

Exhibit No.:  
Issues: InterMTA Factors  
Witness: Derek Canfield  
Sponsoring Party: Sprint PCS  
Type of Exhibit: Rebuttal Testimony  
Case No.: TC-2002-057  
Date Testimony Prepared: February 20, 2004

**SPRINT SPECTRUM, LP**  
**d/b/a**  
**SPRINT PCS**

**REBUTTAL TESTIMONY**  
**OF**  
**DEREK CANFIELD**

**CASE NO. TC-2002-057**

Jefferson City, Missouri  
February 20, 2004

STATE OF MISSOURI

Northeast Missouri Rural Telephone Company )  
And Modern Telecommunications Company, et. al.)

Petitioners, )

) Case No. TC-2002-57 et al

v. )

Southwestern Bell Telephone Company, )  
Southwestern Bell Wireless (Cingular), )  
Voicestream Wireless (Western Wireless), )  
Aerial Communications, Inc., CMT Partners )  
(Verizon Wireless), Sprint Spectrum LP, )  
United States Cellular Corp., and Ameritech )  
Mobile Communications, Inc., )

Respondents. )

AFFIDAVIT OF DEREK CANFIELD

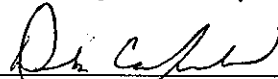
STATE OF KANSAS )

) ss:


COUNTY OF JOHNSON )

I, Derek Canfield, being of lawful age and duly sworn, dispose and state on my oath the following:

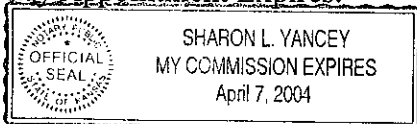
5. I am presently Manager of Access Verification for Sprint.
6. I have participated in the preparation of the attached Rebuttal Testimony in question and answer form to be presented in the above entitled case;
7. The answers in the attached Rebuttal Testimony were given by me; and,
8. I have knowledge of the matters set forth in such answers and that such matters are true and correct to the best of my knowledge and belief.

  
DEREK CANFIELD

Subscribed and sworn to before me on this 18<sup>th</sup> day of February, 2004.

  
NOTARY PUBLIC

My Appointment Expires:



1                   **BEFORE THE PUBLIC SERVICE COMMISSION**

2                   **OF THE STATE OF MISSOURI**

3                   **REBUTTAL TESTIMONY**

4                   **OF**

5                   **DEREK CANFIELD**

6

7   **Q.    Please state your name, business address, employer and current position.**

8    A.    My name is Derek Canfield. My business address is 6500 Sprint Parkway,  
9           Overland Park, KS 66251. I'm employed by Sprint/United Management  
10          Company as Manager, Access Verification.

11

12 **Q.    Please summarize your qualifications and work experience.**

13   A.    I received my Masters in Business Administration from Wichita State University  
14          in May 1996. Prior to that, I received a Bachelor of Arts degree from Bethany  
15          College, Lindsborg, KS in May 1994 with a major in Finance and Economics. I  
16          was hired by Sprint in November, 1996 as an analyst in Access Verification, and  
17          have held positions of increasing responsibility thereafter. In my recent  
18          capacities, I've had responsibility for both the revenue and cost activities  
19          involving intercarrier compensation. Additionally, I have represented Sprint PCS  
20          as a wireless subject matter expert at industry forums including the Ordering and  
21          Billing Forum (OBF) and the Technical Review Group (TRG).

22

1    **Q.     On whose behalf are you testifying?**

2    A.     I am testifying on behalf of Sprint Spectrum L.P. d/b/a Sprint PCS.

3

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

5    A.     The purpose of my Rebuttal Testimony is to put forward Sprint PCS's traffic  
6           studies containing the best evidence of what the interMTA factors are for traffic  
7           that is wireless originated by Sprint PCS and terminated by (a) Northeast Missouri  
8           Rural Telephone Company ("Northeast"), (b) Chariton Valley Telephone  
9           Corporation ("Chariton Valley") and (c) Mid-Missouri Telephone Company  
10          ("Mid-Mo"). In my testimony, I present Sprint PCS's traffic studies as well as the  
11          methodology behind Sprint PCS's traffic studies in general, and then those  
12          specifically completed on the traffic exchanged with the above named  
13          independent local exchange carriers in question.

14

15   **Q.     What is the purpose of this phase of the case?**

16   A.     Based upon my reading of Commission Orders in this case, on June 3, 2003, the  
17          Commission reopened the record in this case for the limited purpose of receiving  
18          certain necessary evidence not adduced at the previous hearing held in this case.  
19          Specifically, the Commission noted that the "evidence in question concerns the  
20          proportion of the traffic at issue that is interMTA, wireless-originated traffic and  
21          the proportion that is intraMTA, wireless-originated traffic."

