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

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

To: The Commission

REPLY COMMENTS OF THE NATIONAL ITFS ASSOCIATION

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Summary

The record in this proceeding can fairly be characterized as follows: Despite being specifically directed by the FCC to do so, proponents of 3G services in new bands have provided virtually no facts supporting their claim to need 160 MHz of new spectrum below 3GHz to support purported demand. By contrast, ITFS licensees, the educational community of the United States and fixed broadband wireless operators, as well as their technology suppliers, have submitted massive amounts of information demonstrating both the substantial prior and current stewardship of, and the critical future need for, the entire 2500-2690 MHz band for educational and broadband wireless services.

Moreover, the record overwhelmingly shows that reallocation of the 2500-2690 MHz band is not the preferred outcome of any party that seriously addresses the issues in this proceeding. It's clear that, in addition to certain bands proposed by the FCC that are already cleared or in the process of being cleared in the 1.7 GHz and 2.1 GHz bands, the real focus is on the remainder of the 1.7 GHz band as the most appropriate spectrum for 3G services, assuming that any additional spectrum is warranted at all.

Regardless of the manner in which the rest of this proceeding unfolds, it is clear that, in the United States, the 2500-2690 MHz band can and should be taken off the table. In addition, the MDS spectrum at 2150-2160/2162 must be protected for its incumbent services.

REPLY COMMENTS OF NATIONAL ITFS ASSOCIATION

The National ITFS Association ("NIA") submits this reply to various comments filed in response to the *Notice of Proposed Rule Making and Order* in the captioned proceeding, FCC 00-455 (released January 5, 2001) ("NPRM"). The NPRM explores the possibility of introducing new advanced mobile and fixed services, including Third Generation Mobile ("3G") services, in various frequency bands.

Facts vs. Speculation

NIA's review of the record in this proceeding reflects a stark contrast between the comments of proponents of 3G mobile services and of those arguing for preservation of the 2500-2690 MHz band for ITFS and MMDS. The former commenters provided little or no factual evidence in support of their claim for needing vast amounts of additional spectrum for 3G. The latter commenters provided statistical, anecdotal and technical information fully supporting their claim that the 2500-2690 MHz has been and is being used for valuable purposes, and that the preservation of the entire band is critical to the nation's overriding interests in both distance learning and the development of wireless broadband data services.

The proponents of 3G mobile services claim that they need substantial amounts of new spectrum. However, the demand for these services is speculative. There is not a shred of hard evidence that the need exists for 160 MHz of additional spectrum. The FCC has been given instead repetitive citations to essentially political statements (WRC-2000 resolutions, the prior President's Executive Memorandum of October, 2000, Council of Economic Advisors reports, etc.), as well as warmed over references, sometimes in great detail, to historical developments

relating to the rollout of 1G and 2G services in the United States and Worldwide.[1] But proponents of 3G have provided little or nothing that shows actual current and future demand for 3G mobile services. They have also not shown how even their speculative demand estimates connect with spectrum characteristics and 3G technological capabilities to justify a conclusion that particular amounts of spectrum in particular bands are required. These are critical deficiencies, especially given the substantial doubts about demand for, timing and business viability of 3G services reflected in recent press accounts.[2]

To be clear, NIA does not take the position that there is or will be no demand for 3G services. To the contrary, NIA urges the FCC, working with NTIA, to find spectrum to accommodate advanced mobile and fixed services if and as demand develops. However, the record simply does not support dislocating educational and emerging wireless broadband services in the 2150-2160/2162 and 2500-2690 MHz bands to accommodate unfounded and likely exaggerated claims for 3G mobile services.

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[1] *See, e.g.*, Comments of Verizon Wireless ("Verizon") at 4 (citing ITU estimates for 3G spectrum needs); Comments of Cingular Wireless LLC ("Cingular") at 8-10 (citing, variously, WRC-2000, cellular allocation history, Internet growth); Comments of Ericsson ("Ericsson") at 1-8 (citing Clinton Executive Memorandum, WRC-2000, NTIA and FCC Interim Reports).

