

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Amendment of Part 2 of the Commission's Rules to)	ET Docket No. 00-258
Allocate Spectrum Below 3 GHz for Mobile and)	
Fixed Services to Support the Introduction of New)	
Advanced Wireless Services, including Third)	
Generation Wireless Systems)	
)	
Petition for Rulemaking of the Cellular)	RM-9920
Telecommunications Industry Association)	
Concerning Implementation of WRC-2000; Review)	
Of Spectrum and Regulatory Requirements for)	
IMT-2000)	
)	
Amendment of the U.S. Table of Frequency)	RM-9911
Allocations to Designate the 2500-2520/2670-)	
2690 MHz Frequency Bands for the Mobile)	
Satellite Service)	

REPLY COMMENTS OF VOICESTREAM WIRELESS CORPORATION

VoiceStream Wireless Corporation hereby submits reply comments in connection with the Notice of Proposed Rulemaking in this proceeding.

Before addressing specific comments received by the Commission in response to the NPRM, VoiceStream wishes to make a couple of observations.

First, as expressed in its initial comments, VoiceStream believes that it is imperative for the Commission to establish a comprehensive plan for all spectrum bands under consideration for third generation wireless services before proceeding to auction spectrum for these services.¹ VoiceStream recommends that no spectrum currently under consideration for third generation wireless services (e.g., 1710-1755 MHz and 2110-2150

¹ Letter from Brian O'Connor, Vice-President, Legislative & Regulatory Affairs, VoiceStream Wireless, to Magalie Roman Salas, FCC, ET Docket No. 00-258, February 22, 2001.

MHz) be undertaken before the conclusion of the current proceeding. This proceeding is the only forum currently in place for the Commission to examine thoroughly and comprehensively the direction of wireless technology and industry development and the spectrum management policies that are most suitable for supporting further advancements of mobile wireless technology.

Second, comments received in this proceeding notwithstanding (as we demonstrate below), the fact remains that the U.S. wireless industry needs a minimum of 160 MHz of additional spectrum in order to deploy third generation wireless services.² The minimum spectrum level determination was made in joint fashion by U.S. industry and the U.S. government prior to WRC-2000. Thus, it is vital that the FCC and the U.S. government also allocate spectrum from the 2.5 GHz band identified at WRC-2000 for third generation services. Allocating spectrum solely from the 1710-1850 MHz band will not provide adequate spectrum in the U.S. for the deployment of third generation services, particularly if not all the spectrum in the 1710-1850 MHz band is made available on a clear and unencumbered basis.

VoiceStream turns now to replying to specific comments made to the NPRM in this proceeding. VoiceStream's replies are grouped into three broad categories: (1) spectrum band plan; (2) government use of the spectrum; and (3) claims made by the ITFS and MDS communities.

² VoiceStream also supports those parties that recommend that the FCC allocate 2 x 15 MHz of spectrum per licensee. See TIA Comments at 14; Siemens Comments at 23; Ericsson Comments at 13; Lucent Comments at 3; Radio Advisory Board of Canada Comments at 9.

I. Spectrum Band Plan.

VoiceStream supports the proposal made by the majority of the commenters favoring an initial frequency division duplex (FDD) pairing in the 1710-1850 MHz band.³ This pairing should have a 95 MHz split in order to harmonize with the global DCS-1800 allocations in this band. This proposal has a number of advantages. First, it would enable easier roaming with second generation systems already deployed in this band in the rest of the world. Second, it would facilitate economies of scope and scale in the manufacture of equipment as third generation systems are incorporated in this band throughout the world. In order to accommodate the need for guard bands, VoiceStream supports the Canadian proposal of pairing the 1710-1750 MHz band with 1805-1845 MHz band, leaving 1845-1850 MHz as a guardband between the expansion band with base transmit and the PCS band with mobile transmit. VoiceStream supports the consideration of low power TDD applications in the guardbands.

VoiceStream also supports the proposal of several commenters that the middle portion of the 1710-1850 MHz band (i.e., 1750-1805) be paired with an equal amount of spectrum in the 2110-2165 MHz band.⁴ This could be accomplished in a phased approach, with Phase One allowing the 1750-1805 MHz band to be used by federal government systems, and Phase Two providing for auction of these bands, once the government systems are migrated to other spectrum. Consideration would have to be given at that time for appropriate guardband requirements. It is clear that a number of commenters support using the 2110-2150 MHz band as a downlink (base to mobile)

³ See Motorola Comments at 21; Nortel Comments at 4; AT&T Comments at 7; TIA Comments at 15. Some commenters support a separate allocation for low power TDD services. See Motorola Comments at 21; TIA Comments at 15.

