

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

In the Matter of)	
)	
Amendment of Part 2 of the Commission's)	ET Docket No. 00-258
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)	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)	

To: The Commission

**REPLY COMMENTS OF THE
EDUCATION COMMUNITY OF THE UNITED STATES**

The Education Community of the United States¹ 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 mobile and fixed services, such as Third Generation Mobile ("3G") services, in several frequency bands, including the band currently used by educators around the country for ITFS.

¹ Organizations that are part of this filing are listed in Appendix A.

Overview

If one thing has been made clear by this proceeding, it is that educators all over the country are strongly in support of preserving the 2.5 GHz ITFS spectrum. As demonstrated by the outpouring of support for ITFS from the education community, the more than 2,000 ITFS licenses granted by the Commission to educational institutions and nonprofits serving these institutions are highly valued for both their current and future educational value. The Commission should not do anything to endanger these current and future uses of this spectrum, particularly at a time when improving the quality and reach of education is such a high national priority.

What has been made equally clear is that virtually none of the commenters in this proceeding believe that the 2.5 GHz band – where ITFS is located– is the optimal home for future mobile services. While a wide variety of commenters have made clear that the 1.7 GHz band is optimal for 3G services, the 2.5 GHz band is not the band of first choice for any commenter. Given this unique confluence – educational incumbents want to retain 2.5 GHz and providers are focused on other bands for 3G services – we urge the Commission to take the 2.5 GHz band off the table and instead concentrate on two questions. First, whether there is indeed a need for additional spectrum, and second, if spectrum is necessary, where that spectrum should come from (other than the 2.5 GHz band) in order to meet the needs of 3G providers.

What remains largely unproven is the need for any additional spectrum for 3G services. We suggest that the Commission examine the current spectrum usage and needs of various providers before determining whether any additional spectrum is required.

**The Education Community Strongly Supports Retention of the
Entire Current 2.5 GHz Allocation for Educational Users**

The Commission has received a broad range of comments in this proceeding, from equipment manufacturers and service providers to ITFS licensees and educational groups. The sheer volume of comments from the education community shows that, without a doubt, ITFS is a resource that is highly valued by educators all over the country. In addition to literally dozens of filings by and on behalf of licensees, a number of non-licensees have spoken out in support of ITFS. These include representatives of virtually the entire national education community, including public and private schools, groups representing teachers and administrators, K-12 and higher education, and public television stations. This amazing coalition of groups – many of whom are at odds with one another on other issues – shows that ITFS is a resource that is universally valued by the entire education community. A description of the groups providing these Reply Comments is included as Appendix A.

In addition to representing a wide range of groups and licensees, the comments from educators also provide scores of concrete examples of the incredible depth and variety of ITFS uses that are taking place now and are planned for the near future. In addition to the broad and diverse traditional educational offerings being made over ITFS today, licensees are also undertaking extensive telemedicine, training, and professional development tasks using this valuable medium. In addition, the comments demonstrate that many ITFS licensees have begun working to provide high-speed wireless broadband networks via their ITFS systems. These new networks promise not only to supplement current broadband options, but also to bring broadband connectivity to educational and community institutions around the country that otherwise would be unable to receive such services. The networks represent an invaluable resource to the

thousands of school districts and colleges around the country struggling to stretch the reach of their limited resources to serve record numbers of students.

Furthermore, thanks to commercial partnerships, the ITFS spectrum will also increasingly be used to bring broadband data services, including Internet access, to communities all across the country. The shared fixed wireless broadband networks being deployed by ITFS licensees and wireless operators will bring services to many rural and urban communities for the first time, and will introduce competition to cable modem and DSL services in larger communities throughout the country. This deployment is directly in line with the goals of Section 706 of the 1996 Telecommunications Act, which urges the Commission to look at various options for ensuring that broadband services are available as widely as possible throughout the country. Notably, these commercial partners – including Sprint, WorldCom, Nucentrix, IP Wireless and others – are strongly in support of retaining the 2.5 GHz band for ITFS and MMDS use.

