U.S. DEPARTMENT OF COMMERCE
National Telecommunications and Information Administration

FY 2011 Budget as Presented to Congress

February 2010

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DEPARTMENT OF COMMERCE
NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION
Budget Estimates, Fiscal Year 2011
Budget as Presented to Congress

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Broadband Technology Opportunities Program–Admin. Expenses

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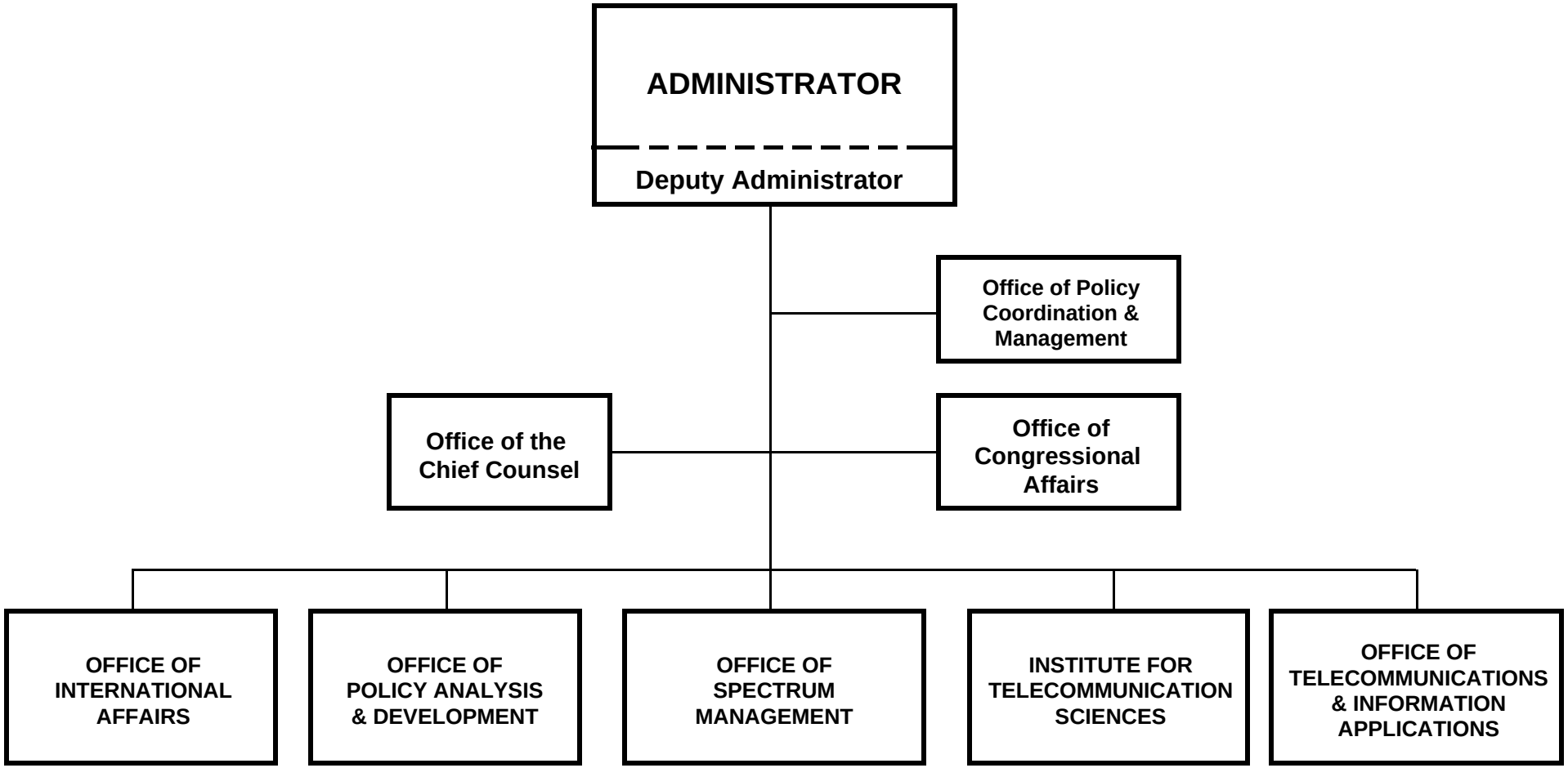
NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION



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Department of Commerce
National Telecommunications and Information Administration
Fiscal Year 2011 Budget
As Presented to Congress

Executive Summary

The National Telecommunications and Information Administration (NTIA) is responsible for the development of domestic and international telecommunications and information policy for the Executive Branch, for ensuring the efficient and effective use of the Federal radio spectrum, and for performing state-of-the-art telecommunications research, engineering, and planning. In addition, Congress has assigned to NTIA significant roles in the transition to digital television, the development of public safety interoperable communications, and most recently the deployment of broadband services, under the authority of the American Recovery and Reinvestment Act of 2009. NTIA operates within the structure and context of the following goals.

Department of Commerce Strategic Goal 1
Maximize U.S. competitiveness and enable economic growth for American industries, workers, and consumers

General Goal/Objective 1.1
Foster domestic economic development as well as export opportunities

NTIA Goals/Outcomes
Ensure the effective implementation of the Broadband Technology Opportunities Program

Department of Commerce Strategic Goal 2
Promote U.S. Innovation and Industrial Competitiveness

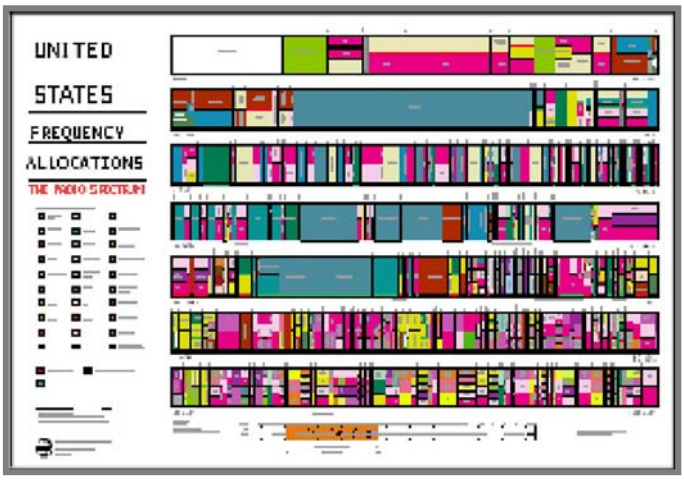
General Goal/Objective 2.3
Advance global e-Commerce and enhanced telecommunications and information services

NTIA Goals/Outcomes
Ensure that the allocation of radio spectrum provides the greatest benefit to all people

Promote the availability and support new sources of advanced telecommunications

NTIA's policy, spectrum management, research, and grant programs support emerging technologies and uses of spectrum resources for affordable, alternative communications services. Promising technologies and services have the potential to drive economic growth and create jobs, if given the opportunity to succeed. The Administration and NTIA support the advancement of information technologies and have moved aggressively to create an economic and regulatory environment in which innovations in information and communications technologies can flourish. The Broadband Technology Opportunities Program (BTOP), for example, is a vital component in the President's initiative to stimulate economic activity and to use technology to drive the economy.

The budget for FY 2011 is $95.6 million:
Discretionary appropriations – $21.8 million
Legislative Proposal appropriation - $23.7 million
Reimbursable – $40.7 million
Mandatory -- $9.4 million



NTIA's budget includes the following:

- Establish a research program to identify techniques that can provide efficient, effective sharing of radio spectrum through the use of intelligent radios.
- The programs funded by the American Recovery and Reinvestment Act in FY 2009 will be winding down as well, although more time and resources are necessary to monitor and close the BTOP grants.

- Provide for the authority and resources for NTIA to manage and administer the execution of the BTOP grants awarded in FY 2010.
- Much of the work authorized by the DTV Act will be winding down.
- The Public Telecommunications Facilities Program will be discontinued in FY 2010/2011 and will no longer require appropriations. The Administration proposes to support public broadcasters through the Corporation for Public Broadcasting.

Salaries and Expenses

The **Salaries and Expenses budget ($21,825,000 and 106 FTE)** focuses on its core programs for domestic and international policy development, Federal spectrum management, and related research. In addition to adjustments to the base necessary to maintain the buying power of existing resources, NTIA requests $1 million and 3 FTE to bolster our research capabilities in spectrum sharing techniques that will enable the efficient use of radio frequencies currently occupied by traditional frequency assignments, and to avoid harmful interference from secondary users using spectrum dynamically to the primary users with static assignments.

American Recovery and Reinvestment Act (ARRA) Programs

The **Broadband Technology Opportunities Program budget** was funded in FY 2009 and focuses on grant support that will enable broadband access for consumers in unserved and underserved areas as well as stimulate demand and facilitate greater use of broadband services. NTIA is on pace to put in place all grant awards by the end of FY 2010.

There is no mechanism currently in place, however, to authorize and fund NTIA's continued monitoring and administration of the open grants, which in some cases will have three years to complete. **A new appropriation will be required in FY 2011 ($23.7 million and 50 FTE)** to enable management of the grants beyond the expiration of ARRA authority at the conclusion of FY 2010.

The **Digital-to-Analog Converter Box Coupon Program** also was funded in FY 2009 to provide additional funding to support the demand for coupons through the extended digital television transition deadline, which occurred on June 12, 2009. After expiration of the last coupon issued, and following rescission of unobligated program balances in the FY 2010 omnibus appropriations bill, approximately $113 million is expected to remain in this account. Most of the program costs have been incurred, and remaining funds will be transferred to the Treasury following program closure.

Programs Authorized by the Deficit Reduction Act of 2005

The **Digital Television Transition and Public Safety Fund**, created by the Deficit Reduction Act of 2005, as amended, received offsetting receipts from the auction of electromagnetic spectrum recovered from discontinued analog television signals, and provides funding for several one-time programs from these receipts. Most of these programs will be substantially complete by FY 2011, including the DTV converter box coupon program. The Public Safety Interoperable Communications (PSIC) grant program required more time than authorized to allow for grantees to make full use of the grants awarded in September 2008. This authority has been provided through FY 2012.

The Deficit Reduction Act, as amended, also provided borrowing authority to the Department of Commerce to commence specified programs prior to the availability of auction receipts. Amounts borrowed from the Treasury have been repaid using earned revenues from the auction. By September 30, 2009, NTIA had deposited in the General Fund $7.4 billion of the earned revenues (receipts) for deficit reduction purposes, as required by law. (Additional

deposits of revenues to the General Fund will be initiated as program activities are completed and the DTTPSF and its receipts account are closed.)

After program activity is completed, over $16 billion of auction proceeds will be available for deficit reduction.

