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September 8, 2003

VIA ELECTRONIC FILING

Marlene H. Dortch
Secretary
Federal Communications Commission
The Portals
445 12th Street, S.W.
Washington, D.C. 20554

Re: Comments of South Carolina Educational Television Commission in response to *Notice of Proposed Rule Making in WT Docket No. 03-66, RM-10586 et al.*; Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands

Dear Ms. Dortch:

On behalf of the South Carolina Educational Television Commission ("SCETV"), we hereby electronically file the attached Comments in the referenced rule making proceeding.

Should any questions arise concerning this matter, kindly contact undersigned counsel for SCETV or the persons noted at the end of SCETV's comments.

Respectfully submitted,

/s/ Todd D. Gray

Todd D. Gray
Counsel for SCETV

South Carolina

Educational Television Network

Comments on:

Notice of Proposed Rule Making and Order

FCC WT Docket No. 03-66
(Released April, 2003)

September 2003

ITFS: Making an Impact in Schools

South Carolina Educational Television Network

South Carolina Educational Television's (ETV) mission is to provide a statewide educational communications network. We've invested nearly 30 million dollars in an ITFS delivery system, thousands of hours of programming, and formed several successful partnerships with vital educational institutions across the entire state. We own and operate the largest and most successful ITFS system in the nation, and we've proven time and time again our impact on schools and communities.

We do not plan to dwell on our successes. We realize that the advent of wireless broadband will have a profound effect on our citizens, and that broadcast television alone is not enough to answer the complex communication needs of our learning community in the future. Thus, we are excited about the NPRM and its potential impact on our future.

The following discussion will present South Carolina ETV's comments on these key points:

1. We support the Coalition's (Wireless Communications Association, National ITFS Association, and the Catholic Television Network) proposed Band Plan
2. We are also supportive of the Coalition's transition plan to migrate to digital delivery
3. ETV is in favor of the Protected Service Areas being modified to Geographic Service Areas
4. We hope the FCC will conclude in the rulemaking that the priority of ITFS should remain its educational mission

There are concerns, however, with some of the questioning initiated by the FCC on the Coalition's white paper submission. Our comments will address those concerns, in that every learner in the state of South Carolina will be affected by the impending legislation.

Our Present Status of ITFS

	CALL SIGN	GROUP		CALL SIGN	GROUP		CALL SIGN	GROUP		CALL SIGN	GROUP
1	WHN-704	A	18	WHR-504	B	35	WHR-933	C	52	WHN-713	F
2	WHF-220	A	19	WHR-465	B	36	WHQ-445	C	53	WHM-939	F
3	WND-451	A	20	WHR-485	B	37	WHR-473	D	54	WHQ-259	F
4	WGR-849	A	21	WHN-708	B	38	WHQ-301	D	55	WHN-705	F
5	WHR-481	A	22	WHQ-447	B	39	WLX-222	D	56	WHR-456	F
6	WND-422	A	23	WLX-244	B	40	WHM-926	D	57	WHR-620	G
7	KGF-20	A	24	WHR-957	C	41	WHR-472	D	58	WND-533	G
8	WND-452	A	25	WHM-931	C	42	WHR-884	D	59	WHQ-380	G
9	WHQ-258	A	26	WHQ-304	C	43	WHR-666	D	60	WHR-480	G
10	WBX-216	A	27	WHQ-305	C	44	WHQ-397	D	61	WGR-836	G
11	WND-534	A	28	WHQ-396	C	45	WHR-726	D	62	WHR-720	G
12	WHM-935	B	29	WHM-936	C	46	WHN-714	E	63	WHR-609	G
13	WHR-961	B	30	WHN-711	C	47	WHQ-373	E	64	WHQ-446	G
14	WHR-457	B	31	WHQ-405	C	48	WHR-614	E	65	WND-532	G
15	WHR-980	B	32	Pickens STA	C	49	WHN-702	E	66	WHQ-402	G
16	WHR-476	B	33	WHR-674	C	50	WHR-471	E	67	WHR-470	G
17	WHN-712	B	34	WHM-932	C	51	WHN-703	E	68	WHR-500	G