⁴ See Motorola Comments at 11; AT&T Wireless Comments at 14-15; Lucent Comments at 12; Radio Advisory Board of Canada Comments at 17.

band, harmonizing with the global use of these frequencies.⁵ In addition, VoiceStream agrees with Verizon Wireless' analysis of the adjacent channel interference potential if MDS is allowed to continue operation in the 2150-2160 MHz band and recommends that MDS in this band be relocated to other spectrum.⁶

Turning to the 2.5 GHz band, VoiceStream supports making 120 MHz of spectrum available in this band by pairing 2500-2560 MHz and 2630 –2690 MHz. This would provide sufficient additional spectrum for third generation services, while providing 70 MHz of spectrum for MDS and ITFS services in the 2.5 GHz band. As explained below, this should be sufficient spectrum for MDS and IFTS licenses, given the amount of spectrum presumed to be needed by these licensees today and assuming equipment upgrades to spectrally efficient digital equipment. As recognized by several commenters, this restructuring of the band plan for the 2500-2690 MHz band could be accomplished as a phased approach to an overall comprehensive plan for spectrum allocation for third generation services in the U.S., as this spectrum will likely not be used globally for third generation services until at least 2005.⁷

Finally, VoiceStream strongly urges against consideration of the frequencies allocated for TV channels 52 to 69 in the 700 MHz band as expansion bands for third generation services and systems. Although currently scheduled for auction for mobile services, this frequency band is heavily encumbered and will remain so for an extended period of time. The 700 MHz band is outside the bands identified at WRC-2000 as third generation expansion bands and will not likely be part of a global allocation for those

⁵ See Ericsson Comments at 12; Motorola Comments at 17; Nokia Comments at 4; Radio Advisory Board of Canada Comments at 18; AT&T Wireless Comments at 15; Lucent Comments at 13.

⁶ See Verizon Wireless Comments at 14 and Appendix.

⁷ See Ericsson Comments at 15-17; Motorola Comments at 12; Nokia Comments at 6.

services. If the United States includes this band in its regional allocation for third generation services, it will again commit itself to being a spectrum island relative to the rest of the world and again force an unnecessary cost penalty on the American consumer in terms of higher mobile equipment costs and lack of services and capabilities.

II. Government Use of the Spectrum.

VoiceStream joins with the many others who have lent their support to the Association Group (CTIA/ITA/PCIA) recommendations with respect to relocation of and sharing with federal incumbents in the 1755-1850 MHz band.⁸ Further, VoiceStream fully supports the comments of Ericsson and Motorola proposing to use auction revenues to pay for the relocation costs of federal incumbents. This would be a “win-win-win” proposition for government, the wireless industry, and consumers. Incumbent federal government users would be fully reimbursed for the costs involved in migrating to new spectrum⁹ and in provisioning new, spectrally efficient equipment. The wireless industry would benefit from the allocation of sufficient spectrum for third generation services, to the benefit of U.S. consumers demanding advanced mobile services.

We would also point out another potential benefit for incumbent federal government users. The third generation systems envisioned for use in the 1710 – 1850 MHz expansion band globally will have extensive improvements over current commercial wireless systems. Global changes include new and more powerful authentication, confidentiality and integrity algorithms. In addition, new systems will be

⁸ See Joint Comments of the Cellular Telecommunications and Internet Association, Telecommunications Industry Association and Personal Communications Industry Association, “Report of the Industry Association Group on Identification of Spectrum for 3G Services.” The report includes recommendations for accommodating four major systems which operate in the 1710-1850 MHz band: satellite control systems, fixed microwave systems, military tactical radio relay and air combat training systems.

⁹ VoiceStream agrees with Verizon Wireless that incumbent government users must be completely relocated from the 1710-1755 MHz band in order to make this band plan workable. See Verizon Wireless

able to authenticate not only the user but also the mobile, assuring that it is communicating with a valid network. These capabilities should offer sufficient communications security for many government needs now being provided by costly and, in some cases, outdated government-owned systems. The fact that these third generation technologies will likely be deployed as part of nationwide systems makes them viable alternatives to provide communication services for such government agencies as the military, FEMA, US Forestry, FBI, Secret Service, White House communications, etc. Such government use of the capabilities of commercial third generation systems would not only benefit the economy as a whole but offer a much less expensive alternative to building out government owned and operated systems in the same frequency bands. VoiceStream urges the NTIA and FCC to consider how appropriate government communications needs in the 1710 – 1850 MHz band could be better served by utilizing commercial third generation systems in that band, without compromising the necessary security and privacy safeguards.

