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Spectrum Auctions and Deficit Reduction: FY2006 Budget Reconciliation

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Summary

Congressional policymakers are seeking a way to accelerate the nation's transition to digital television (DTV) and to expedite the transfer of certain radio frequency channels from the broadcast industry to public safety and commercial users no later than 2009. The Congressional Budget Office has informally estimated a value of $12.5 billion from auction proceeds for these commercial channels; many believe the amount could be higher. Broadcasters are holding this valuable spectrum (channels 52-69) but would be required to relinquish it after the transition to DTV is achieved. Without a hard deadline, the transition to digital television has been delayed and the spectrum has not been made available for other uses. Congress anticipates applying some of the proceeds received from auctions of the spectrum to be cleared to help meet deficit-reduction goals passed in H.Con.Res. 95. Consequently, some legislation deemed necessary to assure a timely transition to digital television was included in the FY2006 budget reconciliation process, (P.L. 109-171). It includes key provisions essential to the release of spectrum and provides over $7 billion toward deficit reduction.

The transition to digital television has two major policy components. One set of policy decisions is concerned with how best to move television broadcasters and their viewers to digital technology. Other key policy issues deal with spectrum management and allocation. Briefly discussed below are key points about the DTV transition and its inclusion in the budget reconciliation process. This report will not be updated.

Budget Reconciliation

Not all the issues that Congress would like to resolve regarding the transition to digital television were considered as part of the budget reconciliation process; these could be treated in other bills. Provisions in P.L. 109-171, Title III, that concern DTV, spectrum auctions, and funds include:

- Set a definite date of February 17, 2009, for the release of spectrum at 700 MHz[1] currently held by broadcasters.

- Require auctions by the Federal Communications Commission (FCC) of the freed spectrum to begin not later than January 28, 2008, with funds deposited not later than June 30, 2008.

- Extend the FCC's authority to hold auctions, which currently expires in 2007, until September 30, 2011.

- Commit $7,363 million from any auction(s) of spectrum at 700 MHz, to reducing the budget deficit as specified in H.Con.Res. 95.

- Create a fund, the Digital Television Transition and Public Safety Fund to receive spectrum auction proceeds and disburse designated sums to the Treasury and for other purposes. Among these purposes are: a program that would expend up to $1,500 million on coupons for households toward the purchase of TV set top boxes that can convert digital broadcast signals for display on analog sets; a grant program of up to $1,000 million for public safety agencies to deploy systems on 700 MHz spectrum they will receive as part of the transition; payments of up to $30 million toward the cost of temporary digital transmission equipment for broadcasters serving the Metropolitan New York area; payments of up to $10 million to help low-power television stations purchase equipment that will convert full-power broadcast signals from digital to analog; a program funded up to $65 million to reimburse low-power television stations in rural areas for upgrading equipment from analog to digital technology; up to $106 million to implement a unified national alert system and $50 million for a tsunami warning and coastal vulnerability program; contributions totaling no more than $43.5 million for a national 911 improvement program established by the ENHANCE 911 Act of 2004 (PL. 108-494); and up to $30 million in support of the Essential Air Service Program. The fund and disbursements are to be administered by the National Telecommunications and Information Administration (NTIA).

- Require the FCC to assess spectrum use license holders additional fees for FY2006 of $10 million.

Effective October 1, 2006, the NTIA will be able to borrow some of the authorized funds from the Treasury, secured by the expected proceeds of the auction required by the bill. These funds can be used to implement transition programs for digital television and for some public safety projects.

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[1] Wireless (radio frequency) spectrum is measured in cycles per second, or hertz (Hz). Standard abbreviations for measuring frequencies include kHz — kilohertz or thousands of hertz; MHz — megahertz, or millions of hertz; and GHz — gigahertz, or billions of hertz.

