

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Spectrum Policy Task Force	)	ET Docket No. 02-135
Seeks Public Comment on Issues	)	
Related to Commission's Spectrum	)	
Policies	)	

To: Spectrum Policy Task Force

**COMMENTS OF THE ASSOCIATION OF PUBLIC  
TELEVISION STATIONS**

The Association of Public Television Stations (“APTS”) hereby submits its comments in the above captioned proceeding.<sup>1</sup> For over 30 years, the Congress and the Federal Communications Commission have provided critical policy and funding support to enable public broadcasters to deliver noncommercial educational services to the American public. Policy makers wisely recognized that the commercial media marketplace – which is focused on maximizing revenues for shareholders – would not and could not embrace the mission of using the media to educate and enlighten our nation’s unserved and underserved citizens.

In its landmark 1952 decision, the FCC reserved spectrum for non-commercial educational services, which, along with continued funding and policy support, facilitated

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<sup>1</sup> APTS is a nonprofit organization whose members comprise nearly all of the nation’s 356 noncommercial educational television stations. APTS represents public television stations in legislative and policy matters before the Commission, Congress, and the Executive Branch, as well as engaging in planning and research activities on behalf of its members.

the development of today's highly valued network of locally based public television stations that fully embrace and fulfill that mission. With the advent of digital technology, public stations stand ready to use their digital spectrum to expand and enhance the delivery of educational telecommunications services. Public television has proposed a variety of digital initiatives, including allocating 4.5 megabits per second of digital capacity for transmitting formal educational services to our nation's schools; using the digital spectrum to extend broadband-like services to even the most rural areas of our country; and allocating a portion of digital capacity to provide local, regional and potentially national Homeland Security public safety communications networks.

It is imperative – as Congress and the FCC develop sound federal policies for the best and highest use of telecommunications spectrum going forward – that they maintain the enlightened federal policy of using a portion of the public spectrum to support public television's delivery of educational and public services into the 21<sup>st</sup> Century.

**I. The Federal Government's Three Decade Commitment to Public Television Addresses a Need that Cannot be Adequately Addressed through Market Forces**

The Public Notice indicates that the Spectrum Policy Task Force may be considering a more market-oriented approach to spectrum management.<sup>2</sup> But while market forces may efficiently allocate certain private goods to their best and highest uses, it is well recognized that where there is a market failure for the distribution of certain public goods, or where it is necessary to implement specific congressional policy choices

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<sup>2</sup> Spectrum Policy Task Force Seeks Public Comment on Issues Related to Commission's Spectrum Policies, Public Notice, DA 02-1311, ET Docket No., 02-135 (June 6, 2002), pp. 2-3.

that are not market-driven and may be unrelated to the advancement of competition, government intervention in markets may be necessary.<sup>3</sup> The mandate for universal distribution of noncommercial educational broadcasting services as expressed by the Communications Act<sup>4</sup> is just such a congressional policy choice and was designed to address an inherent failure of the market to provide these services to all Americans.

To this end, federal support for public television and the millions of Americans it educates has been long-standing and consistent.<sup>5</sup> For over 30 years this commitment stands as one of the pillars of federal support for the education of all Americans. For instance, in 1952, the Federal Communications Commission reserved 242 channels for noncommercial educational television stations.<sup>6</sup> Since then, the FCC has consistently defended these reservations against efforts to de-reserve them,<sup>7</sup> and has reserved

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<sup>3</sup> “While reluctant to intervene in the marketplace, I recognize that there are certain critical functions that regulators must perform, even in a competitive marketplace, in furtherance of the public interest. These functions largely fall into three overarching categories of regulations: those that (a) ensure that markets are free of structural barriers to competition; (b) prevent licensees from imposing costs on consumers and competitors, and address other market failures; and (c) implement specific congressional policy choices that are not market-driven and may be unrelated to the advancement of competition.” Kathleen Q. Abernathy, *My View from the Doorstep of FCC Change*, 54 Fed. Comm. L. J. 199, 208 (March, 2002).

<sup>4</sup> See 47 U.S.C. § 396(a).