[2] Comments of National ITFS Association ("NIA") at 17-20. Doubts about 3G are still being expressed: "At first it was funny, the way that telecommunications companies the world over were breaking their piggy banks to finance a totally unproven concept like third-generation (3G) wireless. I thought a few telecoms might go bankrupt, and maybe 3G would take longer to roll out than previously expected. It . . . never crossed my mind that 3G might never even happen. That would surely be impossible. Now I think anything's possible." Consumers are "indifferent to a host of services expected to arrive with 3G networks. And as recently as six months ago, Forrester Research found that 82.5 percent of mobile customers have no interest in wireless data services." *Wireless Watch: 3G is No Laughing Matter*, (posted February 28, 2001 on *Telcom Direct*, http://www.telecomdirect.pwcglobal.com/telecom/direct:TIH/Telecom_Buzz/Wireless/WirelessArt::/Article/red022801b. According to the CEO of Palm, "3G is overhyped", comparable to HDTV—"a new technology few customers are clamoring for. . . ." *Palm Chief Calls '3G' Systems Costly, 'Overhyped'*, The Boston Globe, February 23, 2001

continued…

No Serious Support for Reallocation of 2500-2690 MHz Band

NIA's review of the record also shows that the reallocation of the 2500-2690 MHz band and relocation of ITFS and MMDS licensees and fixed wireless broadband operations does not really appear to be the preferred outcome of any party seriously addressing the issues.

For example, AT&T strongly proposes that the FCC initially pair spectrum in the 1710-1755 MHz and 1755-1850 MHz bands, and later add spectrum pairs in the 1755-1850 MHz and 2110-2155 MHz bands.[3] AT&T also concludes that there are serious disadvantages associated with use of the 2500-2690 MHz band: (i) 2500-2690 MHz does not permit harmonization with existing European systems; (ii) it is not consistent with plans that might be adopted by other countries in North and South America; (iii) its propagation characteristics are diminished as compared to spectrum below 1850 MHz; (iv) use of the band is not consistent with most manufacturers' plans, and potentially requires development of complex handsets for pairing with other bands; and (v) the band is not currently available for re-designation.[4]

Cingular also prefers the 1.7 GHz band, urging that the broad-scale deployment of 3G services ideally would include the bands being considered for reallocation from Federal Government to non-Federal Government use. Cingular states that making the 140 MHz of spectrum at 1710-1755 and 1755-1850 available for advanced wireless services would facilitate partial harmonization with Region 2 and possibly other countries, help to jump-start the

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(http://www.boston.com/dailyglobe2/054/business/Palm_chief_calls_3g_systems_costly_overhyped).

[3] Comments of AT&T Wireless Services, Inc. ("AT&T") at 14-15. AT&T would move MDS operations in 2150-2160/2162 MHz to 2155-2165 MHz. As shown below, NIA cannot support that move.

[4] AT&T at 16-17.

manufacture of 3G equipment and assist the United States in maintaining its role as the world's technology leader.[5] Cingular believes that a solution to the government incumbency problem can be found.[6]

Motorola calls for the use of 1710-1850 MHz and 2110-2150/2160-2165 MHz, thereby providing an additional 185 MHz of spectrum in the U.S. and satisfying Resolution 223 of WRC-2000.[7] Significantly, while Motorola believes that 2500-2690 MHz is highly desirable mobile spectrum, it does not believe that the 2.5 GHz band offers the same advantages as the 1700 MHz bands. Among other things, no country has yet implemented any commercial mobile services in the 2500-2690 MHz band, and it is unlikely that any country will deploy IMT-2000 services in the band before 2007 at the earliest. Therefore, the band does not offer the same near-term potential for spectrum harmonization as does the 1710-1850 MHz band. Moreover, incumbent users of the 2500-2690 MHz band will soon have operational systems across the country, and Motorola believes that these fixed terrestrial networks will prevent spectrum sharing with 3G systems.[8]

Siemens Corporation focuses on 1710-1755 MHz paired with 1805-1850 MHz as the core band for advanced wireless services. According to Siemens, there are a number of strategic advantages to this proposal, including compatibility with a growing number of countries that will use the band for either IMT-2000 services from the beginning or for transitioning from 2G uses to 3G uses.[9]

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[5] Cingular at 18.

[6] *Id.*, at 21.

[7] Comments of Motorola, Inc. ("Motorola") at 11.

[8] *Id.*, at 12-13.

[9] Comments of Siemens Corporation at 33.

Similarly, Nokia Inc. believes the most advantageous option is to allocate 1710-1755 MHz paired with 2110-2150/2160-2165 MHz, with a variation being to make all of 1710-1790 MHz available in phases paired with 2110-2150/2160-2165 MHz. This would help create globally harmonized bands facilitating economies of scale and global roaming.[10]

Even the two ultimate would-be spectrum grabbers in this proceeding, Verizon and Ericcson, who each rather ridiculously ignore all public and private interests except their own, clearly prefer the use of bands other than 2500-2690 MHz. Verizon first seeks to have the FCC allocate 1710-1755 MHz, 2110-2150 MHz, and 2160-2165 MHz for 3G and other advanced wireless services.[11] Ericcson asks for an initial allocation pairing of 1710-1770 MHz and 2110-2170 MHz for 3G services.[12]

Overwhelming Support for Retention of 2500-2690 MHz Band

While the 3G service and technology industries focus on the 1.7 GHz band, the record shows overwhelming support for retention of the 2500-2690 MHz band for ITFS and MMDS. ITFS interests provided vast details on their use of the ITFS band for educational services and the value of those services to their students and to society as a whole.[13] Their position has been supported by virtually the entirety of the K-12 and higher education communities of the United

[10] Comments of Nokia Inc. at 3-4.

