

BEFORE THE  
**Federal Communications Commission**

WASHINGTON, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION  
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In the Matter of )  
)  
Wireless Fixed Access )  
Local Loop Services )  
) RM No. 8837  
Petition for Allocation of Radio )  
Spectrum in the 2 GHz Band for )  
the Provision of Wireless Fixed )  
Access Local Loop Services )

To: The Commission

COMMENTS  
OF  
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**SUMMARY**

SR Telecom Inc. ("SR Telecom") strongly supports the request made by DSC Communications Corporation ("DSC") in its Petition for Rulemaking that the Federal Communications Commission ("Commission") promptly initiate a rulemaking proceeding to allocate spectrum in the 1.3 to 2.7 GHz range for the provision of wireless local loop services. In particular, SR Telecom believes that spectrum in the 1668-1700/1723.5-1755 MHz, 2037.5-2076/2111.5-2150 MHz, and 2160-2198.5/2310-2348.5 MHz bands would be suitable for WLL services, but asks that the Commission also consider other options within the 2 GHz band.

SR Telecom, however, urges the Commission not to limit use of WLL spectrum only to wireless fixed access-local loop ("WFA-LL") technologies, as requested by DSC, but asks that the Commission allow WFA-LL, point-to-multipoint ("PMP"), and other broadband wireless loop technologies to utilize such spectrum. Both WFA-LL and PMP systems offer relatively inexpensive, spectrum-efficient, and easily deployable alternatives to wireline local loops.

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**COMMENTS  
OF  
SR TELECOM INC.**

SR Telecom Inc. ("SR Telecom"), by its attorneys and pursuant to Section 1.405 of the Federal Communications Commission's ("Commission's") Rules and Regulations, respectfully submits the following Comments in response to the above-captioned Petition for Rulemaking ("Petition") that was filed by DSC Communications Corporation ("DSC") with the Commission on June 4, 1996.<sup>1/</sup>

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<sup>1/</sup> Report No. 2142 (July 11, 1996).

I. PRELIMINARY STATEMENT

1. SR Telecom manufacturers point-to-multipoint ("PMP") radio equipment that is employed internationally to provide wireless, fixed telephone subscriber service, as well as supervisory control and data acquisition transport for industrial uses. SR Telecom equipment is installed throughout North America, including the United States, Canada, and Mexico, as well as in Europe, Latin America, Pacific Rim countries, the Middle East, and Africa. This technology is used to provide telephone service to hundreds of thousands of subscribers who would otherwise be without service. SR Telecom is currently working closely with local exchange carriers ("LECs") and others in the United States with a view toward utilization of its equipment to provide wireless loop services primarily in rural and sparsely populated areas.

2. SR Telecom has participated in a number of recent Commission proceedings to urge that spectrum be specifically allocated for use by wireless loop technologies. For instance, in response to the Commission's proposal to permit broadband Commercial Mobile Radio Service ("CMRS") licensees to provide fixed services such as wireless local loop

services,<sup>2/</sup> SR Telecom supported the Commission's flexible use proposal and asked that the Commission expand its proposal to also allow narrowband CMRS licensees, Multipoint Distribution Service licensees, and Local Multipoint Distribution Service licensees to provide fixed services.<sup>3/</sup> For this reason, SR Telecom is pleased to have this opportunity to comment on DSC's Petition.

3. DSC's Petition asks the Commission to promptly initiate a rulemaking proceeding to allocate spectrum in the 1.3 to 2.7 GHz range for use in the provision of wireless fixed access-local loop ("WFA-LL") services.<sup>4/</sup> According to DSC, WFA-LL is a wireless loop architecture that completely replaces the drop, distribution, and feeder portions of wireline local loops. DSC distinguishes between WFA-LL and other wireless loop architectures, such as the PMP architecture employed by SR Telecom's equipment, and claims that allocation of spectrum between 1.3 and 2.7 GHz for WFA-LL services will serve the public interest.<sup>5/</sup>

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<sup>2/</sup> Amendment of the Commission's Rules to Permit Flexible Service Offerings in the Commercial Mobile Radio Services, 11 FCC Rcd 2445 (1996) ("CMRS Flexible Use NPRM").

