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July 3, 2001

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

EX PARTE OR LATE FILED

VIA HAND DELIVERY

Ms. Magalie Roman Salas, Esq.
Secretary
Federal Communications Commission
445 12th Street, S.W.
Room TW-B204
Washington, D.C. 20554

Re: **EX PARTE**
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.

Dear Ms. Salas:

On Monday, July 2, 2001, Henry Rivera and Monsignor Michael Dempsey of the Catholic Television Network; Terry Pound of the South Carolina Educational Television Commission; Jay Keithley and Todd Rowley of Sprint Corporation; Robert S. Koppel of WorldCom, Inc.; Carroll McHenry of Nucentrix Broadband Networks, Inc.; and Patrick Gossman of the National ITFS Association met with (1) Commissioner Kathleen Abernathy and Bryan Tramont and Cathy Hilke of Commissioner Abernathy's office; (2) Commissioner Michael Copps and Lauren Van Wayzer of Commissioner Copps' office; and (3) Commissioner Kevin Martin and Sam Feder of Commissioner Martin's office. A summary of the points made at those meetings is attached to this letter.

In accordance with Section 1.1206 of the Commission's rules, an original and a copy of this letter, and the associated attachment, are being submitted.

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Please contact the undersigned if there are any questions in connection with this matter.

Sincerely,

Edwin N. Lavergne
Counsel to the Catholic Television Network

Enclosure

cc: Commissioner Abernathy
Commissioner Copps
Commissioner Martin
Lauren Van Wazer
Bryan Tramont
Sam Feder
Catherine Hilke
Monsignor Michael Dempsey
Henry M. Rivera
Jay Keithley
Todd Rowley
Robert Koppel
Terry Pound
Carroll McHenry
Patrick Gossman
Kenneth Salomon

Remarks of Msgr. Michael Dempsey
The Catholic Television Network
July 2, 2001

The Catholic Television Network is an association of Archdioceses and Dioceses that operate many of the largest school systems in the United States. Members of CTN have used ITFS spectrum since it was first allocated to education nearly 40 years ago. This is the *only* spectrum specifically set aside for formal education.

Today, members of CTN use ITFS channels to serve over 600,000 students and 4 million households throughout the country. We provide formal educational programming, community outreach, medical training, crises counseling, and a host of other services.

The 3G debate has brought CTN together with an unprecedented number of educational institutions and organizations in all 50 states. In all of my years in education, I have never seen an issue generate such a high level of concern from so many different facets of the education community.

With that background, I would like to make just 3 points.

First, the effective use of this spectrum by CTN is highly dependent on partnerships we have forged with commercial operators such as Sprint, WorldCom and Nucentrix. Since 1983, the FCC has encouraged educators to lease part of their spectrum to commercial providers on the theory that the creation of shared networks would advance the interests of both education and commerce. This is exactly what happened. These shared networks are critical to the future success of our educational initiatives.

Second, we stand at the threshold of a new and exciting digital, two-way broadband era. In 1998, after years of intensive technical planning and coordination, the FCC adopted new rules allowing our channels to be used for interactive two-way broadband services. With the help of our commercial partners, CTN is now in the process of completing the conversion to two-way broadband service which will bring significant new benefits to our students.

Third, the use of this spectrum is fundamental to our tuition-based parochial schools' ability to keep the costs of education down and to our ability to use technology as a tool to improve academic achievement. ITFS systems that are owned, controlled and managed by schools themselves empower educators to use technology in ways that best meet their students changing needs. We do not want to lose this precious resource.

Continued delay and uncertainty jeopardizes important educational initiatives. Please support our efforts to remove the 2.1 and 2.5 GHz bands from consideration as a home for 3G.

Terry Pound, South Carolina ETV
July 2, 2001

Over the past 18 years South Carolina ETV has invested over 28 million dollars in our ITFS system.

SCETV currently, along with 86 school districts in our state, maintains 35 ITFS Distance Education Learning Centers (DELCs).

These Distance Education Learning Centers serve 65% or, 723 of our state's 1,114 K-12 schools.

Better stated, our ITFS system serves over 418,000 students and their teachers with instructional programming and staff development opportunities.

All of the DELC's are provided with a videotape library consisting of over 1,500 hours of instructional television programs that have been approved by the SC Department of Education.

In addition, each DELC is equipped with a live, interactive distance learning studio. These studios allow a district to provide course instruction, staff development, and enrichment programming to meet local needs.

Our ITFS system is used to provide equitable opportunities to many of our state's rural students and teachers. For instance...College credit courses, Advanced Math and English for middle school students to give them a "head start" on high school, and teacher re-certification courses...all delivered virtually "to their doorsteps".

One such specific example of the value of the ITFS system is that from the ITFS Distance Education Learning Center located in Florence, SC, Spanish I and II was provided to a total of 228 high school students in seven (7) schools in the Pee Dee region of our state. Due to teacher shortages, students in this region of the state were being denied foreign language instruction. Thanks to ITFS, this is no longer an issue for those students!

The value of the ITFS system is also realized by our state's legislators.

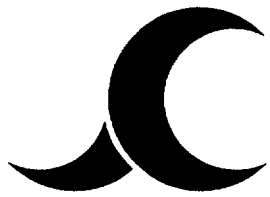
The state recently approved funding and construction is underway to provide receive equipment to an additional 84 public school sites. As additional funding is provided the remaining 307 schools will be added.

The loss of the ITFS frequency would be a devastating blow to our state's instructional television delivery system.

The reallocation of frequencies as proposed would have a direct affect on twenty-six (26) of our thirty-five (35) existing ITFS Distance Education Learning Centers; 597 of the 723 schools currently served and approximately 50% of our total statewide student population would suffer.

It would also mean that SCETV would be unable to serve 323 of the remaining 391 schools that are slated to receive ITFS service. That number of schools equates to in excess of 153,000 students and teachers statewide.

In South Carolina, ITFS is "alive and well" and we look forward to many more years of offering equitable educational opportunities for our students and teachers.



EXPANDING THE VIEW™
South Carolina ETV

South Carolina

Educational Television Network

Comments on:

Notice of Proposed Rule Making and Order

FCC 00-455 (released January 5, 2001)

ET Docket No. 00-258

March 2001

Post Office Box 11000 • 1101 George Rogers Boulevard • Columbia, South Carolina 29201 • www.scetv.org

ITFS: BRINGING EDUCATIONAL OPPORTUNITIES TO RURAL AREAS

South Carolina Educational Television Network

South Carolina Educational Television Network (SCETV) is concerned about the imperiled future of our educational wireless spectrum. The Federal Communications Commission has issued a Notice of Proposed Rule Making (ET Docket No. 00-258, RM-9920 and 9911) seeking comments on a plan to relinquish Instructional Television Fixed Service (ITFS) channels to cellular phone companies for third generation (3G) mobile telephone services, stripping our nation's educational community of a powerful and irreplaceable medium. In South Carolina, ITFS is an important part of our educational programming delivery system. Moreover, ITFS is absolutely critical if wireless broadband is to become a reality for our nations underserved rural population.