III. Claims of the MDS and ITFS Communities.

The MDS and ITFS communities make a number of assertions in response to the NPRM in this proceeding, and these claims can be grouped broadly into three categories. First, ITFS and MDS licenses claim that they need all of the spectrum currently allocated to them in order to remain economically viable. Second, the ITFS and MDS licensees claim that the FCC cannot require them to move from their current allocation because they need spectrum below 3 GHz, and if they were relocated the FCC's current relocation rules (drafted for microwave relocation) would not begin to address their unique

situation. Third, MDS and ITFS licensees claim that there is adequate spectrum for third generation services without reallocating spectrum at 2.5 GHz, and that global harmonization for third generation services is not an issue. Each of these claims is unpersuasive, as we demonstrate below.

ITFS and MDS licensees claim that they need all of their currently allocated spectrum in order to remain economically viable. However, the spectrum needs – and usage – of this spectrum for educational purposes have never been documented. VoiceStream supports the commenters that question whether ITFS licensees require all the spectrum currently allocated to them for educational purposes.¹⁰ Further, ITFS and MDS currently use spectrally inefficient analog technology. Given the scarcity of the spectrum resource and the steps taken by Congress (for example, the conversion from analog and digital broadcasting) and the FCC to ensure that the spectrum is used in the most efficient manner possible, it would hardly be advisable for the FCC to preserve a spectrum allocation simply because licensees insist on relying on spectrally inefficient technology. We also note that the price paid by the MDS licensees was a small percentage of what that same spectrum would likely bring if auctioned for third generation mobile services.

Second, MDS and ITFS licensees claim that they cannot use spectrum other than that below 3 GHz, and that the FCC's current relocation rules would not begin to address their unique situation. Regardless of other considerations, MDS and ITFS systems are fixed systems. As such, they do not suffer the same problems with path loss, multi-path, etc. that mobile systems encounter. In the context of PCS, the FCC recognized the appropriateness of moving fixed systems above 3 GHz while utilizing the spectrum

below 3 GHz for mobile systems. Moreover, it is clear that new relocation rules would have to be crafted to address the circumstances of ITFS and MDS licensees. This would be the subject of a separate rulemaking proceeding, and is not a bar to consideration of relocation options in this particular proceeding.

Finally, MDS and ITFS licensees claim that there is adequate spectrum for third generation wireless services already, and that global harmonization of third generation wireless spectrum is not a significant consideration. These claims are untrue and, if heeded, would cripple U.S. efforts to roll out third generation wireless services. The simple fact is that there is not enough spectrum available for the introduction of third generation services without utilization of the 2.5 GHz band. Relocating all of the government systems from 1710-1850 MHz band will be at best a long term endeavor.¹¹ Even if this were to occur, sufficient spectrum would not have been obtained. As described previously, U.S. industry needs at least 160 MHz of additional spectrum in order to begin to deliver third generation services to consumers, and that amount of spectrum is simply not available without the utilization of the 2.5 GHz band.

Furthermore, global harmonization is the absolute driver for high volume, low cost end-user equipment. Mass production of common components is the single largest aspect of ensuring lowest cost for handsets to the end user.¹² Components that determine the spectrum range to be used by the handset are the most expensive portions of the radio, and use of common spectrum bands globally vastly enhances the opportunity for economical mass production of these components. Equipment vendors devote resources

¹⁰ See Verizon Wireless Comments at 23; AT&T Wireless Comments at 13.

¹¹ Further, it should be noted that the 2110-2150 MHz band will not be available for third generation services in a large portion of the southwest U.S. due to the NASA facility at Goldstone, CA.

¹² See Ericsson Comments at 12; TIA Comments at 12; Nokia Comments at 3; Nortel Comments at 10.

for advanced wireless services and capabilities first to equipment that is sold in the largest markets. If the U.S. fails to align its spectrum with the rest of the world, it risks continuing to be a lower priority market for the production of advanced services equipment.¹³

Conclusion

For all the foregoing reasons, VoiceStream respectfully urges the Commission to use this proceeding to forge a comprehensive spectrum plan that will allow for sufficient spectrum to be allocated for the provision of third generation wireless services in the U.S.

Respectfully submitted,

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¹³ Despite assertions made by ITFS/MDS incumbents that regional harmonization between Canada, the United States and Mexico is sufficient to yield favorable economies of scale, the PCS experience in this region demonstrates that North America is still considered a lower priority market compared to the rest of the world for the provisioning of mobile wireless handsets and equipment, and a regional third generation allocation would very likely suffer the same fate. The PCS band is harmonized in North America, yet PCS equipment sold in this region is more costly and incorporates fewer features than equipment sold in those regions of the world where harmonized second generation spectrum is available.