[11] Verizon at 9-10.

[12] Ericsson at 5, 14.

[13] The comments provided by NIA, ITFS Parties represented by Dow, Lohnes & Albertson, Joint Parties represented by Schwartz, Woods & Miller, the Catholic Television Network, Network for Instructional TV, Inc., Illinois Institute of Technology, and numerous others more than answer any concerns Verizon or others may raise concerning the use of ITFS spectrum and value of ITFS services. *See* pp 13-16, *infra*.

States.[14] It is clear that educators, from K-12 school boards, administrators and teachers, to the Country's parochial schools, to community colleges and colleges and universities, do not appreciate seeing their local telephone and wireless companies seeking to pillage the 2.5 GHz band in the name of 3G mobile services, and they are making their strongly-held views known on the local and national levels.

On the MDS/operator side, the Wireless Communications Association, Sprint, Worldcom, Nucentrix and others have stated their plans for the escalating rollout of fixed wireless broadband services.[15] They have provided concrete data showing that any loss of spectrum would cripple the rollout of such services,[16] and that overwhelming technical obstacles exist to band sharing or segmentation plans.[17]

Finally, and significantly, a number of other entities with a stake in the issues support the use of the 1.7 GHz band, or discourage the use of the 2.5 GHz band.

The Public Utility Commission of Texas urges the FCC to consider the impact of spectrum assignment decisions on deployment of broadband services. The Texas PUC believes

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[14] *See* Comments of the Education Community of the United States; Comments of the K-12 Community; Comments of the Council of the Great City Schools; Comments of the American Federation of Teachers; Comments of Association of America's Public Television Stations.

[15] Comments of the Wireless Communications Association International, Inc. ("WCA") at 22-26; Comments of Sprint Corporation ("Sprint") at 7-8; Comments of Worldcom, Inc. ("Worldcom") at 6-8; Comments of Nucentrix Broadband Networks, Inc. ("Nucentrix") at 3-5.

[16] WCA Comments at 32-45; Sprint Comments at 20-23; Worldcom Comments at 18-21; HAI Consulting, Inc., "MDS/MMDS/ITFS Two-Way Fixed Wireless Broadband Service: Spectrum Requirements and Business Case Analysis" (the "HAI Study") (Appendix B to WCA Comments).

[17] WCA Comments at 26-29; Sprint Comments at 23-24; Comments of Cellplan Technologies, Inc.

that one of the most promising distribution methods is the used of fixed wireless technology, such as MMDS in the 2. 5 GHz band.[18]

The Canadian Wireless Telecommunications Association ("CWTA") and the Radio Advisory Board of Canada ("RABC"), representing the wireless telecommunications industry in Canada, both support the notion that 160 MHz of additional 3G spectrum will be required by year 2010. However, Canada and most other ITU Region 2 countries are convinced that most of this 160 MHz of new spectrum should be identified in the 1700 MHz frequency band. CWTA believes that it is in the best interests of both Canada and the United States to harmonize their domestic frequency plans for 3G spectrum with the plans of other Region 2 countries.[19] RABC believes that the spectrum at 1710-1750 MHz can be paired with 1805-1845 MHz, and that 1750-1800 MHz can be paired with 2110-2150 MHz to successfully provided the needed spectrum for 3G.[20] RABC notes that Canada may have difficulty in reusing the 2500-2690 MHz band for 3G.[21]

Cisco Systems, Inc., the leading manufacturer of IP networking equipment, states that the public would be disserved by any disruption of the ongoing deployment of broadband data services in the 2500-2690 MHz band, simply to facilitate another advanced service. *Any* change in the 2500-2690 MHz band, whether a diminution or relocation of spectrum, would threaten the

[18] Comments of the Public Utility Commission of Texas at 2.

[19] Comments of the Canadian Wireless Telecommunications Association at 1-2.

[20] Comments of the Radio Advisory Board of Canada ("RABC") at 2.