<sup>3/</sup> SR Telecom Comments at pp. 12-14.

<sup>4/</sup> DSC Petition at p. 1.

<sup>5/</sup> Id. at pp. 9-15.

4. Despite DSC's attempt to distinguish between WFA-LL and other types of broadband wireless loop systems, such as PMP systems, many broadband wireless loop systems share common characteristics. One such characteristic is the need for broadband frequency assignments. This requirement prevents broadband systems from using Specialized Mobile Radio and other spectrum set aside for narrowband operations. In addition, most broadband wireless loop systems, including WFA-LL and PMP systems, replace the entire wireline local loop and can provide wireline quality service. These unique characteristics set broadband wireless loop systems apart from other wireless local loop systems. Accordingly, all references in the remainder of these comments to wireless local loop ("WLL") systems and services will refer to WFA-LL, PMP, and other broadband wireless loop systems.

## II. COMMENTS

### A. **SR Telecom Supports Prompt Initiation of a Rulemaking Proceeding to Allocate Spectrum in the 1.3 to 2.7 GHz Range for Provision of WLL Services**

5. SR Telecom supports DSC's Petition insofar as it demonstrates the growing public need for WLL services and urges the Commission to promptly initiate a rulemaking proceeding to allocate spectrum in the 1.3 to 2.7 GHz range

for those services. SR Telecom agrees that WLL systems offer the most cost-effective and efficient means of promoting facilities-based competition in the local exchange market and that deployment of WLL systems in rural and sparsely populated areas will further the Commission's universal service goals. Increased local exchange competition will benefit the public by providing more choice, lower prices, and better service. Universal service advancement will benefit the public by increasing access to the public switched network and a wide variety of telecommunications services.

6. SR Telecom agrees with the data contained in DSC's Petition concerning the growth in international demand for deployment of WLL systems.<sup>6/</sup> SR Telecom points out that the demand for WLL system deployment in North America, particularly in the United States, represents a substantial percentage of that growth. Based on current demand projections, more than 22 million individuals and businesses in North America will rely on WLL systems to satisfy their telephone and other telecommunications needs by 2005.<sup>7/</sup>

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<sup>6/</sup> Id. at pp. 4-6.

<sup>7/</sup> Id. at p. 5.

7. Certainly, the Commission has recognized the important role that WLL systems could play in the United States. For instance, on August 1, 1996, the Commission released a decision permitting CMRS licensees to provide fixed wireless services, including WLL services, on a co-primary basis.<sup>8/</sup> Moreover, in the Notice of Proposed Rulemaking underlying this decision, the Commission concluded that WLL services can help remove barriers to competitive provision of local exchange service.<sup>9/</sup>

8. WLL systems offer a number of public benefits. As noted by DSC, deployment of WLL systems will help foster facilities-based local exchange competition.<sup>10/</sup> One reason for this is that deployment of WLL systems is far less capital intensive than deployment of copper or fiber-based technologies. This cost advantage increases as the distance between switches and end users increase. Another reason is that WLL systems can be deployed far more quickly than wireline technologies. Use of WLL systems avoids the need to negotiate for access to rights-of-way and limits the need for local government involvement.

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<sup>8/</sup> Amendment of the Commission's Rules to Permit Flexible Service Offerings in the Commercial Mobile Radio Services, FCC 96-283 (August 1, 1996).

<sup>9/</sup> CMRS Flexible Use NPRM, 11 FCC Rcd 2445.

<sup>10/</sup> DSC Petition at pp. 6-8.

