of use. The CMRS local call termination service offering bills for terminating usage based on conversation minutes of use. Conversation time begins when the first point of switching receives answer supervision from the terminating end user's end office, indicating the terminating end user has answered. Conversation time ends when the terminating switch receives disconnect supervision from either the terminating end user's end office, indicating the terminating end user has disconnected, or the CMRS Provider's point of termination, whichever is recognized first by the host-remote switching complex serving the terminating end user.

The difference between dial equipment minute of use and conversation minute of use in the terminating direction is that trunk seizure time includes non-conversation minutes of use and conversation time does not include non-conversation minute of use. Non-conversation minutes of use include time the network is used when a conversation is not possible, such as ring time. Additionally, for counting minutes of use of the switch, dial equipment minutes of use count a minute of use that stays within a host remote complex twice, once coming into the switch and once leaving the switch.

To take into account the difference in units, a factor of .9423 conversation minutes of use per dial equipment minute of use was used to covert the cost per dial equipment minute of use to cost per conversation minute of use. This factor is one that rural local exchange carriers and Michigan Bell / SBC Ameritech had mutually agreed to use in similar circumstances. This factor equates to about 15 seconds a call (whether the call is completed or not) of non-conversation time.

Additionally, the cost for use of the Switched Transport – Common Transport – Facility component is based on trunk seizure minutes of use while the rate charged for use of this component is based unit of per conversation minutes of use per mile. So in addition to applying the trunk seizure minutes of use to conversation minutes of use factor, a conversion factor needs to be apply that converts conversation minutes of use to conversation minutes of use per mile. For purposes of this conversion, I assumed that the average conversation minute of use would be billed for 8.0 miles of transport. This estimated seemed reasonable based on both my professional opinion and my knowledge of the HTC at the time of the filing.

The results of this unit conversion calculations were as follow:

- 1) Switched Transport – Common Transport – Termination – with common costs
\$0.003694337 per conversation minute per termination
- 2) Switched Transport – Common Transport – Facility – with common costs
\$0.000276272 per conversation minute per mile
- 3) Host – Remote Transport – Termination - with common costs
\$0.005399643 per conversation minute
- 4) Host – Remote Transport – Facility – with common costs
\$0.007179433 per conversation minute

**Mapping of HTC TSLRIC Study to Rates for the Termination of a Commercial
Mobile Radio Service Provider's Local Call**

- 5) Switching – with common costs
\$0.014863607 per conversation minute
- 6) Local Usage Measurement – with common costs
\$0.002600278 per conversation minute

Mapping of HTC TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

RATE DEVELOPMENT

A TSLRIC Study does not show rates for network components and services. What a TSLRIC Study shows is the cost of components and services that make up the products sold. The HTC set the rates for termination of CMRS Provider's local calls routed through a third party's tandem equal to the above TSLRIC cost with common costs converted to conversation minutes rounded to six decimal places of the components and services used. Specifically, the HTC has set the following rates for the service performed in termination a CMRS local call over common transport facilities:

- A) Switching \$0.030043 per conversation minute

This rate is set equal to the sum of the TSLRIC of Host – Remote Transport – Termination - with common costs, the TSLRIC of Host – Remote Transport – Facilities – with common costs, the TSLRIC of Switching - with common costs and the TSLRIC of local usage measurement – with common costs and is the rate for use of the host-remote switching complex of the terminating end user.

- B) Common Transport – Termination
\$0.003694 per conversation minute per termination

This rate is set equal to the TSLRIC of Switched Transport – Common Transport – Termination – with common costs

- C) Common Transport - Facility
\$0.000276 per conversation minute per mile

This rate is set equal to the TSLRIC of Switched Transport – Common Transport – Facility – with common costs