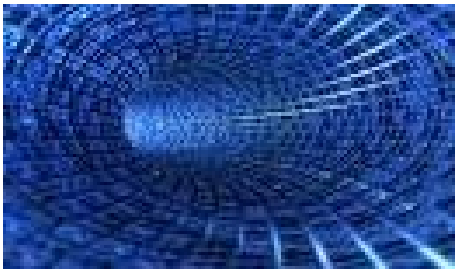
Public Telecommunications, Facilities, Planning and Construction

The **Public Telecommunications Facilities Program (PTFP) (no appropriation)** is to be discontinued in 2011. In recent years, most PTFP funds have supported public broadcasters' transition to digital broadcasts. This transition is largely complete, so funds are no longer necessary.

Performance

NTIA's plan for assessing performance is organized under three performance goals that call for the **effective implementation of NTIA's BTOP to stimulate economic activity**, the **efficient use of the radio spectrum**, and the **availability of advanced services to the public**. Our activities, a cornerstone in the Department's efforts to provide the infrastructure for innovations in technology, will continue to address impediments to the development of innovative telecommunications services by the private sector. Please reference the Performance section of the budget presentation for additional information on NTIA's program assessment.

Context



The U.S. telecommunications market – estimated at $999.6 billion in 2009 – is critical to our social and economic growth as telecommunications enable all other sectors, including education, healthcare and national security. Representing 29 percent of the global market, the U.S. telecommunications sector is a powerful force in leading U.S. innovation and technology development. In the U.S. telecommunications market, total revenues rose to $1.1 trillion in 2008 – up 19.2 percent over 2006 – and despite the current economic downturn are projected to grow another 20.9 percent by 2011. *[Telecommunications Industry Association (TIA) 2008 Telecom Market Review and Forecast]* Wireless service revenues are projected to surpass local landline revenues in 2009. *[TIA 2008 Industry Playbook*]

Broadband access is driving demand for new technologies and applications, and consumers are benefitting from the new products; such as VoIP, Wi-Fi, WiMax, and advanced wireless services. The President's recovery package has emphasized a commitment toward accelerating broadband development, in order to spur economic growth and job creation.

President's Broadband Goals

"The state of our economy calls for action, bold and swift. And we will act, not only to create new jobs, but to lay a foundation for growth. We will build the roads and bridges, the electric grids and digital lines that feed our commerce and bind us together."

-- Inaugural Address, January 20, 2009

"Here, in the country that invented the Internet, every child should have the chance to get online… That's how we'll strengthen America's competitiveness in the world."

-- January 8, 2009

Broadband deployment is a top priority for the Obama Administration and is critical to America's future as the world's economic leader because of its impact on increasing our productivity and improving American's quality of life – through economic growth, job creation, public safety, tele-medicine, distance learning, and tele-work.

President Obama's comprehensive technology and innovation plan is to:

- Create a transparent and connected democracy.
- Encourage the deployment of a modern communications infrastructure.
- Employ technology and innovation to solve our nation's most pressing problems, including reducing the costs of health care, encouraging the development of new clean energy sources, and improving public safety.
- Improve America's competitiveness.

The Administration, including NTIA and RUS, will award competitive grants to accelerate broadband deployment in unserved and underserved areas and to strategic institutions that are likely to create jobs or provide significant public benefits. The objectives of BTOP include:

- Broadband access in unserved and underserved areas
- Broadband education, awareness, training, access, equipment and support
- Broadband access and use by public safety agencies
- Stimulate broadband demand, economic growth, and job creation

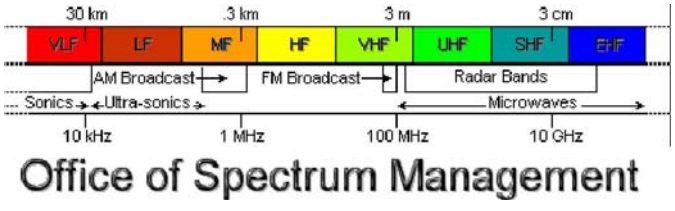
NTIA will also take a leadership role in many broader issues related to the Internet beyond broadband deployment that are also of interest to the Administration. Such issues include privacy, cybersecurity, and internet governance and have domestic and international implications.

With respect to our spectrum management activities, NTIA will continue collaborating on a spectrum sharing test-bed for the testing of the dynamic spectrum sharing capabilities of six technologies in the 410-420 MHz band. NTIA continues its automation of all federal spectrum management activities to produce processes that will provide a rapid response to incoming requests for spectrum use by federal and non-federal entities, as well as support improved data management and analysis capabilities. NTIA will develop and maintain an inventory of Federal spectrum use (beginning with the band 225 MHz-3.7 GHz), providing for the first time a thorough and up-to-date resource for a better understanding of Federal spectrum use.

NTIA oversees federal departments and agencies in their work to relocate systems from the 1710-1755 MHz band under the mechanism established through the Commercial Spectrum Enhancement Act. This mechanism provides a means to accommodate the next generation of wireless services. NTIA has facilitated the transition through promoting dialog between the federal agencies and the commercial license winners. The relocation effort is moving forward rapidly and commercial users have been able to enter many markets earlier than expected.
NTIA will continue to explore opportunities for efficiencies and sharing that will enable spectrum to meet future demand; we will continue to pursue foreign policies that allow U.S. companies to supply broadband services and equipment in competitive markets around the world; and we will continue to partner with industry in cooperative research and development agreements and other fora to combine our talents for the advancement of new technologies.

In 2011, a primary focus of NTIA's activities will be on spectrum reform. Specifically, NTIA will examine spectrum sharing approaches to identify the techniques that can provide the most efficient and effective sharing of the radio spectrum through the use of intelligent radios. This research will aid the NTIA, FCC, the telecommunications industry, and other government agencies in the design of dynamic spectrum access schemes for cognitive radio under different communication requirements.

In addition, NTIA will support the Administration's efforts to foster new wireless broadband technologies by making new spectrum available. Specifically, NTIA will collaborate with the FCC to develop a plan to make available 500MHz of spectrum suitable for both mobile and fixed wireless broadband use over the next ten years. The plan will focus on making spectrum available for exclusive use by commercial broadband providers or technologies, or for dynamic, shared access by commercial and government users.



NTIA Summary of Resources – FY 2011

(Dollar amounts in thousands)

	[MANDATORY] DTTPSF		Salaries and Expenses		PTFPC		BTOP Admin Expenses		Total, All Accounts	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
FY 2010 estimate	13	$142,298	103	$19,999	13	$20,000	0	$0	129	$182,297
Adjustments to the base	0	0	0	776	0	0	0	0	0	776
Program changes	0	0	3	1.050	(13)	(20,000)	50	23,700	34	4,750
FY 2011 budget	NA	NA	106	21,825	0	0	50	23,700	156	45,525
Mandatory programs	7	9,437	NA	NA	NA	NA	0	0	7	9,437
Reimbursable work	0	0	155	40,676	0	0	0	0	155	40,676
FY 2011 budget, all resources	7	9,437	261	62,501	0	0	50	23,700	318	95,638

Appropriations Bill Language

Salaries and Expenses

The appropriations bill language that supports NTIA's appropriation includes provisions that are crucial to the execution of NTIA's programs. The following language will be necessary to support the Salaries and Expenses budget as provided in this submission:

> *For necessary expenses, as provided for by law, of the National Telecommunications and Information Administration (NTIA),[$19,999,000], **$21,825,000**, to remain available until September 30, [2011] **2012**: Provided, That, notwithstanding 31 U.S.C. 1535(d), the Secretary of Commerce shall charge Federal agencies for costs incurred in spectrum management, analysis, and operations, and related services and such fees shall be retained and used as offsetting collections for costs of such spectrum services, to remain available until expended: Provided further, That the Secretary of Commerce is authorized to retain and use as offsetting collections all funds transferred, or previously transferred, from other Government agencies for all costs incurred in telecommunications research, engineering, and related activities by the Institute for Telecommunication Sciences of NTIA, in furtherance of its assigned functions under this paragraph, and such funds received from other Government agencies shall remain available until expended.*

The Radio Spectrum Measurement System

Telecommunications research far afield

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2011 Annual Performance Plan Formulation

National Telecommunications and Information Administration

Section 1 Mission Statement

The National Telecommunications and Information Administration (NTIA) serves as the President's principal adviser on telecommunications and information policy matters and develops forward looking spectrum policies that ensure efficient and effective spectrum access and use.

NTIA manages all spectrum use by the Federal government departments and agencies and examines how the radio frequency spectrum is used and managed in the United States. A large part of NTIA's policy activities is devoted to making spectrum use more efficient. NTIA's grant programs, such as the Broadband Technology Opportunities Program (BTOP), will be implemented and administered in a manner consistent with the Administration's goals of stimulating the U.S. economy and promoting job growth. Both domestically and internationally, NTIA will foster and encourage competition and universal service in telecommunications and information services, promote broadband deployment, and advance the Administration's positions on policy issues such as internet governance, the stability of communications infrastructure, and cybersecurity. NTIA's research laboratory, the Institute for Telecommunication Sciences (ITS), will perform telecommunications research, conduct cooperative research and development with U.S. industry and academia, and provide technical engineering support to NTIA and to other Federal agencies. NTIA's policy, spectrum management, and research programs will support emerging technologies and uses of spectrum resources for affordable, alternative communications services.

Section 2 Corresponding DOC Strategic Goals

Strategic Goal 1:

Maximize U.S. competitiveness and enable economic growth for American industries, workers, and consumers

Objective 1.3 - Advance key economic and demographic data that support effective decision-making by policymakers, businesses, and the American public

The Recovery Act calls for the development and maintenance of a comprehensive nationwide inventory map of existing broadband service capability and availability in the United States. The map will depict the geographic extent to which broadband services capability is deployed and available from a commercial provider or public provider in each State. The map information will be interactive, searchable, and made available to the public. The map will be completed by February 2011. The information contained in this map is likely to add material value to policymaking and have significant value to businesses and the public.

Strategic Goal 2: Promote U.S. innovation and industrial competitiveness

Objective 2.3: Advance global e-Commerce and enhanced telecommunications and information services

NTIA's functions promote science and technological leadership through research in telecommunications technologies, support for U.S. positions in international standards-setting bodies, promotion of advanced telecommunications and information infrastructure development in the United States, enhancement of domestic competitiveness, improvement of foreign trade opportunities for U.S. telecommunications firms, and facilitation of more efficient and effective use of the radio spectrum.

NTIA's functions ensure that Federal departments and agencies have sufficient spectrum to conduct radio activities in support of their missions. NTIA's functions also directly benefit the American public through the universal, affordable availability of advanced telecommunications such as broadband and wireless services and Internet-related technologies and by facilitating national and homeland security, public safety, scientific research, and Federal transportation.

