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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	ET Docket No. 00-258
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	)	
	)	
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

COMMENTS OF THE UNIVERSITY OF NORTH CAROLINA

The University of North Carolina General Administration, its sixteen (16) constituent institutions and the University of North Carolina Center for Public Television (collectively "UNC") oppose reallocation by the Federal Communications Commission ("Commission" or "FCC") of the 2500-2690 MHz spectrum for Third Generation ("3G") mobile services. In the Notice of Proposed Rulemaking and Order ("NPRM") released on January 5, 2001, the Commission requests comment on the possible use of frequency bands below 3 GHz for new advanced wireless services, including 3G wireless systems. NPRM at p. 2. Among the frequency bands that the Commission is considering for the introduction of 3G services is the 2500-2690 MHz band which is currently allocated for fixed

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broadband wireless services, specifically the Multipoint Distribution Service ("MDS") and the Instructional Television Fixed Service ("ITFS").

The entire 2500-2690 MHz spectrum is required for the high speed digital wireless broadband services being developed by UNC in partnership with the commercial operator Wireless One of North Carolina, L.L.C. ("WONC") and dozens of other educational institutions in North Carolina. This North Carolina statewide system will provide rural, suburban, and urban users throughout the state with access to high speed digital wireless broadband services and interconnectivity while simultaneously providing educational opportunities that bridge the digital divide and promote rural equity. The North Carolina statewide system is unique in the United States and the years of development and imminent introduction of services should not be derailed by the unnecessary reallocation of the ITFS / MDS spectrum for 3G services.

I. Background

UNC operates eleven (11) full-service public television stations and numerous translator stations throughout North Carolina. Because of its extensive experience in broadcast technologies, UNC recognized the benefits of utilizing ITFS frequencies to provide distance learning opportunities and began operating ITFS stations in the early 1990s for specific applications. Based on its early initiatives, UNC recognized that, properly implemented, ITFS technology could deliver a wealth of educational alternatives to residents throughout the state, especially those in underserved rural areas. UNC's vision was to link the entire state to a backbone of telecommunications opportunities through a network of statewide ITFS facilities. Thus, during the FCC's October 1995 ITFS filing window, (which was the first opportunity for filing ITFS applications after the Commission lifted its freeze), UNC filed 66 applications to establish new ITFS facilities in 22 markets in North Carolina.

UNC was determined to link the markets together in an integrated system that would blanket the state with telecommunications services and the ITFS spectrum was the crucial element in UNC's educational outreach mission to underserved constituents. Because of North Carolina's unique geography and demographic characteristics, outside of the Charlotte, Raleigh, and Greensboro markets, the state is dotted with small cities and rural populations that do not have access to the resources of the three larger urban areas. UNC believed that it could build a telecommunications network using ITFS frequencies to provide services to these smaller communities and rural populations, while also serving urban residents.

UNC was not the only educational entity in North Carolina that recognized the enormous public benefits that could be realized from a statewide ITFS network. North Carolina community colleges and many secondary educational institutions also recognized that a statewide ITFS network could provide a backbone for a host of telecommunications services. The community colleges and several North Carolina public school systems formed an alliance with the commercial operator, WONC, and filed a total of 64 ITFS applications in 11 markets during the FCC's October 1995 ITFS filing window. These applications were mutually exclusive with those filed by UNC. Rather than implementing overlapping and incompatible telecommunications systems throughout the state, UNC decided to join with the community colleges, public school systems, and WONC to develop the North Carolina statewide system.

In the aggregate, a total of 144 ITFS applications were filed for markets in North Carolina during the October 1995 filing window. Virtually all of the applications were electronically mutually exclusive, due to either in market or contiguous market co-channel or adjacent channel interference. Thus, conflicting technical proposals created a daisy chain of mutual exclusivity throughout nearly the entire state, which could have resulted in a deadlock on the grant of FCC authorizations for years

to come. However, UNC, the community colleges, the public school systems, and the other independent ITFS applicants in North Carolina recognized that they had to work together to settle the mutually exclusive technical proposals in order to move forward with ITFS development. In a widespread cooperative effort which was unprecedented amongst competing ITFS applicants, UNC worked closely with the community colleges, public school systems, and independent ITFS applicants to resolve virtually all of the mutually exclusive ITFS applications throughout the state. Because of the complicated technical issues involved in ITFS engineering, the last of these resolutions was just filed with the Commission in February 2001. Thus, UNC has spent over five years working diligently to resolve the technical and regulatory issues which hindered implementation of the North Carolina statewide system. With the resolution of these critical, issues, UNC can now focus on the implementation of services.

