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THE CALIFORNIA STATE UNIVERSITY

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BAKERSFIELD

CHANNEL ISLANDS

CHICO

DOMINGUEZ HILLS

FRESNO

FULLERTON

HAYWARD

HUMBOLDT

LONG BEACH

LOS ANGELES

MARITIME ACADEMY

MONTEREY BAY

NORTHRIDGE

POMONA

SACRAMENTO

SAN BERNARDINO

SAN DIEGO

SAN FRANCISCO

SAN JOSE

SAN LUIS OBISPO

SAN MARCOS

SONOMA

STANISLAUS

February 21, 2001

00-258

Honorable Michael Powell
Chairman
Federal Communications Commission
445-12th St., S.W.
Washington, DC 20554

Dear Chairman Powell:

In response to the Notice of Proposed Rulemaking and Order in the captioned proceeding, FCC 00-455 released on January 5, 2001, I urge you to preserve the 2500-2690 MHz band currently allocated for and used by stations operating in the Instructional Television Fixed Service (ITFS) and the Multichannel Multipoint Distribution Service (MMDS).

The separate universities of the California State University (CSU) system provide hundreds of hours of instructional programming each week. Many of the students served by these ITFS stations live in the remote and rural areas of California with few other ways to access higher education. Many more live in urban centers, impeded by considerable distances and heavy traffic from participating in courses on campus. In addition to serving thousands of our enrolled students through ITFS, the CSU is reaching out to K-12 students and adult learners with advanced placement courses, educational enrichment programs for children in the primary grades, such as the "Jason Project," and English as a Second Language (ESL) instruction.

Now, as a result of recent technological developments and Commission regulations, we are on the brink of moving to high-speed, two-way fixed wireless data transmission services, allowing us to extend broadband Internet access to our students, faculty, and others in and around our campus communities. With this significant new interactive mode of transmission, we can better serve California learners of all ages wherever they are and at times that best accommodate their schedules.

Having made substantial investments in the development of the ITFS spectrum, the CSU takes very seriously the potential threat to the spectrum posed by the Third Generation mobile services, known as "3G." The CSU and the other public higher education systems in California are facing an unprecedented increase in enrollment, commonly referred to as "Tidal Wave II." The CSU alone, which currently serves more than 370,000 students, is anticipating an influx of some 117,000 additional students over the next decade – an increase of approximately 40 percent. We have undertaken already a number of steps to accommodate this tremendous growth in enrollment, including the creation of three new universities – the third will become a freestanding university in 2002. ITFS and the high-speed, wide area networks that our spectrum will now support are essential to our efforts to serve more efficiently a much larger universe of students. Moreover, maintaining spectrum for educational purposes will also help us to keep instructional costs down.

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The CSU is using ITFS is to deliver instructional programming to California's K-12 classroom teachers and teaching credential candidates. For instance, over the last ten years, CSU, Dominguez Hills, outside Los Angeles, has used ITFS to help some 10,000 students obtain their teaching certificates. With one of every ten of our state's teachers teaching under emergency certificates, the challenge is to support these teachers as they confront the day-to-day challenges of today's hard-to-staff classrooms while, at the same time, helping them to obtain a full teaching credential. If we fail to support adequately these teachers, data demonstrates that more than half of them will leave the teaching profession permanently within 1 – 3 years. With the nation confronting a shortage of teachers in excess of 2.2 million over the next 10 years, some 250,000 – 300,000 new teachers will be needed in California alone, we can ill afford to lose our capacity to deliver services to these emergency credentialed teachers.

Similarly, the nation is grappling with a severe shortage of nurses, with the most severe shortage in California. ITFS provides a flexible, relatively low cost way to set up service sites for nursing students in hospitals and other off-campus locations.

Some of our campuses are also using ITFS to help military personnel and employees of major corporations including Boeing, Raytheon, and Hewlett Packard, to upgrade their skills and keep pace with the demands of an increasingly technology-dependent workforce. Attached please find summaries of the ITFS services provided by three California State University campuses: CSU, Sacramento, CSU, Long Beach, and CSU, Fullerton.