22

1    **Q.     Has Sprint PCS attempted to address and resolve the inter/intraMTA factor**  
2           **issues with the Petitioners in this case?**

3    A.     Yes. As Sprint PCS witness Angela Linares explains in her Rebuttal Testimony,  
4           to date Sprint PCS has negotiated agreements with four of the six Petitioners to  
5           this case. Specifically, Sprint PCS has reached negotiated interMTA factors for  
6           the following four parties to this case:

7                   Alma -- 10% interMTA  
8                   Mid-Mo – 43% interMTA  
9                   Choctaw – 0% interMTA  
10                  Mo-Kan – 0% interMTA  
11

12          Sprint PCS has not yet been able to reach agreement with Northeast or Chariton  
13          Valley. As a result, my Rebuttal Testimony puts forward a sound basis for  
14          development of the traffic study process that should be utilized in development of  
15          the interMTA factors.

16

17   **Q.     Was a traffic study performed for Mid-Mo?**

18   A.     Yes. Sprint PCS reached an agreement with Mid-Mo for an interMTA factor of  
19           43%; however, it is my understanding that SBC has challenged this factor. Sprint  
20           PCS performed a traffic study specific to the Mid-Mo exchanges in the same  
21           manor described below for Chariton Valley and Northeast.

22

1     **Q.     Does Sprint agree with the amount of traffic in dispute in this case?**

2     A.     Yes. Sprint PCS agrees with the Petitioners reported minutes of use as stated in  
3             Direct Testimony. The minutes of use in dispute for this case are as follows:

4	Chariton Valley	23,966 minutes
5	Northeast	5,757 minutes
6	Mid- Mo	44,654 minutes

7  
8     **Q.     Why did Sprint PCS perform traffic studies in this case rather than use the**  
9             **actual calls associated with the minutes of use identified above?**

10    A.     The disputed minutes listed above are for calls placed between February 5, 1998  
11             and December 31, 2001. The best scenario would be to determine the actual  
12             origination and termination points for the calls involved with this Complaint;  
13             however, given that some of the traffic at issue in this case is five years old, the  
14             call detail records for the traffic in dispute are not available. As the originating  
15             wireless carrier, Sprint PCS does not maintain such call detail records. As a  
16             result, some sort of proxy will need to be developed to determine a reasonable  
17             interMTA factor.

18

19    **Q.     How did Sprint PCS's interMTA traffic studies evolve?**

20    A.     There was a growing internal need to develop a relatively easy and reliable  
21             process to study interMTA factors across the nation. The first step was to define  
22             how Sprint PCS would determine the jurisdiction of a call. In determining  
23             jurisdiction for the traffic study I represent, Sprint PCS followed FCC guidance in  
24             setting the procedure for identifying the location of the mobile customer.

1 We conclude that the parties may calculate overall compensation  
2 amounts by extrapolating from traffic studies and samples. For  
3 administrative convenience, the location of the cell site when a call  
4 begins shall be used as the determinant of the geographic location  
5 of the mobile customer. [Implementation of the Local Competition  
6 Provisions in the Telecommunications Act of 1996, 11 FCC Rcd  
7 15499 (1996)("First Report and Order") at 1044 (Aug. 1996).]  
8

9 Specifically, the origination point is determined by the initial cell site when  
10 available. The termination point is defined based upon the wireline customer  
11 telephone number.  
12

13 After defining the jurisdictional methodology, Sprint PCS set forth to identify and  
14 develop the necessary tools and processes to complete such studies anywhere in  
15 the nation. Specifically, Sprint PCS identified the following four steps:

- 16 1) Develop a table to identify each Sprint PCS cell site, as populated in the  
17 internal call detail record, with the MTA in which the cell site is  
18 physically located (referred hereafter as "Cell Site Table" and included as  
19 Schedule DAC-3).
- 20 2) Develop a table to identify each Sprint PCS mobile switching center  
21 (MSC), as populated in the internal call detail record, with the MTA in  
22 which the switching center is physically located (referred hereafter as  
23 "Switch Site Table" and included as Schedule DAC-4).
- 24 3) Develop a table to identify the telephone number with the wireless local  
25 calling area, the MTA, in which it is physically served (referred hereafter  
26 as "MTA Table" and included as Schedule DAC-5).

1           4)     Identify an internal source to capture actual call detail records that can be  
2                   used in a study.

3           Sprint PCS completed the above four steps in the fourth quarter of 2002 and the  
4           first study was successfully completed in the first quarter of 2003.