NTIA serves as the President's primary policy advisor on domestic and international telecommunications and information issues and acts as the Administration's primary voice on them. NTIA fulfills this role in a number of ways: by advocating globally for foreign regulatory and policy regimes that encourage competition and innovation; by preparing and issuing special reports on topics of broad interest; providing the Administration's views on actions proposed by the Federal Communications Commission (FCC); issuing requests for public input on specific issues; and encouraging dialogue with the private sector through sponsorship and participation in conferences, workshops, and other forums.

NTIA also will participate on behalf of the Administration in other proceedings related to telecommunications and information policy, including internet governance, domain name management, and the core issues of privacy policy, child protection and freedom of expression, and cybersecurity. All of these activities will engage other government agencies, both in the Department of Commerce and throughout the Federal government as well as Internet constituencies in the commercial world, civil society and academia. NTIA will pursue policies promoting international trade in telecommunications products and services, promoting consistent international approaches to telecommunications policies, and improving relations with countries with rapidly expanding markets. All of these activities will require substantial coordination among NTIA's program offices, as well as interagency coordination to develop the Administration's positions.

In addition to its policy-related activities, NTIA supports innovative telecommunications and information technologies through basic research performed at its laboratory, the Institute for Telecommunication Sciences (ITS). ITS performs extensive basic research on quality of digital speech, audio and video compression, and transmission characteristics. This research has the potential to improve both the performance of telecommunications networks and the availability of digital content on the Internet. ITS research also supports U.S. positions in international standards-setting bodies and NTIA's development of Administration policies related to the introduction of new technologies.

Telecommunications and information technologies support productivity, growth, and job creation in most industrial sectors. NTIA's activities will therefore promote U.S. economic success and lead to economic acceleration and job expansion.

Section 3 Impact of Recovery Act

Broadband Technology Opportunities Program (BTOP) - The American Recovery and Reinvestment Act of 2009 (Recovery Act) allocates $4.7 billion to NTIA to administer BTOP to accelerate broadband deployment in unserved and underserved areas of the United States, stimulate broadband demand and adoption, and enhance broadband capabilities for strategic institutions that provide important public benefits. Of that amount, at least $250 million is allocated for sustainable broadband adoption projects, at least $200 million is for expanding public computer center capacity, and up to $350 million is available to develop a broadband inventory map. BTOP advances the objectives of the Recovery Act to spur job creation and stimulate long-term economic growth and opportunity. Recovery Act funds will advance one of the Department of Commerce's strategic goals of promoting U.S. innovation and industrial competitiveness by enhancing telecommunications and information services in the United States. A critical set of investments includes grants to State-designated entities for the collection of broadband availability data to support a comprehensive nationwide broadband inventory map, to be made publicly available on an NTIA website by February 2011.

Section 4 Priorities and Management Challenges

As part of developing the FY 2011 Budget and Annual Performance Plan, NTIA has identified the following high priority performance goal, in support of Administration and Departmental priorities, that will be a particular focus for the remainder of FY 2010 and for FY 2011:

- Broadband Access: Efficiently and effectively implement the Broadband Technology Opportunities Program, to expand service to communities in a cost-effective manner that maximizes impacts on economic growth, education, health care, and public safety.

A major portion of NTIA's activities in FY 2010 and 2011 will be directed toward achieving the President's goals in the Recovery Act through the administration and execution of the BTOP. The size and scope of the BTOP program demand significant NTIA management attention to managing staff and resources. Termination of the PTFP program and consolidation of Federal support for public broadcasting into the Corporation for Public Broadcasting will enable NTIA to focus its management energy on successful administration of the BTOP. Significant NTIA resources will also be devoted to ensuring the safety, stability, and security of the Internet via advocacy with regard to Internet governance and cybersecurity both domestically and internationally.

Section 5 Targets and Performance Summary

Outcome 1: Ensure that the allocation of radio spectrum provides the greatest benefit to all people

Measure 1a Median processing time for interagency action on spectrum assignment requests

Measure Description	NTIA authorizes the Federal agency use of the frequency spectrum in a timely manner for operation of radio communications systems. NTIA ensures that each assignment approved does not cause interference to other spectrum users nor will it receive harmful interference from other spectrum users, and that each assignment complies with the rules, regulations and standards within NTIA's Manual. The measure contains the planned median time for all the Federal agencies, including NTIA, to review and respond to requests for frequency assignments.					
Target and Performance Table						
	FY2006 Actual	**FY2007 Actual**	**FY2008 Actual**	**FY2009 Actual**	**FY2010 Target**	**FY2011 Target**
Original Funds	9 days	9 days	9 days	9 days	9 days	9 days
Impact of Recovery Funds				0	0	0
Adjusted Targets reflecting Original and Recovery Act Funds						
Comments on Changes to Targets						
Impact of Recovery Act Funds						
Relevant Program Changes	**Program Changes**	**Title of Program Change**				**Exhibit 13 Page Number**
-	-				-	
Validation & Verification Information	**Data Source**	**Reporting Frequency**	**Data Storage**	**Internal Control Procedures**	**Data Limitations**	**Actions to be Taken**
	IRAC Support Branch, Office of Spectrum Management (OSM)	Monthly, Quarterly, Annually	Office of Spectrum Management, Computer Services Division	Automated Data Processing (ADP) routines	Classified information is not included in public data	Collection of data

Section 5 Targets and Performance Summary

Outcome 1: Ensure that the allocation of radio spectrum provides the greatest benefit to all people

Measure 1b Median processing time for certification of spectrum support for planned radio communications systems

Measure Description	NTIA certifies in a timely manner, per OMB Circular A-11, that spectrum will be available in the future for Federal agency planned radio communications. NTIA's approval prevents an agency from developing communications in the wrong frequency band and or receiving interference from other spectrum users resulting in the loss of all the funding that was necessary to develop the communication system. The performance measure contains the planned average time it took for NTIA to complete the necessary analysis upon which to base the certification.					
Target and Performance Table						
	FY2006 Actual	**FY2007 Actual**	**FY2008 Actual**	**FY2009 Actual**	**FY2010 Target**	**FY2011 Target**
Original Funds	4 mos.	4 mos.	2 mos.	2 mos.	2 mos.	2 mos.
Impact of Recovery Funds				0	0	0
Adjusted Targets reflecting Original and Recovery Act Funds						
Comments on Changes to Targets						
Impact of Recovery Act Funds						
Relevant Program Changes	**Program Changes**	**Title of Program Change**				**Exhibit 13 Page Number**
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Validation & Verification Information	**Data Source**	**Reporting Frequency**	**Data Storage**	**Internal Control Procedures**	**Data Limitations**	**Actions to be Taken**
	IRAC Support Branch, Office of Spectrum Management (OSM)	Monthly, Annually	Office of Spectrum Management, IT Division	Automated Data Processing (ADP) routines	Classified information is not included in public data	Collection of data

Section 5 Targets and Performance Summary
Outcome 1: Ensure that the allocation of radio spectrum provides the greatest benefit to all people
Measure 1c Percent of space system coordination requests meeting 14 days process time

Measure Description	NTIA provides approval and coordination domestically and internationally in a timely manner for an agency to operate its planned satellite communications. Coordination with other satellite spectrum users is essential to prevent interference to each other in light of the high costs of developing and implementing satellite communication systems. The performance measure contains the percentage of actions that meet planned average target time in days to obtain approval for coordination actions within the Space Systems Subcommittee process.					
Target and Performance Table						
	FY2006 Actual	**FY2007 Actual**	**FY2008 Actual**	**FY2009 Actual**	**FY2010 Target**	**FY2011 Target**
Original Funds	95% 14days	97% 18days	95% 14days	98% in 14days	90% in 14days	90% in 14days
Impact of Recovery Funds				0	0	0
Adjusted Targets reflecting Original and Recovery Act Funds						
Comments on Changes to Targets						
Impact of Recovery Act Funds						
Relevant Program Changes	**Program Changes**	**Title of Program Change**				**Exhibit 13 Page Number**
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Validation & Verification Information	**Data Source**	**Reporting Frequency**	**Data Storage**	**Internal Control Procedures**	**Data Limitations**	**Actions to be Taken**
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Section 5 Targets and Performance Summary
Outcome 1: Ensure that the allocation of radio spectrum provides the greatest benefit to all people
Measure 1d Median comment time for interagency review and NTIA response on FCC draft policy and rules documents

Measure Description	Most frequency spectrum is shared between the private sector and the Federal government. As such, there are constant changes in the spectrum allocations, rules and regulations developed and maintained by the FCC and NTIA to address access by new telecommunication technologies and services to ensure interference free operation between all spectrum users and to promote competition. NTIA and the FCC have agreed in a memorandum of understanding to perform the necessary coordination on rulemakings within 15 days or less. This performance measure contains the planned average target time to obtain NTIA coordination, and the average time it took to provide coordination.					
Target and Performance Table						
	FY2006 Actual	**FY2007 Actual**	**FY2008 Actual**	**FY2009 Actual**	**FY2010 Target**	**FY2011 Target**
Original Funds	13 days	11 days	13.3 days	11 days	15 days	15 days
Impact of Recovery Funds				0	0	0
Adjusted Targets reflecting Original and Recovery Act Funds						
Comments on Changes to Targets						
Impact of Recovery Act Funds						
Relevant Program Changes	**Program Changes**	**Title of Program Change**				**Exhibit 13 Page Number**
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Validation & Verification Information	**Data Source**	**Reporting Frequency**	**Data Storage**	**Internal Control Procedures**	**Data Limitations**	**Actions to be Taken**
	IRAC Support Branch, Office of Spectrum Management (OSM)	Monthly, Annually	Office of Spectrum Management, IT Division	Automated Data Processing (ADP) routines	Classified information is not included in public data	Collection of data

Section 5 Targets and Performance Summary
Outcome 1: Ensure that the allocation of radio spectrum provides the greatest benefit to all people
Measure 1e Milestones completed from the Implementation Plan of the Spectrum Policy Initiative

Measure Description	NTIA is implementing recommendations contained in two reports related to improving spectrum management and policy. The performance measure contains the planned target of the number of milestones required by the goals in the spectrum policy initiative. This measure will be completed in FY2010.					
Target and Performance Table						
	FY2006 Actual	**FY2007 Actual**	**FY2008 Actual**	**FY2009 Actual**	**FY2010 Target**	**FY2011 Target**
Original Funds	18 of 22	23 of 29	22	14	11	Discontinued
Impact of Recovery Funds				0	0	0
Adjusted Targets reflecting Original and Recovery Act Funds			22	14	11	Discontinued
Comments on Changes to Targets	Targets are the remaining milestones to be accomplished from the spectrum policy initiative.					
Impact of Recovery Act Funds						
Relevant Program Changes	**Program Changes**	**Title of Program Change**				**Exhibit 13 Page Number**
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Validation & Verification Information	**Data Source**	**Reporting Frequency**	**Data Storage**	**Internal Control Procedures**	**Data Limitations**	**Actions to be Taken**
	NTIA Office of Spectrum Management (OSM)	Monthly, Annually	Office of Spectrum Management, Associate Administrator	NTIA document clearance process, OMB/Interagency clearance process	None	None

