

Order 4-16-02
U-12244**AMENDMENT NO. 1**

to the

**INTERCONNECTION AGREEMENT
by and between****VERIZON NORTH INC. f/k/a GTE NORTH INCORPORATED
CONTEL OF THE SOUTH INC. d/b/a VERIZON NORTH SYSTEMS**

and

SPRINT SPECTRUM**FOR MICHIGAN**

This Amendment No. 1 (this "Amendment") is made this 15th day of January, 2002 (the "Effective Date") by and between Sprint Spectrum, ("Spectrum"), a Delaware corporation with offices at 11880 College Blvd., Overland Park, KS 66210, and Verizon North Inc., f/k/a GTE North Incorporated, Contel of the South Inc., d/b/a Verizon North Systems ("Verizon"), a Wisconsin corporation with offices at 100 Executive Drive, Marion, OH 43302, (each of Verizon and Spectrum being individually, a "Party" and, collectively, the "Parties").

WITNESSETH:

WHEREAS, Verizon and Spectrum are Parties to an Interconnection Agreement under Sections 251 and 252 of the Telecommunications Act of 1996 approved by the Michigan Public Service Commission ("Commission") on February 22, 2000 (the "Interconnection Agreement");

WHEREAS, the Federal Communications Commission has, in FCC Docket 94-102, ordered that providers of commercial mobile radio services make available certain E911 services, and has established clear and certain deadlines by which said service must be available.

WHEREAS, the Parties desire to provide Spectrum with access to the E911 network systems and databases established and maintained by Verizon in a technically and economically efficient manner sufficient to enable Spectrum to provide E911 service to its end user customers; and

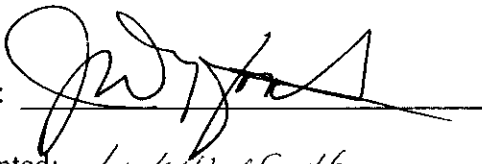
WHEREAS, the Parties wish to enter into an agreement that will allow Spectrum to provide E911 to its end user customers using the systems and databases established and maintained by Verizon on terms that are fair and equitable to both Parties;

NOW, THEREFORE, in consideration of the promises and mutual agreements set forth herein, the Parties agree to amend the Interconnection Agreement as follows:

Article V, Section 2.3 of the Interconnection Agreement is deleted in its entirety.
Article VII, attached hereto, is added to the Interconnection Agreement.
Appendix D, attached hereto, is added to the Interconnection Agreement.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed as of this 15th day of January, 2002.

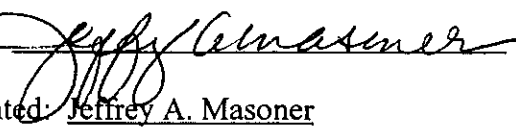
SPRINT SPECTRUM

By: 

Printed: Jack Wapfer

Title: Wgt. Carrier Interconnection

**VERIZON NORTH INC.
f/k/a GTE NORTH INCORPORATED
CONTEL OF THE SOUTH INC.
d/b/a VERIZON NORTH SYSTEMS**

By: 

Printed: Jeffrey A. Masoner

Title: Vice President Interconnection
Services Policy & Planning

**ARTICLE VII
911/E-911 ARRANGEMENTS**

1. Wireless 911/E-911 Arrangements

1.1 Definitions. The following definitions are applicable in this Section:

- 1.1.1 "Automatic Location Identification (ALI) Database" means the emergency services (E911) database containing caller location information including the carrier name, NENA ID, Call Back Number, Routing Number, Cell Site/Sector Information, and other carrier information used to process caller location records.
- 1.1.2 "CAS" means Call Path Associated Signaling.
- 1.1.3 "Spectrum Wireless End User" means any person or entity receiving service on the Spectrum Wireless System.
- 1.1.4 "Call Back Number" means the MDN or other number that can be used by the PSAP to call back the Spectrum Wireless End User.
- 1.1.5 "Cell Sector" means a geographic area defined by Spectrum (according to Spectrum's own radio frequency coverage data), and consisting of a certain portion or all of the total coverage area of a Cell Site.
- 1.1.6 "Cell Site" means the Spectrum fixed radio transmitting and receiving facilities associated with the origination and termination or wireless traffic from/to the Spectrum Wireless End User.
- 1.1.7 "Cell Site/Sector Information" means information that indicates to the receiver of the information the Cell Site location receiving a 911 Call made by the Spectrum Wireless End User, and which may also include additional information regarding a Cell Sector.
- 1.1.8 "Controlling 911 Authority," means the duly authorized State, County or Local Government Agency empowered by law to oversee the 911 services, operations and systems within a defined jurisdiction.
- 1.1.9 "Default PSAP" is the PSAP designated to receive a 911 Call in the event the 911 Tandem Office/Selective Router is unable to determine the Designated PSAP.
- 1.1.10 "Designated PSAP" means the primary PSAP designated by the Controlling 911 Authority to receive a 911 Call based upon the geographic location of the Cell Site.
- 1.1.11 "Host ALI Record" means a data record resident in the primary i.e., host, ALI system for a PSAP.
- 1.1.12 "NCAS" means Non-Call Path Associated Signaling.
- 1.1.13 "PAM Protocol" means the bi-directional ALI-to-ALI real-time steering interface which supports intersystem queries. This interface allows an ALI database serving a PSAP to query a second ALI database for ALI