Spectrum Allocated for ITFS and MDS Should be Preserved

As the Commission is no doubt aware, ITFS licensees all across the country have been working with their commercial counterparts (MDS and MMDS licensees and wireless operators) to deploy services all across the country. Indeed, the mutually beneficial relationship between the commercial fixed wireless industry and the ITFS licensee community is best described as symbiotic. Neither party is truly able to make the most of its spectrum without the help and support of the other. Because of this symbiotic relationship, neither the spectrum used for ITFS and MMDS (the 2.5 GHz allocation) nor the spectrum used for MDS (the 2150-2162 MHz allocation) should be repurposed for 3G services.

The assertion by Verizon that the 2.5 GHz spectrum is not being used for educational purposes utterly ignores the relationship that the FCC has helped to foster between the ITFS community and their commercial partners. This public-private partnership represents a relationship that benefits both America's educational institutions, which are better able to serve their students, and commercial telecommunications providers who are in the process of deploying wireless broadband services to schools, homes and businesses in communities all across America. Furthermore, Verizon's assertion is clearly shown to be false by the wealth of concrete examples of ITFS services provided to the Commission in the Comments of the NIA and numerous individual licensees. These stories demonstrate how the educational uses of ITFS are an invaluable part of distance learning efforts.² These uses are a critical part of the educational mission of institutions all across the country, and to suggest that they be curtailed clearly shows a lack of understanding on the part of Verizon of the importance of distance learning for America's children and lifelong learners, a lack of caring, or both.

3G Proponents Prefer 1.7 GHz

While the education community clearly wants to retain its spectrum for the provision of ITFS-based services, the proponents of 3G clearly prefer bands other than the 2.5 GHz band for 3G services. Indeed, a number of would-be 3G providers of equipment and service actually oppose using the 2.5 GHz band.

According to the comments filed by various parties, 1.7 GHz offers better propagation characteristics, better synergies with the deployments taking place elsewhere in the Americas

² See Comments of National ITFS Association ("NIA"), Appendix pages 1-64.

and Europe, equipment manufacturing benefits stemming from the US adopting similar bands as other nations, and better pairing opportunities than the 2.5 GHz band.

For example:

- Cingular prefers the 1.7 GHz, citing great harmonization potential and greater synergies for equipment manufacturers.³
- AT&T proposes that the Commission initially repurpose the 1710-1850 MHz, and possibly add additional spectrum from the 2110-2155 MHz band later. AT&T claims that better propagation, harmonization with other deployments around the world, equipment manufacturing, and better pairing opportunities all arise from use of 1.7 GHz. Significantly, AT&T explicitly states that the 2.5 GHz band offers none of these benefits.⁴
- Motorola asks that the Commission initially allocate spectrum within the 1.7 GHz band, rather than the 2.5 GHz band. Motorola argues that, although the 2.5 GHz band does offer great potential, the 1.7 GHz band is a better fit for 3G services technically, it offers harmonization with band plans of other nations, and the sharing with the ITFS community will soon be impossible with the advent of fixed wireless broadband services in the 2.5 GHz band.⁵
- Verizon places top priority on the repurposing of the 1.7 GHz band, rather than the 2.5 GHz band.⁶

³ See Comments of Cingular Wireless LLC (“Cingular”) at 18-22.

⁴ See Comments of AT&T Wireless Services (AT&T”) at 14-15.

⁵ See Comments of Motorola, Inc. (“Motorola”) at 11-13.

⁶ See Comments of Verizon Wireless (“Verizon”) at 9-10.

- Ericsson also makes clear its preference for the 1.7 GHz band. Ericsson specifically asks that the 1710 – 1770 MHz and 2110 – 2170 MHz bands be repurposed for 3G services.⁷

Given the clear preference on the part of the commercial proponents of 3G – including those groups who have most strongly argued in favor of taking spectrum from incumbent users – to use the 1.7 GHz band rather than the 2.5 GHz band, we believe that the Commission would be justified in taking the 2.5 GHz band off the table at this time as candidate spectrum for 3G. This action is needed to eliminate the spectrum uncertainty that currently clouds ITFS and MMDS, inhibiting the speedy deployment of the shared ITFS/MMDS broadband network.