Section 5 Targets and Performance Summary
Outcome 1: Ensure that the allocation of radio spectrum provides the greatest benefit to all people
Measure 1f Complete key activities to support effective decision-making by policymakers, businesses, and the public in preparation for the World Radio Conference 2012 (WRC-12)

Measure Description	NTIA will develop and provide the Federal Government positions and proposals necessary for the World Radio Conference (WRC) 2012 and other associated technical forums such as within the Inter-American Telecommunication Commission (CITEL). This measure refers to the completion of technical studies in the ITU-R and the preparation of draft proposals representing the federal agency inputs used by State to prepare the US proposals to WRC-12. NTIA also will promote acceptance of U.S. positions and proposals internationally by representing U.S. interests in CITEL, at regional telecommunications meetings, bilateral meetings, and at the WRC.					
Target and Performance Table						
	FY2006 Actual	**FY2007 Actual**	**FY2008 Actual**	**FY2009 Actual**	**FY2010 Target**	**FY2011 Target**
Original Funds	New	New	New	New	New	WRC-12 Submission
Impact of Recovery Funds				0	0	0
Adjusted Targets reflecting Original and Recovery Act Funds						
Comments on Changes to Targets						
Impact of Recovery Act Funds						
Relevant Program Changes	**Program Changes**	**Title of Program Change**				**Exhibit 13 Page Number**
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Validation & Verification Information	**Data Source**	**Reporting Frequency**	**Data Storage**	**Internal Control Procedures**	**Data Limitations**	**Actions to be Taken**
	NTIA Office of Spectrum Management (OSM)	Monthly, Annually	Office of Spectrum Management, Associate Administrator	NTIA document clearance process, OMB/Interagency clearance process	None	None

Section 5 Targets and Performance Summary
Outcome 1: Ensure that the allocation of radio spectrum provides the greatest benefit to all people
Measure 1g Update the Spectrum Inventory first established in FY2010

Measure Description	NTIA will develop and maintain, in an understandable written and web-based form, a Spectrum Inventory and other information that describes Executive Branch spectrum use. The spectrum inventory is needed to inform spectrum management policy decision-makers and technology innovators. System characteristics and assignment data will be used to determine spectrum/geographic areas that are underutilized or vacant. With advice and support from the Federal agencies through the Interdepartment Radio Advisory Committee (IRAC), and the Commerce Spectrum Management Advisory Committee (CSMAC), other improvements will be implemented as necessary to ensure the efficiency and effectiveness of spectrum management processes.					
Target and Performance Table						
	FY2006 Actual	**FY2007 Actual**	**FY2008 Actual**	**FY2009 Actual**	**FY2010 Target**	**FY2011 Target**
Original Funds	New	New	New	New	New	Spectrum Inventory Update
Impact of Recovery Funds				0	0	0
Adjusted Targets reflecting Original and Recovery Act Funds						
Comments on Changes to Targets						
Impact of Recovery Act Funds						
Relevant Program Changes	**Program Changes**	**Title of Program Change**				**Exhibit 13 Page Number**
-	-				-	
Validation & Verification Information	**Data Source**	**Reporting Frequency**	**Data Storage**	**Internal Control Procedures**	**Data Limitations**	**Actions to be Taken**
	NTIA Office of Spectrum Management (OSM)	Monthly, Annually	Office of Spectrum Management, Associate Administrator	NTIA document clearance process, OMB/Interagency clearance process	None	None

Section 5 Targets and Performance Summary
Outcome 1: Ensure that the allocation of radio spectrum provides the greatest benefit to all people
Measure 1h Annual Progress Report on the Test-Bed

Measure Description	NTIA is conducting a pilot test-bed program to evaluate approaches and techniques to increase spectrum sharing between Federal and non-federal spectrum users.					
Target and Performance Table						
	FY2006 Actual	**FY2007 Actual**	**FY2008 Actual**	**FY2009 Actual**	**FY2010 Target**	**FY2011 Target**
Original Funds	New	New	New	New	New	Publish Annual Report
Impact of Recovery Funds				0	0	0
Adjusted Targets reflecting Original and Recovery Act Funds						
Comments on Changes to Targets						
Impact of Recovery Act Funds						
Relevant Program Changes	**Program Changes**	**Title of Program Change**				**Exhibit 13 Page Number**
-	-				-	
Validation & Verification Information	**Data Source**	**Reporting Frequency**	**Data Storage**	**Internal Control Procedures**	**Data Limitations**	**Actions to be Taken**
	NTIA Office of Spectrum Management (OSM)	Monthly, Annually	Office of Spectrum Management, Associate Administrator	NTIA document clearance process, OMB/Interagency clearance process	None	None

Section 5 Targets and Performance Summary
Outcome 1: Ensure that the allocation of radio spectrum provides the greatest benefit to all people
Measure 1i Clearing of Federal systems from the 1710-1755 MHz band

Measure Description	NTIA will provide the leadership and support to ensure that federal systems are relocated from the 1710-1755 MHz band in accordance with the established schedules developed under the Commercial Spectrum Enhancement Act (CSEA). This support includes preparing the annual progress report to Congress as required by the CSEA, chairing monthly meetings with the federal agencies, preparing status reports and briefings in response to DOC, congressional, and public inquiries, ensuring that the federal agencies and AWS operators work through coordination issues, and updating the federal relocation data maintained on the NTIA website.					
Target and Performance Table						
	FY2006 Actual	**FY2007 Actual**	**FY2008 Actual**	**FY2009 Actual**	**FY2010 Target**	**FY2011 Target**
Original Funds	New	New	New	New	New	90% 0f 1990 assignments
Impact of Recovery Funds				0	0	0
Adjusted Targets reflecting Original and Recovery Act Funds						
Comments on Changes to Targets						
Impact of Recovery Act Funds						
Relevant Program Changes	**Program Changes**	**Title of Program Change**				**Exhibit 13 Page Number**
-	-				-	
Validation & Verification Information	**Data Source**	**Reporting Frequency**	**Data Storage**	**Internal Control Procedures**	**Data Limitations**	**Actions to be Taken**
	NTIA Office of Spectrum Management (OSM)	Monthly, Annually	Office of Spectrum Management, Associate Administrator	NTIA document clearance process, OMB/Interagency clearance process	None	None

Section 5 Targets and Performance Summary
Outcome 2: Promote the availability and support new sources of advanced telecommunications and information services
Measure 2a Support new telecom and info technology by advocating Administration views in FCC docket filings, and Congressional and other proceedings

Measure Description	NTIA fulfills its policy-setting role in a number of ways: by preparing and issuing special reports on topics that emerge over time; testifying before Congress and other organizations that are concerned with telecommunications policy; providing the Administration's views on actions proposed by the Federal Communications Commission; issuing requests for public comment on specific issues; and encouraging dialogue with the private sector through sponsorship and participation in conferences, workshops, and other forums.					
Target and Performance Table						
	FY2006 Actual	**FY2007 Actual**	**FY2008 Actual**	**FY2009 Actual**	**FY2010 Target**	**FY2011 Target**
Original Funds	12 dockets and proceedings	8 dockets and proceedings	11 dockets and proceedings	12 dockets and proceedings	5 dockets and proceedings	10 dockets and proceedings
Impact of Recovery Funds				0	0	0
Adjusted Targets reflecting Original and Recovery Act Funds				0	5	10
Comments on Changes to Targets						
Impact of Recovery Act Funds						
Relevant Program Changes	**Program Changes**	**Title of Program Change**				**Exhibit 13 Page Number**
-	-				-	

	Data Source	Reporting Frequency	Data Storage	Internal Control Procedures	Data Limitations	Actions to be Taken
Validation & Verification Information	Activities are reflected on NTIA website; weekly reports to the Secretary of Commerce; annual report to Congress	Quarterly, Annual	Office of Policy Coordination and Management	Inspection	Data yields a qualitative assessment of current policy directions and plans.	None

Section 5 Targets and Performance Summary

Outcome 2: Promote the availability and support new sources of advanced telecommunications and information services

Measure 2b Number of website views for research publications

Measure Description	NTIA will measure the number of website "hits" on its on-line research publications. This measure indicates the reception and utility of research results within the spectrum research and engineering community. Many government agencies and private sector organizations use these research publications to improve effectiveness in the planning, procurement and configuration of systems.					
Target and Performance Table						
	FY2006 Actual	**FY2007 Actual**	**FY2008 Actual**	**FY2009 Actual**	**FY2010 Target**	**FY2011 Target**
Original Funds	282K/Q	315K/Q	381K/Q	225K/Q	240K/Q	240K/Q
Impact of Recovery Funds				0	0	0
Adjusted Targets reflecting Original and Recovery Act Funds					240K/Q	240K/Q
Comments on Changes to Targets						
Impact of Recovery Act Funds						
Relevant Program Changes	**Program Changes**	**Title of Program Change**				**Exhibit 13 Page Number**
-	-				-	
Validation & Verification Information	**Data Source**	**Reporting Frequency**	**Data Storage**	**Internal Control Procedures**	**Data Limitations**	**Actions to be Taken**
	ITS web logs	Quarterly	ITS webserver	Inspection	None	Collection of data

Section 5 Targets and Performance Summary

Outcome 3: Ensure the effective implementation of the Broadband Technology Opportunities Program

Measure 3a Miles of broadband networks deployed (Infrastructure Projects)

Measure Description	BTOP funds will be used to support projects that provide broadband service in unserved areas and enhance broadband service underserved areas of the United States. NTIA will fund infrastructure projects that deploy a variety of technologies and approaches to enhance the Nation's broadband capabilities. The performance measure contains the number of miles of network (e.g., fiber, microwave) deployed using BTOP funding.					
Target and Performance Table						
	FY2006 Actual	**FY2007 Actual**	**FY2008 Actual**	**FY2009 Actual**	**FY2010 Target**	**FY2011 Target**
Original Funds	New	New	New	New	New	0
Impact of Recovery Funds						10,000
Adjusted Targets reflecting Original and Recovery Act Funds						10,000
Comments on Changes to Targets	Due to the early stage of the BTOP program, these targets are preliminary. NTIA anticipates these outcomes will change over time, perhaps substantially, as the number of awards increases and as grant recipients begin reporting on their actual progress in implementing BTOP projects.					
Impact of Recovery Act Funds						
Relevant Program Changes	**Program Changes**	**Title of Program Change**				**Exhibit 13 Page**