SCETV's ITFS System

Number of Channels: 256

Quantity of Receive Sites: 723

Channel ID: A1-4, B1-4, C1-4, D1-4, E1-4, F1-4, G1-4

Channels Operational Status: Operational

Call Signs: KGF-20, WBX-216, WGR-836, WGR-849, WHF-220, WHM-926, WHM-931, WHM-932, WHM-935, WHM-936, WHM-939, WHN-702, WHN-703, WHN-704, WHN-705, WHN-708, WHN-711, WHN-712, WHN-713, WHN-714, WHQ-258, WHQ-259, WHQ-301, WHQ-304, WHQ-305, WHQ-373, WHQ-380, WHQ-396, WHQ-397, WHQ-402, WHQ-405, WHQ-445, WHQ-446, WHR-456, WHR-457, WHR-465, WHR-470, WHR-471, WHR-472, WHR-476, WHR-481, WHR-485, WHR-500, WHR-504, WHR-609, WHR-614, WHR-666, WHR-674, WHR-720, WHR-726, WHR-884, WHR-933, WHR-957, WHR-961, WHR-974, WHR-980, WLX-222, WLX-244, WND-422, WND-451, WND-452, WND-532, WND-533, WND-534

Program Scheduled hours: 7 A.M. to 5 P.M. daily, during the school year

" I think this class was great. I wouldn't change a thing." Jennifer Wilde

No Regrets

Dr. M. Ron Cox, University of South Carolina professor taught the History 101 course from the studio adjacent to Blackville-Hilda High School. Not because he wanted to be back on a high school campus, and not because he liked the idea of teaching on television, but because he wasn't a tenured professor, and only tenured professors have real options about those things. Jennifer and her approximately 60 "virtual classmates" are glad he did. Eric Hayden wrote in his class review, "....I am a more knowledgeable person for taking this class and I have no regrets."

Providing opportunities for students in South Carolina to be "more knowledgeable" people is why the state of South Carolina has entrusted the South Carolina Educational Television Commission (SCETV) with the responsibility to provide a statewide educational communications network, so that educators may initiate comprehensive educational opportunities to public schools, colleges, universities, and for adult continuing education. The SCETV network is comprised of Instructional Television Fixed Service (ITFS) frequencies, authorized for use by the Federal Communications Commission (FCC). South Carolina, a largely rural state, and home to 4.01 million people (2000), of which according to 1998-99 statistics, 669,342 are students, desires "no regrets" when it comes to equal opportunities for all students.

"Not only did the courses prepare them for the demands and rigor of college classes, they (classes) also enabled them to get a "head start" on earning hours toward their respective degrees." Dr. Ron Cox

Head Start

In 1973, SCETV received the first construction permit for the ITFS system. Since that time, they have spent over $28 million dollars to design and implement a system comprised of: 256 channels, 49 transmitters, 15 Studio-to-Transmitter links, and 35

Distance Education Learning Centers (DELC). Although the network is impressive and enormous, it still reaches only 723 schools out of 1,114 public schools located in the state. The remaining 391 schools will be added when funding becomes available.

SCETV, an agency of the State of South Carolina, obtains funding on an annual basis from state appropriated funds. Supplemental funding is received from a state appointed group who evaluate technology spending. The members of this committee are representatives from the Budget and Control Board, State Department of Education, SCETV, South Carolina Libraries, and Bell South. In addition, SCETV receives a small amount of funding each year by sharing some capacity from one channel group to Sprint Broadband Wireless Group.

"Your maps improved over time. Thanks for your knowledge!" Elizabeth Merchant

Getting Better Over Time

There are 86 public school districts in the state. Recognizing that 63% of the student populations live in rural areas, and other factors impact the educational needs of each district, in the 1960's SCETV designed a network that gives each district some control over local scheduling and availability of educational video programming. SCETV called the local tape libraries "Tape and Delay Centers." Tapes were provided to each local center, where they had control over the schedule and the flexibility to respond to teacher's requests. Before the advent of ITFS capacity, the network was provided by a combination of services from local telephone companies and point-to-point microwave. Only schools in the same local loop could be linked. There are over 30 different phone companies in South Carolina.

Many rural areas could not get the programming. Monthly reoccurring charges were expensive. To eliminate the charges and increase the coverage, in 1982 funding was made available to migrate the localized networks to ITFS. School districts could then receive four channels of one-way video programming in every classroom. Ten years later,

in 1992, SCETV added a studio to every local ITFS system for live-interactive classroom instruction using one-way video and two-way audio. The centers were renamed "Distance Education Learning Centers" or DELC. The creation of more DELC's during the last nine years brings the total to 35.

"The technology available at the DELC makes it possible for us to reach out into our communities in a way that would otherwise be impossible." Dr. Ron Cox

Dr. Cox's History of European Civilization course (HS101/102) was made available in five counties to seven schools. Over 20 students enrolled at Edisto High School, located about 30 miles from his broadcast location at Blackville-Hilda High School. According to Tim Abell, history teacher at Edisto High School, "Students who took the class were exposed to college level work before committing to college and if they decided to go to college, they completed college courses less expensively than they would enrolled in the college." Edisto High School has approximately 800 students who come from largely working class homes. In some cases, students took up to four video courses for concurrent credit. "Approximately 40% of our students go to college or technical schools", said Mr. Abell. "These courses offer a huge financial advantage for particularly the disadvantaged students who desire a college diploma." As an added benefit, Mr. Abell learned teaching skills from watching a college professor, "I think of Dr. Cox very fondly. I learned a great deal from him," he said.

"During History 102, I was able to learn more because there were not as many people in the class." Becky Sanders

Meeting Specific Educational Needs

SCETV provides each DELC with over 1,500 taped hours of instructional television programs approved by the South Carolina Department of Education, and an equipped studio for live-interactive instruction. Additionally, 417,707 students have access to video programming and interactive instruction. Each DELC receives new or updated taped

programming on a yearly basis. Teachers may request specific programming. Locally produced instructional programming includes: History, English, AP courses, Psychology, Foreign Languages, Western Civilization, Math, Biology, and others. Programming for student enrichment included: Safe Kids, Rice Festival, Arts Council, Truancy Forum, Writing Contest, Quiz Bowl, Teacher of the Year Banquet, SAT Question of the day, The World Around Us, Literacy Festival Showcase, to name a few. Some locally produced adult educational programming is available in Algebra and in regards to Self-Esteem. Approximately 50 staff development programs are produced at sixteen combined DELC's.