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the Matter of the Petition of Ace Telephone)
Company, Allendale Telephone Company,)
Barry County Telephone Company,)
Blanchard Telephone Company)
Bloomington Telephone Company, Chippewa)
Telephone Company, Deerfield Farmers')
Telephone Company, Hiawatha Telephone)
Company, Kaleva Telephone Company, Midway)
Telephone Company, Ogden Telephone Company,)
Ontonagon Telephone Company, Pigeon Telephone)
Company, the Upper Peninsula Telephone)
Company, Waldron Telephone Company, and)
Winn Telephone Company, For the Arbitration)
of Interconnection Rates, Terms, and Conditions)
and Related Arrangements with Alltel)
Communications, Inc., Pursuant to Section 252(b))
of the Federal Telecommunications Act of 1996)
_____)

Case No. U-14889

EXHIBIT P- ____ (DSM-5)

Mapping of UPTC TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

NETWORK COMPONENTS AND SERVICES USED

A Commercial Mobile Radio Service Provider's local call routed through a third party's tandem for termination to an end user served by Upper Peninsula Telephone Company (UPTC) uses the following network components and services of UPTC:

- 1) Common transport facility from the meet point with the third party tandem to the host switch of the host-remote switching complex that serves the terminating end user of the CMRS local call;
- 2) Common transport termination of the common transport facility at the host switch of the host-remote switching complex that serves the terminating end user of the CMRS local call;
- 3) Host-remote switching complex that services the terminating end user of the CMRS local call, which includes the following components:
 - a) Switching at the Host Location,
 - b) Transport facilities between the Host and the Remote,
 - c) Termination equipment of these transport facilities at the Host and the Remote, and
 - d) Switching at the Remote Location;
- 4) Cost for measuring the CMRS local terminating usage at the Host switching location; and
- 5) Cost for billing and collecting for CMRS local terminating use.

Mapping of UPTC TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

THE TSLRIC STUDY

The TSLRIC based rates (with no loop or port recovery) applicable UPTC for the termination of CMRS local traffic for use of the above pieces UPTC's network and related services were developed from UPTC's TSLRIC Study as follows:

In 2000, UPTC filed their TSLRIC Study with the Michigan Public Service Commission – U-12471. The Michigan Public Service Commission issued its final order in this case on September 18, 2000. This order accepted the TSLRIC study as submitted.

Direct and Shared TSLRIC Cost

The TSLRIC Study, as submitted, showed the following TSLRIC results:

1)	Central Office Direct and Shared Cost	
a)	Switching	\$1,101,879
b)	Switched Interoffice Termination	638,423
c)	Host-Remote Termination	56,466
2)	Cable and Wire Direct and Shared Cost	
a)	Switched Interoffice Facilities	\$ 388,647
b)	Host-Remote Facilities	21,343
3)	Carrier Access Billing System Direct and Shared Cost	\$ 164,562

The following units were included in the study to develop the approved TSLRIC direct and shared cost

1)	Total Switched Usage	87,040,006 Dial Equipment MOU
	These units reflect the use of the host-remote complex	
2)	EAS and Toll Usage	68,753,537 Dial Equipment MOU
	These units reflect the use of switch interoffice terminations and facilities not internal to a host-remote complex	
3)	Toll Access Usage	56,071,795 Dial Equipment MOU
	These units reflect the use of the carrier access billing system.	

The TSLRIC per unit, without common costs, was then determined by taking the direct and shared TSLRIC costs and dividing those costs by the applicable units. The results of the TSLRIC direct and shared cost per unit calculation are:

1)	Switched Transport – Common Transport – Termination
	\$0.009285675 per dial equipment minute of use per termination

This amount represents the cost of the common transport termination assets used in the termination of CMRS local call at the host switch of a host-remote complex per dial equipment minute of use per termination. Note: the units used in developing this cost were only those dial equipment minutes of use that used common transport.

Mapping of UPTC TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

- 2) Switched Transport – Common Transport – Facility
\$0.005652756 per dial equipment minute of use

This amount represents the cost of the common transport facility assets used in the transporting a CMRS local call from the meet point with the tandem provider to the host switch of a host-remote complex on a per trunk seizure minute basis. Note: the units used in developing this cost were only those dial equipment minutes of use that used the common transport.