The primary purpose of the ETV network is to provide comprehensive educational opportunities to public schools, colleges, universities, and adult continuing education. The network consists of analog/digital TV and radio broadcast, 32 digital satellite channels, ITFS stations, and point-to-point microwave inter-connects. Presently (2002-2003), our ITFS service provides service to 686 schools, 469,359 K-12 students, and 43,408 teachers. South Carolina is largely a rural state, and home to over 4 million people. We have established 35 Distance Education Learning Centers (DELCS) that use ITFS as broadcast hubs that provide programming to all 85 schools districts in South Carolina, and operate as extensions to ETV's broadcast delivery facilities. Recognizing that 63% of the student populations live in rural areas, the ITFS system has a great impact in answering the educational needs of each district.

THE DELC IS A COOPERATIVE EFFORT BETWEEN SOUTH CAROLINA EDUCATIONAL TELEVISION, THE STATE DEPARTMENT OF EDUCATION (SDE), AND LOCAL SCHOOL DISTRICTS. THE ETV NETWORK PROVIDES AND MAINTAINS ALL THE ITFS BROADCAST TRANSMISSION AND RECEIVING EQUIPMENT UTILIZED BY THE DELCS. EACH FACILITY UTILIZES THE MULTIPLE CHANNELS OF ITFS BY AIRING PROGRAMS SPECIFICALLY FOR SCHOOLS' INSTRUCTIONAL SUPPORT. ALL DELCS ARE EQUIPPED WITH DIGITAL SATELLITE RECEIVERS FOR NETWORK FEEDS, VIDEO TAPE RECORDERS, AND AN INTERACTIVE TV STUDIO, WHERE THEY CREATE CRITICAL DISTRICT WIDE INFORMATIVE PROGRAMS, SUCH AS STAFF DEVELOPMENT TRAINING AND DISTANCE LEARNING COURSES. THE SDE, THROUGH ITS INSTRUCTIONAL TELEVISION SERVICES (ITV) DEPARTMENT, PROVIDES THE MAJORITY OF THE EDUCATIONAL PROGRAMS AIRED OVER DELC/ITFS CHANNELS. THE SDE WORKS TO ACQUIRE, PRODUCE AND FACILITATE INSTRUCTIONAL TELEVISION RESOURCES THAT SUPPORT STATE CURRICULUM STANDARDS. LOCAL SCHOOL DISTRICTS ACROSS THE STATE ARE ANOTHER VALUABLE ASSET TO THE PARTNERSHIP. THE DISTRICTS CONTRIBUTE FACILITIES, STAFF, AND OPERATIONAL SUPPORT THAT ARE CRUCIAL

WHEN ADDRESSING EACH SCHOOL'S UNIQUE INSTRUCTIONAL NEEDS. EVERY HIGH AND MIDDLE SCHOOL AND MANY OF THE ELEMENTARY SCHOOLS THROUGHOUT THE STATE ARE ABLE TO RECEIVE DELC PROGRAMMING.

THE DELC HAS AN INCREDIBLE VIDEO LIBRARY, WITH THE CAPACITY TO TAPE ADDITIONAL RESOURCES AND PLAY THEM BACK ON DEMAND. OUR DIGITAL SATELLITE RECEIVERS PROVIDE ACCESS TO PBS, ANNENBERG'S LEARNING CHANNEL, ETV, AND MANY OTHER EDUCATIONAL NETWORKS. OVER 1500 HOURS OF CONTENT, PROVIDED BY THE SDE ITV ALONE, ARE AVAILABLE TO SUPPLEMENT TEACHING IN THE CLASSROOM. THE DELC THROUGH ITFS ALSO OFFER A VARIETY OF ACCREDITED COURSES FOR HIGH SCHOOL AND COLLEGE CREDIT, PROFESSIONAL DEVELOPMENT, AND RECERTIFICATION COURSES FOR TEACHERS AND STAFF.