The programming is supplemental to course instruction, necessary for cost-effective teacher training or critical courses. In McClellanville, AP Government and AP economics offered by the Charleston DELC, is the only way nineteen students can have access to the courses. In Marlboro County 8th graders have access to high school Algegra I and English I. Last semester, 116 students took advantage of the opportunity to get a jump on these courses. Many of the live courses are considered "100 level" content. High school students who pass them earn concurrent credit. Staff development courses eliminate unnecessary expenses from travel and time away from students. SCETV provides all the maintenance and system expertise to the DELC. The district hires and manages the staff to mount tapes and provide instruction.

Dr. Cox was glad he agreed to teach on television. "It was a fantastic experience" he said. He taught the course as "grueling" as any freshman level college course, using telephones to respond to questions and e-mail to distribute and obtain homework with the students. "The course enabled students to learn about expectations for college work and raised their self-esteem when they were successful in meeting the challenge", he said. In addition to History, college courses in Spanish and English are offered by the DELC providing service to Blackville-Hilda High School.

"It has given me a greater outlook on history and has helped me to enjoy my first college experience." Maxey Stroman

"We couldn't offer concurrent college credit courses if it weren't for the DELC", said Martha Ward. Blackville-Hilda High School has 330 students. The University of South Carolina is about 45 minutes away. Students couldn't travel during their school day the time it would require to take classes at the campus. Concurrent classes are offered for a minor fee, compared to the price of the course enrolled at the university. For the 79% of the students at Blackville-Hilda High School who qualify for free or reduced lunches, the money saved can mean the difference of completing college or not. "This semester some of our seniors had to drop their classes because they could not even afford the minor fee for the course," said Ms. Ward.

"I believe that History 102 was a valuable course for me. I learned a lot. And that was hard, especially since I have senioritis real bad." Justin Davis

The State of South Carolina offers a Life Scholarship to all high school students who maintain a B average. The $3,000 a year toward a university tuition goes a long way toward covering the approximately $5,000 a year expense at a state college or university. It covers the expense of a community college program. "The approximately 20% of our students who attend college could basically have a semester or even a year paid for by taking concurrent classes," said Robbie Randall, Guidance Counselor at Blackville-Hilda High School. "All of our graduates need financial aid to go to college," he added. Whether they go to college or not, many seniors have taken all of their core requirements and it is beneficial for them to experience the demands of a challenging college course to relieve the restlessness of senior year.

Interactive Courses

Four years ago the governor of South Carolina, seeking additional opportunities for students, authorized the purchase of T-1's. Monthly an exceptional amount of money is spent on high-speed access for interconnectivity of school districts and school sites. Rural areas, without T-1 access must use dial-up, slow, connectivity. Universities in South Carolina utilize cable systems to provide public access to courses. Educational and

informational programming is also available on one PBS channel on cable systems.

"I wish I could have been a part of your class at the university instead of watching you on TV. Then I could compare and discuss the works not only with you, but also the other students." Julie Churchwell

Superintendents, like Julie, desire two-way interactive opportunities or the chance to execute them at lower costs. In Beaufort County, the superintendent has provided every teacher with a laptop computer. His county-wide school district is very large. Teachers cross lots of bridges and pay lots of tolls to get from one end to the other. To obtain critical staff development or attend meetings, he wants them to cross only "toll-free bridges" associated with routers. SCETV wants to reach the over 300 schools still without access to video programming. They want to implement digital technology. There is a dire need, in this largely rural state, to meet the educational needs of all 669,342 students. However, there is limited funding available to implement needed upgrades to the ITFS system.

"It also makes it possible for these students to enjoy the advantages of taking college-level classes and earning college credit before they set foot on a campus, opportunities which are often present only in larger school districts and in urban areas." Dr. Ron Cox

Equal Access

Despite some implementation of DSL and cable modems by Bell South and Time Warner, respectively, much of the state is without broadband access. Broadband access is critical so that schools can have inexpensive interactive contact with each other. Broadband is the medium for remote access courses in the future. It is necessary to have access to the Internet to expand the reach and opportunities of students. The future of SCETV's educational system and of educational opportunities for the state of South Carolina are dependent upon such availability.

"It has been a great learning experience!" Michelle Clonts

Educational opportunities provided by SCETV have "been a great learning experience" for many students in South Carolina. But officials at SCETV would "change a thing." Additional technological enhancements are necessary to continue to prepare students for their future and to meet the needs of the population. If the 256 ITFS channels were converted to digital, SCETV could share more capacity with a broadband access provider. In exchange for the capacity, the provider could complete the build out of the network to reach all schools in South Carolina. The provider, implementing two-way interactive services, would make broadband services available to schools, business and residences in South Carolina. Competitive broadband or the only broadband access would be available in all areas. The state would get a significant return on their 28 million dollar investment. And most importantly, South Carolina students will have equal access to important educational information necessary for their own personal development.

Conclusion

SCETV urges strongly that the FCC's introduction of new cell phone services cannot and must not be accomplished at the expense of ITFS and MMDS allocations in the 2500-2690 MHz band. Preservation of these ITFS and MMDS allocations are necessary both for the continuation of pervasive and invaluable licensed uses by incumbent stations in these services and the expanding rollout of advanced wireless broadband services to schools, homes and businesses. SCETV believes that the Commission has identified, and can make available, other spectrum to satisfy demand for 3G mobile, without any incursion into the 2500-2690 MHz band.

If the FCC reallocates all or part of the ITFS/MMDS spectrum for 3G services, the capacity, usefulness, and value of the ITFS spectrum would be significantly diminished if not destroyed. Even if only part of the spectrum is taken, many of South Carolina's educational institutions would lose their ITFS service altogether, while SCETV would face

new equipment costs, service disruption and cutbacks, lower quality service and signal interference. Moreover, the deployment of wireless broadband services through ITFS/MMDS shared networks would be stopped in its tracks, and for many communities, the promise of high-speed advanced services – either at all or at any reasonable price -- would remain beyond reach.

For all these reasons, SCETV opposes any reallocation of channels in the 2500-2690 MHz band from ITFS and MMDS, and urges the FCC to move 3G mobile services into other available spectrum.

