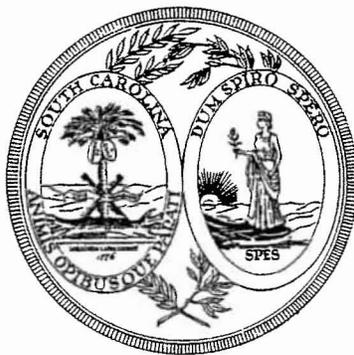


**SOUTH CAROLINA BROADBAND
TECHNOLOGY AND COMMUNICATIONS
STUDY COMMITTEE**

REPORT TO THE GENERAL ASSEMBLY



February 6, 2008

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SOUTH CAROLINA BROADBAND TECHNOLOGY AND COMMUNICATIONS STUDY COMMITTEE

REPORT TO THE GENERAL ASSEMBLY

I. INTRODUCTION

A. Background

In 2003, the Federal Communications Commission (FCC) issued a notice of proposed rulemaking (NOPR) regarding the restructuring of the 2.5 GHz band of the spectrum, the band licensed to educational organizations and institutions. ETV, Trident Technical College (Trident Tech), and Greenville Technical College (Greenville Tech) hold instructional television fixed service (ITFS) licenses in S.C. ETV has 67 licenses and Trident Tech and Greenville Tech each have two licenses. That band is also licensed to commercial providers and used for Multipoint Distribution Service (MDS), a common carrier service for distribution of television programming. The FCC reassigned ITFS licensees to the Educational Broadband Service (EBS) and the commercial providers to the Broadband Radio Service (BRS) and renamed the services EBS and BRS to more accurately describe the kinds of services the FCC anticipated would develop in the 2.5 GHz band.

In 2004, the FCC adopted new rules that require the EBS and BRS licensees to convert their systems to digital systems, thereby creating excess capacity on the spectrum. This excess capacity may be leased to commercial organizations and could be used to provide wireless broadband services. The FCC stated in its rulemaking, "By these actions, we make significant progress towards the goal of providing all Americans with access to ubiquitous wireless broadband connections, regardless of their location." In the Matter of 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, 19 F.C.C.R. 14165 (July 29, 2004).

The FCC has divided the country into 493 Basic Trading Areas (BTAs). South Carolina has twelve BTAs, some of which extend into North Carolina and Georgia. The transition of all of the licenses in a BTA will be managed by an EBS or BRS licensee or lessee in the BTA ("the proponent" for the BTA). Clearwire¹ is the proponent in three of

¹ Clearwire is a company that was founded in 2003 by Craig McCaw, who began his career in his family's cable business and was a pioneer in the cellular telecommunications industry. Clearwire has plans to use a technology in the 2.5 GHz spectrum known as WiMAX, which is colloquially referred to as Wi-Fi on steroids, to bring high-speed Internet access to homes and businesses across the nation.

the twelve BTAs, the Greenville-Spartanburg BTA, Columbia BTA and the Charlotte-Gastonia BTA, which includes the Rock Hill area, and which means transition initiation plans have been filed in those BTAs. FCC rules require the proponent to pay the costs of transitioning the EBS licensees to their new spectrum blocks. All other BRS and commercial EBS licensees must pay the costs of their transition to the new spectrum and their pro rata share of the costs of transitioning the EBS licensees. Under the FCC rules, transition initiation plans must be filed with the FCC by January 19, 2009, and every EBS and BRS licensee must be able to show they are providing substantial service by May 1, 2011, or they may lose their licenses.

B. Joint Resolution H. 3569

The General Assembly adopted two goals in H. 3569: (1) all South Carolinians should have affordable access to broadband products and services as quickly as possible; and (2) the policies of this State should promote technological neutrality, competition, investment, and innovation so that broadband service providers have sufficient incentive to develop and offer these products and services. H. 3569 created a study committee to study various issues, perform certain duties, and report back to the General Assembly by December 31, 2007.