Value of the Spectrum

Wireless technology is evolving rapidly and in recent years the industry has moved into offering high-speed, content-rich services generally known as 3G (third generation) while at the same time preparing to offer new services using even more advanced technologies. The 700 MHz spectrum that is to be relinquished by broadcasters is widely considered to be especially desirable for advanced wireless services. Also, many states are waiting for the spectrum to be freed in order to follow up on their plans for robust, interoperable public safety communications networks. Furthermore, digital television represents a superior form of technology, both in its efficient use of spectrum and the quality of the picture it provides. The value of the auction revenue in reducing the budget deficit is also a benefit. Overall, the benefits of releasing spectrum now used for analog TV broadcasting to complete the switch to digital are considered to be substantial, outweighing the costs of conversion.

In considering the potential revenue from spectrum sales, reconciliation negotiators could decide to review the probable value of the channels. The Congressional Budget Office had set a benchmark estimate of $10 billion in revenue from auction of this spectrum,[2] which it reportedly subsequently raised to $12.5 billion.[3] Other estimates have projected that spectrum auctions in the 700 MHz band would gross $20 billion to $30 billion.[4] A significant factor in valuing spectrum is the size of the market served. Usually this value is expressed in terms of dollars per MHz-Population. Using this methodology, a value of $1.65 per MHz-Population, for example, yields a potential value of $28 billion for 60 MHz of spectrum at 700 MHz. Dollar per MHz-Population estimates for upcoming auctions are derived from results of earlier auctions for similar spectrum. This estimated value is then typically increased or decreased depending on assumptions about a number of variables. The different weight that analysts give to the impact of hard-to-measure market conditions largely explains the range in valuations. For example, poor economic conditions may depress all markets and put downward pressure on prices for spectrum, just as an exuberant market — eager to implement new technology — may place an unusually high value on obtaining new licenses. The usability of spectrum is an important factor as well. There is a disincentive to invest in a non-performing asset, such as spectrum that is blocked by other users, or spectrum that does not serve an immediate market because new technology is not ready for deployment. In the case of spectrum at 700 MHz, some analysts have expressed concern that there is significant risk that the spectrum will remain encumbered, despite hard dates for the switch to digital, thereby tying up resources indefinitely.

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[2] As discussed at full committee markup, Committee on Commerce, Science and Transportation, Senate, October 20, 2005.

[3] "Deadline for Digital TV Transition is Now All But Final," by Amol Sharma, CQ TODAY, December 21, 2005 - 1:25 p.m. The estimate of $12.5 billion is explained in Congressional Budget Office Cost Estimate, S. 1932, Deficit Reduction Act of 2005, January 27, 2006, page 22. At [http://www.cbo.gov/showdoc.cfm?index=7028&sequence=0].

[4] "Analysis of an Accelerated Digital Television Transition," prepared by the Analysis Group, sponsored by Intel Corporation, May 31, 2005, p. 6 at [http://www.itic.org/archives/DTV%20 Transition%20Report.pdf]. Viewed November 15, 2005.

Background

Recent Legislative History. Consideration of spectrum issues in the current budget resolution is one step in a long process of introducing digital television (DTV) technology that extends over more than a decade. The Telecommunications Act of 1996 (P.L. 104-104) provided that eligibility for DTV licenses should be limited initially to existing broadcasters. Digital signals cannot be transmitted with existing analog television technology. Therefore, broadcasters were issued additional licenses for new, DTV broadcast channels while continuing to broadcast on existing channels during the transition period. The old, analog licenses were to be returned to the federal government after the transition to DTV. In the Balanced Budget Act of 1997 (P.L. 105-33), Congress set a deadline of December 31, 2006 to complete the transition from analog to digital television but allowed several exceptions that can extend that deadline. The most critical exception is the establishment of a threshold of 85% for the percentage of households, by market, that must be able to receive digital signals before the licenses for analog broadcasts must be relinquished.

Given the slower-than-expected rate of adoption for DTV in American homes, few believe that the goal of over-the-air digital television in 85% of American households by 2006 will be reached. As a result — under the Balanced Budget Act — television stations will be able to broadcast both analog and digital signals indefinitely. In the Intelligence Reform and Terrorism Prevention Act (P.L. 108-458), Congress expressed its sense that (1) it must act in the first session of the 109th Congress to establish a comprehensive approach to the timely return of spectrum held by the broadcasters and that (2) any delay in doing this would delay planning by the public safety sector that is to receive some of the spectrum for new communications systems. (Section 7501.)