For additional information contact:

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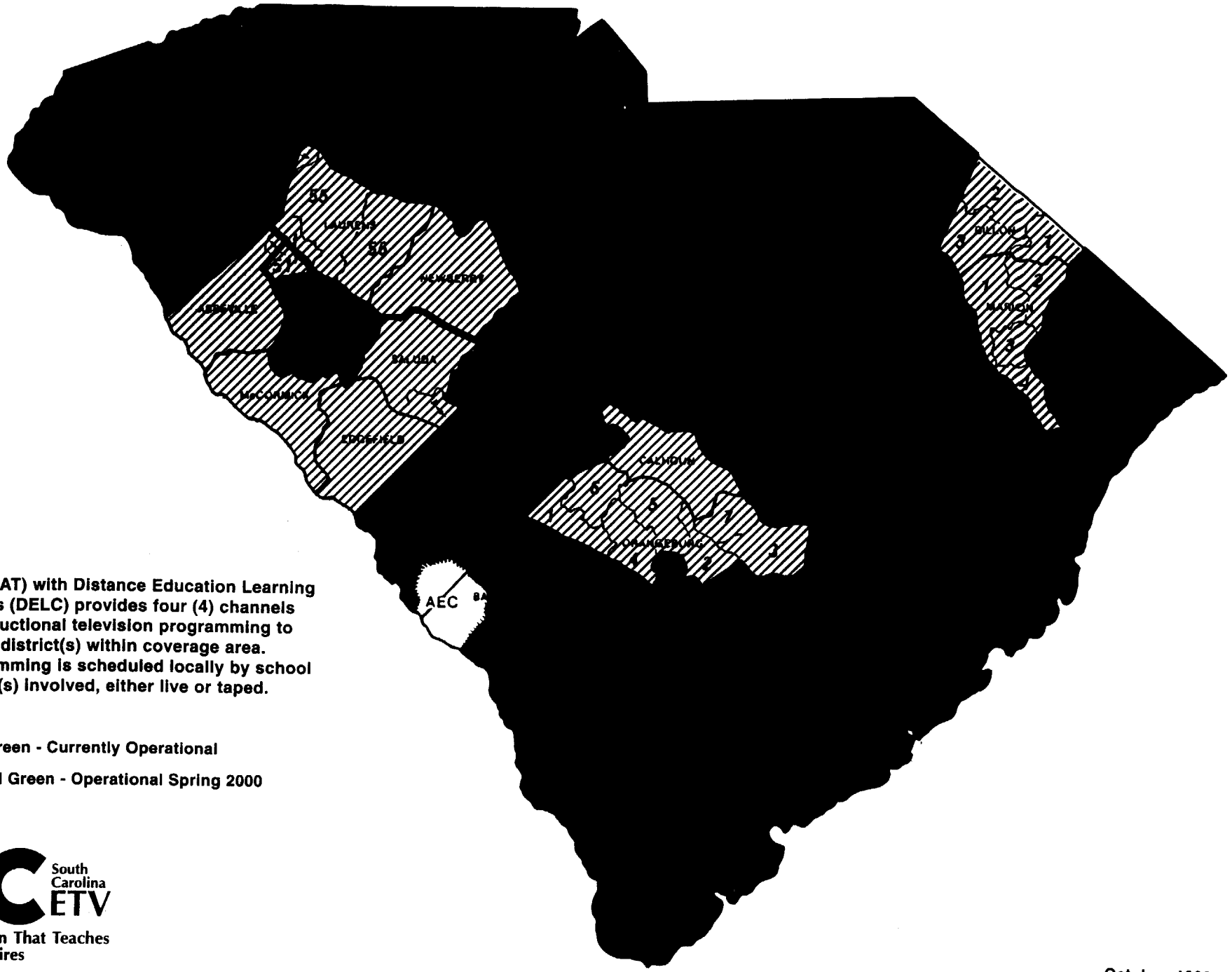


ITFS (LAT) with Distance Education Learning Centers (DELC) provides four (4) channels of instructional television programming to school district(s) within coverage area. Programming is scheduled locally by school district(s) involved, either live or taped.

Solid Green - Currently Operational

Hatched Green - Operational Spring 2000

South Carolina ETV

Television That Teaches and Inspires

October, 1999

Distance Education Learning Centers

September 2000

	SYSTEM	SCHOOL DISTRICT SERVED	TELEPHONE
1)	Aiken DELC	Aiken County	Ph: 803-641-2657 Fax: 803-641-2656
2)	Anderson DELC	Anderson Districts 1, 2, 3, 4, & 5	Ph: 864-260-5226 Fax: 864-260-2235
3)	Beaufort/Jasper DELC	Beaufort and Jasper County	Ph: 843-525-4239
4)	Berkeley DELC	Berkeley County	Ph: 843-899-8816 Fax: 843-761-1320
5)	Blackville DELC	Barnwell Districts 19, 29 & 45, Bamberg Districts 1 & 2, and Allendale County	Ph: 803-284-2009 Fax: 803-284-5533
6)	Charleston DELC	Charleston County	Ph: 843-763-5661 Fax: 843-763-8918
7)	Cherokee DELC	Cherokee County	Ph: 864-489-2544
8)	Chester/Union DELC	Chester and Union Counties	Ph: 864-429-1748 ext. 12 Fax: 864-429-2838
9)	Chesterfield DELC	Chesterfield County	Ph: 843-634-6678 Fax: 843-634-5070
10)	Colleton DELC	Colleton County, Dorchester District 4 and Hampton Districts 1& 2	Ph: 843-549-1288 Fax: 843-549-6854
11)	Dorchester 2 DELC	Dorchester District 2	Ph: 843-821-3997 ext. 3020/3037 Fax: 843-821-3904
12)	Fairfield DELC	Fairfield County	Ph: 803-635-1441
13)	Florence/Darlington DELC	Florence Districts 1 & 4 and Darlington County	Ph: 843-669-0979 Fax: 843-669-0458
14)	Georgetown DELC	Georgetown County	Ph: 843-546-2561 ext. 264 Fax: 843-527-8069
15)	Greenville DELC	Greenville County	Ph: 864-241-3324 Fax: 864-241-3325
16)	Western Piedmont DELC (Greenwood)	Greenwood Districts 50, 51 & 52 Abbeville, Edgefield, McCormick, Saluda Newberry Counties and Laurens Districts 55 & 56	Ph: 864-941-5446 Fax: 864-941-5456
17)	Horry DELC	Horry County	Ph: 843-248-8722 Fax: 843-248-8723

	SYSTEM	SCHOOL DISTRICT SERVED	TELEPHONE
18)	Kershaw/Lee DELC	Kershaw and Lee Counties	Ph: 803-425-7701 Fax: 803-424-2885
19)	Lower Pee Dee DELC (Lake City)	Florence Districts 2, 3, & 5 and Clarendon District 3	Ph: 843-394-8128 Fax: 843-394-8128
20)	Lancaster DELC	Lancaster County	Ph: 803-285-6019
21)	Lexington 2 DELC	Lexington School District 2	Fax: 803-285-6039
22)	Lexington 5 DELC	Lexington/Richland District 5	Ph: 803-732-8405 Fax: 803-732-2842
23)	Lexington 1, 3 & 4 DELC	Lexington Districts 1, 3, & 4	Ph: 803-359-9959 Fax: 803-359-9959
24)	Marion/Dillon DELC	Marion Districts 1, 2, 3, & 4 and Dillon Districts 1, 2, & 3	Ph: 843-423-2571
25)	Marlboro DELC	Marlboro County	Ph: 843-479-3288 Fax: 843-479-8837
26)	Oconee DELC	Oconee County	Ph: 864-885-0888 Fax: 864-885-0500
27)	Orangeburg/Calhoun DELC	Orangeburg Consolidated 3, 4 & 5 and Calhoun County	Ph: 803-535-1626 Fax: 803-535-1634
28)	Pickens DELC	Pickens County	TBA
29)	Richland 1DELC	Richland School District 1	Ph: 803-733-6196 Fax: 803-733-6196
30)	Richland 2 DELC	Richland School District 2	Ph: 803-699-2873 Fax 803-699-2873
31)	Rock Hill DELC	York School District 3	Ph: 803-981-1968 Fax: 803-327-9542
32)	Spartanburg DELC	Spartanburg Districts 1, 2, 3, 4, 5, 6, & 7	Ph: 864-594-4425 Fax: 864-594-4945
33)	Sumter DELC	Sumter School Districts 2 & 17 and Clarendon School Districts 1 & 2	Ph: 803-773-1638 Fax: 803-775-0213
34)	Williamsburg DELC	Williamsburg County	Ph: 843-354-5571 Fax: 843-354-3213
35)	York 1, 2 & 4 DELC	York Districts 1, 2 & 4	Ph: 803-684-1930 Fax: 803-684-1930