OF COURSE, THE TRUE POWER OF ANY TELEVISION STATION IS THE CREATION OF LOCAL PROGRAMMING. EVERY DELC IS EQUIPPED WITH ITS OWN INTERACTIVE TELEVISION STUDIO, INCLUDING VIDEO AND AUDIO SWITCHERS, COMPUTER CONNECTIONS, MICROPHONES, LIGHTS, AND CAMERAS. DURING THESE LIVE STUDIO ORIGINATIONS, PARTICIPANTS ARE NOT JUST IDLE VIEWERS, THEY INTERACT VIA THE INTERNET OR TELEPHONE. MANY OF THE DELCS PRODUCE THEIR OWN DISTANCE EDUCATION COURSES (39 TOTAL COURSES AND 78 STAFF DEVELOPMENT PROGRAMS WERE PRODUCED LAST YEAR). ITFS EXPOSES STUDENTS TO CURRICULUM THAT WOULDN'T NORMALLY BE AVAILABLE TO THEM OTHERWISE, ESPECIALLY SINCE MOST SCHOOLS ARE EXPERIENCING TEACHER SHORTAGES. A FEW DELCS COLLABORATE WITH LOCAL COLLEGES AND OFFER ADVANCED CREDIT TO HIGH SCHOOL STUDENTS, AND RECERTIFICATION CREDIT TO TEACHERS.

WE ALSO UTILIZE OUR ITFS CHANNELS TO CONNECT SCHOOLS TO LOCAL CABLE ACCESS CHANNELS. THE SCHOOLS USE ITFS TO DELIVER SCHOOL PRODUCTIONS TO LOCAL CABLE CHANNELS, OFFERING THE COMMUNITY A POSITIVE PERSPECTIVE INTO THEIR K-12 SCHOOLS. THEY ORIGINATE ENLIGHTENING SHOWS THAT ENTERTAIN, INFORM AND EDUCATE THE PUBLIC. FOR EXAMPLE, Horry DELC IN CONWAY, S.C. PRODUCES A WEEKLY HOMEWORK TV SHOW IN BOTH MATH AND ENGLISH, WHERE STUDENTS CAN ENGAGE WITH TEACHERS AND IMPROVE THEIR SKILLS. WE ALSO HAVE STUDENTS WORKING WITH THE DELCS ASSISTING SUCH WORTHY INSTITUTIONS AS UNITED WAY AND LOCAL POLICE STATIONS. THE DELCS PRODUCED 680 PROGRAMS THIS YEAR, AND BECAUSE OF ITFS THEY WERE AIRED ON 15 CABLE FRANCHISES, IN HUNDREDS OF SCHOOLS, AND AT MANY COMMUNITY EVENTS. NOT ONLY HAVE THE DELCS PRODUCED AND AIRED NEARLY A 1000 PROGRAMS; THEY HAVE MADE INCREDIBLE STRIDES IN PUTTING ESSENTIAL VIDEO IN THE HANDS OF TEACHERS AND STAFF. THE ITFS BROADCAST FOR 2002-2003 TOTALED 100,366 PROGRAMS, EQUALING 86,663 HOURS TO SCHOOLS AND DISTRICT OFFICES!

Many South Carolina students had the opportunity to produce programs that aired on ITFS, such as school news programs or special events. Again, as an example, the Lancaster DELC produced a news program called "SC in the News". Students from Lancaster High edit local affiliate news reports from around the state, videotaped, and anchor the program which was delivered by ITFS and satellite to classrooms across the state. Western Piedmont DELC in Greenwood, South Carolina, produced a statewide

social studies program that was interactive and hosted by area Elementary students. This year K-12 school districts produced over 200 Student Enrichment programs.

Our ITFS Vision for the Digital Future

Our ultimate goal is to make ITFS as beneficial to students, teachers, district support personnel, and the entire educational community, as possible, and we look forward to expanding our role into the digital world. South Carolina ETV's ITFS system works in conjunction with our satellite and broadcast TV deliveries to support Distance Learning, and there are many issues that dictate our planning for the future. As a state supported agency, we have a vision that addresses those concerns, all of which hinge on the outcomes of the Notice of Proposed Rule Making and Order (FCC 03-66). We are exploring plans to migrate our ITFS analog delivery into a digital system. Presently, we are investigating a 3 stage approach, that includes installing video content servers at the ITFS/DELC centers, use the high-power spectrum allocation to offer Video-On-Demand (VOD), and expand the wireless network to accommodate internet distribution to all of South Carolina, including schools, local government, higher education institutions, and state agencies.