- 3) Host – Remote Transport - Termination
\$0.000648736 per dial equipment minute of use

This amount represents the cost of the transport termination at the host and the remote switches of the host-remote complex used in the termination of CMRS local call per dial equipment minute of use. Note: the units used in developing this cost were all switched dial equipment minutes of use switched listed in the TSLRIC Study.

- 4) Host – Remote Transport - Facility
\$0.000245209 per dial equipment minute of use

This amount represents the cost of the transport facilities between the host and the remote switches of the host-remote complex used in the termination of CMRS local call per dial equipment minute of use. Note: the units used in developing this cost were all switched dial equipment minutes of use switched listed in the TSLRIC Study.

- 5) Switching
\$0.012659455 per dial equipment minute of use

This amount represents the cost of the host switch and of the remote switch used in switching a terminating CMRS local call per dial equipment minute of use. Note: the units used in developing this cost were all switched dial equipment minutes of use listed in the TSLRIC Study.

- 6) Local Usage Measurement
\$ 0.002934845 per dial equipment minute of use

This amount represents the cost of the measurement, and billing and collection of a terminating CMRS local call per dial equipment minute of use. Note: the units used in developing this cost were dial equipment minute of use listed in the TSLRIC Study that were billed as access.

Mapping of UPTC TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

TSLRIC Common Cost

The results of UPTC's TSLRIC Study showed a common cost allocation factor of 17.0316%. This common cost allocation factor distributes common cost to all direct and shared TSLRIC cost in a uniform manner consistent with MPSC rules on the allocation of common cost. The common cost allocation factor was calculated by taking all the approved TSLRIC common costs and dividing it by the sum of all the approved TSLRIC direct cost and the approved TSLRIC shared cost.

Applying the common cost allocation factor to each of the four direct and shared TSLRIC cost listed above produce the following:

- 1) Switched Transport – Common Transport – Termination – with common costs
\$0.01086717 per dial equipment minute of use per termination
- 2) Switched Transport – Common Transport – Facility – with common costs
\$0.00661551 per dial equipment minute of use
- 3) Host – Remote Transport – Termination with common costs
\$0.00075923 per dial equipment minute of use
- 4) Host – Remote Transport – Facility with common costs
\$0.00028697 per dial equipment minute of use
- 5) Switching – with common costs
\$0.01481556 per dial equipment minute of use
- 6) Local Usage Measurement – with common costs
\$0.00343470 per dial equipment minute of use

Mapping of UPTC TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

UNIT CONVERSION

The costs in the above TSLRIC Study are per dial equipment minute of use. The CMRS local call termination service offering bills for terminating usage based on conversation minutes of use. Conversation time begins when the first point of switching receives answer supervision from the terminating end user's end office, indicating the terminating end user has answered. Conversation time ends when the terminating switch receives disconnect supervision from either the terminating end user's end office, indicating the terminating end user has disconnected, or the CMRS Provider's point of termination, whichever is recognized first by the host-remote switching complex serving the terminating end user.

The difference between dial equipment minute of use and conversation minute of use in the terminating direction is that trunk seizure time includes non-conversation minutes of use and conversation time does not include non-conversation minute of use. Non-conversation minutes of use include time the network is used when a conversation is not possible, such as ring time. Additionally, for counting minutes of use of the switch, dial equipment minutes of use count a minute of use that stays within a host remote complex twice, once coming into the switch and once leaving the switch.

To take into account the difference in units, a factor of .9423 conversation minutes of use per dial equipment minute of use was used to covert the cost per dial equipment minute of use to cost per conversation minute of use. This factor is one that rural local exchange carriers and Michigan Bell / SBC Ameritech had mutually agreed to use in similar circumstances. This factor equates to about 15 seconds a call (whether the call is completed or not) of non-conversation time.