Since UNC originally filed its ITFS applications in 1995, the development of digital two-way technology for the MDS/ITFS band has permitted its vision of a statewide ITFS network providing specialized educational video services to evolve into a statewide high speed digital broadband wireless network in partnership with WONC[1]. Because of the cooperative effort of all of the state's ITFS applicants and WONC, the ITFS / MDS frequencies have now been merged into a alliance which can begin to construct high speed digital broadband wireless facilities that will offer a plethora of commercial and educational services to the residents of North Carolina, including the originally conceived specialized video programming.

During the recent two-way filing window, WONC, as part of the plan for the North Carolina statewide system, filed applications for two-way facilities in four (4) strategically located markets around the state. On February 1, 2001, the Commission released a Public Notice accepting for filing

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[1]The Commission established service rules for the use of the band for two-way transmissions in 1998. *See Two-Way Order*, 13 FCC Red 19112 (1998), recon., 14 FCC Red 12764 (1999), *further recon.*, FCC 00-244 (released July 21, 2000). The first two-way filing window occurred August 14-18, 2000 ("two-way filing window").

WONC's two-way applications as well as those filed by ITFS / MDS entities throughout the country. Most of the initial FCC authorizations for two-way systems utilizing ITFS / MDS spectrum will be effective in early April 2001, and construction can then begin on the high speed broadband wireless facilities. The Commission also implemented a rolling one-day filing window which will commence in early April 2001, and after that time subsequent filings can be made to supplement the initial two-way applications. Thus, after years of regulatory uncertainty, the Commission will shortly have in place a licensing procedure that will allow MDS / ITFS operators the flexibility to modify their high speed digital wireless facilities and customize applications to meet the specific educational and commercial demands of the varied populations that will have access to services.

II. The North Carolina Statewide System.

The North Carolina statewide system is being developed in a cellular configuration and will provide digital high speed wireless broadband services and interconnectivity throughout the state utilizing both MDS and ITFS frequencies. This is the type of advanced wireless service that the Commission encourages in the NPRM. The entire 2500-2690 MHz spectrum is required to ensure successful and orderly implementation of high speed wireless broadband services over the network at acceptable through put rates. Use of digital technology will provide the system with maximum operating efficiency. Any reallocation of even just a portion of the 2500-2690 MHz spectrum would be disastrous for large scale statewide systems such as the one being implemented for North Carolina.

There is an ever increasing demand for high speed digital wireless broadband services in North Carolina that is not being met. The North Carolina statewide system will fulfill this demand by providing services to the major cities as well as underserved areas. It will also provide a competitive choice in those areas currently served only by cable modems and/or DSL. The wireless broadband technology utilized for this service will employ ITFS / MDS spectrum as a bridge over

the digital divide, linking together all segments of North Carolina, including residential customers, businesses and educational entities. However, in order to provide this much needed high speed digital wireless broadband service to all segments of the state, the North Carolina statewide system must have access to the entire 2500-2690 MHz spectrum.

III. The ITFS Frequencies Are Critical to UNC's Plans for Serving Students and Communities Throughout North Carolina.

UNC believes that the North Carolina statewide system will enable it to provide high speed wireless broadband services, including Internet connectivity, and specialized video applications, to students on each of its campuses as well as those who reside off-campus. And it is not only UNC students that will benefit from educational opportunities made available through high speed wireless broadband service. All residents of North Carolina will be afforded access to educational services, such as distance learning opportunities, through the North Carolina system. Thus, someone living in a rural area could take on-line classes and earn a degree or learn a profession without having to leave their home and travel to a distant campus. This will extend educational opportunities to an otherwise underserved segment of the population.

In addition to educational opportunities, UNC believes that the North Carolina statewide system can provide critical tele-health services, such as health monitoring and medical consultations, to remote areas of the state. This could link doctors in rural areas to bigger medical centers in Raleigh/Durham/Chapel Hill and Charlotte. As discussed above, many small cities and rural areas in North Carolina do not have access to the resources of larger urban areas, including broadband services such as those contemplated by the North Carolina statewide system. The system will provide these services to those underserved areas.