H. 3569 established the following findings:

(1) access to computers and the Internet, along with the ability to effectively use these technologies, is becoming increasingly important for full participation in America's economic, political, and social life;

(2) affordable, high-speed Internet access is critical to attracting, growing, and retaining businesses in the highly competitive global marketplace;

(3) in the digital age, universal connectivity at an affordable price is a necessity for business transactions, education and training, health care, and government services;

(4) broadband service to access information and resources is pivotal to eliminating the digital divide and promoting the economic and personal self-sufficiency of low-income individuals;

(5) broadband service is proving valuable to the economic transitioning and growth of distressed urban and rural communities;

(6) broadband service currently is being provided using a number of different technologies, each of which has unique characteristics and advantages;

(7) communications service providers in South Carolina, including those in rural areas of the State, have invested and continue to invest significant amounts of capital to deploy and maintain networks to make broadband services available to the vast majority of South Carolina citizens;

(8) access to computers and broadband access at home and at school enhances the learning environment for school age children; and

(9) changes to the 2495-2690 MHz band of the spectrum licensed by the Federal Communications Commission for Educational Broadband Service and Broadband Radio Service will enable EBS and BRS providers to use that spectrum in a

more technologically and economically efficient manner, encourage licensees to digitize their frequencies thereby creating excess capacity on their spectrum, and allow licensees to lease up to ninety-five percent of their capacity to commercial entities.

The Broadband Technology and Communications Study Committee is composed of 17 members, three of whom are non-voting members. A listing of the members is attached to this report. The General Assembly assigned the following duties and powers to the Study Committee:

(1) evaluate how best to foster a partnership between the private sector and public sector to accomplish the goals of this section;

(2) evaluate the state's broadband communications infrastructure to determine whether and where broadband services are available, by whom they are provided, and by what manner of technology;

(3) assess the need for broadband services in unserved and underserved areas within the State;

(4) maintain an inventory of locations within the State at which broadband services are not available or are underutilized;

(5) identify the types and locations of infrastructure and services required to satisfy the need for broadband services in unserved and underserved areas within the State;

(6) make recommendations to the General Assembly regarding the best method of leasing the excess capacity of EBS licensees in this State. In making its recommendations, the Study Committee must consider whether broadband service expansion should be accomplished in a manner that allows South Carolina-based broadband providers a reasonable opportunity to contribute toward the realization of the goals of this section. Excess capacity must not be leased prior to approval of the recommendations of the Study Committee by the General Assembly. Upon approval of the recommendations by the General Assembly, the EBS licensees are authorized to lease excess capacity in cooperation with the Division of the CIO. The awarding of contracts for the lease of excess capacity must be done by competitive solicitation in accordance with the South Carolina Consolidated Procurement Code. In entering into contracts to allow third parties to lease the EBS licensee's excess capacity, the EBS licensee and the Division of the CIO must not impose any pricing requirements on those third parties. The committee must make recommendations to the General Assembly as to how best to utilize the funds received from the lease of excess capacity. The Study Committee must consider, at a minimum, whether the funds should be used to offset the costs of broadband service for qualified low-income subscribers, whether the licensee or other state entity should receive all or a portion of the funds, or any other use of the funds to the benefit of the State; and

(7) recommend to the General Assembly necessary legislation, rules, programs, and policies for the State, a state agency, or a political subdivision of the State to advance the goal of providing all South Carolinians with affordable access to broadband products and services; provided, that any policies recommended by the Study Committee should promote technological neutrality, competition, investment, and

innovation to ensure that broadband service providers have sufficient incentive to develop and offer these products and services.

In carrying out its duties, H. 3569 requires the Study Committee to act in the public interest, which is defined to include, but is not limited to, a balancing of the following:

- (1) concerns of the using and consuming public with respect to broadband services, regardless of the class of customer;
- (2) economic development and job attraction and retention in South Carolina;
- (3) viability of existing broadband networks and recognition of the investments made therein; and
- (4) encouragement of continued private investment in and maintenance of broadband facilities so as to provide reliable and high quality broadband services.

The Study Committee met seven times, September 26, October 4 and 17, November 6 and 20, December 12, and January 9.² The Study Committee heard from incumbent broadband providers and potential bidders of the EBS licensees' spectrum capacity. The incumbent providers explained their efforts to get broadband services to the residents and businesses in the State. With regard to the leasing of EBS licensees' excess capacity, the incumbent providers requested that the lease(s) be based upon prevailing market rates for EBS licenses pursuant to a fair and competitive bidding process. The potential bidders explained their interest in leasing the excess capacity. The Study Committee also heard from a number of organizations and persons on the benefits of broadband services.

II. RECOMMENDATIONS

A. Broadband Deployment

Several of the Study Committee's duties involve the state's present broadband communications infrastructure. H. 3569 requires the Study Committee to: (1) evaluate the state's infrastructure to determine whether broadband services are available, where they are available, by what type of technology broadband services are provided, and by whom they are provided; and (2) maintain an inventory of locations where broadband services are not available. Because of the competitive nature of broadband, incumbent providers were reluctant to provide detailed information to the Study Committee without protection of proprietary information. Some states have created non-profit entities that obtain and analyze this type of information in an effort to facilitate the deployment of broadband in those states. The Study Committee heard presentations from e-NC Authority and ConnectKentucky, the North Carolina and Kentucky non-profit entities whose goal, among other things, is to promote broadband deployment to all citizens of their states.