<sup>5</sup> Indeed, it has been remarked that “Congress long has advocated broad access to public television services, regardless of the technology used to deliver those services, in order to advance the compelling governmental in increasing the amount of educational, informational and local public interest programming available to the nation’s audiences.” Cable Television Consumer Protection and Competition Act of 1992, HR Rpt. 102-628, 102<sup>nd</sup> Cong., 2<sup>nd</sup> Sess., (June 29, 1992), p. 69.

<sup>6</sup> Amendment of Section 3.606 of the Commission’s Rules and Regulations; Amendment of the Commission’s Rules, Regulations and Engineering Standards Concerning the Television Broadcast Service; Utilization of Frequencies in the Band 470 to 890 MCS for Television Broadcasting, Sixth Report and Order, 41 F.C.C. 148 (1952). Since then the number of reserved channels has been increased incrementally.

<sup>7</sup> See, e.g., Television Assignments in New Smyrna Beach, Florida, 50 R.R.2d 1714 (1982); Television Assignments in Houston, Texas, 50 R.R.2d 1420 (1982); Table of Assignments in Ogden, Utah, 26 F.C.C.2d 142 (1970), *rec. den.* 28 F.C.C.2d 705 (1971); Channel assignments in Hamilton, Alabama, 21 R.R. 1577 (1961); Channel Assignments in Longview-Denton, Texas, 17 R.R. 1549 (1958), *recon. den.* 17 R.R. 1552a (1959); Channel Assignments to Des Moines, Iowa, 14 R.R. 152d (1956), *recon. den.* 14 R.R. 1528 (1956).

additional channels to further the reach of public television service<sup>8</sup> as well as to provide better picture quality<sup>9</sup> and to permit the formation of networks of noncommercial educational stations.<sup>10</sup> Since 1952, Congress also has consistently supported the policy goal of a reserved space in the spectrum for noncommercial educational purposes through federal financing and access to multiple distribution platforms.<sup>11</sup>

Consistent federal support – in the form of dedicated spectrum and annual appropriations – has paid off. Today, the network of locally controlled and operated public television stations are highly respected community-based institutions, earning five times the federal investment in local and state support and providing vital public telecommunications services. They have been excellent stewards of their analog spectrum, and stand ready to use their valuable digital spectrum to provide enhanced and expanded public telecommunications services in ways that market forces alone cannot.

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<sup>8</sup> See Television Channel Assignment at Anchorage, Alaska, 68 R.R.2d 1121 (1990); Television Channel Assignment at Victoria, Texas, 52 R.R.2d 1508 (1983); Television Assignment at Seaford, Delaware, 43 R.R.2d 1551 (1978); Television Channel Assignment at Mountain View, Arkansas, 38 R.R.2d 1298 (1976); Television Channel Assignment at Eufaula, Oklahoma, 35 R.R.2d 1039 (1975); Television Channel Assignment at Booneville, Mississippi, 27 R.R.2d 246 (1973); Television Channel Assignment at Parsons, Kansas, 23 R.R.2d 1707 (1972); Television Channel Assignment at the Virgin Islands, 20 R.R.2d 1659 (1970) (mileage separate requirements with co-channels in Puerto Rico waived; the most important factor for waiver is that the channels were for educational use); Television Channel Assignment in Hawaii, 11 R.R.2d 1518 (1967) (18 UHF channels assigned to Hawaii, with 9 reserved for noncommercial educational use); Television Channel Assignment at Eagle Butte, South Dakota, 10 R.R.2d 1768 (1967); Television Channel Assignment in Staunton, VA, 5 F.C.C.2d 537 (1966).

<sup>9</sup> Television Channel Assignment at Nashville, Tenn., 26 R.R.2d 1667 (1973).

<sup>10</sup> Television Channel Assignment at McGill, Nevada and Richfield, Utah, 24 R.R.2d 1855 (1972).