5

6   **Q.     Wouldn't a simpler approach for such a study have been to use "From" and**  
7           **"To" numbers?**

8   **A.**Simply using the "To" and "From" numbers may or may not provide the proper  
9           jurisdiction of a wireless call. For example, assume a customer with a wireless  
10          phone assigned to Chicago, IL is roaming in Jefferson City, MO and places a call  
11          to a Jefferson City end-user. In this case, the call originated and terminated in  
12          Jefferson City; however, if the "To" and "From numbers were used, the call  
13          would appear as an interMTA call.

14

15   **Q.     Please provide the details associated with the studies performed as part of**  
16           **this case.**

17   **A.**My team was asked to complete a study of the mobile-to-land traffic that  
18          originated from Sprint PCS and terminated to four of the six Petitioners: (1)  
19          Alma, (2) Mid-Mo, (3) Northeast and (4) Chariton Valley. My team followed the  
20          standard procedures which were established for interMTA studies. The first part  
21          of the study was to obtain the needed call details records and the following steps  
22          were used to capture the needed data:



- 1           1)     Identified Sprint PCS's mobile switching centers which serve Missouri --
- 2                     either through a LEC PSTN facility or connecting to cell sites in Missouri.
- 3           2)     Identified the specific tandem trunk groups carrying traffic from the
- 4                     mobile switching centers above.
- 5           3)     Identified a specific date range (in these studies, a one week analysis was
- 6                     performed).
- 7           4)     Obtained actual call detail records which met the following criteria:
- 8                     a.     answer start date-time is between 9/7/03 12:00 a.m. and 9/13/03
- 9                             11:59 p.m.;
- 10                    b.     mobile originated;
- 11                    c.     call was answered;
- 12                    d.     called number is not toll free; and
- 13                    e.     mobile switching centers and trunk group as defined in steps 2 and
- 14                             3 above.

15                    Once the raw data was received, the next step was to add necessary

16                    identification information to each call and to eliminate calls that were not

17                    associated with the study area. The following steps were performed as part of

18                    this step:

19                    this step:

- 20           5)     Populated each call to include the terminating operating company number
- 21                     (OCN) on each call. OCN was obtained from the Local Exchange
- 22                     Routing Guide (LERG) for the called number NPA-NXX-X (wireline
- 23                     terminating number).
- 24           6)     Identified the OCN for the specific Missouri companies to be studied and
- 25                     excluded all records not terminated to a called number associated with one
- 26                     of the specific Missouri OCNs under review.

- 1           7)     Populated each call to include the originating MTA and State as defined  
2                   by initial cell site when available (add MTA and State from Cell Site  
3                   Table where the cell site/MSC combination in the CDR matches Cell Site  
4                   Table). Note: the initial cell site field was populated in all records  
5                   associated with the time period in which the study was completed.
- 6           8)     Populated each call to include the terminating MTA and State as defined  
7                   by the NPA, NXX, and first digit of the line range (add MTA and State  
8                   from MTA Table where the NPA-NXX-X of the called number in the  
9                   CDR matches MTA Table).

10

11           The final step was to summarize total minutes by independent LEC, MTA  
12           Jurisdiction (IntraMTA vs. InterMTA), and State Jurisdiction (Interstate vs.  
13           Intrastate).

14

15   **Q.     Was there anything unique about the studies performed for this case relative**  
16           **to other studies you have completed?**

17   **A.     Yes. Most traffic studies I am involved with use a statistically valid random**  
18           sample of calls. Given the relatively low volume of traffic associated with the  
19           ILECs involved with this complaint, Sprint PCS was able to use the entire  
20           population of calls rather than a random sample.

21

1    **Q.     What are the interMTA factors produced by Sprint PCS's traffic studies for**  
2           **Northeast, Chariton Valley and Mid-Mo?**

3    **A.**    For Northeast, the traffic study indicates that the interMTA factor is 11.3%. For  
4           Chariton Valley, the interMTA factor is 11.9%. Finally, for Mid-Mo, the  
5           interMTA factor is 43.7%.

6    **Q.     What is your degree of confidence in the studies performed?**

7    **A.**    The methodology of the study itself is sound and far more thorough than could be  
8           completed by another entity. Processes exist to ensure the integrity of the data in  
9           each of the sources. Further, these are the same type of traffic studies Sprint PCS  
10          uses across the nation to develop interMTA factors for interconnections. Finally,  
11          as mentioned above, these studies, unlike the studies Sprint PCS conducted for the  
12          major ILECs, capture all the traffic during the chosen time period, not just a  
13          random sample.