² Agendas, minutes, presentation and comments, a list of issues put out for comment, and a compilation of the responses to those issues that the Study Committee received from various interested parties can be accessed on the General Assembly's website:
<http://www.scstatehouse.net/citizensinterestpage/BroadbandTechnology&CommunicationStudyComm/broadband.html>.

Those two entities obtain this proprietary information on a non-disclosure basis from the providers and are then able to target unserved or underserved areas of their states. It appeared to the Study Committee that the most efficient and most accurate way to obtain that information would be to engage a consultant to assist with that effort.

Connected Nation (www.connectednation.com) is a national nonprofit organization that has been engaged by a number of states to facilitate comprehensive technology expansion efforts that both enhance the supply of available technology/broadband and create demand by orchestrating a localized approach to technology expansion. Connected Nation agreed to assist the Study Committee, in a limited capacity, by determining where broadband is available in South Carolina. Connected Nation is still in the process of obtaining the information and the Study Committee anticipates supplementing this report with the Connected Nation report in the next few weeks.

The Study Committee finds that to fulfill its duties to assess the need for broadband services in unserved and underserved areas within the State and identify the types and locations of infrastructure and services required to satisfy the need for broadband services in those areas would require more time, expertise, and money than was given to the Study Committee. The Study Committee recommends that the State create a public-private partnership such as ConnectKentucky or e-NC Authority to promote the deployment and adoption of broadband services in South Carolina. The Study Committee further recommends that the State engage the services of a consultant to assist in the creation of such an entity, including the following issues:

- (1) how to structure with respect to goals, duties, staffing, and funding;
- (2) what actions, if any, should be taken to accelerate deployment of broadband services (grants, tax incentives, or other incentives);
- (3) whether the focus of any broadband program be on increasing supply or demand, or both;
- (4) whether there are any specific areas that should be targeted for accelerated deployment of broadband services;
- (5) whether efforts should focus on accelerating deployment in unserved areas, without regard to demand for services;
- (6) whether efforts should focus on accelerating deployment on underserved areas, whether they are in rural or urban areas;
- (7) what actions, if any, should be taken to encourage the utilization of broadband services; and
- (8) whether access to broadband services by residential or business consumers should be subsidized, who would receive any subsidies, and how those subsidies would be funded.

Because of its experience in assisting a number of other states in setting up such entities and because its familiarity and knowledge of South Carolina-specific data and information brought about by the research and mapping efforts that are currently

underway for the Study Committee, the Study Committee recommends that the State consider engaging the services of Connected Nation.

B. FCC Spectrum Licenses

1. FCC Licenses Held by Greenville Technical College and Trident Technical College

Trident Tech and Greenville Tech were awarded Title III grants from the U.S. Department of Education and built systems using Instructional Television Fixed Service (ITFS) technology to broadcast courses over the 2.5 GHz spectrum to their campuses in their service areas. Trident Tech's service area includes Berkeley, Charleston, and Dorchester Counties, all of which are within the Charleston BTA. Greenville Tech's service area of Greenville County is within the Greenville-Spartanburg BTA.

ETV's licenses cover the entire State, thus, overlay the licenses owned by Trident Tech and Greenville Tech. If it is the desire of the State to create a statewide wireless network over the 2.5 GHz spectrum, it can do so with the licenses owned by ETV. Allowing Trident Tech and Greenville Tech to lease their excess capacity should not in any way hinder the creation of a statewide wireless network. Since federal funds, not state funds, were utilized to build Trident Tech's and Greenville Tech's systems, it would be appropriate to allow both colleges to use the revenues received from leasing their excess capacity to maintain their systems and carry out their missions as educational institutions.

The Study Committee recommends that Greenville Tech and Trident Tech be authorized to proceed with the issuance of requests for proposals to lease excess spectrum capacity in compliance with all state and federal laws and regulations and in cooperation with the State Chief Information Officer. The Study Committee further recommends to the General Assembly that revenues received from the leasing of the excess capacity be retained by Greenville Tech and Trident Tech to be used in accordance with the mission and service area of each college, as defined by South Carolina law.