DTV and Consumers. A key issue in the digital transition is that the millions of analog televisions that rely on over-the-air broadcasts will no longer work once the analog signal is turned off. According to a Government Accountability Office (GAO) survey, 19% of U.S. households (21 million) do not subscribe to a cable or satellite service and rely exclusively on over-the-air broadcasting. The GAO found that low-income, non-white, and Hispanic households are more likely to rely on over-the-air television broadcasting.[5] The Federal Communications Commission (FCC) estimates that 15% of TV households are exclusively over-the-air.[6] The Consumer Electronics Association (CEA) has estimated that less than 13% of TV households currently rely on over-the-air TV broadcasts.[7] In June 2005, the Consumers Union and the Consumer Federation of

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[5] See U.S. Government Accountability Office, Testimony before the Subcommittee on Telecommunications and the Internet, Committee on Energy and Commerce, House of Representatives, *Digital Broadcast Television Transition: Estimated Cost of Supporting Set-Top Boxes to Help Advance the DTV Transition*, Feb. 17, 2005. Available at [http://energycommerce.house.gov/108/Hearings/05262005hearing1533/Shapiro.pdf]. Viewed July 7, 2005.

[6] FCC, *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, Report FCC 05-13, MB Docket No. 04-227, released Feb. 4, 2005.

[7] Statement of Gary Shapiro, President and CEO, Consumer Electronics Association, before the House Committee on Energy and Commerce, Subcommittee on Telecommunications and the Internet, May 26, 2005. Available at [http://energycommerce.house.gov/108/Hearings/ (continued...)

America issued a joint study[8] that estimated that approximately 16 million households would lose all TV reception when analog signals are cut off . Based on an estimate of a $50 price to purchase a converter box, the report concluded that "the direct government-imposed costs on consumers to preserve the usefulness of [analog television sets] would be $3.5 billion or more." The GAO estimated that the cost of assuring over-the-air broadcasting by supplying converter boxes to households that only have analog television could total from $460 million to $10.6 billion, depending on a number of variables such as the cost of the boxes and the number of households eligible to receive assistance.[9] The GAO cost estimates do not include the cost of implementing a subsidy program.

Multicasting Must Carry. Another issue is whether cable systems and satellite televison should be required to carry all the programs of over-the-air broadcasters. Must-carry provisions in the 1992 Cable Act[10] set the requirements for cable television companies to carry local television programs transmitted by over-the-air broadcasters. Under the act, the FCC regulates televison transmissions and must carry rules. With analog technology, broadcasters can transmit only one over-the-air channel of programming on a specific frequency allocation. Digital technology can handle three to five, or possibly six, broadcast streams simultaneously.[11] Taking regulatory steps to clarify the application of must carry rules to digital broadcasts, the FCC ruled that cable operators are not required to carry more than a single digital programming stream, referred to as the primary video, from any particular broadcaster.

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[7] (...continued)
05262005hearing1533/Shapiro.pdf]. Viewed July 9, 2005.

[8] *Estimating Consumer Costs of a Federally-Mandated Digital TV Transition*, Consumers Union and Consumer Federation of America, June 29, 2005 at [http://www.hearusnow.org/fileadmin /sitecontent/DTV_Survey_Report-Final_6-29-05.pdf]. Viewed Aug. 10, 2005.

[9] GAO-05-258T, pp. 14-15.

[10] The Communications Act of 1934 as amended by the Cable Television Consumer Protection and Competition Act of 1992 (P.L. 102-385, "1992 Cable Act"); 47 U.S.C. §521 et seq. Similar rules apply to satellite television as of January 2002.

[11] As part of the digital transition, most broadcasters received the same amount of spectrum that was required for a single, analog channel (6 megahertz). Digital technology uses spectrum more efficiently and is expected to become even more efficient in the future.