Sprint

Sprint Corporation's 3G Position Paper

Issue: The FCC and Commerce Department are studying whether to reallocate spectrum currently used by commercial wireless broadband providers and educational institutions or by the Government (DOD and other federal agencies) in order to provide spectrum for so-called third generation commercial mobile phone ("3G") services. Commercial wireless broadband providers and their educational partners, who use the spectrum to provide distance learning and high speed internet access, are licensed on the 2150-2162 MHz ("2.1 GHz") and 2500-2690 MHz (2.5 GHz) spectrum bands. The government users use the 1755-1850 MHz ("1.8 GHz") spectrum band.

Position: For the following reasons, Sprint opposes allocation of spectrum in the 2.1 GHz and 2.5 GHz spectrum bands for 3G uses.

I. For technical and practical business reasons (such as regional and global spectrum allocation harmonization and the manufacturing scale economies derived from harmonization), the 1.8 band is preferred by the vast majority of the mobile industry, including virtually all domestic manufacturers.

II. Continued use of the 2.1 GHz and 2.5 GHz spectrum bands for fixed advanced wireless services will serve the public interest by increasing local competition and providing broadband service to residential and small business consumers, including those in rural and under-served markets.

A. The Federal Communications Commission has actively encouraged the development of the 2.1 GHz and 2.5 GHz bands for fixed advanced wireless and enhanced educational services.

B. Relying on the FCC's policies, Sprint has made a multi-billion dollar investment in the 2.1 GHz and 2.5 GHz bands and joined with its educational partners to provide fixed advanced wireless services in the bands. (Others have made similar investments and are providing similar services where they have licenses to do so.) Sprint's fixed wireless broadband service competes with telephone company (DSL) and cable company (cable modem) high capacity residential services (where such services exist), and provides enhanced educational capabilities to Sprint's educational partners.

C. Vigorous local competition and deployment of advanced communications services are fundamental to the success of the 1996 Telecommunications Act. Sprint's use of the 2.1 GHz and 2.5 GHz bands provides just the kind of facilities-based competition in local telecommunications and advanced services that the Act mandates.

D. Service providers in the 2.1 GHz and 2.5 GHz bands may be the only providers of broadband service in rural and under-served markets.

E. Forcing relocation of Sprint's educational partners would abandon the Commission's long-term commitment to enhancing U.S. education.

III. There are many other bands besides the 2.1 GHz and 2.5 GHz bands in which 3G and other advanced wireless services could operate without disrupting the roll out of fixed wireless broadband services.

IV. The 2.1 GHz and 2.5 GHz bands cannot be shared with third generation cellular providers because of the potential for harmful interference among incumbent fixed users and mobile users.

V. Relocation of incumbents in, or segmentation of the 2.1 GHz and 2.5 GHz bands is not workable, will impose huge relocation costs on new entrants, will severely compromise Sprint's ability to compete against telephone and cable company high capacity residential services and will likely end the interdependent relationships developed between Sprint and its educational partners. Further, because many of the licenses Sprint holds were acquired at FCC auction, it would undermine confidence in the auction process.

Sprint

Wireless Communications Association 14th Annual Convention
Boston, Massachusetts
June 26, 2001
Keynote Address: Len J. Lauer, President - Sprint Global Markets Group

FIXED WIRELESS: A TECHNOLOGY WITH A FUTURE

Good afternoon.

I'm happy to be with you today to talk about this exciting industry of which we're all a part. It's great to be able to come together at an event like this, where we can share ideas, compare experiences and get a sense of where our industry is going.

I think that all of us here can acknowledge an important truth – that it takes a lot of guts to stand up and declare yourself a leader in today's broadband market, where both the challenges and the opportunities are enormous. But that's why I'm here today, speaking on behalf of Sprint to convey this message: We are in the broadband market to stay, and we view fixed wireless technology as a critical part of our overall broadband strategy. There are two key reasons for that, and I want to share those with you today.

The first is that, in order to compete against the incumbent local phone companies on a local and regional basis, we have to do something different than they do. Pursuing a "me too" strategy with monopolists is never a winning proposition. We have to differentiate ourselves from the incumbents by gaining a cost structure advantage, offering customers new services, and by leveraging our brand.

Now, neither Sprint nor its fellow long distance carriers have been especially quiet about the frustration we've experienced in trying to negotiate deals with the RBOCs that will allow us to profitably lease their local networks to reach our customers. No one should find the frustration in that situation surprising. The RBOCs have a business to defend, and monopolists know how to do this very well. But we're finding out that – if the RBOCs' stranglehold on "last-mile" access is a brick wall we've been pounding to get through – it makes more sense to just jump over the wall when we can. And that's what fixed wireless access to the customer lets us do. That makes fixed wireless a critical part of our local competition strategy.

I'll come back to the importance of differentiation in a moment.

The other key reason for our commitment to fixed wireless lies in its potential to become what Clayton Christensen calls a "disruptive technology." Christensen is a professor at Harvard Business School who wrote a book a few years back called "The Innovator's Dilemma" in which he talks about the dangers to companies that get ahead of market demand in terms of improved product performance. He talks about "sustaining technologies" which become the constantly improving standard for a given industry – technologies that continually improve established products along the dimensions that mainstream customers in major markets have historically valued. Companies that establish sustaining technologies become market leaders.

Every once in a while, though, a new technology comes along that delivers a lower standard of performance at a fundamentally lower cost structure, and with far greater product flexibility. If the established mainstream product delivers a higher-than-required level of product performance, the door may be open for the new technology to have a disruptive effect on the market, creating an entirely new value proposition for the market.

In a very real sense, I believe fixed wireless has the potential to disrupt the broadband market, particularly when we fully implement the next generation technologies that will introduce a significantly different market dynamic.