						Number
-	-				-	
Validation & Verification Information	**Data Source**	**Reporting Frequency**	**Data Storage**	**Internal Control Procedures**	**Data Limitations**	**Actions to be Taken**
	Grantee reports	Quarterly	Grantee reporting system	Inspection	Reporting errors on the part of grantees	Collection of data

Section 5 Targets and Performance Summary
Outcome 3: Ensure the effective implementation of the Broadband Technology Opportunities Program
Measure 3b Community anchor institutions connected (Infrastructure Projects)

Measure Description	The Recovery Act places a high priority on deploying and enhancing broadband capabilities for community anchor institutions such as libraries, hospitals, schools, and public safety entities. This performance measure contains the number of anchor institutions (as defined in the Program's Notice(s) of Funds Availability) connected with new or improved broadband capabilities.					
Target and Performance Table						
	FY2006 Actual	**FY2007 Actual**	**FY2008 Actual**	**FY2009 Actual**	**FY2010 Target**	**FY2011 Target**
Original Funds	New	New	New	New	New	0
Impact of Recovery Funds						3,000
Adjusted Targets reflecting Original and Recovery Act Funds						3,000
Comments on Changes to Targets	Due to the early stage of the BTOP program, these targets are preliminary. NTIA anticipates these outcomes will change over time, perhaps substantially, as the number of awards increases and as grant recipients begin reporting on their actual progress in implementing BTOP projects.					
Impact of Recovery Act Funds						
Relevant Program Changes	**Program Changes**	**Title of Program Change**				**Exhibit 13 Page Number**
-	-				-	
Validation & Verification Information	**Data Source**	**Reporting Frequency**	**Data Storage**	**Internal Control Procedures**	**Data Limitations**	**Actions to be Taken**
	Grantee reports	Quarterly	Grantee reporting system	Inspection	Reporting errors on the part of grantees	Collection of data

Section 5 Targets and Performance Summary
Outcome 3: Ensure the effective implementation of the Broadband Technology Opportunities Program
Measure 3c Homes, businesses, and anchor institutions with new and improved broadband availability (Infrastructure Projects)

Measure Description	BTOP funds will be used to support projects that provide broadband service in unserved areas and enhance broadband service in underserved areas of the United States. NTIA may fund projects that deliver service directly to end-users and end-user devices, (i.e., homes and businesses), as well as projects that facilitate broadband service for end-users (i.e., Middle Mile projects). The performance measure includes those homes/businesses/anchors directly passed by a broadband provider, as well as those homes/businesses/anchors in the Middle Mile project area.					
Target and Performance Table						
	FY2006 Actual	**FY2007 Actual**	**FY2008 Actual**	**FY2009 EActual**	**FY2010 Target**	**FY2011 Target**
Original Funds	New	New	New	New	New	0
Impact of Recovery Funds						500,000
Adjusted Targets reflecting Original and Recovery Act Funds						500,000
Comments on Changes to Targets	Due to the early stage of the BTOP program, these targets are preliminary. NTIA anticipates these outcomes will change over time, perhaps substantially, as the number of awards increases and as grant recipients begin reporting on their actual progress in implementing BTOP projects.					
Impact of Recovery Act Funds						
Relevant Program Changes	**Program Changes**	**Title of Program Change**				**Exhibit 13 Page**

						Number
-	-				-	
Validation & Verification Information	**Data Source**	**Reporting Frequency**	**Data Storage**	**Internal Control Procedures**	**Data Limitations**	**Actions to be Taken**
	Grantee reports	Quarterly	Grantee reporting system	Inspection	Reporting errors on the part of grantees	Collection of data

Section 5 Targets and Performance Summary
Outcome 3: Ensure the effective implementation of the Broadband Technology Opportunities Program
Measure 3d New and upgraded public computer workstations (Public Computer Centers Projects)

Measure Description	NTIA must award at least $200 million in grants by the end of Fiscal Year 2010 to expand public computer center capacity. The performance measure contains the number of new and improved computer workstations funded through the BTOP Public Computer Centers category of funding.					
Target and Performance Table						
	FY2006 Actual	**FY2007 Actual**	**FY2008 Actual**	**FY2009 Actual**	**FY2010 Target**	**FY2011 Target**
Original Funds	New	New	New	New	New	0
Impact of Recovery Funds						10,000
Adjusted Targets reflecting Original and Recovery Act Funds						10,000
Comments on Changes to Targets	Due to the early stage of the BTOP program, these targets are preliminary. NTIA anticipates these outcomes will change over time, perhaps substantially, as the number of awards increases and as grant recipients begin reporting on their actual progress in implementing BTOP projects.					
Impact of Recovery Act Funds						
Relevant Program Changes	**Program Changes**	**Title of Program Change**				**Exhibit 13 Page Number**
-	-				-	
Validation & Verification Information	**Data Source**	**Reporting Frequency**	**Data Storage**	**Internal Control Procedures**	**Data Limitations**	**Actions to be Taken**
	Grantee reports	Quarterly	Grantee reporting system	Inspection	Reporting errors on the part of grantees	Collection of data

Section 5 Targets and Performance Summary
Outcome 3: Ensure the effective implementation of the Broadband Technology Opportunities Program
Measure 3e New household and business subscribers to broadband (Sustainable Broadband Adoption Projects)

Measure Description	NTIA must award at least $250 million in grants by the end of Fiscal Year 2010 for innovative programs to encourage sustainable adoption of broadband service. The performance measure contains the number of new household and business subscribers to broadband generated by projects funded through the BTOP Sustainable Broadband Adoption category of funding, as reported by awardees.					
Target and Performance Table						
	FY2006 Actual	**FY2007 Actual**	**FY2008 Actual**	**FY2009 Enacted**	**FY2010 Target**	**FY2011 Target**
Original Funds	New	New	New	New	New	0
Impact of Recovery Funds						25,000
Adjusted Targets reflecting Original and Recovery Act Funds						25,000
Comments on Changes to Targets	Due to the early stage of the BTOP program, these targets are preliminary. NTIA anticipates these outcomes will change over time, perhaps substantially, as the number of awards increases and as grant recipients begin reporting on their actual progress in implementing BTOP projects.					
Impact of Recovery Act Funds						
Relevant Program Changes	**Program Changes**	**Title of Program Change**				**Exhibit 13 Page Number**

-	-				-	
Validation & Verification Information	**Data Source**	**Reporting Frequency**	**Data Storage**	**Internal Control Procedures**	**Data Limitations**	**Actions to be Taken**
	Grantee reports	Quarterly	Grantee reporting system	Inspection	Reporting errors on the part of grantees	Collection of data

Section 6 2011 Program Changes
Program Funding Changes Table

Program Changes?	Program Name	Accompanying APP Page No.	GPRA Performance Measure Name and Number	Base FTEs	Base Amount	Increase/Decrease FTEs	Increase/Decrease Amount	Exhibit 13 Page No.
Yes	Spectrum Access with Intelligent Networks & Cognitive Radio	N/A	N/A	0	0	3	1,050	N/A
Yes	Broadband Technology Opportunities Program (BTOP) & Mapping—Admin. Expenses	N/A	N/A	0	0	50	23,700	N/A

Section 7 Resource Requirements
Outcome 1: Ensure that the allocation of radio spectrum provides the greatest benefit to all people

	Program or Line Item Name	FY2006 Actual	FY2007 Actual	FY2008 Actual	FY2009 Actual	FY2010 Estimate	FY2011 Base	Increase/ Decrease	FY2011 Request
Original Funds	Salaries & Expenses	36,805	38,947	35,753	37,274	62,246	46,817	1,050	47,867
Recovery Act Funds	Salaries & Expenses	0	0	0	0	0	346	0	0
Total Funding	Salaries & Expenses	36,805	38,947	35,753	37,274	62,246	46,817	1,050	47,867

Total Funding	36,805	38,947	35,753	37,274	62,246	46,817	1,050	47,867
Total Direct								
Total Reimbursable								
Total IT Funding	3,200	3,200	3,200	1,499	5,375	5,428	384	5,802
Total FTE	164	165	168	162	171	171	3	176

1. Dollars in Thousands
2. IT funding included in total funding

Outcome 2: Promote the availability and support new sources of advanced telecommunications and information services

	Program or Line Item Name	FY2006 Actual	FY2007 Actual	FY2008 Actual	FY2009 Actual	FY2010 Estimate	FY2011 Base	Increase/ Decrease	FY2011 Request
Original Funds	Salaries & Expenses	11,573	12,315	12,861	13,357	31,124	14,634	0	14,634

	Digital Television Transition and Public Safety Fund	0	1,070,272	942,432	593,842	142,298	142,298	(132,861)	9,437
	Public Telecommunications Facilities, Planning, and Construction	21,952	24,148	21,020	20,943	23,251	0	0	0
	Information Infrastructure Grants	600	0	0	0	0	0	0	0
Recovery Act Funds	Digital-to-Analog Converter Box Program (ARRA)	0	0	0	418,341	4,000	0	0	0
Total Funding	Salaries & Expenses	11,573	12,315	12,861	31,424	14,383	14,649	1,000	15,649

Total Funding	34,125	1,107,132	976,636	1,046,688	202,886	156,932	(136,298)	20,634
Total Direct								
Total Reimbursable								
Total IT Funding	2,200	2,200	2,200	1,383	1,200	1,200	0	1,200
Total FTE	84	89	94	93	113	94	(7)	87

1. Dollars in thousands
2. IT funding included in total funding

Outcome 3: Ensure the effective implementation of the Broadband Technology Opportunities Program

	Program or Line Item Name	FY2006 Actual	FY2007 Actual	FY2008 Actual	FY2009 Actual	FY2010 Estimate	FY2011 Base	Increase/ Decrease	FY2011 Request
Original Funds	Broadband Technology Opportunities Program -- APPROPRIATION	0	0	0	0	0	0	23,700	23,700
Original Funds	Broadband Technology Opportunities Program -- REIMBURSABLES	0	0	0	235	500	0	0	0
Recovery Act Funds	Broadband Technology Opportunities Program (ARRA)	0	0	0	77,242	4,592,703	0	0	0
Total Funding	Information Infrastructure Grants	0	0	0	77,477	4,593,203	0	23,700	23,700

Total Funding	0	0	0	77,477	4,593,203	0	23,700	23,700
Total Direct	0	0	0	77,242	4,592,703	0	23,700	23,700
Total Reimbursable	0	0	0	235	0	0	0	0
Total IT Funding1	0	0	0	0	0	0	0	
Total FTE	0	0	0	7	70	0	50	50