3G Proponents Have Not Demonstrated A Need For *Any* Additional Spectrum

Although a great many questions about 3G remain unanswered, the most important question (and, indeed, the question that must be answered by the Commission before taking any action to repurpose any spectrum) is whether any additional spectrum is indeed required for the deployment of 3G services.

Although the Commission specifically asked this question in the NPRM, not a single commenter among the many proponents of 3G provided any original research or studies proving the need for additional spectrum for 3G services. Although virtually every commenter cited some combination of the WRC proceedings and resolutions, the Clinton Executive Memorandum, general ITU estimates of spectrum needs, and the Interim Reports of the Commission and/or the National Telecommunications and Information Administration, none of them provided any hard facts showing that additional spectrum is, in fact, necessary in view of

⁷ See Comments of Ericsson (“Ericsson”) at 5, 14.

upcoming spectrum auctions and spectrum allocations that have already taken place in the United States for various mobile services.

Given the outcome of recent spectrum auctions elsewhere in the world, and the ongoing uncertainty as to whether there is even a significant market for 3G services in the United States, we believe that this simple point must be proved before the Commission should consider any reallocation of spectrum.

Conclusion

The Education Community of the United States strongly believes that the Commission should not repurpose the 2500-2690 MHz band for 3G services. Faced with strong demand for the 2.5 GHz band from current ITFS licensees, a lack of focus on the part of 3G providers to use this band for 3G services, and significant questions about whether any reallocation of spectrum is necessary, we urge the Commission not only to preserve the entire current ITFS and MMDS/MDS spectrum allocations, but to go further and take the 2.5 GHz band and 2150-2162 MHz off the table for consideration as spectrum for 3G.

Respectfully submitted,

ACUTA: THE ASSOCIATION FOR
TELECOMMUNICATIONS PROFESSIONALS
IN HIGHER EDUCATION

ALLIANCE FOR DISTANCE EDUCATION IN
CALIFORNIA

AMERICAN ASSOCIATION OF COMMUNITY
COLLEGES

AMERICAN ASSOCIATION OF SCHOOL
ADMINISTRATORS

AMERICAN ASSOCIATION OF STATE
COLLEGES AND UNIVERSITIES

AMERICAN COUNCIL ON EDUCATION

AMERICAN FEDERATION OF TEACHERS

ASSOCIATION OF AMERICAN UNIVERSITIES

ASSOCIATION OF COMMUNITY COLLEGE
TRUSTEES

ASSOCIATION OF EDUCATIONAL SERVICE
AGENCIES

ASSOCIATION OF AMERICA'S PUBLIC
TELEVISION STATIONS

ASSOCIATION OF RESEARCH LIBRARIES

CALIFORNIA COMMUNITY COLLEGES

CALIFORNIA STATE UNIVERSITY

CIVIL RIGHTS FORUM ON
COMMUNICATIONS POLICY

COUNCIL OF CHIEF STATE SCHOOL
OFFICERS

EDUCAUSE

INSTRUCTIONAL TELECOMMUNICATIONS
COUNCIL

NATIONAL ASSOCIATION OF COLLEGE AND
UNIVERSITY BUSINESS OFFICERS

NATIONAL ASSOCIATION OF FEDERAL
EDUCATION PROGRAM ADMINISTRATORS

NATIONAL ASSOCIATION OF INDEPENDENT
SCHOOLS

NATIONAL ASSOCIATION OF STATE
BOARDS OF EDUCATION

NATIONAL ASSOCIATION OF STATE
UNIVERSITIES AND LAND GRANT
COLLEGES

NATIONAL EDUCATION ASSOCIATION

NATIONAL RURAL EDUCATION
ASSOCIATION

NATIONAL SCHOOL BOARDS ASSOCIATION

UNITED STATES DISTANCE LEARNING
ASSOCIATION

UNIVERSITY CONTINUING EDUCATION
ASSOCIATION

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APPENDIX A:

MEMBERS OF THE EDUCATION COMMUNITY OF THE UNITED STATES

ACUTA: THE ASSOCIATION FOR TELECOMMUNICATIONS PROFESSIONALS IN HIGHER EDUCATION

The Association for Telecommunications Professionals in Higher Education (“ACUTA”) is a nonprofit association whose members include approximately 810 colleges and universities throughout the United States, Canada and other countries. ACUTA members include both large and small nonprofit institutions of higher education, ranging from colleges with several hundred students to major research and teaching institutions with 25,000 students or more. ACUTA member representatives are responsible for managing telecommunications and network (voice, video and data) services on college and university campuses.

ALLIANCE FOR DISTANCE EDUCATION IN CALIFORNIA

The Alliance for Distance Education in California (“ADEC”) is an association of over 200 professionals dedicated to the development of distance learning. ADEC is the only California-based organization which emphasizes cooperation between all segments of education, pre-school through university, lifelong learning, and corporate and industrial training, and represents ADEC's goal to promote partnerships and collaborations among all levels of education and training and was founded in 1989.

AMERICAN ASSOCIATION OF COMMUNITY COLLEGES

The American Association of Community Colleges (“AACC”) is a national organization representing more than 1,100 accredited community, junior and technical colleges. The colleges make up the largest individual sector of higher education, serving 10 million students annually. AACC works with other higher education associations, the federal government, Congress, and other national associations that represent the public and private sectors to promote the goals of community colleges and higher education.

AMERICAN ASSOCIATION OF SCHOOL ADMINISTRATORS

The American Association of School Administrators (“AASA”), founded in 1865, is the professional organization representing over 14,000 educational leaders across America and in many countries. Its mission is to support and develop effective school system leaders who are dedicated to the highest quality public education for all children.

AMERICAN ASSOCIATION OF STATE COLLEGES AND UNIVERSITIES

The American Association of State Colleges and Universities (“AASCU”) is comprised of more than 425 public colleges, universities and systems of public higher education located throughout the United States and its territories. These institutions enroll more than three million students, representing more than half of all students enrolled in public four-year institutions. In addition, AASCU members award 37 percent of the nation's bachelor's degrees, 28 percent of its master's degrees, and 8 percent of all doctorates. AASCU member institutions educate a majority of the nation's undergraduate students who are preparing for a career in teaching.

AMERICAN COUNCIL ON EDUCATION

The American Council on Education (“ACE”), founded in 1918, is the nation’s coordinating higher education association. ACE is dedicated to the belief that equal educational opportunity and a strong higher education system are essential cornerstones of a democratic society. Its approximately 1800 members include accredited, degree-granting colleges and universities from all sectors of higher education and other education and education-related organizations. ACE is a forum for the discussion of major issues related to higher education and its potential to contribute to the quality of American life. ACE maintains both a domestic and an international agenda and seeks to advance the interests and goals of higher and adult education in a changing environment by providing leadership and advocacy on important issues, representing the views of the higher and adult education community to policy makers, and offering services to its members.

AMERICAN FEDERATION OF TEACHERS

The American Federation of Teachers (“AFT”) represents more than 1 million members who are K-12 teachers and school aides, higher education staff, health care professionals, and state and local public employees. AFT members educate students throughout the nation, especially those attending schools in America’s neediest communities.

ASSOCIATION OF AMERICAN UNIVERSITIES

The Association of American Universities (“AAU”) consists of fifty-nine U.S. universities and two Canadian universities, divided about evenly between public and private institutions. Founded in 1900, the AAU is devoted to maintaining a strong system of academic research and education by providing a forum for the development and implementation of institutional and national policies promoting strong programs in academic research and scholarship and undergraduate, graduate, and professional education.

ASSOCIATION OF COMMUNITY COLLEGE TRUSTEES

The Association of Community College Trustees (“ACCT”) is a nonprofit educational organization of governing boards, representing more than 6,500 elected and appointed trustees who govern over 1,200 community, technical and junior colleges in the United States, Canada and England.