14

15   **Q.     You mentioned above that agreement has been reached with Mid-Mo, Alma,**  
16           **Choctaw, and Mo-Kan. Did the traffic studies used in reaching agreement**  
17           **with these companies all follow the above process?**

18   **A.**    Agreements had been reached with Choctaw and Mo-Kan prior to the studies.  
19           The studies were used specifically in reaching agreement with Mid-Mo and Alma.

20

1     **Q.     Are the traffic studies attached to your testimony?**

2     **A.**     Yes. I have attached summary information as well as the detailed information for  
3             both Chariton Valley and Northeast. Schedule DAC-1 and Schedule DAC-2  
4             provide summary information for Chariton Valley and Northeast, respectively.  
5             Schedule DAC-6 and Schedule DAC-7 provide the raw data (actual call details  
6             records) used in the study for Chariton Valley and Northeast, respectively. As  
7             referenced above, Schedule DAC-3 is the Cell Cite Table, Schedule DAC-4 is the  
8             Switch Cite Table, and Schedule DAC-5 is the MTA Table that was used for both  
9             studies.

10

11    **Q.     Given your knowledge of traffic studies, could you ever rely on the type of**  
12             **analysis or approach that Northeast and Chariton Valley used to identify an**  
13             **interMTA factor?**

14    **A.**     No. As discussed in a previous example, use of calling numbers is inaccurate in  
15             terms of assigning a location to a mobile telephone customer. Assigning a  
16             Chicago location to the aforementioned customer traveling in Jefferson City, and  
17             thus defining any local calls as interMTA would distort the results.

18

19    **Q.     Do you agree with the testimony presented by Chariton Valley Telephone's**  
20             **witness Mr. Biere that such patterns would tend to offset?**

21    **A.**     No. The argument that such true intraMTA traffic would be balanced out with  
22             traffic that appears to be IntraMTA when in fact the mobile customer is traveling

1 outside the MTA would open up even more questions as to the validity of a study  
2 using such methodology. For example, if a Jefferson City based mobile customer  
3 traveled to Chicago and originated a call back to Jefferson City, the jurisdiction  
4 based upon calling and called numbers would be incorrectly assigned as  
5 intraMTA. However, that call could have arrived at the Jefferson City tandem via  
6 an IXC only and thus should not be part of this study. Inclusion of this call  
7 scenario into the studies cited in previous testimony would indicate the inclusion  
8 of all IXC traffic. Such inclusion would significantly and artificially inflate the  
9 interMTA factors submitted in that testimony.

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

11 **A. Yes.**

## **INDEX OF SCHEDULES**

<b>DAC - 1</b>	<b>Summary Traffic Study Results for Chariton Valley</b>
<b>DAC – 2</b>	<b>Summary Traffic Study Results for Northeast</b>
<b>DAC – 3</b>	<b>Cell Cite Table (common table used for both studies)</b>
<b>DAC – 4</b>	<b>Switch Cite Table (common table used for both studies)</b>
<b>DAC – 5</b>	<b>MTA Table (common table used for both studies)</b>
<b>DAC – 6</b>	<b>Chariton Valley Raw Data (actual call detail records)</b>
<b>DAC – 7</b>	<b>Northeast Raw Data (actual call detail records)</b>

Rebuttal Testimony of  
Derek Canfield  
TC-2002-057

**Schedule DAC - 1**

**Summary Traffic Study Results for Chariton Valley**

**Entire Schedule Deemed Highly Confidential**

Rebuttal Testimony of  
Derek Canfield  
TC-2002-057

**Schedule DAC - 2**

**Summary Traffic Study Results for Northeast Valley**

**Entire Schedule Deemed Highly Confidential**



**Cell Cite Table (common table used for both studies)**

This table identifies each Sprint PCS cell site, as populated in the internal call detail record, with the MTA in which the cell site is physically located.

**Entire Schedule Deemed Highly Confidential**

**Switch Cite Table (common table used for both studies)**

This table identifies each Sprint PCS mobile switching center (MSC), as populated in the internal call detail record, with the MTA in which the switching center is physically located.

**Entire Schedule Deemed Highly Confidential**

**MTA Table (common table used for both studies)**

This table identifies the telephone number with the wireless local calling area, the MTA, in which it is physically served.

**Entire Schedule Deemed Highly Confidential**

Rebuttal Testimony of  
Derek Canfield  
TC-2002-057

**Schedule DAC - 6**

**Chariton Valley Raw Data**

**Entire Schedule Deemed Highly Confidential**

Rebuttal Testimony of  
Derek Canfield  
TC-2002-057

**Schedule DAC - 7**

**Northeast Raw Data**

**Entire Schedule Deemed Highly Confidential**