Chairman Powell, on behalf of the 23-campus California State University system, I ask you to ensure that the 2500-2690 MHz band is preserved for instructional programming.

With kind regards,

Sincerely,

Charles B. Reed
Chancellor

CBR/bab

Attachments

cc: Honorable Susan Ness, Commissioner
Honorable Gloria Tristani, Commissioner
Honorable Harold Furchgott-Roth, Commissioner
Ms. Magalie Roman Salas, Secretary

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ITFS: PROMOTING BETTER GOVERNMENT
California State University, Long Beach

Summary. Through ITFS, exceptional civil servants in California receive the training they need to ensure high-quality public administration. Cal State Long Beach's Masters in Public Administration has trained a broad range of civic leaders throughout the state, from local city administrators to state transportation officials, contributing to improved services in essential areas. These talented public servants have been able to hone their administrative skills even as they work, thanks to the convenience and flexibility offered by ITFS. In addition, ITFS broadcasts provide a valuable forum for communication between the University and the community in which it resides.

A Community University With a Long Reach. California State University at Long Beach—also known as Cal State Long Beach—is largely a commuter campus, serving 30,000 full and part time students. ITFS is a critical part of the University's mission to deliver educational opportunities to this large area. Recognizing the need to give exceptional civil servants the training they needed to provide top-notch public services, Cal State Long Beach, several municipalities and other agencies together developed a Masters in Public Administration (MPA) program. Each year approximately thirty to fifty local government workers and civil servants attend courses from their work place or other conveniently located sites. Current "rising stars" at the Police Department, the Orange County Department of Transportation, and several mayors' offices were all students of the MPA program.

In fact, ITFS has extended the reach of this powerful educational resource beyond Orange County. Cal State Long Beach, in partnership with CALNET (an ITFS-based network), is now providing its MPA programming throughout Southern California. This expanded reach creates the kind of student critical mass necessary to attract top instructors in public administration. "It is professionally rewarding to provide course content that is such an asset to the communities as well as to the individual student," said Mat Kaplan, Director of Technology and Distance Learning for University College and Extension Services at the University.

Providing Training to the Public and Private Sector. In addition to producing and transmitting the MPA programming, students and administrators on campus broadcast training seminars and conferences for corporations and government agencies using the University's ITFS capacity. Cal State Long Beach regularly creates programs for McGraw-Hill Publishing and the Department of Justice's National Institute of Corrections, often reaching more than 1,000 training sites, and over 10,000 trainees statewide.

Enhancing Town-Gown Relations. Cal State Long Beach's ITFS system also carries programming for residents of Long Beach and nearby communities 24 hours a day, 7 days a week. University President Robert Maxson believes that, "the technology that accompanies our ITFS bandwidth has benefited our campus and our community in numerous ways. Along with the distance learning opportunities we are able to provide by

utilizing this bandwidth, we offer a weekly program, called Beach View, that is broadcast through large areas of the greater Long Beach/Los Angeles area. Our topics are meant for general audiences and have covered everything from helping children succeed in school to ways seniors can prevent osteoporosis to the Southland's heritage, languages and cultures."

Corporate Contributions to Community Education. The ITFS capacity used by Cal State Long Beach more than doubled when Pacific Bell began sharing the spectrum with the University. In exchange for some capacity, Pacific Bell implemented digital technology transmission, installing new equipment on campus and at receive sites. The digital conversion has allowed Cal State Long Beach to double its ITFS programming while still freeing up excess capacity to lease to current corporate partner Worldcom Broadband Solutions in order to support both the distance education program and community outreach efforts.

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ITFS Summary Information

Number of Channels: 20% of E group
Channel ID: E
Call Signs:

Quantity of Receive Sites: 4
Channels Operational Status: Operational
Program Scheduled hours: 24/7

California State University, Fullerton

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Contact: Jahna Kahrhoff
Director, Distance Education
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Summary. Using its reliable, flexible, and cost-effective ITFS system, California State Fullerton (CSUF) trains teachers and nurses during a time of shortage, gives educational opportunities to a diverse and dispersed community of learners, and delivers courses to corporate sites to help workers stay competitive. Since 1986, a network of five ITFS channels have been the backbone of Cal State Fullerton's outreach to 900 learners a week in Southern California. In addition, ITFS programming is available on the region's cable companies, providing enriching cultural programming 24 hours a day.