THE GROWTH OPPORTUNITY

But before we talk about what that future might look like, I'd like to share with you a little about Sprint's experience to date as a provider of broadband services through MMDS, because our experience has been a clear validation of our belief in the growth potential of this technology. What we've seen so far, in terms of response to our wireless product by consumers and small business customers, and in terms of product usage, has been nothing short of phenomenal. We're seeing, day after day, that the demand for a fixed wireless solution is definitely there.

There's no arguing that the overall broadband market is a major driver of growth in the communications industry, and the size of the market is particularly impressive considering just how young it is. We're competing in what will already be a $10-plus billion market by year-end 2003.

So how much of that growth will take place through fixed wireless technology? Well, last month's report from INSIGHT Research projects a $3 billion revenue stream for fixed broadband wireless services next year. And the Strategis Group says that, while there are less than 100,000 fixed wireless subscribers across the U.S. today, they expect that number to approach 5 million by 2005. The opportunity is clearly there before us.

But we don't have to rely solely on analysts' projections to be encouraged about the growth potential of fixed wireless. I can tell you, from first-hand experience, that the growth is there. You can see it in the footprint Sprint has established over the past year, in the size of the customer base we've built, in the number of sales we're averaging every week. We're showing that fixed wireless is more than a vision ... it's reality.

Since April of last year, Sprint has begun fixed wireless operations, offering our Sprint Broadband Direct product, in 14 markets around the country – from major cities like Chicago and San Francisco to much smaller markets like Wichita, Kansas and Melbourne, Florida. We've built a customer base that exceeds 30,000 accounts. In fact, by the end of the first quarter of this year, we had doubled the number of customers we had at the end of last year, and sales continue to be very strong. By the end of this year, we expect to have acquired nearly 90,000 customers.

Another statistic I'm very encouraged by in the markets where we currently operate: Of the homes in which broadband decisions are being made, some 15 to 20 percent are choosing our fixed wireless service. And one more: In Tucson, we've achieved 3 percent penetration of all single family households in the past year.

In a number of the markets where we currently operate, demand for the Sprint Broadband Direct product has been such that we have asked the FCC for, and received, special authority to expand our coverage area to meet that demand. We have also increased capacity by employing refined sectorization of our spectrum and by deploying in-band ITFS and MMDS upstream transmission.

THE "DIGITAL DIVIDE"

That there is such demand for a fixed wireless solution, in particular, should come as no surprise; there are a lot of reasons for it. Most importantly, it helps fill the huge void in coverage left by DSL and cable providers. This availability void is a place in which far too many consumers, small businesses and schools find themselves, and most of us know it as the "digital divide."

Now, I've heard that FCC Chairman Michael Powell has suggested that the phrase "digital divide" is somewhat dangerous in that it implies a need for entitlement programs to provide the underprivileged with cheap access to new technology. But what I hope we can all stay focused on in our efforts to – if you'll pardon the expression – *wire* the world for broadband is that, while the "digital divide" is not always about demographics, it *is* about economics. What creates the divide is the high cost of building out wireline networks to deliver DSL broadband connections, for instance – costs that often prevent those wireline solutions from being economically viable. The lower costs of deploying and maintaining fixed wireless networks enable broadband providers to close the divide and respond to customer demand. This technology is the key to building a bridge across the digital divide, because it offers the unique capability to make broadband instantly

available to everyone in a given service area – consumers, businesses, schools – regardless of the population density or the demographic they may fit into.

Perhaps not everyone here knows how important the concept of diversification has always been to Sprint – that we are not only a major long distance carrier and a leading provider of mobile communications services through Sprint PCS, but we are also a 100-year-old local telephone company. That diversity in our business has been – and continues to be – key to our success in competing with larger-scale carriers, and it will prove to be key to our success in addressing the very complex challenge of seizing the broadband opportunity on a large scale.

SPRINT'S COMMITMENT

So, Sprint is committed to the fixed wireless industry because we see the consumer demand, the business opportunity, and the advantage it offers us in terms of being able to fully address the broadband market. But there is an even higher strategic rationale for that commitment, and it's not a hard one to guess. Let me put it this way: We believe that, where the Telecom Act of 1996 failed, fixed wireless will prevail.

I spoke earlier about the importance of differentiating ourselves in the broadband market, and the advantage fixed wireless gives us in terms of competing with the RBOCs on a local and regional level. That advantage is all about innovation, and innovation is what Sprint has always relied on as the most powerful way to differentiate ourselves from our larger competitors.

In Sprint's 100-year history, we've transformed ourselves in ways that we believed would be meaningful to the markets we serve. In the late 80s, Sprint changed the industry by building the first nationwide, all-digital fiber-optic network. We moved then from being a predominantly rural telephone company to a nationwide long-distance provider of voice and data services. Most recently, we set the standard for mobile communications by building the first, and only, all-digital, nationwide PCS network that utilizes one technology, CDMA. And as a result, in addition to our long-distance and Internet networks, we have the fastest-growing wireless operations in U.S. history.

As you can see, Sprint has always been serious about innovation – it's been the basis for our effectiveness in competing with much-larger companies. And we're serious about fixed wireless as a way to differentiate ourselves through innovation once again.

Sprint plans to do in the fixed wireless broadband market what we've done in the mobile communications market – that is, to bring competition to a market that sorely lacks it, and the benefits competition brings to residential and small business customers. And again, in the broadband market, competition can often mean the difference between the availability of high-speed connectivity and doing without it.

The plan we're pursuing will provide just the kind of competitive broadband systems the Congress envisioned in the 1996 Telecom Act, which the NTIA supports in the digital divide effort, and which the FCC encouraged in adopting two-way MMDS and ITFS rules.

To date, Sprint has invested more than $1 billion pursuing our plan. We began acquiring wireless cable companies in 1999, and today we have licenses that cover roughly 30 percent of the nation's households – licenses that allow us to provide two-way high-speed data access as well as other two-way data and voice services.

We've made a very clear commitment to being a major player in the fixed wireless industry – and not just today, because we're here to stay.

EDUCATIONAL PARTNERSHIP

In April, we announced new airtime agreements with a number of ITFS and MMDS license holders, bringing the total number of agreements in Sprint's spectrum portfolio to more than 1,100 channels in 90 markets. More than 40 percent of the entire ITFS/MMDS band in Sprint's markets had been converted from a video-only platform to a broadband data model at that time. We've continued to sign further agreements at an aggressive pace since then. The relationship between education and communications providers encouraged by the FCC has proven to be strong and mutually beneficial. Our airtime agreements provide a substantial revenue stream to educators, help cover a lot of their operating costs, equipment grants and much-needed access to technology. At the same time, they allow us to move forward with offering a product that is very much in demand.

But these airtime agreements are not all there is to the relationship Sprint is building with education. We've begun working with several ITFS partners, through an initiative we call the Sprint Broadband Classroom Project, to migrate their distance learning applications from analog to IP-based technologies. It's a collaborative relationship that maximizes the power of our wireless broadband network to facilitate their distance learning endeavors.