data that is not resident in the ALI Database serving the PSAP.

1.1.14 "Routing Number" is a number used to support the routing of wireless 911 Calls. It may identify a wireless Cell Sector or PSAP to which the call should be routed. In NCAS, the Routing Number (identified in standard documents as Emergency Services Routing Key "ESRK") is a ten-digit number translated and out pulsed from a Cell Sector identifier at the service control point that routes the 911 Call to the appropriate PSAP. The Routing Number is also the search-key from a PSAP query to an ALI database for a Host ALI Record with a matching Routing Number.

1.1.15 "911 Call Taker" means the PSAP telecommunicator receiving a 911 Call.

1.1.16 "911 Call(s)" means a call made by the Spectrum Wireless End User by dialing the three digit telephone number "911" (and, as necessary, pressing the "Send" or analogous transmitting button) on a wireless handset to facilitate the reporting of an emergency requiring response by a public safety agency.

2. 911/E911 Arrangements for CMRS Not Constituting Fixed Wireless Services

- 2.1 The terms of this Section apply to the provision of 911/E911 services by Verizon to Spectrum in respect to CMRS services that do not constitute Fixed Wireless Services.
- 2.2 To the extent the Parties are required to negotiate additional terms to address Phase II requirements, the Parties agree to negotiate to amend this Agreement to address such requirements.
- 2.3 Spectrum may, at its option in accordance with applicable law or regulation, interconnect to the Verizon 911 Tandem Office(s)/Selective Router(s) or interface points, e.g. digital cross connect systems (DCS), as appropriate, that serve the areas in which Spectrum provides telephone exchange services, for the provision of 911/E911 services and for access to all subtending Public Safety Answering Points (PSAP). In such situations, Verizon will provide Spectrum with the appropriate CLLI codes and specifications of the 911 Tandem Office/Selective Router serving area. In areas where E-911 is not available, Spectrum and Verizon will negotiate arrangements to connect Spectrum to the 911 service in accordance with Applicable Law.
- 2.4 Notwithstanding anything contained herein to the contrary, the respective obligations of the Parties contained in this Section are not effective as to a particular 911 jurisdiction until Spectrum notifies Verizon in writing that it has received a request from the Controlling 911 Authority to provide E-911 service within a jurisdiction served by Verizon. Upon receipt of such a notice from Spectrum, the Parties shall promptly implement the respective obligations of the Parties contained in this Section.
- 2.5 All path and route Interconnections for 911/E-911 shall be made diverse as necessary and as required by law or regulation.
- 2.6 Within thirty (30) days of its receipt of a complete and accurate request from Spectrum, to include all required information and applicable forms, and to the

extent authorized by the relevant federal, state, and local authorities, Verizon will provide Spectrum, where Verizon offers 911 service, with the following at a reasonable fee, if applicable:

- 2.6.1 a list of the address and CLLI code of each 911/E-911 Tandem Office(s)/Selective Router(s) in the area in which Spectrum plans to offer CMRS services that do not constitute Fixed Wireless Services;
- 2.6.2 a list of appropriate Verizon contact personnel who currently have responsibility for operations and support of 911/E-911 network and database systems,
- 2.6.3 any special 911 Trunking requirements for each 911/E-911 Tandem Office(s)/Selective Router(s), where applicable and available, and;
- 2.6.4 prompt return of any Spectrum 911/E-911 data entry files containing errors, so that Spectrum may ensure the accuracy of the Customer records and resubmit to Verizon as necessary.