There are a multitude of concerns that our agency are considering in order to evolve into an ITFS digital service, such as:

- ❑ Distance Learning through Internet deliveries is increasingly important.
- ❑ Video content needs to be more interactive. Presently, it is a one-way stand alone delivery mechanism dependent on a human gatekeeper.
- ❑ Our present analog video program content is not correlated by standards or objectives, searchable, or accessible on demand.
- ❑ Accountability demands by legislators and administrators force teachers to be compliant with state and national standards (i.e. No Child Left Behind)
- ❑ There is an increasing demand for schools needing Internet bandwidth, as they become more dependent on the web for administrative and instructional functions.
- ❑ More and more of our rural schools are suffering from the digital divide.
- ❑ Digital Storage needs are growing for our network, regional stations, Instructional Television (ITV) content providers, and our partnering educational institutions (i.e. K-12, High Education, State Agencies)
- ❑ State and local budget cuts are resulting in a reduction of instructional services, and creating a new mandate for ETV's infrastructure to generate self-supporting revenue.

Taking these serious issues in account, South Carolina ETV has formulated a vision that answers the challenge. *ETV will design and deliver digital interactive educational content that is accessible to all of South Carolina* Our ITFS spectrum will be a critical component in implementing this vision. We believe that maintaining educational capabilities remains in the public interest. We have begun planning and hope to initiate the first of a three step approach this coming fall of 2003.

Any good network is dependent on solving the client's needs. Mainly, our ITFS clients in S.C. have been the K-12 community, but with the potential of digital deliveries, we're hoping to expand our educational services more widely to other non-profits, such as higher education, state agencies, fire, police, EMS, and local government municipalities. Thus, our first step in this convergence will be to place a video/cache server at each DELC/ITFS site. These content servers will eventually replace the video tape inventory with more accessible digital files. This quality content will be searchable through the Internet and can be correlated to standards or objectives. The video will be available to be streamed on-demand or downloaded so it can be easily incorporated into interactive lesson plans. The video will be accessible to be displayed in its entirety or divided into shorter sections to accommodate a more efficient instructional design.

South Carolina ETV wants to continue the existing DELC/ITFS mission of supplementing learning, plus give the facilitator and end user more flexibility to apply the content. By placing a video server at the existing DELC/ITFS sites, we can house the videos the clients need to respond to their unique mission. ETV, through digital datacasting, will have the capability to populate all or specified ITFS servers with ITV, PBS, or state productions to keep the servers current. Also, clients within the ITFS geographic footprint will have ability to insert their local content, such as pre-recorded digital files of distance learning facilitators, school board meetings, or special events presentations. This saves the clients from having to purchase their own video server, because the ITFS operates as a hub to serve each client within a geographic area. All the digital content can be easily managed and usage tracked through the Internet, so that credible evaluations can be construed from its utilization.

The need to adequately stream digital video assets will demonstrate the need for more bandwidth. This challenge segues into our second stage of our vision, which is to use the new digital ITFS bandwidth to deliver quality video to the desktop as well as for traditional group presentations in classroom or conference room settings. The band plan submitted by the Coalition includes a high power allocation of frequencies. We are very much in favor of the submitted band plan, both technically (including the prescribed guard bands) and conceptually because of its practical applications. The "big stick" portion of the spectrum is highly desirable for South Carolina ETV in that it could be used in several of ways. The high power spectrum would allow for a big pipe one-way delivery of videos that are requested off the server. In addition to VOD, as a secondary function, the excess capacity of the mid-band frequencies could be used as a high power 2-way data internet backhaul for each of the receive sites. This could be helpful in expanding a client's Internet bandwidth and accommodate the video streams requested from the ITFS/DELC server. We could also parallel our existing analog delivery with digital, for example broadcasting channels as an informational portal that would highlight videos available on the video streaming server.

As we plan for the transition required by the outcome of the NPRM, we again support the Coalition that no deadlines should be set until a partner has been identified to assist with the planning and expense of the transition. As a state agency, we are

bound by state law to not compete with a telecom as a telecommunications provider. Thus, we are mandated to form a partnership to negotiate the cost of transition with an outside party or another qualified state agency.