The elimination of ITFS would severely hamper CSUF's ability to achieve its goal of bringing educational opportunities to a diverse community of learners. In addition, it would cause the loss of almost $4 million invested in equipment and technical expertise; require an expensive reinvestment in new technologies; end a substantial revenue stream used to support distance learning; and create enormous disruptions in classes available to students.

Distance Learning for Credit and Career Development. CSUF is largely a commuter college, and runs several satellite campuses. Students at these off-campus sites rely on ITFS-delivered courses to complete degree program requirements in such areas as engineering, communication, nursing, business, history, religion, and more. Professionals at area corporate locations, such as Boeing and Raytheon, participate in timely training opportunities and learn important job skills essential to keep these workers competitive.

The following are just a few examples of special programs offered by CSUF that have targeted the unique needs of specific populations in southern California:

- In-service training for K-12 teachers at their work sites with necessary continuing education course work for their credentials. ITFS courses cut down on substitute time, easing the burden on already strained local school budgets.
- Early college course enrollment for high school students provided at their high school locations.
- Course enrollment at military facilities for staff improvement at those facilities.
- Advanced Engineering course work delivered to industrial sites throughout southern California
- ESL courses delivered to schools, adult education facilities, and work places.

ITFS: Making Distance Learning Cost Effective. The current ITFS system is the only practical and cost effective way for CSUF to deliver valuable and timely educational programs throughout southern California. Sites can be set up quickly, with relatively little cost compared to competing technologies. For example, a new, non-university, codec

site would cost nearly $40,000 for equipment and connectivity to the network, and additional annual costs of approximately $18,000 for fiber connectivity. On the other hand, with ITFS, there is a one-time installation cost of $2,300 with no annual fees. As a result, CSUF is able to respond flexibly and promptly to changing learning requirements, offering engineering courses at an industrial site one semester and nursing courses at a hospital the next. This flexibility is a key component of CSUF's plans to keep up with the face of change in Southern California's economy.

An Investment in Education. Cal State Fullerton stands to lose almost $4 million invested in its current ITFS system if it looses its license. These monies have been used to build and equip television classrooms, a television studio, network operations center, and to pay for thousands of hours of expert labor. If ITFS technology were no longer available CSUF would have to suspend delivery of credit courses, rebuild classrooms to accommodate other means of delivery, expand landline network capabilities, and make major investments in training and development. Local businesses that rely on the ITFS network would also be hit with significant costs. Also, CSUF gets a substantial revenue stream from leasing its excess ITFS capacity. That revenue directly supports the development and maintenance of distance learning programs and allows CSUF to continue to expand and bring its unique resources to an ever-growing community of learners.

A Dynamic, Expanding Program. The university is currently planning several additional off-campus sites and new distance education programs, all of which will utilize ITFS for course delivery. For example, because of an alarming shortage of nurses, the Cal State Fullerton Nursing program is expanding its degree programs in southern California to meet the direct needs of the community. ITFS will provide healthcare organizations the opportunity to become part of our delivery network immediately, at low cost, to take advantage of this timely and essential program.

California State University, Sacramento

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Summary:
California State University Sacramento (CSUS) has a model ITFS system, providing 4 channels of educational programming 24 hours a day, 365 days a year in association with a consortium of local school districts, junior colleges, and universities. ITFS courses also are aired on local and regional cable television systems as a part of the basic cable programming package, providing continuing education to the general population. In addition, CSUS is working with a commercial partner to make wireless broadband available throughout the Sacramento area, and expects to have a fully two-way system available in Spring 2002.

Serving a Large, Diverse Community. CSUS is one of the flagship institutions of the California State University system, a group of 23 state universities located throughout California providing educational opportunities to over 375,000 students. CSUS, with a student body of over 27,000, serves the state capital and surrounding areas, which includes impoverished urban neighborhoods, wealthy suburbs and rural farmlands. The university's commitment to distance and distributed education has spirited an expanded schedule of approximately 60 courses in the 2001/02 academic year. A movement from analog to digital technology in the next year will provide an even greater number of program and course offerings.