[21] *Id*. at 11.

progress of broadband fixed wireless services and harm the efforts to promote cross-platform broadband competition.[22]

Similarly, Lucent Technologies, Inc. and Nortel Networks Inc., both leading suppliers of 3G and other technologies, do not support use of 2500-2690 MHz for 3G. Nortel urges the FCC to make available an additional 160 MHz of spectrum below 3 GHz for 3G needs, but does not believe that it is necessary to allocate the full 160 MHz at once.[23] Nortel supports the allocation of symmetrical blocks from the 1710-1755 MHz and 1755-1850 MHz bands, which would align 3G spectrum in this country with the 1.8 GHz band plan used by mobile systems in other parts of the world, including Europe.[24] Lucent supports the 1710-1750/1805-1845 MHz pairing for 3G, with possible alternative band plans using the 2.1 GHz band.[25] Both Nortel and Lucent have serious concerns about use of the 2500-2690 MHz band and the relocation of a large number of stations from incumbent service providers. Nortel has developed equipment for providing advanced fixed wireless services in the band, and believes that any reallocation of the band would ill serve the public interest.[26] Lucent points out that the 2.5 GHz band is not currently in operation anywhere in the world for commercial mobile radio services, and that it is sufficiently far from the PCS and DCS bands that there would be great challenges to support multi-band

[22] Comments of Cisco Systems, Inc. at 2. Cisco provides facts to show that any infringement of MDS/ITFS spectrum will dramatically affect the rollout, capacity and ultimately, viability, of these advanced wireless services. *Id.* At 5-13.

[23] Comments of Nortel Networks, Inc. ("Nortel") at 3.

[24] *Id*. at 5-6.

[25] Comments of Lucent Technologies, Inc. ("Lucent") at 12-13.

[26] *Id*. at 6-7.

terminals. The allocation would also require significant changes in equipment to enable deployment.[27]

Need to Retain 2150-2160/2162 MHz Band for MDS

Various parties in the proceeding argue for or against taking the 2150-2160/2162 MHz band for 3G services. The band (2150-2162 MHz in the major markets, and 2150-2160 in other areas, here the "MDS Band") is currently allocated to single channel MDS stations that are operated in conjunction with ITFS and MMDS facilities in the 2500-2690 MHz band.

Although to the best of NIA's knowledge no ITFS licenses currently exist in the MDS Band,[28] NIA strongly urges that the MDS Band be preserved solely for MDS use because, due to the symbiotic nature of the relationship between ITFS licensees and their commercial partners, the rollout and viability of wireless broadband services directly affects ITFS licensees. As the Wireless Communications Association correctly points out, the MDS Band is playing a critical role in the early deployment of fixed wireless broadband services, and any reallocation or relocation would have a devastating impact of the rollout plans of the industry.[29]

The MDS Band is critical for several reasons. It has generally been the first spectrum deployed for upstream transmissions when a system operator converts to two-way operations. This is in large part due to the FCC's own licensing policies, which implemented special

[27] Lucent Comments at 9.

[28] It is possible that, under the FCC's channel swapping policies applicable to ITFS, MDS and MMDS channels, ITFS licensees may at some point hold channels in the 2150-2160/2162 MHz band.

[29] WCA Comments at 40.

procedures for expedited upstream licensing on MDS Channels 1, 2 and 2A.[30] Furthermore, use of the MDS Band is often essential for an operator to secure a critical mass of spectrum capacity to operate a viable system, and it allows more effective use of the 2500-2690 MHz band, including channels licensed to ITFS parties. It has been shown that use of the 2500-2690 MHz band for upstream and downstream transmissions requires at least a 30 MHz (five channel) separation in the band, typically occurring in the ITFS portion of the band. By pairing the five "separation" channels in the 2500-2690 MHz band with the channels of the MDS Band, the system operator can make highly productive use of all of the 2500-2690 MHz band.[31] This way, no ITFS licensee faces the prospect that its channels may end up being relegated to "guard band" channels on a wireless broadband system.

For these reasons, and for the reasons developed in more detail in the reply comments of WCA, Sprint and Worldcom, NIA strongly objects to any proposal to reallocate the MDS Band to 3G, or to shift it up or down in the 2.1 GHz band.

Verizon's Baseless "5%" Argument

Finally, NIA feels compelled to respond to the baseless suggestion by Verizon that the 2500-2690 MHz band is now "predominantly used for commercial purposes," and therefore should be treated similarly to other situations in which the FCC purportedly reallocated portions of bands that were not being used "predominantly for their intended purposes."[32] Verizon bases its suggestion on the notion that the FCC now only requires ITFS licensees sharing capacity on their channels to reserve a minimum of 5% of capacity for ITFS uses. Verizon urges the FCC to

[30] *Id*. at 42-44.