The results of this unit conversion calculations were as follow:

- 1) Switched Transport – Common Transport – Termination – with common costs
\$0.011532601 per conversation minute per termination
- 2) Switched Transport – Common Transport – Facility – with common costs
\$0.007020600 per conversation minute
- 3) Host – Remote Transport – Termination - with common costs
\$0.000805716 per conversation minute
- 4) Host – Remote Transport – Facility – with common costs
\$0.000304544 per conversation minute
- 5) Switching – with common costs
\$0.015722766 per conversation minute
- 6) Local Usage Measurement – with common costs
\$0.003645013 per conversation minute

Mapping of UPTC TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

RATE DEVELOPMENT

A TSLRIC Study does not show rates for network components and services. What a TSLRIC Study shows is the cost of components and services that make up the products sold. The UPTC set the rates for termination of CMRS Provider's local calls routed through a third party's tandem equal to the above TSLRIC cost with common costs converted to conversation minutes rounded to six decimal places of the components and services used. Specifically, UPTC set the following rate for the service performed in termination a CMRS local call over common transport facilities:

A) Switching \$0.039031 per conversation minute

This rate is set equal to the sum of the TSLRIC of Switched Transport – Common Transport – Termination with common costs, TSLRIC of Switched Transport – Common Transport – Facility with common costs, TSLRIC of Switched Transport – Host-Remote Transport – Termination - with common costs, the TSLRIC of Switched Transport – Host-Remote Transport – Facilities – with common costs, the TSLRIC of Switching - with common costs and the TSLRIC of carrier access billing system – with common costs and is the rate for use of the all UPTC network components and services used in terminating a CMRS local call to one of its end users.

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the Matter of the Petition of Ace Telephone)
Company, Allendale Telephone Company,)
Barry County Telephone Company,)
Blanchard Telephone Company)
Bloomington Telephone Company, Chippewa)
Telephone Company, Deerfield Farmers')
Telephone Company, Hiawatha Telephone)
Company, Kaleva Telephone Company, Midway)
Telephone Company, Ogden Telephone Company,)
Ontonagon Telephone Company, Pigeon Telephone)
Company, the Upper Peninsula Telephone)
Company, Waldron Telephone Company, and)
Winn Telephone Company, For the Arbitration)
of Interconnection Rates, Terms, and Conditions)
and Related Arrangements with Alltel)
Communications, Inc., Pursuant to Section 252(b))
of the Federal Telecommunications Act of 1996)
_____)

Case No. U-14889

EXHIBIT P- ____ (DSM-6)

Mapping of Winn TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

NETWORK COMPONENTS AND SERVICES USED

A Commercial Mobile Radio Service Provider's local call routed through a third party's tandem for termination to an end user served by Winn Telephone Company (Winn) uses the following network components and services of Winn:

- 1) Common transport facility from the meet point with the third party tandem to the host switch of the host-remote switching complex that serves the terminating end user of the CMRS local call;
- 2) Common transport termination of the common transport facility at the host switch of the host-remote switching complex that serves the terminating end user of the CMRS local call;
- 3) Host-remote switching complex that services the terminating end user of the CMRS local call, which includes the following components:
 - a) Switching at the Host Location,
 - b) Transport facilities between the Host and the Remote,
 - c) Termination equipment of these transport facilities at the Host and the Remote, and
 - d) Switching at the Remote Location;
- 4) Cost for measuring the CMRS local terminating usage at the Host switching location; and
- 5) Cost for billing and collecting for CMRS local terminating use.

Mapping of Winn TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

THE TSLRIC STUDY

The TSLRIC based rates (with no loop or port recovery) applicable Winn for the termination of CMRS local traffic for use of the above pieces Winn's network and related services were developed from Winn's TSLRIC Study as follows:

In 2001, Winn filed their TSLRIC Study with the Michigan Public Service Commission – U-13191. The Michigan Public Service Commission issued its final order in this case on February 1, 2002. This order accepted the TSLRIC study as revised and submitted on January 11, 2002.