<sup>11</sup> See the Educational Television Facilities Act of 1962, Pub. L. No. 87-447, 76 Stat. 64 (1962), the Public Broadcasting Act of 1967, Pub. L. No. 90-129, 81 Stat. 365 (1967), the Public Telecommunications Financing Act of 1978, Pub. L. 95-567, 92 Stat. 2405, the Public Telecommunications Act of 1992, Pub. L. No. 102-356, 106 Stat. 949, the Cable Television Consumer Protection and Competition Act of 1992, Pub. L. No. 102-385, 106 Stat. 1460 (1992), the Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 118 (Feb. 8, 1996), and the Satellite Home Viewer Improvement Act of 1999, Pub. L. No. 106-113,

**A. Public Television's Commitment to Provide Formal Educational Services**

Through the APTS Board of Trustees, public television stations have officially adopted a policy of committing 4.5 megabits per second on a daily average of public stations' DTV bitstream (one-quarter of their digital channel capacity on average) to transmit formal educational services (e.g., lessons, lesson plans, teacher guides, textbooks) to our nations schools. This approximates the capacity of three T-1 lines downstream to every school in America and is worth \$2.4 billion annually. This level of digital capacity will deliver data at rates 80 times faster than 56K dial-up modems and 15 times faster than digital subscriber line (DSL) connections and will play a vital role in helping schools achieve their educational goals.

The following are some examples of current educational services that are or can be delivered on a near-universal services basis through a local public television station's digital channel.

- The Wisconsin Educational Communications Board has used DTV technology to deliver educational data overnight to local schools with computers equipped with DTV tuner cards. In two Madison elementary schools, fourth-graders are now able to view video segments of historical eras in Wisconsin agriculture, downloaded as many times as they wish, and can explore additional resources such as graphics, written materials, and audio recordings. The enhanced resources include video segments, maps, photographs, historical documents, tours designed to help guide student learning, and audio segments of actual diaries. For teachers, there is an integrated teacher guide, teaching tips, and a list of related Wisconsin Model Academic Standards.
- Through its *New Jersey Workplace Literacy Program*, New Jersey Network has been helping to address adult literacy through a

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113 Stat. 1501 (Nov. 29, 1999).

groundbreaking partnership with the New Jersey Department of Labor in which it uses a variety of technologies, including its digital television signal, to deliver work force training materials to welfare recipients, dislocated workers and other job seekers to designated sites in New Jersey.

- Through its program, “Producing Ohio: Creating Our Economy,” WCET has created an interactive multimedia economics curriculum developed for fifth and sixth grade students. Dynamic and entertaining cross-curricular lessons give students the knowledge and tools necessary to succeed on the Ohio Proficiency Tests.
- In conjunction with CPB and the National Council of Teachers of English, WGBH presented a series of nine works of American Literature that included teaching resources and a student section. These works are airing nationally on public television. The teaching resources included lesson plans, discussion questions, and projects as well as access to information about other literary works that are widely taught in U.S. schools.
- Through the Utah Education Network, a partnership with the Utah Department of Education and public television station KUED, in Salt Lake City helps to distribute curriculum materials to teachers in the state more effectively. Its web site, [www.uen.org](http://www.uen.org), is a comprehensive educational resource for grade school through adult learners featuring an online library service, access to lesson plans and teaching materials, ability for teachers to create their own Web page portal, a catalog of distance learning opportunities and other resources.
- Public television station KNME, Albuquerque, New Mexico, is partnering with regional colleges and universities to create high-end interactive teaching packets to help high school teachers in the Four Corners region (Utah, Colorado, New Mexico and Arizona) meet curriculum standards. The project currently supports more than 48,000 students, 86 percent of whom are Navajo, in 100 schools in 11 school districts.
- Idaho Public Television (IPTV) provides Instructional Television material for K-12 teachers and PBS Adult Learning Services telecourses, offered for credit by Idaho institutions. In

addition, IPTV provides a portion of its system to the higher education institutions of Idaho to offer classes to students at other in-state institutions, as well as offering the PBS Ready-to-Learn, National Teacher Training Institute and GED programs.

## **B. Public Television's Proposal to Address Rural Broadband Access**

Public Television also plans to use its digital spectrum to extend broadband-like services to even the most rural areas of our country. The Commission, the Departments of Commerce and Agriculture, and others have reported that the deployment of advanced services in rural areas lags far behind the deployment in more urbanized areas.<sup>12</sup> The latest figures indicate that while 32 percent of Internet users in large metropolitan areas have access to broadband services, only eight percent have access in rural areas.<sup>13</sup> In addition, less than five percent of cities with fewer than 10,000 people have broadband enabled cable systems or Digital Subscriber Line (DSL) service.<sup>14</sup> Less than one percent of towns with populations under 1,000 have cable modem access and none have DSL.<sup>15</sup> This disparity affects between 55 to 65 million Americans who live in rural areas,<sup>16</sup>

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<sup>12</sup> See Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, Third Report, CC Docket No. 98-146, FCC 02-33, ¶¶ 35, 109, 110 (rel. February 6, 2002). See also “Advanced Telecommunications In Rural America: The Challenge of Bringing Broadband Service to All Americans,” U.S. Department of Commerce, National Telecommunications and Information Administration, and U.S. Department of Agriculture, Rural Utilities Service (April, 2000) (“NTIA/RUS Report”), p. 17.