[31] *Id*. at 41-42.

[32] Verizon Comments at 20-23.

make a determination of how much ITFS spectrum is used to provide instructional purposes and how much is leased, apparently theorizing that any amounts not being used for instructional purposes can be made available for 3G.[33]

Unfortunately, Verizon fails to acknowledge that the FCC's purposes and expectations for the 2500-2690 MHz band have changed since the 1960's, and that comparing today's uses of the band with expectations at the time of the original allocation serves no useful (or even relevant) purpose. In fact, the 2500-2690 MHz band is being used *precisely* for the purposes now intended by the FCC, and these purposes far better serve the public interest than the gluttonous consumption of spectrum for such purposes as downloading MP3s or playing games[34] online on one's cell phone.

In the FCC's two-way *Report and Order*, 13 FCC Rcd 19112 (1998), the Commission specifically set out now-applicable standards for ITFS transmissions and leasing activities in the ITFS band, with the goals of facilitating the most efficient use of the spectrum, enhancing the competitiveness of the wireless communications industry, and providing benefits to the educational community through the use of two-way services. *Id*. at 19115. The FCC anticipated that the rules would also provide significant benefits to consumers, as a competitive group of players would enter the market for high speed two-way communications. *Id*. at 19116.

In the two-way *Report and Order*, the FCC decided that a "one size fits all" approach toward minimum ITFS usage requirements and reservation of spectrum for instructional

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[33] *Id*. at 23.

[34] "Verizon, attempting to carve out a portion of the expected $6 billion wireless game market, expects "subscribers to flock to games during 'down time'. . . ." According to Gary Schulman of Verizon Wireless, "You can get a couple of quick games in while waiting for an appointment …." *Verizon Expands Mobile Game Selection*, Wireless Week, March 5, 2001, (http://wirelessweek.com/index.asp?layout=story&doc_Id=18197).

purposes no longer made sense. Instead, in order to maximize the flexibility of educators and wireless operators to design systems which best meet their varied needs, the FCC adopted leasing rules which promote flexibility while safeguarding the primary educational purpose of the ITFS spectrum allocation. Among those rules was the 5% minimum educational reservation applicable to certain leasing situations. *Id.* at 19159. The FCC specifically found that these standards were in the public interest. *Id.* at 19160.

Verizon could of course have participated in the FCC's two-way proceeding to explain why it did not believe that the new rules properly safeguard educational interests (although, given the history of investment in wireless cable and ITFS leasing of Verizon's predecessors at Bell Atlantic and NYNEX,[35] who did little or nothing to promote education during their tenures in the industry, that would have been a most curious position). Having failed to comment on or object to the new rules governing use of the 2500-2690 MHz band, Verizon should hardly now be heard to suggest that these rules do not serve the public interest. Verizon should also not be heard now to suggest that ITFS and wireless operators who act consistent with the new rules are somehow not using their spectrum for its intended purpose.

That being so, there is no purpose to be served by having the FCC undertake some sort of survey of ITFS licensees and their leasing activities, particularly in light of the extensive record already established by ITFS licensees in this proceeding. Such a survey would only show what the FCC knows from reviewing applications and lease agreements: that some ITFS licensees do not yet share any of their capacity with commercial entities, some share between 50-75% of their

[35] *See* Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, 11 FCC Rcd 2060, 2095 (1975) (noting Bell Atlantic's and NYNEX's investment in CAI Wireless in March, 1995); Annual Assessment of the Status of Competition in the Market *continued…*

capacity, while others, particularly recently-authorized licensees without on-going video operations, may choose to allow 95% of their capacity to be incorporated into a two-way system. All of these leasing patterns are consistent with FCC intentions for the band and serve the public interest. Moreover, and perhaps most importantly, even if 95% of an ITFS licensee's capacity is used in a two-way system, that figure does not limit the educational use of the capacity to 5%, as it does not account for the fact that the ITFS licensee, other educators, and students are *using the two-way system for educational purposes*.

Conclusion

For these reasons, and for the reasons specified in NIA's original comments in this proceeding, the FCC can and must satisfy the need for spectrum for 3G services without dislocating existing users in the MDS Band at 2150-2160/2162 MHz and the ITFS/MMDS band at 2500-2690 MHz.

Respectfully submitted,

NATIONAL ITFS ASSOCIATION

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for the Delivery of Video Programming, 12 FCC Rcd 4358, 4387 (1977) (noting the suspension by Bell Atlantic and NYNEX of their agreement with CAI Wireless).

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