2. FCC Licenses Held by ETV

Since the early 1980s, ETV has operated an instructional television fixed service (ITFS) delivery system that has produced and aired thousands of hours of K-12 educational programming. ETV created thirty-five Distance Educational Learning Centers to create and broadcast instructional videos and distance-learning classes that provide programming to all 85 school districts in the State. ETV's instructional television fixed service network is likely the most comprehensive ITFS network in the country and could be used by one or more commercial entities to provide wireless broadband services to all urban and rural areas in the State.

A number of options are available to the State for the leasing of ETV's excess capacity. The State could contract with one commercial entity to construct a statewide

broadband network without any mandate to serve any particular areas, except any mandates imposed by the FCC. The State could contract with one commercial entity to construct a statewide broadband network with a mandate to serve all unserved and underserved areas in the State, including those in rural and urban areas. The State could contract with multiple commercial entities to construct a statewide broadband network by leasing licenses on a license-by-license basis or by grouping licenses in geographic areas of the State or by other means. The State could construct a statewide broadband network and allow open access to the network by commercial entities. Other options may be available.

The Study Committee recognizes the educational value and opportunities of the EBS spectrum and recommends that the General Assembly retain the services of an established national telecommunications consultant, such as The Yankee Group, to: (1) assist with the development of a request for proposal for the leasing of ETV's excess capacity that is designed such that the State receives the market rate for the excess capacity; (2) provide an estimate of the value of ETV's licenses to use the spectrum; and (3) provide an analysis of the various business models for leasing excess capacity on ETV's spectrum, including the expected costs and revenues if the State required a statewide build-out of ETV's spectrum, if there were no required build-out, and any other feasible model. The Study Committee recommends that the consultant be required to complete its report within 90 days after being retained.

III. CONCLUSION

The deployment and adoption of high-speed access to the Internet is an important issue for this State and the nation. The potential use of the 2.5 GHz spectrum licensed to ETV, Trident Tech, and Greenville Tech to provide high-speed access to the Internet should facilitate the progress toward the goal of providing all South Carolinians, regardless of their location, affordable access to broadband products and services as quickly as possible.

If you have any questions about this report, please contact any member or the staff of the Study Committee.

Respectfully submitted,

South Carolina Broadband Technology and Communications Study Committee

Members appointed by the President Pro Tempore of the Senate

Senator Luke A. Rankin, Sr.

Senator C. Bradley Hutto

Robert J. Barlow

Neil Mellen

Members appointed by the Speaker of the House

Representative Dwight A. Loftis (Minority Report attached)

Representative Phillip D. "Phil" Owens (Minority Report attached)

Mikell Harper, Esq.

Ted Creech

Members appointed by Governor

Kevin A. Hall, Esq.

Miriam O. Hair, representing the Municipal Association of South Carolina

Janet R. Claggett, representing the South Carolina Association of Counties

Ex-Officio Members

President of Trident Technical College, Designee: Kaye Koonce, Esq.

Secretary of Commerce, Designee: Gary Pennington, Esq.

President of South Carolina Educational Television Maurice "Moss" Bresnahan

State Chief Information Officer Jim Bryant, PhD. (non-voting member)

Executive Director of Office of Regulatory Staff, Designee: Katie Morgan/Nanette
Edwards (non-voting member)

Director of the State Library David S. Goble (non-voting member)

Broadband Study Committee Minority Report

This report is being presented due to the concern that the committee report does little more than hire a consultant to do another study and that the ninety day time allocated for such a study will risk loss of valuable communication licenses held at ETV. Facts and data concerning the viability of providing statewide wireless Internet connectivity are already in hand sufficient to begin a plan to meet the first FCC deadline of January 19, 2009 in have a plan in place and substantial implementation by May 1, 2011.

The committee report fails to inform the General Assembly that SC is one of two states in the nation that has this opportunity to continue to enact the mission of ETV to serve public education in SC in an innovative manner.

- ETV enriches people's lives through programs and services that educate our children, engage our citizens, celebrate our culture, and share the thrill of discovery and the joy of learning through the combined power of television, radio, Internet and other multimedia assets.
- ETV breaks down barriers to educational achievement by matching students' needs with the appropriate technology to meet those needs. A new transformational opportunity exists today through the ETV license with wireless capability for all schools in SC.
- ETV provides a safe haven for children where they can develop a love of learning.
- ETV contributes to a more efficient state government through cost-effective training and communications. Also, ETV provides the added value of a trusted, credible and highest ethical standards are met in delivering content and programming to the students of SC. A guarantee not provided for by the private sector.