9. Apart from fostering greater local exchange competition, WLL systems also will contribute to the Commission's universal service goals. As noted by DSC, it will be much more economical to install and maintain service in rural and high-cost areas using WLL systems than copper or fiber-based technologies.<sup>11/</sup> In fact, the Chief of the Wireless Telecommunications Bureau, Michelle Farquhar, made this point during a speech she delivered on July 23, 1996. In that speech, she said that WLL services "can be used to provide a cost effective means of connecting customers to the wireline telephone network, especially in rural areas, where the cost of installing or replacing wireline loop plant may be prohibitive."<sup>12/</sup> Accordingly, WLL systems will enable LECs and/or competitive local exchange providers to offer telephone and other telecommunications services in areas of the United States that currently are unserved or underserved.

10. SR Telecom has demonstrated the effectiveness of using wireless loop technology to advance universal service goals. In this regard, within the last year, SR Telecom has conducted field tests of its wireless loop equipment in

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<sup>11/</sup> Id. at pp 8-9.

<sup>12/</sup> Remarks of Michelle Farquhar Before the National Association of Regulatory Utility Commissioners Committee on Communications (July 23, 1996).

conjunction with an incumbent LEC in rural areas of the United States. These tests were successful at providing telephone and other telecommunications services to a number of people in remote locations that could not otherwise be economically served. Unfortunately, the tests were ended when the spectrum being employed was relinquished for use in the provision of wireless data services.

11. In light of the foregoing, SR Telecom believes the Commission should allocate spectrum specifically for provision of WLL services. SR Telecom agrees with DSC that spectrum between 1.3 and 2.7 GHz would be most suitable for this purpose. The reason for this is that, due to the propagation characteristics of frequencies above 3 GHz, it would be difficult for WLL systems operating in that part of the electromagnetic spectrum to economically provide wide area coverage. While SR Telecom applauds the Commission's recent decision to allow CMRS licensees to offer fixed wireless services, SR Telecom agrees with DSC that CMRS licensees providing fixed services probably will not be able to compete with the services and quality offered by wireline technologies and that, given the heavy use to which CMRS spectrum already is being put to meet the need for mobile communications, the amount of such spectrum available for fixed operations likely will prove woefully inadequate to

meet the demand for WLL services. Therefore, SR Telecom urges the Commission to allocate spectrum in the 1.3 to 2.7 GHz range for use by WLL systems.

**B. The Rules and Policies Applicable to Spectrum Allocated for the Provision of WLL Services Should Not Be Technology Specific, But Should Accommodate WFA-LL, PMP, and Other WLL Systems**

12. Even though SR Telecom supports allocation of spectrum between 1.3 and 2.7 GHz for WLL systems, it opposes DSC's Petition to the extent that it asks that the allocation be limited only to Code Division Multiple Access-based WFA-LL systems. SR Telecom does not believe that any spectrum allocated for use by providers of WLL services, should be limited to a specific technology or type of WLL system. This would unfairly favor a limited choice of techniques for provision of services. The public could suffer reduced service access due to these limitations. For this reason, SR Telecom believes that any rulemaking proceeding initiated by the Commission in response to DSC's Petition should propose rules and policies capable of accommodating WFA-LL, PMP, and other WLL systems. SR Telecom believes that this will better promote local exchange competition.

13. As explained by DSC, WFA-LL systems are a type of WLL system that completely replace the drop, distribution, and feeder portions of wireline local loops.<sup>13/</sup> By contrast, the Petition states that PMP systems replace only the distribution and feeder portions of the wireline local loop. According to DSC, WFA-LL systems have advantages not possessed by other types of WLL systems, including PMP systems, because they can be deployed at the lowest cost and can provide better quality service than other WLL systems.<sup>14/</sup> Not surprisingly, DSC manufactures WFA-LL equipment.

14. SR Telecom disagrees with DSC's claim that WFA-LL systems have advantages not possessed by other types of WLL systems. For instance, much like WFA-LL systems, PMP systems provide an inexpensive, spectrum-efficient alternative to wireline local loops. Despite DSC's claims to the contrary, PMP systems are capable of replacing the entire wireline local loop, and frequently are used for this purpose. Moreover, Time Division Multiple Access ("TDMA") PMP systems, such as SR Telecom's SR500-s system, utilize proven technology that is specifically designed and employed for the purpose of providing wireless service to individuals

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<sup>13/</sup> DSC Petition at pp. 16-20.