The final stage of completing our vision of designing and delivering digital interactive educational content is to make it accessible to all of South Carolina. ETV is exploring the potential of creating a cellular wireless broadband network that covers the entire state by utilizing our existing transmitter and receive tower sites (over 600 hundred towers). The educational benefits of this type of access are endless. How the FCC rules on re-working the ITFS band plan and rules will determine how we implement wireless broadband in our state. There are several major issues to consider:

- Although we can identify with the flexible services the Wi-Fi industry can provide, security and reliability are a must for the mounting administrative functions needed by our non-profit users. Thus, keeping the ITFS frequencies protected by licenses is very important. We concur with the Coalition, if unlicensed Wi-Fi is allowed in our spectrum there would likely be impending interference problems, and it would degrade the value of the educational licensed spectrum. It is imperative that we offer an educational service that is protected and dependable.
- Keeping the ITFS spectrum licensed increases the value of the frequencies. This is especially true, since the state, for budgetary reasons, would like us to lease our excess capacity. The important issue here is how the rulemaking will allow us to lease the bandwidth. Again, we support the Coalition's plan for transition. Being a state agency, we sometimes have to attest to legislative auditors that our educational services have true economic value. Allowing others to lease our current (licensed) ITFS spectrum assist us in determining the actual worth of the spectrum.
- Also, from a leasing prospective, we again would like to support the Coalition's proposed band plan to segment the frequencies into three sections (the lower and upper band for low power cellular operations and the mid-band for high power operations). The separating of the two lower power segments makes it more appealing to potential leasing parties, in that there are two wireless standards being used today (Frequency Division Duplex, FDD and Time Division Duplex, TDD). By keeping the low power segments separate, each lower or upper segment could be operational using either FDD or TDD without interference to the other. Again, this would make the frequencies more efficient and in turn more valuable.
- As explained in our existing infrastructure, South Carolina ETV has many receive sites within a geographic region. We have many licenses that overlap in assigned footprints. Since we have rights to virtually all the ITFS channel groups within the state, our main concerns are the licenses and GSA's for schools along our state border. We believe the splitting of the overlap or "football" with a negotiated straight line is a viable option, but would strongly suggest that the existing receivers within the current Protected Service Areas (that would be excluded by a re-negotiated coverage area) be grandfathered to continue service by the original license holder.

- Although not mentioned in the NPRM or submission by the Coalition, South Carolina ETV is very troubled over the potential loss of our Special Temporary Authorization (STA) operations in several key geographic locations. Our mission is to serve the entire state, including the rural areas, such as Lancaster and Chesterfield. We don't want to be penalized by losing the rights to serve these areas digitally, because the FCC refused to open a window since 1995 to file permanent applications for the channels.

Conclusion

South Carolina ETV is a leader in providing educational content to the South Carolina's schools. The proposed NPRM and the developing digital technologies open new possibilities for us as a state network. We strongly believe that ITFS, as the last reservoir of spectrum allocated solely for education, needs to stay allocated for education. We are against "open eligibility" that would allow commercial ownership of these frequencies, even though we do welcome future potential commercial partnerships. The plan submitted by the Coalition is a true win-win state of affairs for present and future ITFS license holders. With the advent of the wireless broadband market, ITFS spectrum can deliver true interactive communication, and through leasing agreements could provide an adequate revenue stream to acquire the costly technology needed to build and maintain the digital infrastructure.

The future of the DELC/ITFS system in South Carolina relies on the combination of TV with the flexibility of ubiquitous wideband digital delivery. The accessibility and interactivity of the Internet blends extremely well with television. Web based instruction offers video on demand that meets the needs of all learners, and can be packaged with a variety of enhancements. Lessons can be presented according to learning styles and offer students the individual attention they need. ETV's present success in analog ITFS delivery is testimony to the fact that ITFS is addressing distinctive educational needs in our schools. The NPRM 03-66 will directly decide how we evolve ITFS to the digital delivery service of tomorrow. The DELC/ITFS can help our state overcome the communication barriers of access and equity. For all of these reasons mention in the comments above, SCETV fully supports the Coalitions recommendations for converting ITFS.

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