1. IT funding included in total funding

Grand Totals

Row Name	FY2006 Actual	FY2007 Actual	FY2008 Actual	FY2009 Actual	FY2010 Estimate	FY2011 Base	Increase/Decrease	FY2011 Request
Total funding	70,930	1,146,079	1,012,389	1,161,439	4,858,335	203,749	(111,548)	95,638
Direct	39,723	1,113,132	979,965	1,128,421	4,786,139	163,073	(111,548)	54,962
Reimbursable	31,207	32,947	32,424	33,018	72,196	40,676	0	40,676
IT funding	5,400	5,400	5,400	2,807	6,575	6,375	427	7,002
FTE	248	254	262	262	354	265	43	318

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Exhibit 5

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
FY 2010 Enacted	103	103	$19,999	$21,674
less: Obligations from prior years	0	0	0	(1,675)
2011 adjustments to base	0	0	776	776
2011 Base	103	103	20,775	20,775
plus: 2011 program changes	4	3	1,050	1,050
2011 Estimate	107	106	21,825	21,825

Comparison by activity/subactivity		2009 Actual		2010 Enacted		2011 Base		2011 Estimate		2011 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Domestic and International policies	Pos/BA	26	$3,351	26	$5,107	26	$5,365	26	$5,365	0	$0
	FTE/Obl.	20	4,281	26	5,897	26	5,365	26	5,365	0	$0
Spectrum management	Pos/BA	32	6,120	32	7,752	32	8,144	32	8,144	0	0
	FTE/Obl.	31	7,005	32	8,291	32	8,144	32	8,144	0	0
Telecommunication sciences research	Pos/BA	45	6,747	45	7,140	45	7,266	49	8,316	4	1,050
	FTE/Obl.	43	6,562	45	7,486	45	7,266	48	8,316	3	1,050
TOTALS	Pos/BA	103	16,218	103	19,999	103	20,775	107	21,825	4	1,050
	FTE/Obl.	94	17,848	103	21,674	103	20,775	106	21,825	3	1,050
Adjustments to Obligations:											
Recoveries/Refunds			(37)		0		0		0		0
Unobligated Balance, start of year			(3,268)		(1,675)		0		0		0
Unobligated Balance, end of year			1,675		0		0		0		0
Unobligated Balance, rescission			3,000		0		0		0		0
Unobligated Balance expiring			0		0		0		0		0
Financing from transfers:											
Transfer from other accounts (-)			0		0		0		0		0
Transfer to other accounts (+)			0		0		0		0		0
Appropriation			19,218		19,999		20,775		21,825		1,050

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Exhibit 7

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
SUMMARY OF FINANCING
(Dollar amounts in thousands)

Comparison by activity	2009 Actual	2010 Enacted	2011 Base	2011 Estimate	2011 Increase/ (Decrease)
Total Obligations	**$50,631**	**$93,370**	**$61,451**	**$62,501**	**$1,050**
Offsetting collections from:					
Federal funds	(32,283)	(71,196)	(40,176)	(40,176)	0
Non-Federal sources	(500)	(500)	(500)	(500)	0
Recoveries/Refunds	(37)	0	0	0	0
Unobligated balance, start of year	(3,268)	(1,675)	0	0	0
Unobligated balance, end of year	1,675	0	0	0	0
Unobligated balance expiring	0	0	0	0	0
Budget Authority	**16,218**	**19,999**	**20,775**	**21,825**	**1,050**
Restoration of unobligated balance, rescission	3,000	0	0	0	0
Financing:					
Transferred from other accounts (-)	0	0	0	0	0
Transferred to other accounts (+)	0	0	0	0	0
Appropriation	**19,218**	**19,999**	**20,775**	**21,825**	**1,050**

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
ADJUSTMENTS TO BASE

Exhibit 8

Adjustments to Base	FTE	Amount ($000)
COST CHANGES:		
Full-year cost of FY 2010 pay increase and related costs	0	$ 79
FY 2011 pay raise	0	175
Civil Service Retirement System (CSRS)	0	(11)
Federal Employees Retirement System (FERS)	0	72
Federal Insurance Contribution Act (FICA) - OASDI	0	9
Thrift Savings Plan	0	3
Health Insurance	0	43
Employees Compensation Fund	0	(12)
Travel	0	(1)
Postage	0	1
Electricity	0	69
Rental Payments to GSA	0	19
Other Services:		
Working Capital Fund	0	313
General Pricing Level Adjustment:		
Other services	0	12
Supplies and materials	0	2
Equipment	0	3
Subtotal, Cost Changes	0	776
Total, Adjustments to Base	0	$ 776

Exhibit 9

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
JUSTIFICATION OF ADJUSTMENTS TO BASE

Adjustments to Base	FTE	Amount ($000)
COST CHANGES:		
Pay Raises	0	$ 254
Full-year cost of FY 2010 pay increase and related costs		
The FY 2010 President's budget assumes a pay raise of 2.0 percent to be effective January 1, 2010.		
Total cost in FY 2011 of FY 2010 pay increase		315,333
Less amount funded in FY 2010		(236,500)
Total amount requested in FY 2011 to provide cost of FY 2010 pay raise		78,833
FY 2011 pay increase and related costs		
A general pay raise of 1.4 percent is assumed to be effective January 1, 2011.		
Total cost of FY 2011 pay raise		152,000
Payment to Working Capital Fund		23,000
Total adjustment for FY 2011 pay increase		175,000
Civil Service Retirement System (CSRS)	0	(11)
The number of employees covered by CSRS continues to drop as positions become vacant and are filled by employees who are covered by the Federal Employees' Retirement System (FERS). The estimated percentage of payroll for employees covered by CSRS will drop from 11.8 percent in FY 2010 to 10.5 percent in FY 2011. The contribution rate will remain 7.0 percent.		
FY 2011 ($12,114,000 x .105 x .0700)		89,038
FY 2010 ($12,114,000 x .118 x .0700)		100,062
Total adjustment to base		(11,024)
Federal Employees Retirement System (FERS)	0	72
The number of employees covered by FERS continues to rise as employees covered by CSRS leave and are replaced by employees covered by FERS. The estimated percentage of payroll for employees covered by FERS will rise from 88.2 percent in FY 2010 to 89.5 percent in FY 2011. The contribution rate will increase to 11.2 percent.		
FY 2011 ($12,114,000 x .895 x .117)		1,268,517
FY 2010 ($12,114,000 x .882 x .112)		1,196,669
Total adjustment to base		71,848
Federal Insurance Contribution Act (FICA)	0	9
As the percentage of payroll covered by FERS rises, the cost of OASDI contributions will increase. In addition, the maximum salary subject to OASDI tax will rise from $110,400 in FY 2010 to $114,975 in FY 2011. The OASDI tax rate will remain 6.2 percent.		
Regular Employees		
FY 2011 ($12,114,000 x .895 x .918 x .062)		617,085
FY 2010 ($12,114,000 x .882 x .918 x .062)		608,122
		8,963
Other Salaries		
FY 2011 ($20,000 x .895 x .918 x .062)		1,019
FY 2010 ($20,000 x .882 x .918 x .062)		1,004
		15
Total Adjustment to Base		8,978

Exhibit 9

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
JUSTIFICATION OF ADJUSTMENTS TO BASE

Adjustments to Base		FTE	Amount ($000)
Thrift Savings Plan (TSP)			
The cost of NTIA's contributions to the Thrift Savings Plan will also rise as FERS participation increases. The contribution rate is expected to remain 2 percent.		0	$ 3
FY 2011 ($12,114,000 x .895 x .02)	216,841		
FY 2010 ($12,114,000 x .882 x .02)	213,691		
Total Adjustment to Base	3,150		
Health Insurance		0	43
Effective January 2009, NTIA's contribution to Federal employees' health insurance premiums increased by 6.7 percent. Applied against the 2010 estimate of $646,000, the additional amount required is $43,282.			
Employee Compensation Fund:		0	(12)
The Employees Compensation Fund bill for the year ending June 30, 2009, is $12,000 lower than the bill for the year ending June 30, 2007. The Employee Compensation fund is based on an actual billing from the Department of Labor.			
Mileage Rate Increase		0	(1)
Effective January 2009, the General Services Administration decreased the mileage rate from 55 cents to 58.5 cents per mile, a 6% decrease from August 2008's rate. This percentage was applied to the 2010 estimate of $14,000 to arrive at a decrease of $840.			
Postage		0	1
Effective May 11, 2009, the Governors of the Postal Service implemented a rate increase for first-class mail from 42 cents to 44 cents. The increase of 4.8% was applied to the 2010 estimate of $12,000 to arrive at an increase of $576.			
Electricity		0	69
This average increase for PEPCO electricity is projected to be 15%. This percentage was applied to the 2010 electricity estimate of $463,000 for an increase of $69,000.			
Rental payments to GSA		0	19
GSA rates are projected to increase 1.4 percent in FY 2011. This percentage was applied to the FY 2010 estimate of $1,372,000 to arrive at an increase of $19,208.			
Working Capital Fund		0	313
An additional amount of $313,000 is required to fund the cost increases in the Department's Working Capital Fund.			
General Pricing Level Adjustment		0	17
This request applies .8 percent based on OMB economic assumptions for FY 2011 to object classes where the prices that the Government pays are established through the market system. Factors are applied to: other services ($12,000), supplies and materials ($2,000), and equipment ($3,000).			
Subtotal, Cost Changes		0	776
Total, Adjustments to Base		0	$ 776

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Salaries and expenses
Subactivity: Domestic and international policies

Comparison by line item		2009 Actual		2010 Enacted		2011 Base		2011 Estimate		2011 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Domestic and International policies	Pos/BA	26	$3,351	26	$5,107	26	$5,365	26	$5,365	0	$0
	FTE/Obl.	20	4,281	26	5,897	26	5,365	26	5,365	0	
Direct Obligations.....	Pos/BA	26	3,351	26	5,107	26	5,365	26	5,365	0	0
	FTE/Obl.	20	4,281	26	5,897	26	5,365	26	5,365	0	

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
Domestic and International Policies
Justification of Program and Performance

Goal Statement

NTIA serves as the principal adviser to the President on telecommunications and information policy issues. In this role, NTIA formulates, advocates, and participates in the implementation of policies that further domestic and foreign policy goals and enhance the international competitiveness of U.S. telecommunications and information technology, equipment, and services companies. These policies further the United States' strategic goals of opening markets and encouraging competition, innovation, and entrepreneurship, in the United States and globally; advancing the public interest in telecommunications, mass media, and information services; and promoting the availability of advanced services to all peoples around the globe. Policy objectives are based on the identification and interdisciplinary analysis of economic, technological, regulatory, legal, social, and foreign policy issues. These activities fall within the Department of Commerce Strategic Goal 2 - Promote U.S. innovation and industrial competitiveness, Performance Goal/Objective 2.3: Advance global e-Commerce and enhanced telecommunications and information services. NTIA's activities that include working with the White House and other federal agencies on Administration-wide telecommunications and information policy statements, and on obtaining private sector views on a broad range of telecommunications and information policy issues, are described in the "Crosscutting Programs" section of the Department of Commerce Strategic Plan for FY 2004 – FY 2009.