ASSOCIATION OF EDUCATIONAL SERVICE AGENCIES

The Association of Educational Service Agencies (“AESA”) is the national organization that represents over 500 educational service agencies throughout the United States, serving as the voice for educational service agencies at the federal level and supporting advances in learning, technical assistance, research, and advocacy.

ASSOCIATION OF AMERICA’S PUBLIC TELEVISION STATIONS

The Association of America’s Public Television Stations (“APTS”) is a nonprofit organization whose members comprise the licensees of nearly all of the nation’s 352 noncommercial educational television stations. APTS represents public television stations in legislative and policy matters before the Commission, Congress, and the Executive Branch and engages in planning and research activities on behalf of its members. Currently, 59 public television

licensees operate 288 Instructional Television Fixed Service channels as part of their mission to deliver educational services to their communities.

ASSOCIATION OF RESEARCH LIBRARIES

The Association of Research Libraries (“ARL”) is a not-for-profit membership organization comprising the leading research libraries in North America. Its mission is to shape and influence forces affecting the future of research libraries in the process of scholarly communication. ARL programs and services promote equitable access to and effective use of recorded knowledge in support of teaching, research, scholarship and community service.

CALIFORNIA COMMUNITY COLLEGES

The California Community Colleges system enrolls over 2.5 million students in 108 colleges statewide. It is the largest community college system in the United States. Students receive associate degrees and certificates in hundreds of occupational and career programs.

CALIFORNIA STATE UNIVERSITY

With some 370,000 students and more than 2 million graduates, the California State University (“CSU”) is the largest comprehensive public postsecondary system in the United States, spanning 23 campuses and 8 satellite campuses. The oldest campus is San Jose State University, founded in 1857. The newest California State University, Monterey Bay, opened its doors in the fall of 1995. The CSU employs 17,000 faculty who are dedicated to teaching excellence, outstanding research, and public service. CSU alumni make up approximately 10 percent of California’s labor force. The CSU prepares two-thirds of the public school teachers educated in California and about 10 percent of the nation’s educators. The extent of ethnic, cultural, and economic diversity of the CSU student body ranks high among institutions of higher education throughout the country.

CIVIL RIGHTS FORUM ON COMMUNICATIONS POLICY

The Civil Rights Forum on Communications Policy (“Forum”) works to bring civil rights organizations and community groups into the current debate over the future of our media environment. The Forum is a project of the Tides Center, a national nonprofit organization which is founded on principles of social justice, broadly shared economic opportunity and a robust democratic process. The twin goals of the Forum are to introduce civil rights principles and advocacy to the implementation of the 1996 Telecommunications Act, and to reframe the discussion over the role of media in our society around the needs of communities and the rights of citizens.

COUNCIL OF CHIEF STATE SCHOOL OFFICERS

The Council of Chief State School Officers (“CCSSO”) is a nationwide, nonprofit organization composed of the public officials who head departments of elementary and secondary education in the states, the District of Columbia, the Department of Defense Education Activity, and five extra-state jurisdictions. CCSSO seeks its members' consensus on major educational issues and expresses their view to civic and professional organizations, federal agencies, Congress, and the public. Through its structure of standing and special committees, the Council responds to a broad range of concerns about education and provides leadership on major education issues.

EDUCAUSE

EDUCAUSE is an international, nonprofit association whose mission is to help shape and enable transformational change in higher education through the introduction, use and management of information resources and technologies in teaching, learning, scholarship, research and institutional management. EDUCAUSE programs include professional development activities, print and electronic publications, strategic/policy initiatives, research and development, and a wealth of online informational services.

INSTRUCTIONAL TELECOMMUNICATIONS COUNCIL

The Instructional Telecommunications Council (“ITC”) provides leadership, information and resources to expand and enhance distance learning through the effective use of technology. An affiliated council of the American Association of Community Colleges established in 1977, ITC represents nearly 600 institutions in the United States and Canada, and is a leader in advancing distance education. ITC’s members include single institutions and multi-campus districts, regional and statewide systems of community, technical and two-year colleges, for-profit organizations, four-year institutions and nonprofit organizations that are interested or involved in instructional telecommunications.