While Senate staff repeatedly insisted that the General Assembly had "plenty of time" to meet the FCC requirements, ETV presenters testified as to the urgency to develop a plan to meet the impending deadlines of the FCC for the use of the 67 licenses. Nowhere in the report do we find these concerns expressed. While the report identifies the deadline dates from the FCC for use of the licenses, the report does not make the General Assembly aware of the fact that failure to meet the deadlines would result in the loss of these licenses.

We agree with the portion of the report that recommends that Trident Tec and Greenville Tec be allowed to lease the licenses held by those institutions, however we object to the discrimination of not allowing ETV in cooperation with the office of the CIO to proceed in the same manner. By withholding this authority the General Assembly holds hostage South Carolina's school children and rural South Carolinians from affordable Internet access. Logic would suggest that the discrimination is unwarranted and irrational and is propagated to protect incumbent vendors. The government of SC should not single out a business sector to grant special favor or protection at the expense of the pursuit of quality education for all children in our state. It also delays the advantage South Carolina could have in moving ahead of other states that are moving rapidly toward multi-layered cutting edge broadband connectivity. Continued delay, as per testimony of ETV's Chairman, could lessen the financial value the state could receive.

The example of Milwaukee Wisconsin is one that should be noted as exemplary in the usage of the license in the 2.5 spectrum owned by the University of Wisconsin-Milwaukee, Milwaukee public Schools and Milwaukee Area Technical College. They were used primarily for broadcasting television lessons in classrooms but in recent years they had switched to the Internet. They are converting to wireless broadband with a lease to a private vendor and each institution will receive \$4.2 million up front and monthly payments of \$55,000 that increase annually. Total payout to each institution is approximately \$36 million over 30 years. The school system will use the lease royalties to buy wireless broadband services for all families of Milwaukee Public School students. This means services to schools and homes with no additional cost to the taxpayers of Milwaukee. SC has that same transformational opportunity

with the usage of the ETV license. South Carolina, however, has five and one half times more license availability as Milwaukee.

The Committee report suggests that we follow the plan of Kentucky (Connect Kentucky). We agree only to the extent that we should look to a public private partnership, enabling us to rely on a private vendor(s) that is better able to keep pace with evolving technology and the cost of such.

The General Assembly should be made aware that South Carolina technology infrastructure is much superior to that of Kentucky for a more effective "network" of internet. According to a FCC report, South Carolina has approximately three (3) times the optical fiber as Kentucky (*needed for backhaul for wireless*), more miles of cable, approximately the same amount of DSL lines and in addition wireless Internet capabilities to cover the state from border to border and coast to the mountains. South Carolina should use all its technology assets to fullest advantage.

Connect Kentucky is funded by the state government. The Connect Kentucky Plan is plagued by slow speeds to end users, (SC speed currently higher). We see no indication of wireless interest and the composition of the "Connect Kentucky" board has been mostly incumbent vendors who's self interest keeps the organization from focusing on innovation in the technology arena as well as using the organization's non profit status to lobby with taxpayers dollars for more dollars for themselves.

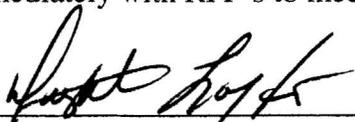
In a public/private partnership we hope SC will learn from the flaws and mistakes of other states. SC is blessed with technology experts that are not current state vendors. Vendor roles should primarily focus on providing information and bidding on state RFP's not making the decision on limiting the access and multi layered technology spectrums. It's a reminder of the old adage of the "fox in the hen house".

For several years the Business School at the University of South Carolina, the Palmetto Institute and others have been warning that South Carolina cannot compete vigorously in the knowledge-based economy with its existing mix of industries and the quality of its economic foundations.

A knowledge-based economy must have the technology infrastructure on which to travel. Internet connectivity is vital to connect with the worldwide markets, virtual education, tele-working and increasingly important in connecting citizens to information that will enhance their lives.

It is the recommendation of this minority report that the General Assembly act on the urgent need to first provide every public school district and the children within them, affordable internet connectivity assisted by the use of the licenses held at ETV as well as government.

In conclusion, this minority report recommends the General Assembly should act to allow the lease of the ETV licenses and pursue implementation of a wireless Internet cloud over every public school in South Carolina and government entities. This report further recommends that ETV and the CIO move forward immediately with RFP's to meet federally imposed deadlines in order to retain these licenses.



Representative Dwight Loftis

2-6-04



Representative Phillip Owens