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Spectrum Management: Special Funds

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Summary

In the closing days of the 108th Congress, legislation was passed that will facilitate the clearing of radio frequency spectrum for future wireless telecommunications services. H.R. 5419 (Representative Upton) replaced a similar bill (H.R. 1320), passed in the House, and its companion bill in the Senate (S. 865, Senator McCain), after action stalled in the Senate. The Commercial Spectrum Enhancement Act, Title II of H.R. 5419, establishes a Spectrum Relocation Fund that will hold the proceeds of certain spectrum auctions for the specific purpose of reimbursing federal entities for the costs of moving to new frequency assignments, freeing spectrum for commercial use.

In addition to furthering the development of new wireless technologies, passage of the act represents a new aspect of national policy for spectrum management by linking spectrum auction proceeds to specific funding programs. The Communications Act of 1934, which the act amends, directs that all auction proceeds be paid to the Treasury for use as general funds. During the 108th Congress, and in previous Congresses, a number of bills were introduced that would have created similar funds for specific purposes. Congressman Markey introduced a bill that would have allocated some funds from spectrum auction proceeds to reimburse federal users for the cost of moving to other frequencies, placing the balance in a Digital Dividends Trust Fund for diverse purposes. Congressman Stupak proposed a Public Safety Communications Trust Fund to fund the implementation of modernization and interoperability for first responders and others. Senator Dodd would have created a Digital Opportunity Investment Trust to use some spectrum revenue through 2020 to foster programs for "innovative telecommunications and information technologies."

This report covers some of the issues of spectrum management and special funds.

Background

Radio frequency spectrum allocation policy within the United States is coordinated primarily through the Federal Communications Commission (FCC) — for private use, including state and local public safety wireless communications — and the National Telecommunications and Information Administration (NTIA) — for federal use. Spectrum management goals include balancing diverse concerns such as technical quality, economic benefit, fairness, access, security, and global competitiveness. Various

proposals have been introduced in recent years that would use spectrum auction proceeds for purposes such as funding public safety telecommunications needs; paying to modernize the military; covering the costs of relocating federal agencies from prime frequencies; and financing social needs, such as education. Many economic models for providing the "highest and best use" for spectrum exist and have been tried, both in the United States and worldwide. Spectrum for what is widely described as "prime" frequencies (300 MHz - 3000 MHz)[1] is judged by many to be the most commercially desirable and is widely sought after at auction.[2] The Congressional Budget Office has estimated that auctions for fiscal years 2004-2008 will raise $21 billion for the federal treasury, applied to general revenue.[3] Much of this will come from auctions for advanced wireless telecommunications services, including but not limited to commercial services known as "third generation," or 3G. The current authority of the FCC to stage auctions expires at the end of 2007. The FCC, Congress, and the Administration are reviewing spectrum allocation policies, including market-driven methods such as auctions.

Spectrum Relocation Fund

The purpose of the Spectrum Relocation Fund would be to create a mechanism whereby federal agencies could recover the costs of moving from one spectrum band to another. The interest in relocating federal users — and accelerating the process by assuring reimbursement for the costs of moving — centers on valuable spectrum (relative to auction prices for comparable spectrum in the United States and other countries) now used by federal agencies, especially the Department of Defense. In particular, spectrum in bands within the 1710-1850 MHz range is sought by wireless telecommunications companies to facilitate the implementation of next-generation wireless technologies, including high-speed mobile services (3G).[4] After much study, the NTIA and the FCC, aided by an Intra-Government 3G Planning Group, announced plans that would transfer spectrum in the 1710-1755 MHz range from federal agencies. Frequencies in this band would be made available to the private sector through spectrum auctions conducted by the FCC. As part of the effort, the need was identified for new legislation that would permit affected federal agencies to recover costs directly from these auction proceeds. To meet this need, in mid-2002 the Department of Commerce proposed the creation of a Spectrum Relocation Fund. This fund would provide a means to make it possible for federal agencies to recover relocation costs directly from auction proceeds when they are required to vacate spectrum slated for commercial auction. In effect, successful commercial bidders would be covering the costs of relocation. To accomplish the NTIA and FCC

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[1] Spectrum is segmented into bands of radio frequencies and typically measured in cycles per second, or hertz; one million hertz = 1 megahertz (MHZ); 1 billion hertz = 1 gigahertz (GHz).

[2] Federal Communications Commission, Office of Plans and Policy, OPP Working Paper Series No. 38, "A Proposal for a Rapid Transition to Market Allocation of Spectrum," November 2002 [http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-228552A1.pdf].

[3] CBO annually provides an estimate of aggregated revenue from spectrum auctions. The most recent estimate is provided in *The Budget and Economic Outlook: Fiscal Years 2004-2013*, January 2004.

[4] Discussed in CRS Report RS20993, *Wireless Technology and Spectrum Demand: Third Generation (3G) and Beyond*.

goals, the Communications Act of 1934 would need to be modified to permit the agencies direct access to auction funds.

Among key provisions of the bill are requirements that the auctions must recoup at least 110% of the projected costs; that unused funds will revert to the Treasury after eight years; and that cost overruns of more than 10% will be reported promptly to Congress. Specific frequencies mentioned include not only the 1710-1755 MHz band but also other federally-used frequencies scheduled for reallocation and possible auction. The Communications Act of 1934 would be amended to create a Spectrum Relocation Fund within the Treasury to hold auction proceeds as designated. The fund would be administered by the Office of Management and Budget. Proceeds from auctions of designated spectrum will go into the fund.