As a member of the Sacramento Educational Cable Consortium (SECC), CSUS broadcasts a variety of lifelong learning programs to the local school districts, community colleges and the audiences they serve. In addition, ITFS airs educational programming to a potential audience of 350,000 on local and regional cable television systems, all of whom carry the ITFS signal live. This programming is carried on the least expensive tier of the cable television systems, making it a truly "public" resource.

By broadcasting to this wide network of sites, the ITFS system has expanded the reach of high-quality teaching, and has saved many students from lengthy commutes in a traffic-clogged region, expanding the overall attendance of these otherwise inaccessible classes. The ITFS system also reaches many local businesses, such as Hewlett Packard. This increases the educational opportunities for students who are already in the workforce or cannot easily travel long distances to attend on-campus classes.

Each quarter, several thousand students take courses for credit over the ITFS system, while members of the public also "audit" courses from home. The majority of this programming – 15 hours a day – is classroom-based educational programming, while non-classroom educational programming runs after hours.

Through the ITFS system, high school students are able to take a wide variety of courses not available in their schools, ranging from English as a Second Language (ESL) to American History, Civics, English, GED test preparation, and basic skills. Many of Sacramento's recent immigrants to the United States take advantage of the ESL classes through adult learning programs. The system also broadcasts a wide range of traditional K-12 programming used by elementary and secondary school students. For example, primary school children will participate in the national "Jason Project," a program aimed at enhancing environmental awareness through live "field trips" to sensitive coastal areas, access to unique panel discussions, and lectures by top scientists. Cable viewers are able to audit classes, watching at their convenience classes that assist learning, help move people into the information age (e.g., Communications courses focused on the internet and its capabilities), and enrich their lives.

Moving into the Future. Experts agree that high-speed Internet access and two-way transmission significantly enhances distance learning and increases the productivity and effectiveness of both educators and students. To this end, CSUS plans to develop an Intranet and expand its video-based services through digital technology. Working with its commercial partner, CSUS is moving aggressively to bring two-way wireless broadband to students, faculty, and the local community. Although they have not finalized the details of their arrangement with IP Wireless, they expect to be able to provide at least 1,600 of the 2,200 faculty and staff members with minimal cost wireless broadband service into their homes. This will allow them to telecommute to and from campus, develop online resources for students, and instantaneously access information resources available on campus. In addition, CSUS wants to ensure that its students – most of whom live in the surrounding community– will be able to connect to the University and its resources through broadband service. As a result, CSUS is negotiating an arrangement to allow students to purchase wireless broadband access at a reduced rate. These students will be connected directly into CSUS' backbone network, which will include high-speed webcast versions of many of the classes broadcast via the ITFS system.

In addition to being extremely robust, the technology used in this network will be portable. The wireless modem is smaller than a pack of playing cards, allowing students, faculty, and other subscribers to attach it to a laptop and use it virtually anywhere in the region. Students, faculty, and staff with laptop computers will be able to connect from home, work, and school without significant variations in the quality of service.

Bridging the Digital Divide. CSUS plans to use some of its wireless broadband to also link local school districts and adult learning centers into its "intranet," thereby giving them greater access to its information resources. Several urban and rural areas in the CSUS region only have limited, if any, access to the Internet. The university plans to develop partnerships with school districts in order to provide them with broadband capability. In areas with no access to DSL, CSUS also plans to give other community organizations, such as libraries and civic-minded businesses, access to wireless broadband in partnership with IP Wireless, demonstrating once again ITFS' importance as a major resource for community building.

The IP Wireless intends to offer an array of wireless services targeting areas that meet the needs of the residential consumer and small business environment. At this point, they plan to offer service ubiquitously throughout the area – meaning that those neighborhoods that have been bypassed by cable modem and DSL providers (a significant portion of the area) will be able to receive broadband Internet access at home. Although the marketing plan will focus first on those neighborhoods that do not have access, IPWireless will also compete with cable modem and DSL service in the region. This wireless bridge across the digital divide will be the first (and only) choice for broadband Internet service for many residents and business establishments.