In addition, in markets where we currently operate our fixed wireless business, we're using our technology to support local educators and students. In Oakland, Calif., for instance, Sprint is donating Sprint Broadband Direct service to the Oakland Unified School District, providing high-speed Internet access to 27 Childhood Development Centers benefiting more than 2000 children from kindergarten through third grade. These centers provide a before- and after-school program for students whose families' meet minimum financial requirements, and whose parents work or are in school and need childcare assistance. This is the first exposure many of the children have had to the Internet, since most of them do not have computers at home.

In Chicago, where we most recently established operations, we're donating our service to the Jim Mullen Foundation and the Midtown Educational Foundation, providing access to individuals with disabilities or special needs, and to inner-city students in after-school programs.

We want to continue to demonstrate the power of our partnerships with educators, because what we achieve in our fixed wireless initiatives will be largely affected by the strength of those relationships.

FIXED WIRELESS: A PORTFOLIO ESSENTIAL

You can also see our commitment to this industry in the way we're marketing our product. When we first launched the Sprint Broadband Direct product, we marketed it strictly as a stand-alone product, and it performed very well for us. But in recent months, we've begun successfully tying it to our established long distance voice products in a bundle that offers residential customers a reduced rate on their high-speed data connection as well as discounted rates on their long distance plans. The response we've received clearly shows that many consumers see the fixed wireless product as an integral part of their total communications package. In fact, in the first quarter of this year, 35 percent of our fixed wireless sales included long distance voice service as part of a product bundle. That makes the MMDS product an integral part of *our* portfolio going forward. Future plans call for bundling Sprint Broadband Direct with our Sprint PCS offering.

So, not only does fixed wireless allow us to extend a more compelling bundled product offer to those who may not be moved by our stand-alone long distance product, but it makes a significant difference in our ability to retain customers. It also provides us with a higher monthly revenue per user, which, of course, goes a long way in strengthening our fixed wireless business case.

And that ties to an important lesson I think we've learned from the experience of Northpoint, for example, which is understanding the merits of leveraging a strong brand and network assets, capitalizing on marketing synergies within a diversified corporation, and making the most of opportunities to create bundled product offers that create greater value for customers. We're fortunate to have these advantages working in our favor in addressing the broadband market.

THE SPECTRUM QUESTION

I'd like to turn now to the spectrum question. I know there is considerable concern among many in this industry about the potential loss of spectrum to the development of 3G technologies for mobile communications. There are a lot of powerful arguments against taking away fixed wireless spectrum – arguments I won't go into since I know that most

of you, like Sprint, have taken pains to make sure the FCC is not overlooking any of them.

But beyond those persuasive arguments, Sprint is already showing that there is no need for any spectrum reallocation for 3G to develop – we're already accomplishing that development within the spectrum already allocated for our PCS services. The next-generation fixed wireless advances I just mentioned have all been under development at Sprint at the same time we've been preparing 3G for Sprint PCS, utilizing the 1.9 Gigahurtz PCS band.

I know that the shadow of doubt cast by the spectrum question has had some slowing effect on the growth of fixed wireless. But I have every confidence that the FCC will conclude, as we have, that the use of fixed wireless spectrum for 3G mobile communications isn't necessary. And once the question is removed, we'll see the kind of rapid growth that high demand and a solid business plan can deliver.

LOOKING AHEAD

So, where's it all going? It depends on whom you ask, I suppose. Ask someone who provides broadband access through DSL or cable connections and they'll tell you that fixed wireless doesn't exist. If you ask me, you're asking someone who provides both DSL and MMDS connections. So what would I say?

I would say, again, that fixed wireless is on its way to becoming the disruptive technology that changes the broadband market in a major way.

Large areas of the country remain out of range of either cable or DSL, and that fact will not change dramatically anytime soon. Fixed wireless has speed and lower deployment costs on its side, and with next-generation technologies in the works, that advantage will only increase.

Right now, we're finding out just what we can do with next-generation technologies for the customer, and what they will do for us. Customers will like not having to mount an external antenna on their houses. We're going to benefit from the ability to better utilize our spectrum. We've already begun testing various next-generation technologies in the Seattle area. And though it's too soon for me to say definitively how next-generation will enhance our Sprint Broadband Direct service, let me give you an idea about what kind of improvements we expect to see:

- Today, depending on the characteristics of the market, we're able to serve only 60-80 percent of the homes within range of our service towers due to line-of-sight issues. With next-generation technology in place, we expect that number to improve to around 90 percent.

- Today, due to a combination of aesthetics, line-of-sight and other technical issues, our percentage of sales to installs is around 50 percent. With next-generation, we expect to virtually eliminate such fall-out.
- By offering our customers a self-installation option, we expect to reduce our cost per installation by 90 percent, and
- Through frequency re-use, we think we'll be able to grow the capacity of our existing systems by some 10-fold or more, as necessary to meet customer growth.

These improvements will contribute to our ability to dramatically lower our cost structure, particularly in relation to competing technologies. This lower cost structure will bolster our business case for broadband and position fixed wireless to introduce a dramatically different – or should I say differentiated? – value proposition into the market. By removing or reducing the factors that inhibit fixed wireless growth, I believe that next-generation technologies will open the door for MMDS to become a disruptive technology that will change the broadband market for everyone.

We'll continue exploring next-generation opportunities over the next few months. When we've successfully completed testing in Seattle, we hope to test next-generation technologies in other markets before the end of this year. We've made good progress so far, and we're encouraged by what we've discovered. We're excited about what next-generation will mean for our customers and for our business.

We all have reason to be excited about what it will mean for this industry, but it is up to us – all of us, as operators, licensees, vendors and regulators – to stay committed to making next-generation fixed wireless a reality and, ultimately, growing this industry. The broadband opportunity that lies before us will not wait for us to seize it, and competing technologies will be vying for supremacy. It requires our collective belief, dedication and collaborative spirit to ensure that we succeed in realizing the potential of this technology.

So in conclusion, I'm here today because I want you to feel as positive about the future of fixed wireless as we do at Sprint. We're seeing that the technology works well; that it meets a demand in the marketplace like no other technology can; that it makes for strong, mutually beneficial relationships between education and industry; that a successful business model can be built around it. And with potentially disruptive next-generation technological advances waiting in the wings, I believe we're on the verge of bridging the digital divide and changing the broadband landscape for everyone.

Thank you very much for your attention. We have a few minutes for questions if anyone has any.

NUCENTRIX

NCNX 3G TALKING POINTS
FCC MEETINGS
JULY 2, 2001

NCNX Background/Introduction.

Facilities-based, last mile provider of broadband Internet service and multichannel video programming over MMDS and ITFS frequencies.

Third largest holder of MMDS/ITFS spectrum behind Sprint and WorldCom, with a coverage area of approximately 9 million homes across Texas, Oklahoma and the Midwest.

NCNX currently provides high-speed wireless Internet access to over 4,000 end users in Amarillo, Austin and Sherman/Denison, Texas.

