JOINT ECONOMIC COMMITTEE

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The Transition to Digital Television: A Hard Date Improves Public Safety

This fall Congress is likely to set a definite date for the transition from analog to digital television. One of the most important reasons for setting a firm date is the need to devote additional spectrum to public safety uses. More spectrum will allow enhanced communications, including greater interoperability, faster transmission of needed information, and greater coverage. Poor communications can increase the loss of life and property associated with a disaster and delay recovery.[1]

A number of tragedies dating back to at least the Oklahoma bombing have demonstrated the importance of a robust communications system that allows first responders from different agencies and jurisdictions to talk to each other and to exchange information such as pictures, movies, and data. Although recent attention has been focused on the threat of terrorist attacks, the recent hurricanes remind us that natural disasters can be just as devastating. In fact, every day first responders across the nation face a variety of situations, large and small, whose outcomes depend upon the quality of information they possess.

Unfortunately, the nation's communications system is seriously hampered by the lack of desirable spectrum. Although a significant amount of spectrum is devoted to federal, state, and local government, much of it is scattered among a large number of spectrum bands. This makes it extremely difficult for different agencies to speak to each other. Licenses often cover a limited geographical area, making it hard for different jurisdictions to share information. Congestion within existing licenses makes it difficult to expand communications as population grows. A lack of spectrum width limits the rapid transmission of pictures and video. Finally, spectrum is not always well matched to the needs of first responders. For example, either signals may not penetrate walls or signal strength may be limited.

This situation is not new. After the Oklahoma bombing, the Federal Communications Commission and the National Telecommunications and Information Administration established the Public Safety Wireless Advisory Committee to study the spectrum needs of public safety services. Five years to the day before the attacks on New York and Washington D.C., the Committee reported that: "currently allocated Public Safety spectrum is insufficient to meet current voice and data needs, will not permit deployment of needed advanced data and video systems, does not provide adequate interoperability channels, and will not meet future needs under projected

[1] Speeding the transition to digital television will also deliver other important benefits. Digital transmission allows broadcasters to fit more information within a given amount of spectrum. An analog signal requires six MHz to send one channel. With a digital signal, broadcasters can use this same six MHz to deliver high definition television, up to six channels of regular television, or an integrated mix of voice, video, and data. After the transition broadcasters will release over 100 MHz of spectrum back to the government. A public auction of some of this spectrum is expected to increase federal revenues by at least $10 billion. Most of this released spectrum will be used to deliver a wide variety of new services to customers, including wireless broadband and enhanced mobile IP technology. Coleman Bazelon of the Analysis Group has estimated the total value of these services at $200 billion to $432 billion.

population growth and demographic changes."[2] The Committee recommended allocating approximately 25 additional megahertz (MHz) in the 700 MHz band to public safety by 2001 and as much as 70 MHz by 2011.[3]

More recently, the 9/11 Commission documented the problems that first responders from different agencies and jurisdictions had communicating with each other during their response. These problems led directly to the loss of lives. Its report concluded that "inability to communicate was a critical element at the World Trade Center, Pentagon, and Somerset County, Pennsylvania, crash sites, where multiple agencies and multiple jurisdictions responded."[4] The Commission recommended legislation expediting and increasing the assignment of spectrum for public safety purposes.

In 1998, the FCC did allocate 24 MHz (channels 63, 64, 68, and 69) to public safety uses. However, the use of this spectrum is still significantly hampered by television broadcasts on these same channels. Under current law, broadcasters may not have to release these channels for a decade or more. The effect on individual jurisdictions can be serious. For example, New York State is in the process of procuring a Statewide Wireless Network that will provide integrated mobile radio communications with voice and data capabilities. Although it has obtained a statewide license to operate a significant portion of the network in the 700 MHz band, that spectrum is currently blocked by analog stations operating in many of its most heavily populated areas.[5]

The creation of a state-of-the-art public safety system depends upon many other factors including technological advances, standards, funding, and implementation, design and training. Because planning for these systems is still primarily a state and local affair, progress differs from region to region. But in every region, progress on any one factor is made more difficult by the uncertainty regarding when adequate spectrum will be made available. Manufacturers are unlikely to produce equipment and governments are unlikely to purchase it unless they know it can be used effectively in the near future.

If the digital transition were completed today, some jurisdictions would be in a position to take steps that would dramatically improve communications within the next year. Many members of Congress are considering a final transfer sometime in 2009. The members of the 9/11 Commission recently said that this is too long to wait. Other proposals have called for completing the transition by 2007. The sooner the transition is made, the sooner jurisdictions can move forward with their plans to increase public safety. Whatever date Congress chooses, it should leave open the possibility of an earlier transfer if broadcasters are not in fact using spectrum.

Also important, the FCC could complete its current rulemaking process to allow greater unlicensed use of the television channels that are currently not used in any market. Broadcasters have argued for strict restrictions in order to prevent any possible interference with their signals. More reasonable rules could allow the creation of more wireless networks on frequency that would otherwise sit idle.[6] These networks will make it less likely that an area will lose all forms of communication in a disaster.

[2] Public Safety Wireless Advisory Committee, Final Report, September 11, 1996, Volume I, p. 19.
[3] *Ibid.* p. 3.
[4] *The 9/11 Commission Report: Final Report of the National Commission on Terrorist Attacks Upon the United States*, p. 397.
[5] Comments for FCC Proceeding 03-15 by Statewide Wireless Network, New York State, Office for Technology, April 21, 2003. [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513983378]

[6] See J.H. Snider, "Fact Sheet: How the DTV Transition Can Move the Nation – And Unused Spectrum – From 'Broadcast to Broadband'" September 7, 2005, New America Foundation.