Direct and Shared TSLRIC Cost

The TSLRIC Study, as submitted, showed the following TSLRIC results:

- | | | |
|----|--|-----------------------|
| 1) | Central Office Direct and Shared Cost | |
| a) | Switching | \$206,061 |
| b) | Switched Interoffice Termination | 10,571 |
| c) | Host-Remote Termination | Winn does not provide |
| 2) | Cable and Wire Direct and Shared Cost | |
| a) | Switched Interoffice Facilities | \$ 30,556 |
| b) | Host-Remote Facilities | Winn does not provide |
| 3) | Carrier Access Billing System Direct and Shared Cost | \$ 20,904 |

The following units were included in the study to develop the approved TSLRIC direct and shared cost

- | | | |
|----|---|-------------------------------|
| 1) | Total Switched Usage | 17,907,025 Dial Equipment MOU |
| | These units reflect the use of the host-remote complex | |
| 2) | EAS and Toll Usage | 11,465,642 Dial Equipment MOU |
| | These units reflect the use of switch interoffice terminations and facilities not internal to a host-remote complex | |
| 3) | Toll Access Usage | 11,465,642 Dial Equipment MOU |
| | These units reflect the use of the carrier access billing system. | |

The TSLRIC per unit, without common costs, was then determined by taking the direct and shared TSLRIC costs and dividing those costs by the applicable units. The results of the TSLRIC direct and shared cost per unit calculation are:

- | | |
|----|--|
| 1) | Switched Transport – Common Transport – Termination |
| | \$0.000921972 per dial equipment minute of use per termination |

This amount represents the cost of the common transport termination assets used in the termination of CMRS local call at the host switch of a host-remote complex per dial equipment minute of use per termination. Note: the units used in developing this cost were only those dial equipment minutes of use that used common transport.

Mapping of Winn TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

- 2) Switched Transport – Common Transport – Facility
\$0.002665006 per dial equipment minute of use

This amount represents the cost of the common transport facility assets used in the transporting a CMRS local call from the meet point with the tandem provider to the host switch of a host-remote complex on a per trunk seizure minute basis. Note: the units used in developing this cost were only those dial equipment minutes of use that used the common transport.

- 3) Host – Remote Transport - Termination
Winn does not provide this service

This amount represents the cost of the transport termination at the host and the remote switches of the host-remote complex used in the termination of CMRS local call per dial equipment minute of use. Note: the units used in developing this cost were all switched dial equipment minutes of use switched listed in the TSLRIC Study.

- 4) Host – Remote Transport - Facility
Winn does not provide this service

This amount represents the cost of the transport facilities between the host and the remote switches of the host-remote complex used in the termination of CMRS local call per dial equipment minute of use. Note: the units used in developing this cost were all switched dial equipment minutes of use switched listed in the TSLRIC Study.

- 5) Switching
\$0.011507272 per dial equipment minute of use

This amount represents the cost of the host switch and of the remote switch used in switching a terminating CMRS local call per dial equipment minute of use. Note: the units used in developing this cost were all switched dial equipment minutes of use listed in the TSLRIC Study.

- 6) Local Usage Measurement
\$0.001823186 per dial equipment minute of use

This amount represents the cost of the measurement, and billing and collection of a terminating CMRS local call per dial equipment minute of use. Note: the units used in developing this cost were dial equipment minute of use listed in the TSLRIC Study that were billed as access.

Mapping of Winn TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

TSLRIC Common Cost

The results of Winn's TSLRIC Study showed a common cost allocation factor of 29.2727%. This common cost allocation factor distributes common cost to all direct and shared TSLRIC cost in a uniform manner consistent with MPSC rules on the allocation of common cost. The common cost allocation factor was calculated by taking all the approved TSLRIC common costs and dividing it by the sum of all the approved TSLRIC direct cost and the approved TSLRIC shared cost.

