The National Telecommunications and Information Administration (NTIA): Policies, Programs, and Funding

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Summary

The National Telecommunications and Information Administration (NTIA), an agency of the Department of Commerce, is the executive branch's principal advisory office on domestic and international telecommunications and information policies. Its mandate is to provide greater access for all Americans to telecommunications services, support U.S. attempts to open foreign markets, advise on international telecommunications negotiations, and fund research for new technologies and their applications. NTIA also manages the distribution of funds for several key grant programs. Its role in federal spectrum management includes acting as a facilitator and mediator in negotiations among the various federal agencies regarding usage, priority access, causes of interference, and other radio spectrum questions.

During the 112th Congress, programs and issues of particular importance and interest to policy makers might include administration of the Broadband Technology Opportunities Program (BTOP)—authorized as part of the American Recovery and Reinvestment Act (ARRA)—plans to improve the efficiency of radio frequency spectrum, and preparations for the next World Radio Conference, scheduled to begin in January 2012.

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Introduction

The National Telecommunications and Information Administration (NTIA) is an agency in the U.S. Department of Commerce (DOC) that serves as the executive branch's principal advisory office on domestic and international telecommunications and information technology policies.

NTIA frequently works with other executive branch agencies to develop and present the Administration's position on key policy matters. It represents the executive branch in both domestic and international telecommunications and information policy activities. Policy areas in which the NTIA acts as the representative of the Administration include international negotiations regarding global agreements on spectrum management and domestic use of spectrum resources by federal agencies. In recent years, one of the responsibilities of the NTIA has been to oversee the transfer of some radio frequencies from the federal domain to the commercial domain. Many of these frequencies have subsequently been auctioned to the commercial sector and the proceeds paid into the U.S. Treasury. NTIA also administers some grants programs, including—at present—the Broadband Technology Opportunities Program (BTOP)[1] and the Public Safety Interoperable Communications (PSIC) grant program.[2]

Programs

The NTIA fulfills many responsibilities for different constituencies. Its role in federal spectrum management includes acting as a facilitator and mediator in negotiations among the various federal agencies regarding usage, priority access, causes of interference, and other radio spectrum questions. The NTIA, as the agency responsible for managing spectrum used by federal agencies, often works in consultation with the Federal Communications Commission (FCC) on matters concerning spectrum access, technology, and policy. The FCC regulates private sector, state, local, and tribal spectrum use. Because many spectrum issues are international in scope and negotiated through treaty-making, the NTIA and the FCC collaborate with the Department of State in representing American interests. The NTIA leads and participates in interagency efforts to develop Internet policy. It plays a lead role in the DOC's Internet Policy Task Force.[3] The NTIA and the National Institute of Standards (NIST) have adjoining facilities on the Department of Commerce campus in Boulder, Colorado, where they collaborate on projects with each other and with other federal agencies, such as the FCC. The NTIA works with the Rural Utilities Service (RUS) in coordinating loans and grants made through BTOP and with the Department of Homeland Security (DHS) in overseeing grants made through the PSIC grants program. The NTIA collaborates with NIST, DHS, and the FCC in providing expertise and guidance to public safety agencies who are using PSIC or BTOP funds to build new wireless networks for broadband communications.

[1] For a discussion of BTOP grants, see CRS Report R41775, *Background and Issues for Congressional Oversight of ARRA Broadband Awards*, by Lennard G. Kruger.

[2] Federal grants for emergency communications is discussed in CRS Report R41842, *Funding Emergency Communications: Technology and Policy Considerations*, by Linda K. Moore.

[3] For background information on NTIA's role in U.S. Internet policy, see CRS Report 97-868, *Internet Domain Names: Background and Policy Issues*, by Lennard G. Kruger.

NTIA policies and programs are administered through

- The Office of Spectrum Management (OSM), which formulates and establishes plans and policies that ensure the effective, efficient, and equitable use of the spectrum both nationally and internationally. Through the development of long range spectrum plans, the OSM works to address future federal government spectrum requirements, including public safety operations and the coordination and registration of federal government satellite networks. The OSM also handles the frequency assignment needs of the federal agencies and provides spectrum certification for new federal agency radio communication systems.
- The Office of Policy Analysis and Development (OPAD), which is the domestic policy division of the NTIA. OPAD supports NTIA's role as principal adviser to the Executive Branch and the Secretary of Commerce on telecommunications and information policies by conducting research and analysis and preparing policy recommendations.
- The Office of International Affairs (OIA), which develops and implements policies to enhance U.S. companies' ability to compete globally in the information technology and communications (ICT) sectors. In consultation with other U.S. agencies and the U.S. private sector, OIA participates in international and regional fora to promote policies that open ICT markets and encourage competition.
- The Institute for Telecommunication Sciences (ITS), which is the research and engineering laboratory of the NTIA. ITS provides technical support to NTIA in advancing telecommunications and information infrastructure development, enhancing domestic competition, improving U.S. telecommunications trade opportunities, and promoting more efficient and effective use of the radio spectrum.
- The Office of Telecommunications and Information Applications (OTIA), which administers grant programs that further the deployment and use of technology in America, and the advancement of other national priorities.