<sup>13</sup> “Characteristics and Choices of Internet Users,” Report to the Ranking Minority Member, Subcommittee on Telecommunications, committee on Energy and Commerce, House of Representatives, United States General Accounting Office, GAO-01-345, p. 19 (Feb. 2001).

<sup>14</sup> NTIA/RUS Report, pp. 18, 21.

<sup>15</sup> Id.

<sup>16</sup> The Rural Policy Research Institute reported that in 1997, 54.3 million people lived in “non-metropolitan” areas, accounting for over 20.3 percent of the nation’s population. See <http://www.rupri.org>. Other commentators have noted that the number of people living in rural areas has now reached nearly 65 million. Diwata Fonte, “Speed the Plow—and Broadband, Too,” Businessweek Online (July 11, 2001), available at: [http://www.businessweek.com/bwdaily/dnflash/jul2001/nf20010711\\_920.htm](http://www.businessweek.com/bwdaily/dnflash/jul2001/nf20010711_920.htm).

including nearly a third of America's children.<sup>17</sup>

As part of its statutory mission, public television is committed to deliver noncommercial educational telecommunications services to unserved and underserved constituencies, including those Americans living in rural and small markets. Public television's system of transmitters, translators and developing on-channel repeaters, have the potential to provide broadband-like services over a digital infrastructure to all Americans. The inherent flexibility of broadcast technology can allow for the delivery of data at extraordinary speeds in conjunction with a multicast television experience. One-way data rates can approximate nearly 5 megabits per second, exceeding the 200 kilobits per second that the FCC and other agencies consider to be necessary for "advanced" or "broadband" telecommunications services.<sup>18</sup> This extraordinary data delivery mechanism, in conjunction with other technologies designed to provide a return path capability, can facilitate the delivery of "broadband-like" services through the digital television signal. To reach this potential, a fully-digitized public television system must include digital translators and digital on-channel repeaters, technology that has been proven to be both feasible and spectrum-efficient.<sup>19</sup>

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<sup>17</sup> The Rural Policy Research Institute reported that in 1996, 27.1 percent of America's children lived in rural (non-metropolitan) areas. See <http://www.rupri.org>.

<sup>18</sup> NTIA/RUS Report, p. 6. See also [Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996](#), Third Report, CC Docket No. 98-146, FCC 02-33, ¶ 9 (rel. February 6, 2002).

<sup>19</sup> To this end, The Association of Public Television Stations, the Public Broadcasting Service, and the Corporation for Public Broadcasting have formally petitioned the Commission to immediately initiate a rulemaking to ensure the delivery of broadband-like services to all Americans by protecting the existing system of translators and by facilitating the digitization of full-power digital transmitters, digital translators and digital on-channel repeaters. See Association of Public Television Stations, Public Broadcasting Service and Corporation for Public Broadcasting Petition for Rulemaking, Enhancement of Broadband

**C. Public Television's Digital Homeland Security Public Safety Initiatives**

The Public Notice asks a series of questions concerning how spectrum policy can “best preserve and protect the ability of public safety, public service and critical infrastructure entities to do their important jobs in light of the increasing spectrum demands for these and all other services.”<sup>20</sup>

One of public television's digital service goals is to use its digital spectrum to provide local, regional and potentially national Homeland Security public safety communications networks. These networks would utilize datacasting to send data to schools, offices, public safety and other local, state, and federal offices. The data may be text, video, audio, graphics and maps. A public television station would receive data from a particular public safety agency which would be inserted into the digital signal for over-the-air transmission. As the station broadcasts to its community, a small part of the digital signal would be used to send the packets of data. The data would then be received on computers equipped with DTV tuner cards in schools, workplaces, and homes. Public television stations already have the digital capacity needed for this scenario (it would utilize as little as 1/20 of a megabit of the 19.4 megabits of digital spectrum available to each station), and, with its system of transmitters, translators and repeaters can reach 99 percent of American homes. The only equipment necessary for computers to receive the datacasting is a DTV tuner card (currently selling for approximately \$300) that would be