Applying the common cost allocation factor to each of the six direct and shared TSLRIC cost listed above produce the following:

- 1) Switched Transport – Common Transport – Termination – with common costs
\$0.001191858 per dial equipment minute of use per termination
- 2) Switched Transport – Common Transport – Facility – with common costs
\$0.003445125 per dial equipment minute of use
- 3) Host – Remote Transport – Termination with common costs
Winn does not provide this service
- 4) Host – Remote Transport – Facility with common costs
Winn does not provide this service
- 5) Switching – with common costs
\$0.014875764 per dial equipment minute of use
- 6) Local Usage Measurement – with common costs
\$0.002356883 per dial equipment minute of use

Mapping of Winn TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

UNIT CONVERSION

The costs in the above TSLRIC Study are per dial equipment minute of use. The CMRS local call termination service offering bills for terminating usage based on conversation minutes of use. Conversation time begins when the first point of switching receives answer supervision from the terminating end user's end office, indicating the terminating end user has answered. Conversation time ends when the terminating switch receives disconnect supervision from either the terminating end user's end office, indicating the terminating end user has disconnected, or the CMRS Provider's point of termination, whichever is recognized first by the host-remote switching complex serving the terminating end user.

The difference between dial equipment minute of use and conversation minute of use in the terminating direction is that trunk seizure time includes non-conversation minutes of use and conversation time does not include non-conversation minute of use. Non-conversation minutes of use include time the network is used when a conversation is not possible, such as ring time. Additionally, for counting minutes of use of the switch, dial equipment minutes of use count a minute of use that stays within a host remote complex twice, once coming into the switch and once leaving the switch.

To take into account the difference in units, a factor of .9423 conversation minutes of use per dial equipment minute of use was used to convert the cost per dial equipment minute of use to cost per conversation minute of use. This factor is one that rural local exchange carriers and Michigan Bell / SBC Ameritech had mutually agreed to use in similar circumstances. This factor equates to about 15 seconds a call (whether the call is completed or not) of non-conversation time.

Additionally, the cost for use of the Switched Transport – Common Transport – Facility component is based on trunk seizure minutes of use while the rate charged for use of this component is based unit of per conversation minutes of use per mile. So in addition to applying the trunk seizure minutes of use to conversation minutes of use factor, a conversion factor needs to be apply that converts conversation minutes of use to conversation minutes of use per mile. The study indicates that the number of billable miles is 7.66.

The results of this unit conversion calculations were as follow:

- 1) Switched Transport – Common Transport – Termination – with common costs
\$0.001264839 per conversation minute per termination
- 2) Switched Transport – Common Transport – Facility – with common costs
\$0.000477295 per conversation minute per mile
- 3) Host – Remote Transport – Termination - with common costs
Winn does not provide this service
- 4) Host – Remote Transport – Facility – with common costs
Winn does not provide this service
- 5) Switching – with common costs
\$0.015786654 per conversation minute

**Mapping of Winn TSLRIC Study to Rates for the Termination of a Commercial
Mobile Radio Service Provider's Local Call**

- 6) Local Usage Measurement – with common costs
\$0.002501202 per conversation minute

Mapping of Winn TSLRIC Study to Rates for the Termination of a Commercial Mobile Radio Service Provider's Local Call

RATE DEVELOPMENT

A TSLRIC Study does not show rates for network components and services. What a TSLRIC Study shows is the cost of components and services that make up the products sold. The Winn set the rates for termination of CMRS Provider's local calls routed through a third party's tandem equal to the above TSLRIC cost with common costs converted to conversation minutes rounded to six decimal places of the components and services used. Specifically, the Winn has set the following rates for the service performed in termination a CMRS local call over common transport facilities:

- A) Switching \$0.018288 per conversation minute

This rate is set equal to the sum of the TSLRIC of Host – Remote Transport – Termination - with common costs, the TSLRIC of Host – Remote Transport – Facilities – with common costs, the TSLRIC of Switching - with common costs and the TSLRIC of local usage measurement – with common costs and is the rate for use of the host-remote switching complex of the terminating end user.

- B) Common Transport – \$0.001265 per Termination
\$per conversation minute per termination

This rate is set equal to the TSLRIC of Switched Transport – Common Transport – Termination – with common costs

- C) Common Transport - Facility
\$0.000477 per conversation minute per mile

This rate is set equal to the TSLRIC of Switched Transport – Common Transport – Facility – with common costs