2.7 Electronic Interface

- 2.7.1 Spectrum shall use, where available, the appropriate Verizon electronic interface, through which Spectrum shall input and provide a daily update (or as necessary) of 911/E-911 database information related to appropriate cell/sector location information associated with each face of the cellsite. In those areas where an electronic interface is not available, Spectrum shall provide Verizon with all appropriate 911/E-911 information via facsimile for Verizon's entry into the 911/E-911 database system. Any 911/E-911 related data exchanged between the Parties prior to the availability of an electronic interface shall conform to Verizon standards, whereas 911/E-911-related data exchanged electronically shall conform to the National Emergency Number Association (NENA) standards.
- 2.7.2 Notwithstanding the above, Spectrum may use a third party for the electronic interface with Verizon.

2.8 911/E911 General

2.8.1 911 Interconnection

Verizon and Spectrum shall each use commercially reasonable efforts to facilitate the prompt, robust, reliable and efficient interconnection of Spectrum systems to the 911/E-911 platforms and/or systems.

2.8.2 911 Facilities

Spectrum shall be responsible for providing facilities from the Spectrum Mobile Switching Center to the 911/E911 Tandem Office(s)/Selective Router(s) or appropriate interface points, e.g. digital cross connect systems (DCS). Spectrum shall deploy diverse routing of 911 trunk pairs to the Verizon 911/E911 Tandem Office(s)/Selective Router(s) or interface point(s).

2.8.4 911 Authority Coordination

Verizon and Spectrum will work cooperatively to arrange meetings with the Controlling 911 Authorities to answer any technical questions the PSAPs, or county or municipal coordinators may have regarding the 911/E-911 arrangements.

2.8.5 911 Compensation

Spectrum will compensate Verizon for provision of its 911/E-911 services pursuant to the Appendix D.

2.8.6 911 Rules and Regulations

Spectrum and Verizon will comply with all applicable rules and regulations (including 911 taxes and surcharges as defined by Applicable Law) pertaining to the provision of 911/E-911 services in Florida.

2.9 NCAS

2.9.1 Trunking

2.9.1.1 Notwithstanding anything contained in this Agreement to the contrary, Verizon shall provide Spectrum with a minimum of two (2) dedicated Type 2C trunks diversely routed for the provision of E 911 services.

2.9.2 Routing

2.9.2.1 Routing of calls will be based on the Routing Number (aka ESRK) delivered with the voice call. Verizon will route the voice portion of the 911 call and its corresponding ESRK to the Designated PSAP. If Verizon is unable to route to the Designated PSAP due to the PSAP trunks being busy or out of service, Verizon will route the call to an Alternate PSAP(s) or busy tone, as directed by the Controlling 911 Authority. If Verizon is unable to route the call to the Designated PSAP due to a failure in delivery of the Routing Number, Verizon will route the call to a Default PSAP designated by the Controlling 911 Authority and provided to Verizon by Spectrum. Both Parties' network architecture and routing responsibilities will be in accordance with Applicable Law.

2.9.3 Data

2.9.3.1 Upon receipt of a PSAP query to a Verizon-controlled ALI Database to obtain the Call Back Number and Cell Site/Sector Information for a 911 Call, the Verizon-controlled ALI Database shall route the query to the Spectrum-controlled ALI Database designated by Spectrum.

2.9.3.2 The Verizon-controlled ALI Database shall then automatically receive from the Spectrum-controlled ALI Database the Routing Number, Call Back Number and Cell Site/Sector Information associated with the 911 Call.

2.9.3.3 The Verizon-controlled ALI Database shall then transmit the data received from the Spectrum-controlled database to the PSAP within a time period at parity with the transmission rates in response to similar queries to the Verizon-Controlled ALI Database for 911 calls originating from wireless carriers other than Spectrum.

2.9.4 Miscellaneous

2.9.4.1 Verizon shall permit Spectrum to terminate two frame relay circuits from an Spectrum-controlled ALI Database to the Verizon ALI Database site(s). Spectrum shall provide diverse connections to the Verizon ALI Database site(s).

2.9.4.2 Verizon shall place necessary Customer Service Unit/Data Service Unit ("CSU/DSU") at each Verizon ALI Database site, for the provision of the Routing Number, Call Back Number, Cell Site/Sector Information.

2.9.4.3 Verizon and Spectrum shall provision their respective ALI Databases such that the exchange of data between each shall use the PAM Protocol or other agreed upon interface.

2.10 CAS

2.10.1 Trunking

2.10.1.1 Notwithstanding anything contained in this Agreement to the contrary, Verizon shall provide Spectrum with a minimum of two (2) dedicated Type 2C trunks diversely routed for the provision of E911 services.