<sup>14/</sup> Id. at pp. 18-19.

provision of Integrated Services Digital Network, high speed fax, and high speed data transfer, and currently are in use in over 100 countries.

15. The SR500-s is a PMP system that distributes telephone lines and data circuits from a base site to multiple remote sites in the surrounding region, either through direct link to the central station or through repeaters. This configuration, as well as a description of the equipment utilized by the SR500-s, is shown in Exhibit A. The SR500-s uses frequencies in the 2 GHz band and is capable of providing up to 60, full duplex, 64 kbps trunks. These trunks can be assigned on a demand-assigned basis or, alternatively, they can be dedicated to individual lines on a one-for-one basis. At the election of the user, the SR500-s can utilize existing copper or fiber plant where adequate through a Network Extender Module instead of a radio interface. This option allows for efficient spectrum and existing plant utilization. The SR500-s is capable of providing two-way traffic capacity in excess of 47 erlangs. Spectrally efficient, the SR500-s requires only a single pair of 3.5 MHz frequencies for each network node. A SR500-s system can connect nearly 700 subscribers with only a 1% peak-busy-hour-blocking rate.

16. SR500-s systems can be configured in radial, branched, or linear networks, as shown in Exhibit B, with a cumulative link range of 450 miles from the central station. Frequently, SR-500s systems are used in conjunction with wireline facilities as shown in Exhibit C. The SR-500-s also can be used to connect wireline facilities for wireless "clustered" applications as shown in Exhibit D. As with other TDMA-based PMP systems, the SR500-s provides a cost-effective method of distributing urban-quality telephone and data services in rural and sparsely populated areas.

17. SR Telecom, therefore, believes that the rules and policies governing any spectrum allocated for provision of WLL services should accommodate WFA-LL, PMP, and other WLL systems. These systems provide wireline equivalent services, and do so in a manner that is cost-effective and spectrum-efficient.

**C. SR Telecom Supports Allocation of Frequencies in the 1668-1700 and 1723.5-1755 MHz Bands, 2037.5-2076 and 2111.5-2150 MHz Bands, and 2160-2198.5 and 2310-2348.5 MHz Bands, But Urges the Commission to Also Consider Other Options**

18. DSC identifies six frequency bands within the 1.3 to 2.7 GHz range that it believes are suitable for deployment of WLL systems. These bands are as follows:

- (1) Frequency Band A - 1668-1700/1723.5-1755 MHz;
- (2) Frequency Band B - 2037.5-2076/2111.5-2150 MHz;
- (3) Frequency Band C - 2110-2145/2165-2200 MHz;
- (4) Frequency Band D - 2160-2198.5/2310-2348.5 MHz;
- (5) Frequency Band E - 2400-2438.5/2160-2198.5 MHz; and
- (6) Frequency Band F - 2401-2439.5/2310-2348.5 MHz.<sup>15/</sup>

SR Telecom supports allocation of Frequency Bands A, B, and D, but opposes allocation of Frequency Bands C, E, and F. However, SR Telecom does not view these frequency bands as the only options and encourages the Commission to consider other bands within the 1.3 to 2.7 GHz range for possible use by WLL systems.

19. The reason for SR Telecom's opposition to allocation of Frequency Band C is based entirely on the limited spacing between the transmit and receive frequencies. This spacing is unfavorable to operation of TDMA-based WLL systems. Allocation of this frequency band, therefore, would favor one type of WLL technology over another. As for Frequency Bands E and F, SR Telecom is opposed to their allocation because the low end of both bands is used by a variety of unlicensed radio frequency devices that likely would cause interference to any WLL systems licensed to operate in the bands.

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<sup>15/</sup> Id. at pp. 25-33.