The North Carolina statewide system will also continue and expand upon the important relationship that UNC has with businesses in North Carolina. The Research Triangle Park is

considered a premier research and development facility and has links with numerous businesses in Raleigh, Durham, and Chapel Hill with Duke University, North Carolina State University, and the University of North Carolina at Chapel Hill. In addition to benefitting from UNC's research and development, many UNC students have served as interns at companies with links to UNC. The North Carolina statewide system will service as a medium to expand these educational relationships while at the same time providing these businesses with a competitive commercial service.

Provision of all of these educational opportunities is economically feasible because the North Carolina statewide system will offer commercial high speed digital broadband wireless services to North Carolina's consumers and businesses in conjunction with the educational applications. And provision of both the commercial and educational services is only technically feasible if the ITFS allocation remains in the present band contiguous to the MDS channels operated by WONC. Relocation of ITFS to another band would not be technically compatible with the MDS channels. Because both the ITFS and MDS frequencies are critical to the development of the North Carolina system, reallocation of the ITFS or MDS frequencies will toll the death knell for the North Carolina statewide system.

IV. Alternative Spectrum is Available for Advanced Wireless Services without Reallocating the ITFS Spectrum.

Should the Commission find that additional spectrum is essential for the development of advanced wireless services, sufficient alternative spectrum is available without having to cannibalize the current ITFS / MDS allocations. Thus, as detailed below, there is no need to reallocate any portion of the 2500-2690 MHz spectrum for 3G services when the current users of that spectrum have demonstrated that the public interest demands keeping the current ITFS / MDS spectrum allocation intact in order to provide high speed digital wireless broadband services.

In the NPRM, the Commission points out that it has designated the 1710-1755 MHz spectrum for reallocation and proposes in the NPRM that spectrum be specifically allocated for mobile and fixed services. NPRM at ¶¶40-41. This would provide 45 MHz of spectrum for advanced wireless services. This spectrum is better suited for international roaming in the Americas and Canada where the 1.7 GHz band has been allocated for 3G services. See FCC Staff Report Issued by the Office of Engineering and Technology, Mass Media Bureau, Wireless Telecommunications Bureau, and International Bureau: *Spectrum Study of the 2500-2690 MHz Band: The Potential for Accommodating Third Generation Mobile Systems,* Interim Report, ET Docket No. 00-232, DA 00-2583, released November 15, 2000. In addition, UNC supports the Commission's proposal that the 2110-2150 MHz band be allocated for mobile and fixed services and assignment through competitive bidding by September 30, 2002.[2] This would provide an additional 40 MHz of spectrum for advanced wireless services. Plus there is 30 MHz in the 700 MHz band that the Commission has designated for auction in September, 2001 which could be used for 3G services. Thus, there is 115 MHz of spectrum available for 3G services now.

Clearly, there are viable alternatives which would result in consumers being provided with both high speed wireless broadband services via the current ITFS / MDS spectrum allocation, as well as with advanced mobile services via alternate spectrum reallocations.

V. Conclusion

UNC believes that reallocating any portion of the 2500-2690 MHz spectrum for advanced wireless services would halt the development of high speed digital wireless broadband services in North Carolina. The provision of successful and competitive high speed digital wireless broadband

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[2] The Commission also proposes designating the 2150-2165 MHz band for reallocation and/or relocation for 3G services and relocating the incumbent users in the band. NPRM at ¶52. UNC objects to this proposal because the MDS-1, 2 and 2A channels are designated by operators, including WONC, for upstream or "two-way" transmissions. Thus, this spectrum is critical to the North Carolina Statewide System.

services to residential and business subscribers as well as to educators and their students, throughout the state, requires that all of the current ITFS/MDS spectrum be utilized. UNC and its affiliates, as well as WONC and its other ITFS partners in North Carolina have demonstrated an ongoing commitment to implementing high speed wireless broadband services. Those arguing for reallocation of the spectrum have not demonstrated a need specifically for the ITFS/MDS spectrum. In fact, 3G spectrum demands can meet through the allocation of alternative underutilized spectrum. UNC believes that the Commission has made or is proposing to make sufficient reallocation spectrum for advanced wireless services without having to reallocate any of the 2500-2690 MHz spectrum for this purpose. Therefore, UNC opposes reallocation of any portion of the 2500-2690 MHz spectrum.

Respectfully submitted,

THE UNIVERSITY OF NORTH CAROLINA

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