Statement of Operating Objectives

Domestic Policies – NTIA formulates and promotes national policies for consideration by the President and other executive branch agencies and by the independent Federal Communications Commission (FCC), Federal Trade Commission (FTC), and other government and non-government organizations. NTIA's domestic policy objectives are to:

- promote the deployment of broadband services;
- open telecommunications and information markets to greater competition;
- refrain from regulating telecommunications and information markets wherever market forces are sufficient to ensure reasonable prices and terms of services and to protect consumers;
- preserve and promote an open Internet, consistent with service providers' need to manage their networks in a transparent and nondiscriminatory manner;
- encourage the development of new telecommunications and information technologies and services for the American public;
- promote economic growth; and
- promote minority ownership in the telecommunications industry.

NTIA possesses the necessary expertise, skill, and understanding in legal, economic, and technical issues: in telecommunications and information technology innovations, products, and services; in telecommunications and information technology policy; and in regulatory structures and processes to accomplish these objectives.

International Policies - NTIA formulates and promotes national policies for presentation in multilateral, bilateral and international organizational settings. The objective of these policies is to enhance competition in pursuit of both improved market access for U.S. service and equipment providers, and to achieve foreign policy goals such as economic development, democratization, and promotion of U.S. national security telecommunications and information interests in geographically strategic areas. Current operational objectives include:

- continuing support for private sector management of the Internet's domain name and addressing system (DNS), and the security and stability of the DNS;

- coordinating new international telecommunications and information policies and technologies with domestic policies (such as, the introduction of internationalized domain names (IDN), identify management (IdM), the deployment of Internet Protocol Version 6 (IPv6), Radio Frequency Identification (RFID), etc.);

- negotiating open, competitive markets abroad for telecommunications and information services, including IP-enabled services;

- working multilaterally and bilaterally to ensure policy and regulatory approaches pertaining to converged communications services are fair, open, transparent, not-overly burdensome and in line with U.S. domestic policies; and

- encouraging other governments to adopt sound policies, laws, and regulations to stimulate telecommunications and information technology development, including the Internet.

NTIA possesses expertise in the following areas: an understanding of international telecommunications and information policies and the resultant regulatory structures and processes; an appreciation of U.S. economic, foreign, and trade policies and objectives, in particular as they relate to foreign telecommunications and information regulatory policies; knowledge of U.S.-backed foreign assistance resources that can supplement our educational efforts; in-depth expertise regarding U.S. and foreign-developed telecommunications and information products and services; and a detailed understanding of relevant international and intergovernmental organizations and treaties.

Base Program

Domestic Policies –The U.S. has the world's leading telecommunications and information markets, and leads the world in the number of broadband connections. This translates to increased jobs for Americans, economic growth, innumerable socio-economic benefits to the public, improved supply of governmental services, and strong public safety and national and homeland security capabilities. Much of the U.S. success in these sectors is based on market-driven, pro-competitive policies and prudent deregulation, measures that have been emulated throughout the world. In radio spectrum management in particular, market based spectrum management reforms, advocated by NTIA and adopted by the FCC, have led to more efficient and innovative use of spectrum for commercial services.

The Communications Act of 1934, as amended, provides a basis for policymaking with respect to many telecommunications and information services and products. Other U.S., state, and Federal laws also affect the telecommunications and information sectors. Existing laws, regulations, and administrative procedures are subject to enormous pressures created by rapid changes in technology and increased demand for advanced services and equipment. NTIA is the only Executive

Branch agency dedicated exclusively to telecommunications and information policy making. NTIA also serves as the manager of the Federal government's use of the electromagnetic spectrum. NTIA's responsibilities are set forth by statute (47 U.S.C. §901 *et seq*). NTIA's domestic policy activities require it to identify important current telecommunications and information policy issues, to evaluate and articulate those policies, and to respond to specific requests.

NTIA's policy activities support the Department's strategic themes of providing the information and the framework to enable the economy to operate efficiently and equitably, on a global scale; providing infrastructure for innovation and entrepreneurship to enhance American competitiveness; and strengthening management at all levels. NTIA promotes these policies within the Administration and before the Congress, the FCC, the FTC, U.S. State Governments, governments of other nations, and ultimately, the public at large. NTIA's domestic policy activities require it to maintain expertise with respect to current telecommunications and information policy issues and to identify the most important for Executive Branch attention. NTIA performs research and analysis, and prepares written recommendations for future courses of action that affect these sectors. In coordination with other parts of the Administration, NTIA makes recommendations and works with the Congress on new or revised laws affecting these sectors; it also files written comments to the FCC on specific regulatory proposals.

NTIA engages in public discussions and meetings with government (Federal, state, and foreign) officials and private sector representatives to formulate and advocate its policies. NTIA obtains information and advice both informally, on an *ad hoc* basis, and through the Commerce Spectrum Management Advisory Committee. Consistent with the Federal Advisory Committee Act, this committee provides advice to the Assistant Secretary of Commerce for Communications and Information on needed reforms to domestic spectrum policies and management to enable the introduction of new spectrum-dependent technologies and services, including policy reforms for expediting the American public's access to broadband services, public safety, digital television, and long-range spectrum planning. In addition, NTIA facilitates business ownership and participation, particularly small business and minority participation, in these important sectors.

NTIA has a number of domestic programmatic responsibilities as well, most notably serving as the point of contact for the NTIA's Online Safety and Technology Working Group. In the 2008 "Protecting Children in the 21st Century Act," Congress directed NTIA to establish the working group to examine industry efforts to create a safe online environment for children.

International Policies - If U.S.-invested companies are to continue to innovate and maintain their global leadership in these sectors, policy and regulatory environments at home and abroad need to encourage the development of and access to telecommunications and information technologies and networks. To meet this need, NTIA advocates for flexible, technology neutral, and transparent policy and regulatory regimes. This approach supports universal access to telecommunications and information technologies and networks which stimulates democratization, economic development, and entrepreneurship. It also facilitates the use of these technologies in disaster relief efforts and meeting broader U.S. national security, telecommunications, and information interests in war-torn areas. NTIA is uniquely positioned to serve as, or advise U.S. negotiators by participating as delegates or in leadership posts in a variety of fora on international, regional and bilateral policies and regulations, mainly of an intergovernmental nature. Delegations draw upon NTIA's wide-ranging expertise in telecommunications and information policy issues, particularly those related to the Internet's critical underlying infrastructure, to support these goals of innovation, market entry, and universal telecommunications and information access. For example, NTIA advocates adoption abroad of open and transparent processes that take into account the input of all relevant stakeholders and that avoid overly prescriptive or burdensome regulation.

NTIA's International Office implements its policy objectives through a variety of representational and management responsibilities in inter-governmental fora such as the International Telecommunication Union (ITU), the Inter-American Telecommunications Commission (CITEL), the Asia Pacific

Economic Cooperation forum (APEC), the Organization for Cooperation and Economic Development (OECD), the International Telecommunications Satellite Organization (ITSO), the International Mobile Satellite Organization (IMSO), as well as in bilateral discussions (e.g., China, India, Japan). The International Office also works with other Federal agencies to prepare for and participate in other related international telecommunications and information activities, such as trade negotiations involving the telecommunications and information sector. For example, NTIA staff possesses the most extensive technical knowledge and policy expertise in the U.S. Government regarding management of a critical Internet infrastructure asset: the Internet's DNS. As such, NTIA staff administers the Department's Internet Assigned Numbers Authority (IANA) functions contract with the private-sector Internet Corporation for Assigned Names and Numbers (ICANN), through which all changes to the Internet's authoritative root zone file – or "address book" are approved. NTIA also oversees the administration of the Department's Joint Project Agreement (JPA) with ICANN and represents the U.S.Government in the ICANN's Governmental Advisory Committee, which advises ICANN on public policy issues related to the Internet DNS. NTIA also serves as the point of contact for the Department's contract with Neustar, Inc. for the management of the DOT-US (".us") Internet top level domain, and educating parents/guardians by promoting awareness of the KIDS-DOT-US ("kids.us") Internet domain. NTIA also serves as the Federal Program Officer for the Department's Cooperative Agreement with EDUCAUSE to manage the DOT-EDU (".edu") domain space for use by educational institutions. This cooperative agreement facilitates the policy development and technical operations of the .edu domain and provides a framework for the administration of the .edu domain. NTIA also coordinates with the Department of Homeland Security, the National Security Council and others to safeguard the security and stability of the Internet DNS.

Explanation and Justification

Domestic Policies - The NTIA Organization Act, as amended, (47 U.S.C. §90*2(b)*) requires the Secretary of Commerce to assign the Assistant Secretary for Communication and Information and NTIA various functions regarding domestic telecommunications and information policy. These functions include but are not limited to: the authority to serve as the President's principal adviser on telecommunications policies pertaining to the Nation's economic and technological advancement and to the regulation of the telecommunications industry and to develop and set forth such policies; the authority to provide for the coordination of the telecommunications activities of the Executive Branch and assist in the formulation of policies and standards for those activities, including (but not limited to) consideration of spectrum use, privacy, security, and emergency readiness; the responsibility to ensure that the views of the Executive Branch on telecommunications matters are effectively presented to the FCC and, in coordination with the Office of Management and Budget, to the Congress; the authority to establish policies concerning spectrum assignments and use by radio stations belonging to and operated by the United States; the authority to conduct studies and make recommendations concerning the impact of the convergence of computer and telecommunications technology; the authority to conduct and coordinate economic and technical analyses of telecommunications policies, activities, and opportunities in support of assigned functions; and the authority to contract for studies and reports relating to any aspect of assigned functions.

The range of domestic telecommunications policy issues is broad and increasingly complex, reflecting the rapid changes in the telecommunications and information markets, the convergence of technologies, and the sector's importance to economic growth and security and pervasiveness to the lives of all Americans. Issues include: broadband deployment; competition in wireless, wireline, and video markets; Internet network management; and content-oriented issues such as privacy, free speech, indecency and political broadcasting. The convergence of technologies challenges old regulatory constructs and institutions. The issues require NTIA to provide expertise and leadership to address existing and unexpected developments in the rapidly changing environment of telecommunications and information.

NTIA will remain at the forefront of other new technologies and the policy changes they will require, such as next generation broadband services. NTIA will continue to develop and advocate policies

that affect the Internet, wireless and wireline telecommunications competition, terrestrial and satellite video services, unlicensed devices, and future products and services important to the United States and its economy. It will also continue to promote minority ownership opportunities in telecommunications; provide staff support and expertise to White House offices and the Department of Commerce; respond to requests for technical and policy advice from the Congress, other Federal Government officials and from the private sector; and to provide staff support to the Commerce Spectrum Management Advisory Committee.