2.10.2 Routing

2.10.2.1 Routing of calls will be based on the Routing Number delivered with the voice call. For CAS, the Routing Number is identified in standard documents as Emergency Services Routing Digit, ("ESRD"). Verizon will route the voice portion of the 911 call and its corresponding ESRD to the Designated PSAP. If Verizon is unable to route to the Designated PSAP due to the PSAP trunks being busy or out of service, Verizon will route the call to an Alternate PSAP(s) or busy tone, as directed by the Controlling 911 Authority. If Verizon is unable to route the call to the Designated PSAP due to a failure in delivery of the Routing Number, Verizon will route the call to a Default PSAP designated by the Controlling 911 Authority and provided to Verizon by Spectrum. Both Parties' network architecture and routing responsibilities will be in accordance with Applicable Law.

2.10.3 Data

2.10.3.1 Upon receipt of a PSAP query, a Verizon controlled ALI Database shall transmit the Routing Number, Call Back

Number and Cell Site/Sector Information to the PSAP.

3. 911/E-911 Arrangements for Fixed Wireless Services

- 3.1 Spectrum may, at its option, interconnect to the Verizon 911/E-911 Tandem Office(s)/Selective Router(s), or interface point(s), e.g. digital cross connect systems (DCS), as appropriate, that serve the areas in which Spectrum provides Fixed Wireless Services, for the provision of 911/E-911 services and for access to all subtending Public Safety Answering Points ("PSAP"). In such situations, Verizon will provide Spectrum with the appropriate CLLI codes and specifications of the Tandem Office serving area. In areas where E-911 is not available, Spectrum and Verizon will negotiate arrangements to connect Spectrum to the 911 service in accordance with Applicable Law.
- 3.2 All path and route Interconnections for 911/E-911 shall be made diverse as necessary and as required by law or regulation.
- 3.3 Within thirty (30) days of its receipt of a complete and accurate request from Spectrum, to include all required information and applicable forms, and to the extent authorized by the relevant federal, state, and local authorities, Verizon will provide Spectrum, where Verizon offers 911 services, with the following at a reasonable fee, if applicable:
 - 3.3.1 a file via electronic medium containing the Master Street Address Guide ("MSAG") for each county within the LATA(s) where Spectrum is providing, or represents to Verizon that it intends to provide service within sixty (60) days of Spectrum's request. Verizon shall update the MSAG as the need arises. A complete copy of which shall be made available on an annual basis;
 - 3.3.2 a list of the address and CLLI code of each 911/E-911 Tandem Office(s)/Selective Router(s) in the area in which Spectrum plans to offer service;
 - 3.3.3 a list of appropriate Verizon contact personnel who currently have responsibility for operations and support of 911/E-911 network and database systems;
 - 3.3.4 any special 911 trunking requirements for each 911/E-911 Tandem Office/Selective Router, where available, and;
 - 3.3.5 prompt return of any Spectrum 911/E-911 data entry files containing errors, so that Spectrum may ensure the accuracy of the Customer records and resubmit to Verizon as necessary.

4. NENA Standards For Local Number Portability (LNP)

Spectrum is required to enter data into the 911 database under the NENA Standards for LNP. This includes, but is not limited to, using Spectrum's NENA ID to lock and unlock records and the posting of Spectrum's NENA ID to the ALI record where such locking and unlocking feature for 911 records is available, or as defined by local standards.

8423 APPENDIX D
RATES AND CHARGES FOR E911

	<u>Nonrecurring Charge</u>	<u>Monthly Recurring Charge</u>
DS1	Tariff	Tariff
DS0 911 Trunk	Tariff	Tariff
E911 Selective Router Ports		
Ports		
Per Trunk	\$260.00	\$40.37
ALI Database Services		
Centralized ALI Port		
Per System	\$200.00	\$62.00
(for third party data – Note 1)		
ALISA	\$200.00	\$62.00
HP 3000 CO	\$200.00	\$63.44
PS ALI Software		
Per Package	\$640.80	\$20.00
ALI Gateway/DMARCS Service	\$135.00	\$36.00
Selective Router Boundary Maps		
Per Map	\$125.00	n/a
MSAG Copies via Diskette/Email		
Per County		
First Copy Per Order	\$276.00	n/a
Additional Copy on the same		
Order as the First Copy	\$37.00	n/a

Note 1: Includes one port each into both primary and secondary Centralized ALI system. Circuits from third party database to Centralized ALI system, 9.6k or higher, to be provided by Spectrum.