**D. The Rules and Policies Governing WLL Spectrum Must Be Flexible and Fair**

20. DSC recommends adoption of certain rules and policies, such as the number of WLL licenses that should be granted in each geographic area and the type of regulation to which holders of those licenses should be subject, to govern the spectrum allocated for provision of WLL services.<sup>16/</sup> Except to the extent discussed below, SR Telecom does not comment on those rules and policies.

21. The rules and policies adopted by the Commission to govern WLL spectrum must be both flexible and fair. As described above, the rules and policies must not favor one equipment manufacturer, technology, or system architecture over another. As with the rules and policies established by the Commission to govern Personal Communications Services, they should not be technology specific and should promote competition by wireless service providers to wireline service providers. In other words, the rules and policies must be flexible enough to accommodate all types of WLL systems, including both WFA-LL and PMP systems, provided those systems satisfy the general technical and operational requirements, such as generic adjacent channel interference criteria, established by the Commission.

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<sup>16/</sup> DSC Petition at pp. 34-37.

22. While not expressly stated in the Petition, DSC implies that spectrum allocated for WLL services should be available only to entities willing to provide a wireless alternative to incumbent LECs.<sup>17/</sup> SR Telecom disagrees with this position. As discussed above, SR Telecom recognizes that WLL services offer a relatively inexpensive and quick way to facilitate introduction of facilities-based competition in the local exchange. To this extent, making WLL spectrum available to entities other than incumbent LECs makes good sense. However, as also discussed above, another advantage of allocating WLL spectrum is that such spectrum is an excellent vehicle for advancing the Commission's universal service goals. A large part of this goal is to encourage the provision of telephone and other telecommunications services to rural and sparsely populated areas. Due to the expense associated with installing copper or fiber-based technologies, many rural and sparsely populated areas currently are not being served or are being underserved. Because incumbent LECs frequently are the only entities willing to extend service to unserved or underserved areas, SR Telecom does not believe they should be precluded from accessing WLL spectrum. Rather, SR Telecom believes incumbent LECs should have equal access to WLL spectrum.

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<sup>17/</sup> Id. at p. 34.

23. DSC's Petition indicates that providers of WLL services should be regulated as common carriers.<sup>18/</sup> SR Telecom, however, believes that spectrum allocated for provision of WLL services should be made available to private, industrial, and public safety entities on a co-primary basis. In this regard, the Commission's rules and policies should specify that private, industrial, and public safety entities are not common carriers and that, rather than having to comply with traditional common carrier requirements, they must comply with the requirements typically imposed on such entities. This should not restrict private, industrial, and public safety entities from becoming common carriers if they agree to be regulated as such. It should be noted that the existing facilities of private, industrial, and public safety entities, if used by providers of WLL services through sharing agreements or by the owners of those facilities, could help overcome delays currently being experienced with construction of new transmitter sites, while promoting the rapid introduction of WLL services in rural areas.

### III. CONCLUSION

24. SR Telecom supports DSC's request that the Commission promptly initiate a rulemaking proceeding to

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<sup>18/</sup> Id. at pp. 35-36.

allocate spectrum in the 1.3 to 2.7 GHz range for provision of WLL services, but urges the Commission not to limit use of such spectrum to only WFA-LL systems. WFA-LL, PMP, and other broadband WLL systems can offer relatively inexpensive, spectrum-efficient, and easily deployable alternatives to wireline local loops, and all of these types of systems should be able to operate in any spectrum allocated for provision of WLL services.

**WHEREFORE, THE PREMISES CONSIDERED, SR Telecom Inc.**  
requests that the Commission act in a manner consistent with  
the views expressed herein.

Respectfully submitted,

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**Its Attorneys**

**Dated: August 12, 1996**

**CERTIFICATE OF SERVICE**

I, Laura C. Franklin, a secretary in the law firm of Keller and Heckman, do hereby certify that a copy of the foregoing Comments of SR Telecom Inc. has been served this 12th day of August, 1996, by mailing U.S. first-class, postage prepaid, to the following:

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