OTIA previously awarded grants from the Public Telecommunications Facilities Program (PTFP), which was terminated by Congress in fiscal year 2011. This program has helped public broadcasting stations and other organizations construct facilities to bring educational and cultural programs to the American public.

Funding

For FY2012, the Administration requests $55.827 million for Salaries and Expenses, a significant increase over the $21.825 million requested for FY2011 and the $19.999 million appropriated for that category in FY2010. This increase is largely attributable to the costs of administration and oversight of the $4.4 billion Recovery Act program for broadband technologies and deployment mapping, as required by the American Recovery and Reinvestment Act of 2009 (P.L. 111-5). Requests for all oversight programs administered by the NTIA total $32.3 million for FY2012. In addition, the Administration requests new funding for the NTIA of $1.7 million to support efforts to foster new wireless broadband technologies and of $1.0 million for its Internet Innovation initiative to address Internet-based privacy principles.

FY2010 appropriations of $40.0 million included $20 million for Public Telecommunications Facilities, Planning and Construction (PTFPC). FY2011-enacted appropriations for Salaries and Expenses is $40.6 million; the funding level for PTFPC is zero.[4]

Table 1. NTIA: Fiscal Year Funding 2007-2011

In Millions of Dollars

Funding	FY2007	FY2008	FY2009	FY2010	FY2011
NTIA Total	$39.8	$36.3	$39.2	$40.0	$40.6
Administration, salaries and expenses	$19.8	$17.5	$19.2	$20.0	$40.6
PTFPC	$20.0	$18.8	$20.0	$20.0	0

Source: Annual Reports, Department of Commerce and Congressional Appropriations, as Enacted. Appropriations for grant programs are not included.

Issues for the 112th Congress

Expenditures through the BTOP and PSIC programs will likely be of ongoing interest to the 112th Congress. Also of likely interest are the NTIA's responsibilities and activities related to spectrum policy. Although Federal spectrum policy has always been a core mission of the agency, its work on spectrum issues has taken on new importance as "spectrum is fast becoming a pillar of America's digital infrastructure."[5] The international dimension of spectrum policy may also be in the forefront as new treaties regarding spectrum allocation and use are to be negotiated at the 2012 World Radio Conference.

Spectrum Policy

The NTIA supports the Administration's policy goal of increasing spectrum capacity for mobile broadband by 500 MHz.[6] To this purpose, NTIA, with input from the Policy and Plans Steering Group,[7] has produced a Ten-Year Plan and Timetable that identifies bands of spectrum that might be available for commercial wireless broadband service. As part of its planning efforts, NTIA prepared a "Fast Track Evaluation" of spectrum that might be made available in the near future. Specific recommendations were to make available 15 MHz of spectrum from frequencies between 1695 – 1710 MHz and 100 MHz of spectrum within bands from 3550 – 3650 MHz. The Fast Track Evaluation also recommended studying two 20 MHz bands to be identified within

[4] Information on funding proposals for FY2012 appear in CRS Report R41721, *Commerce, Justice, Science, and Related Agencies: FY2012 Appropriations*, coordinated by Nathan James, Jennifer D. Williams, and John F. Sargent Jr.

[5] NTIA Newsroom, "Remarks of NTIA Chief of Staff Thomas Power at the 12th Annual ISART Conference," July 28, 2011, http://www.ntia.doc.gov/speechtestimony/2011/remarks-ntia-chief-staff-thomas-power-12th-annual-isart-conference.

[6] Spectrum is segmented into bands of radio frequencies and typically measured in cycles per second, or hertz. 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.

[7] Created in response to Department of Commerce recommendations to improve spectrum efficiency through better management, see http://www.ntia.doc.gov/legacy/reports/specpolini/factsheetspecpolini_06242004.htm.

4200-4400 MHz for possible repurposing, and placement for consideration on the agenda of the World Radio Conference scheduled for 2016.