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Access Through the Preservation of Public Television Translator Service and the Development of Digital Translators and Digital On-Channel Repeaters, RM \_\_\_\_ (filed May 29, 2002).

inserted in the computer and a small antenna (retailing for about \$30) to place on the computer. This datacast system could serve the ongoing daily needs of public safety agencies and be used to assist "first responders" in bringing important, life-saving weather, medical, and other emergency information to the public on a daily basis.

One of the pioneers of this Homeland Security Communications Network is Kentucky Educational Television (KET), one of the very first public television licensees to enter the digital age. KET has already formed an impressive number of state-wide partnerships with emergency managers, law enforcement officials, dispatch centers, universities, schools and hospitals. KET will be using a portion of its digital broadcast capacity to immediately send emergency storm alerts, weather information, criminal profiles and updates, and other time-sensitive materials instantaneously to computers with DTV tuner cards around the state. Other public stations are also pioneering the use of DTV for emergency communications. These include KERA/Dallas, KUHT/Houston, KMOS/Warrensburg, MO, in partnership with the Missouri National Guard, and WNYE/New York.

Datacasting has many advantages for public safety services. Transmission of this data over the digital broadcast signal decreases minutes of alert time and information lags to just a few seconds. Use of the digital broadcast infrastructure can also bypass the congestion of wireline and wireless services, including the Internet, telephone, and cellular networks that can plague communications in emergency situations. Because public television stations reach nearly 99 percent of the nation's population over the air, its digital infrastructure could supplement the broadcast Emergency Alert System to

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<sup>20</sup> Spectrum Policy Task Force Seeks Public Comment on Issues Related to Commission's Spectrum

provide a national alert system to reach homes, schools and businesses via computers. And, because the datacasting is "addressable" to certain computers, this system could be used by public safety offices to provide secure information to select public safety agencies and their first responders in the field.

**II. Funds from the Auction of Spectrum Should be Allocated to a Trust Fund to Support the Continuation of Public Telecommunications Services Nationwide**

It is even more apparent today, in this era of advanced telecommunications technologies and media convergence and consolidation, that pure market-oriented approaches to telecommunication policy and spectrum management will not ensure that our nation and its citizens will continue to have access to educational and public telecommunications services. It is imperative – as Congress and the FCC develop sound federal policies for the best and highest use of telecommunications spectrum going forward – that they maintain the enlightened federal policy of setting aside a portion of the public spectrum for the public good. To this end, APTS urges the Spectrum Policy Task Force to recommend that a share of revenues from any auction of analog spectrum be set aside for the support of enhanced and expanded public educational telecommunications services provided by public television stations in the United States. This can be done by the establishment of a trust fund, to be utilized by public television stations, to maximize the value of their digital spectrum to provide service to the public.

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Policies, Public Notice, DA 02-1311, ET Docket No., 02-135 (June 6, 2002), p. 6.

Such a policy – like the 1952 set aside – would ensure that public telecommunications services can continue as robust and relevant services into the 21<sup>st</sup> Century.

## Conclusion

With the advent of digital technology, public television stations stand ready to use their digital spectrum to expand and enhance the delivery of educational telecommunications services. We urge the Spectrum Policy Task Force, as it develops recommendations for policies governing the use of telecommunications spectrum going forward, to maintain the enlightened federal policy of reserving a portion of the public spectrum to support public television's delivery of educational and public services.

Respectfully submitted,

/s/ Marilyn Mohrman-Gillis  
Marilyn Mohrman-Gillis  
Vice President, Policy and Legal Affairs  
Lonna D. Thompson  
Associate Vice President, Strategic  
Initiatives and Corporate Counsel  
Andrew D. Cotlar  
Staff Attorney  
Association of Public Television Stations  
666 Eleventh Street, NW, Suite 1100  
Washington, D.C. 20001  
[www.pts.org](http://www.pts.org)  
202-654-4200 (phone)  
202-654-4236 (fax)

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