Trust Funds for Public Safety

Members of the public safety community are among those calling for the creation of a trust fund for public safety telecommunications needs. An issue in public safety is the most efficient use of spectrum in the 700 MHz and 800 MHz ranges. Many of the frequencies in the 800 MHz band are used by commercial radio services and public safety in a configuration of frequency allocations that is widely believed to create significant problems of interference on public safety channels. Operations of the wireless communications network, Nextel, have been identified as one of the major sources of this interference. Some of the proposals for alleviating interference include relocation of public safety users to new frequencies in the 700 MHz and/or 800 MHz band. Several plans have been sketched that would use funds from auctioned spectrum to pay for public safety relocation. Nextel proposed a spectrum swap in which it would pay some of public safety's cost of relocation and in return receive desirable spectrum in a differeent frequency band.[5] The FCC, after a prolonged public debate, appears to be ready to move ahead with a modified version of the Nextel proposal. Additional modifications are expected from the FCC.[6] Under provisions established by the FCC,[7] Nextel must accept or reject the terms of the relocation plan by February 7, 2005.

Compared to the plan for reimbursing federal agencies for the cost of relocation, Nextel has offered limited reimbursement to state, local and tribal public safety agencies who will be obliged to move to new radio frequencies. For example, the description of costs that can be attributed to relocation for federal entities includes engineering studies and consultant fees.[8] Relocation cost reimbursements for public safety are limited primarily to equipment exchanges and upgrades. Also, the structure of the Spectrum Allocation Fund is such that federal users can expect to draw against their budgeted share

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[5] The Nextel proposal and related issues are discussed in detail in CRS Report RL32408, *Spectrum Policy: Public Safety and Wireless Communications Interference*

[6] "Nextel Notice Attracts Mostly Technical Comments," Communications Daily, December 6, 2004, page 10.

[7] The *Report and Order* with the terms for the proposed spectrum swap is available on the FCC website [http://www.fcc.gov] under"E-Filing" at Electronic Document Management System (EDOCS). Under advanced search, insert "02-55" as the Docket Number.

[8] H.R. 5419, Title II, Sec. 203, '(3).

of the Fund as costs are incurred.[9] The Nextel proposal, as it currently stands, would reimburse public safety agencies for their costs of rebanding after documentation of expenses is submitted and approved. Opponents to this provision of the Nextel Proposal have argued that this places undue financial strain on public agencies and budgets.

Spectrum Management and Auction Proceeds

Current broadcast and wireless communications technology requires the assignment of specific frequencies to prevent interference among transmissions. Preventing interference while fostering spectrum policies that promote public benefits and economic growth have been key bulwarks of spectrum policy and management for the FCC since its creation. Using auctions as a market-driven approach to spectrum allocation is a fairly recent innovation. The Communications Act of 1934, as modified by the Telecommunications Act of 1996, and the Balanced Budget Act of 1997 are the main pieces of legislation directing spectrum allocation and auction requirements in the United States. Both laws direct the FCC to hold auctions and to deposit the proceeds in the general fund of the Treasury. Spectrum policy that designates auction proceeds for specific uses is a departure from existing — albeit recent — practice.[10]

The Commercial Spectrum Enhancement Act could establish the precedent of linking spectrum revenues to specific expenditures and the needs of certain users. Whenever spectrum reallocation is desirable or necessary because of changes in technology, spectrum value, or other factors, some mechanism — such as a trust fund — might be considered a necessary component of spectrum management and policy in order to compensate organizations that cannot recover costs through pricing. On the assumption that spectrum reallocation is an integral part of spectrum management, and recognizing that relocation costs can climb to billions of dollars in some sectors, the need to create reimbursement programs could be considered part of spectrum policy.

The 109th Congress might decide to examine broader policy changes in spectrum management, auction policies, the use of trust funds, and the application of revenues generated by spectrum licensing. For example, Congress might consider the issue of whether the goal of the federal government to manage spectrum for the benefit of all is at odds with other federal goals to maximize general funds in the Treasury. Spectrum is categorized by most as a natural resource.[11] Several of the bills introduced during the 108th Congress and mentioned in this report raise the possibility that spectrum should be managed more closely as a publicly-owned resource, specifically linked to public benefits. Such an approach would represent a departure from current FCC policy that seems to prefer spectrum allocation through a combination of market-driven decision-making and

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[9] H.R. 5419, Title II, ‘Sec. 118, ‘(c).

[10] In supporting the creation of the Spectrum Relocation Fund for federal users, Representative Tauzin, House Energy and Commerce Committee chairman, noted that it “does not reflect normal Congressional process,” in that it encroaches on the authority of the Appropriations Committees, as reported by Communications Daily, April 10, 2003.

[11] The Code of Federal Regulations defines natural resources as “land, fish, wildlife, biota, air, water, ground water, drinking water supplies and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States...” (15 CFR990, Section 990.30.)

command-and-control regulation. FCC policy-making in the assignment of spectrum is considered by some to show a trend toward transferring the benefits of spectrum use to the private sector with a level of control that, under current rules, is similar to ownership.

Bills Creating Special Funds: 108th Congress

Spectrum Commons and Digital Dividends Act of 2003, H.R. 1396, Representative Markey.

The Public Safety Interoperability Implementation Act, H.R. 3370, Representative Stupak.

The Digital Opportunity Investment Trust Act, S. 1854, Senator Dodd.