Using federal spectrum to provide mobile broadband services can be accomplished in many ways.

- Clearing federal users from designated frequencies for transfer to the commercial sector through a competitive bidding system.
- Sharing federal frequencies with specific commercial users.
- Improving the efficiency of federal spectrum use and management.[8]
- Using emerging technologies for network management to allow multiple users to share spectrum as needed.

Many decisions regarding the use of federal spectrum are made through the Interdepartmental Radio Access Committee, IRAC.[9] IRAC membership comprises representatives of all braches of the U.S. military and a number of federal department agencies affected by spectrum management decisions.[10]

World Radio Conference

Spectrum allocation and assignment is not uniquely domestic. Some spectrum allocations are governed by international treaty. Additionally, there is a trend to harmonize spectrum allocations for commercial use across countries through international agreements. Harmonization of radio frequencies is achieved by designating specific bands for the same category of use worldwide. With harmonization, consumers and businesses are able to benefit from the convenience and efficiency of having common frequencies for similar uses, thus promoting development of a seamless, global communications market. Spectrum allocation at the national level, therefore, is sometimes coordinated with international spectrum allocation agreements. The Advanced Wireless Services (AWS) auction in the United States, completed in 2006,[11] was the conclusion of a process initiated by an agreement for international harmonization of spectrum bands.[12]

The International Telecommunications Union (ITU), the lead United Nations agency for information and communication technologies, has been vested with responsibility to ensure interference-free operations of wireless communication through implementation of international agreements.[13] The ITU adopts an International Table of Frequency Allocations that shows agreed spectrum uses worldwide, and includes – directly or indirectly – conditions for the use of the

[8] The Government Accountability Office has prepared a report: *Spectrum Management: NTIA Planning and Processes Need Strengthening to Promote the Efficient Us Use of Spectrum by Federal Agencies,* April 2011, GAO-11-352.

[9] See http://www.ntia.doc.gov/category/irac.

[10] Members are listed at http://www.ntia.doc.gov/page/irac-functions-and-responsibilities.

[11] FCC News, "FCC's Advanced Wireless Services (AWS) Spectrum Auction Concludes," September 18, 2006.

[12] The WRC-2000 agreed on spectrum bands to be harmonized for advanced wireless services, referred to as IMT 2000. See FCC News, "International Bureau Reports on Success of the 2000 World Radio Communications Conference," June 8, 2000, http://www.fcc.gov/Bureaus/International/News_Releases/2000/nrin0009.html.

[13] The GAO notes that "The federal government considers ITU the principal, competent, and appropriate international organization for the purpose of formulating international treaties and understandings regarding certain telecommunications matters*." Better Coordination and Enhanced Accountability Needed to Improve Spectrum Management*, GAO-02-906, September 2003, p. 19, fn. 26.

allocated spectrum.[14] There are 39 internationally defined wireless services that include broadcasting, meteorological satellite, and mobile services. There is also a domestic table for each country. The United States Table of Allocations is maintained by the NTIA.

The World Radio Conference (WRC), held approximately every four years, is the primary forum for negotiating international treaties on spectrum use. Each WRC provides an opportunity to revise the International Radio Regulations and International Table of Frequency Allocations in response to changes in technology and other factors. Modifications to rules from one WRC to the next are part of an ongoing process of technical review and negotiations.

A separate track of preparation, to develop the U.S. positions on WRC agenda items, is handled by the FCC and the NTIA. The Office of Spectrum Management of the NTIA, in consultation with federal agencies, reviews the WRC agenda and prepares its comments for the U.S. position. The NTIA and the FCC solicit input from the private sector and create working groups to address specific agenda items. The NTIA and the FCC submit recommendations to the Department of State.

The Department of State coordinates and mediates the development of the U. S. position for each WRC and leads the U.S. delegation at each conference. The FCC and the NTIA play major roles in preparing for and participating in each WRC. All three agencies use committees and other means to interact with the private sector. Preparation for each WRC is a collaborative process that includes opportunities for affected parties to comment on and participate in the formation of U.S. policy. The U.S. delegation to each WRC includes representatives from the federal government and the private sector. Each WRC delegation is led by an Ambassador appointed for that purpose by the President. The next WRC is scheduled to begin on January 23, 2012.[15]

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[14] Description of ITU-R functions are at http://www.itu.int/ITU-/index.asp?category=information&rlink=rhome&lang=en.

[15] Documentation of preparations is available at each agaecy's website. The NTIA site is http://www.ntia.doc.gov/page/2011/ntia-preparation-world-radiocommunication-conferences.