Broadband to Rural America.

In its initial report in the 3G proceedings, the FCC recognized that in rural and underserved markets in the country, ITFS and MMDS may be the sole provider of broadband service.

With a large coverage radius from a single tower site, MMDS can provide affordable broadband services in densely populated areas where DSL and cable modem may never reach, and is the only viable competitor to the DSL/cable duopoly for broadband and voice services.

The Texas Public Utility Commission similarly concluded that:

There are no competitive LECs providing DSL access lines in rural areas in Texas;

Incumbent LECs have largely ignored rural subscribers; and

Only 5% of rural counties in Texas have cable modem service.

Nucentrix Markets.

Primarily medium and small markets.

90% of NCNX markets have less than 200,000 homes.

60% of NCNX markets have less than 100,000 homes.

Today NCNX has operating 2-way licenses for 57 markets. Over 90% of the applications filed in the FCC's initial 2-way filing window have been granted.

But deployment is on hold.

Threat to Broadband Services.

The ongoing 3G proceedings threaten our ability to deliver broadband services to rural America.

The cloud of uncertainty that hangs over our spectrum has had a chilling effect on the capital investment needed to fully fund the development of next generation technology and the deployment of broadband services.

The time has come to take MMDS/ITFS spectrum off the table.

The FCC should meet its July 2001 deadline for MMDS/ITFS spectrum and remove these bands from consideration for 3G services.

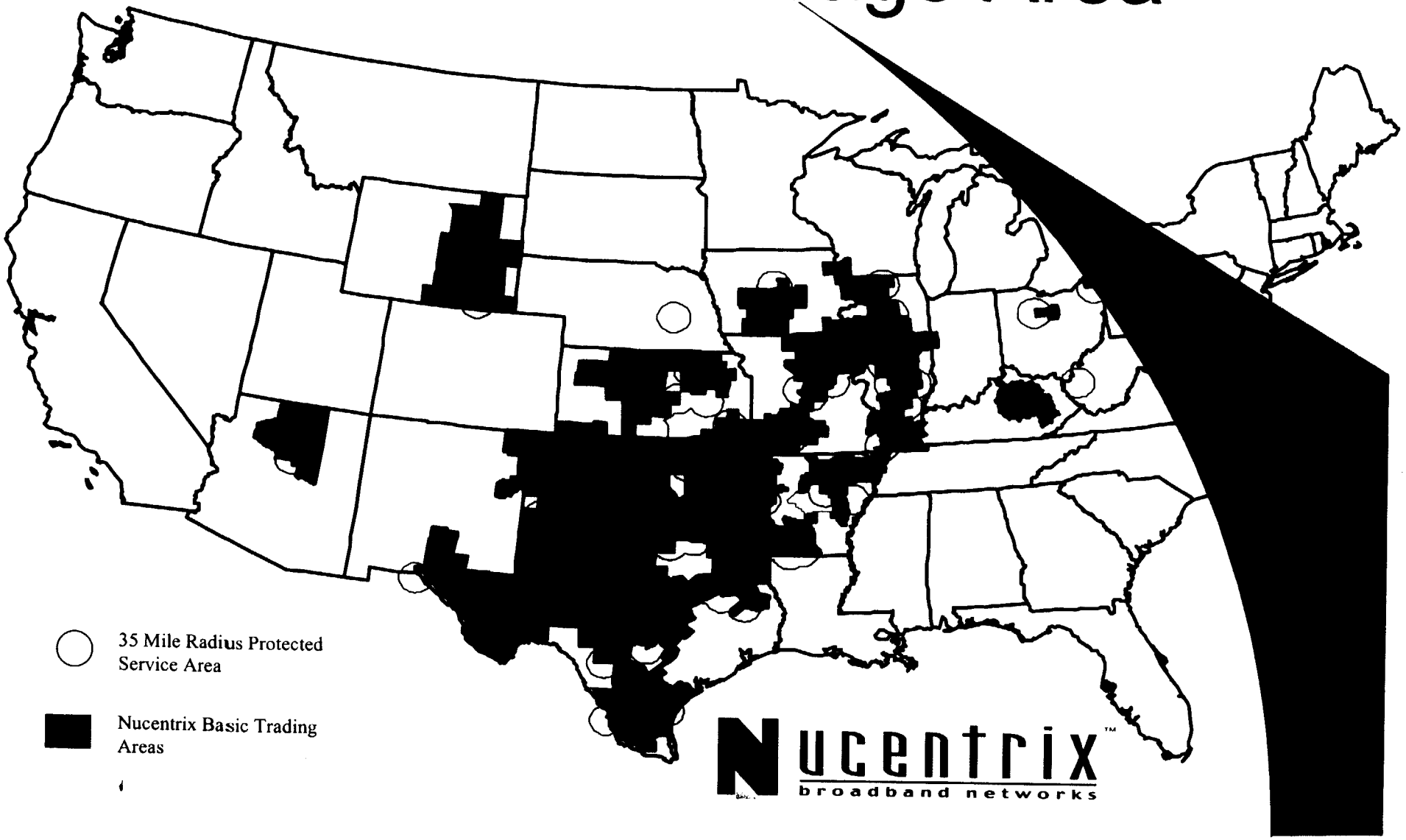
We recognize this is a complex decision, but the FCC has concluded in two reports that sharing or segmenting our spectrum for 3G is not technically feasible. Moreover, it is clear that 3G proponents do not favor our spectrum--they prefer the 1.7 GHz government spectrum.

Equally as important is that MMDS operators bought and paid for much of their spectrum at auction. These licenses are now in jeopardy just as they are being authorized for two-way digital services.

If the FCC or the Administration determines that more time is necessary to study other alternative bands, we would support that decision.

However, that should not delay removing the MMDS/ITFS spectrum from consideration.

Nucentrix
Licensed Coverage Area



NIA Summary July 2, 2001

Education has been in ITFS, and this fight to preserve ITFS spectrum, for a long time.

Preservation of ITFS/MDS spectrum is an extremely important issue for the education community of the United States

- Unprecedented coalition of education groups
- Unprecedented coalition of education and corporations

After years of work, we now have the right spectrum, the right FCC rules, the right technology, and the right partners. But, uncertainty associated with 3G is damaging.

Continuing education is increasingly critical to the economy

- 50% of worker's knowledge is obsolete in 3-5 years
- Traditional education cannot meet worker's needs

ITFS/MDS network is a critical resource for reaching students and workers anytime and anywhere with fixed broadband services

- Wireless reaches unserved areas
- Wireless provides competition where there is none

One thing is clear: No one seriously wants our spectrum for 3g

- FCC appears to want to take it off the table
- We very much want you to do so

We'd like the FCC to take ITFS/MDS off the table in the July further notice of proposed rulemaking.

It is critical that the 3g spectrum cloud over education and our fixed wireless partners be lifted swiftly. Can you help us?

Patrick J. Gossman, Ph.D
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