NATIONAL ASSOCIATION OF COLLEGE AND UNIVERSITY BUSINESS OFFICERS

The National Association of College and University Business Officers (“NACUBO”) is a nonprofit professional organization representing chief administrative and financial officers at more than 2100 college and universities across the country. Over two-thirds of all institutions of higher learning in the United States are members of NACUBO. NACUBO’s mission is to promote sound management and financial practices at colleges and universities. NACUBO’s members are nonprofit and for-profit organizations located in the United States and abroad. All are committed to excellence in higher education finance and administration.

NATIONAL ASSOCIATION OF FEDERAL EDUCATION PROGRAM ADMINISTRATORS

The National Association of Federal Education Program Administrators (“NAFEPA”), with over 6,000 members, represents educators who administer and participate in federal programs. Its primary mission is to protect and expand the federal role in education.

NATIONAL ASSOCIATION OF INDEPENDENT SCHOOLS

The National Association of Independent Schools (“NAIS”) is a voluntary membership organization of over 1100 private, independent elementary and secondary schools and associations in the United States. NAIS represents approximately 473,000 students, 48,000 teachers and 10,000 administrators.

NATIONAL ASSOCIATION OF STATE BOARDS OF EDUCATION

The National Association of State Boards of Education (“NASBE”) represents state and territorial boards of education. NASBE’s principal objectives include strengthening state leadership in educational policymaking, promoting excellence in the education of all students, advocating equality of access to educational opportunity, and assuring continued citizen support for public education.

NATIONAL ASSOCIATION OF STATE UNIVERSITIES AND LAND GRANT COLLEGES

The National Association of State Universities and Land Grant Colleges (“NASULGC”), founded in 1887, is the nation’s oldest higher education association. A voluntary association of public universities, land-grant institutions and many of the nation’s public university systems, NASULGC campuses are located in all 50 states, the U.S. territories and the District of Columbia. The association’s membership includes 210 institutions, enrolling more than 3.1 million students. Building on its early heritage of agriculture, science and engineering, NASULGC’s 21st Century mission is to support high-quality public higher education across all disciplines in service to the development of America’s greatest resource – its people.

NATIONAL EDUCATION ASSOCIATION

The National Education Association (“NEA”) was founded in 1857 to "advance the interest of the profession of teaching and to promote the cause of education in the United States." With 2.6 million members, NEA is the Nation's largest professional employee organization. It is a leader in public school reform, seeking a quality education for every child in safe schools with high academic standards, where they practice values such as responsibility and teamwork, and prepare for the jobs of the future.

NATIONAL RURAL EDUCATION ASSOCIATION

The National Rural Education Association (“NREA”) is comprised of rural school advocates at the K-12 and higher education levels. Its goal is to further the improvement of educational opportunities for all children in rural areas – with additional attention to those for whom opportunities have been severely limited in the past – and to serve as the national voice and advocate for rural schools and rural education programs in America.

NATIONAL SCHOOL BOARDS ASSOCIATION

The National School Boards Association (“NSBA”) is the nationwide advocacy organization for public school governance, representing the Nation’s 95,000 school-board members. NSBA’s mission is to foster excellence and equity in public elementary and secondary education in the United States through local school-board leadership.

UNITED STATES DISTANCE LEARNING ASSOCIATION

The United States Distance Learning Association (“USDLA”) is a nonprofit organization formed in 1987. The association's purpose is to promote the development and application of distance learning for education and training. The constituents we serve include Pre-K through grade 12 education, higher education, home school education, continuing education, corporate training, military and government training, and telemedicine.

UNIVERSITY CONTINUING EDUCATION ASSOCIATION

The University Continuing Education Association (“UCEA”) is a nonprofit association representing 420 institutions of higher education and 2200 professionals. Its institutional membership consists of public and private, two- and four-year institutions in all fifty states and the District of Columbia. UCEA is committed to expanding access to higher education for students who are not able to enroll in full-time, campus-based degree programs.