International Policies – The NTIA Organization Act as amended (47 U.S.C. §902(b)) also requires the Secretary of Commerce to assign the Assistant Secretary for Communication and Information and NTIA various responsibilities and functions regarding international telecommunications and information policy. These responsibilities and functions include the development of plans, policies, and programs relating to international telecommunications and information issues for use in conferences, negotiations, and other fora. The Secretary is also responsible for coordinating economic, technical, operational and related preparations for U.S. participation in international inter-governmental ICT organizations and negotiations. The Act requires NTIA to formulate telecommunications and information policy for participation and activities in international organizations such as the ITU, CITEL, APEC, the OECD, ITSO, IMSO, and others. A July 1997 Presidential directive requires the Department of Commerce (DOC) to transition the management of the Internet DNS to the private sector, which is currently underway through a Joint Project Agreement between the DOC and ICANN. In June 2005, NTIA released U.S. Principles on the Internet's Domain Name and Addressing System that explain the continued importance of the U.S. Government's role and objectives in this area. In March 2008, NTIA released the results of a mid-term review of the current JPA articulating that while some progress has been made towards privatization more efforts were needed by ICANN to increase institutional confidence through implementing effective processes that will enable: long term stability; accountability; responsiveness; continued private sector leadership, stakeholder participation; increased contract compliance; and enhanced competition. NTIA will continue its efforts in the stewardship of the DNS including the management of certain contracts for the technical management of the .us and .edu top level domains as well as the IANA functions.

The Telecommunications Trade Act of 1988 sets forth policy goals for international telecommunications trade. NTIA assists in implementation of the Act through policy coordination with the International Trade Administration (ITA), USTR and other U.S. agencies by preparing for and participating in telecommunications consultations with selected countries, with such organizations as the World Trade Organization (WTO), and through bilateral and regional Free Trade Agreements (FTAs) where telecommunications and information regulatory policies are involved.

In FY 2011, NTIA will continue its wide-ranging activities to enhance the global strength of U.S. telecommunications and information interests.

NTIA will encourage bilateral, regional and multilateral adoption of policies that encourage open and competitive foreign markets, with transparent decision-making, while stimulating democratization, economic development, and promotion of U.S. national security telecommunications and information interests overseas. We will advance these objectives by advocating, monitoring and participating in the structural reform of international institutions such as the ITU, CITEL, OECD, APEC, IMSO and ITSO.

We will assist other parts of the Administration in development of specific trade negotiation language, for instance in the continuation of the Doha Round of Services negotiations at the World Trade Organization, and the annual telecommunications trade act reviews under Section 1377 of the Telecommunications Trade Act of 1988. We will assist the ITA, Treasury, State, Justice, and the FCC to review potential acquisitions of strategic, critical U.S. telecommunications assets under FCC regulations and the Exon-Florio review mechanism for Foreign Direct Investment (FDI) in the United States (CFIUS process). NTIA will work through bilateral, regional and international fora such as the

ITU, OECD, APEC, and CITEL to promote the rollout and uptake of broadband infrastructure, services, and equipment. We will work with USTR, other Commerce agencies (ITA, NIST, FCS), and State on policy approaches to telecommunications and information standards developments worldwide, especially in key emerging markets such as India and China and our North American partners (Canada and Mexico). These standards are emerging in influential new technologies in developing economies, such as NGNs, Advanced Wireless systems such as third and fourth Generation Wireless (3G/4G), RFID, and WiMAX. NTIA will continue to work with other agencies to develop implementation strategies for improved and continuous telecommunications and information development in key countries and regions (e.g., Africa, Central and Latin America, the Middle East), through such foreign assistance efforts as the Telecommunications Leadership Program, and the U.S. Telecommunications Training Institute. NTIA will also provide policy and technical guidance to the State Department in the IMSO and ITSO oversight processes, to ensure fair and competitive provisioning of fixed and mobile satellite services on a global basis, to protect lifeline telecommunications connectivity for developing nations, to protect Safety of Life at Sea (under the SOLAS treaty), and to implement provisions of the U.S. Maritime Transport Security Act of 2002 to ensure long-range tracking of vessels on the high seas.

NTIA will work to preserve key U.S. foreign policy goals in the telecommunications and information sector, in particular on the policy approaches to Internet Governance to counter the many opponents to the U.S. approach. We will continue to promote market driven approaches to telecommunications and information pricing issues, such as international settlement rates and proposals for Internet cost-sharing arrangements. We will work collaboratively with other countries and institutions to ensure the benefits of new technologies that bring increased connectivity, such as electronic numbering and unlicensed usage of advanced wireless technologies. We will continue to support the transition of management of the DNS to the private sector through ICANN and to advance public and private sector policies that promote the security and stability of the Internet and the DNS.

Exhibit 10

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Salaries and expenses
Subactivity: Spectrum management

Comparison by line item		2009 Actual		2010 Enacted		2011 Base		2011 Estimate		2011 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Spectrum management.....	Pos/BA	32	$6,120	32	$7,752	32	$8,144	32	$8,144	0	$0
	FTE/Obl.	31	7,005	32	8,291	32	8,144	32	8,144	0	
Direct Obligations.....	Pos/BA	32	6,120	32	7,752	32	8,144	32	8,144	0	0
	FTE/Obl.	31	7,005	32	8,291	32	8,144	32	8,144	0	

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
Spectrum Management
Justification of Program and Performance

Goal Statement

The goals of this program are to execute the spectrum management functions and activities assigned to NTIA under 47 U.S.C. 902 and 903; to develop, establish, and implement plans, policies, activities, capabilities and procedures to ensure that the U.S. spectrum policy, spectrum allocations and spectrum management capabilities and processes stay up with the needs of the federal agencies and the American public for access to the radio spectrum in the 21st century domestically and internationally; to ensure federal agencies use the radio spectrum efficiently and only occupy the spectrum as necessary to perform their missions; to plan for and enable performance of federal spectrum management functions during emergencies; to coordinate and register internationally planned Federal Government satellite networks and selected assignments for terrestrial systems; to work cooperatively with the Federal Communications Commission and the federal agencies in coordinating spectrum use; and to develop, implement and maintain the automated information technology capabilities necessary for performing these activities.

These activities fall within the Department of Commerce Strategic Goal 2 - Promote U.S. innovation and industrial competitiveness, Performance Goal/Objective 2.3: Advance global e-Commerce and enhanced telecommunications and information services. Within NTIA, they are carried out by the Office of Spectrum Management (OSM).

Base Program - Explanation and Justification

The subsequent paragraphs define the areas in which plans and necessary activities are defined which are designed to execute the NTIA's statutory responsibilities under 47 U.S.C 902 and 903.

Interdepartment Radio Advisory Committee (IRAC) Support

NTIA will continue to maintain and update the NTIA Manual of Regulations & Procedures for Federal Radio Frequency Management governing the Federal spectrum, and provide the management and administrative support to the Interdepartment Radio Advisory Committee, the executive branch interagency advisory body for federal spectrum management. The IRAC is composed of the representatives of 19 Federal agencies and an FCC liaison. Through the Space Systems, Spectrum Planning, Technical, Radiocommunication Conference, Emergency Planning and Frequency Assignment Subcommittees as well as numerous ad hoc groups, the IRAC advises NTIA on spectrum policy and procedural matters, develops Federal positions on international radio treaty conferences, and provides recommendations for conflict resolution. NTIA chairs and provides secretariat support and maintains the archive of all documents for the committee.

Domestic Spectrum Policy

In coordination with the IRAC, NTIA develops and implements policies regarding spectrum use by the federal agencies. At the same time, NTIA develops executive branch views and inputs on FCC decisions that may impact federal operations.

When necessary, NTIA convenes the Policy and Plans Steering Group (PPSG), a body of senior level representatives of federal agencies whose missions require significant use of the radio frequency spectrum resource. The PPSG deals with particularly contentious or difficult issues or issues of a long term or strategic nature. NTIA provides management and administrative support to this body.

The Office of Spectrum Management Domestic Policy Division conducts spectrum training courses and seminars for U.S. and foreign spectrum managers. The Division coordinates these courses, drawing upon experts from other divisions of OSM as well as various federal agencies and the private sector. The Division also develops and provides to the public information, on the web or in print, describing federal spectrum management and use.

NTIA, in coordination with the DOC Office of Security, maintains a security program that adheres to HSPD–12. The security program: initiates and processes requests for background investigations for applicants and current NTIA personnel; forwards up-to-date national security information to supervisors and employees in their organization; assists a senior facility manager in coordinating a physical security risk assessment of his facility; assists the head of the organization in ensuring that all persons with security clearances receive an annual refresher security briefing; requests assistance from the office of security in a security matter; certifies NTIA/OSM personnel security clearances for a visit to another agency or facility and validates security clearance notifications for non-NTIA personnel to engage in an NTIA/OSM sponsored meeting or event; and makes arrangements for security training to all OSM personnel.

International Spectrum Plans and Policies

NTIA, via the OSM International Spectrum Plans and Policies Division (ISPPD), provides leadership and participates with the State Department, FCC, Federal agencies, commercial industry, and private sector interests in preparing for diverse international radio treaty conferences, negotiations and forums on spectrum management, allocations, technical standards and regulation. Specifically, NTIA coordinates and develops the Federal Government's contributions to the U.S. proposals for these treaty conferences and forums and helps prepare the preliminary and final U.S. positions. In many cases, NTIA representatives chair the national preparatory groups for these forums. Also, these representatives are often called upon to chair or organize activities at an international level on behalf of the ITU. NTIA analyzes the known intentions and positions of other nations to determine whether U.S. counter-proposals are necessary. NTIA also participates in bilateral/multilateral negotiations and provides personnel and technical support for the U.S. delegations to radio treaty conferences and other ITU and regional administrative, policy and technical forums. In addition, NTIA works toward building confidence worldwide in U.S. spectrum planning techniques to win support for U.S. positions in negotiations and forums. After each World Radiocommunication Conference, ISPPD leads efforts to develop and propose a plan to implement the results of the completed conference.

Strategic Planning

NTIA, via OSM's Strategic Planning Division (SPD) develops the Federal Strategic Spectrum Plan and prepares a comprehensive strategy to carry out spectrum management improvements to meet long range goals and objectives for Federal Spectrum Management, and develops the spectrum management architecture for the future and an overarching roadmap that will lead to improved means to assuring spectrum access and efficient and effective spectrum use across the Federal Government. The Division will : (1) investigate the means to gather, maintain and update accurate information relating to current and future spectrum requirements, including collaborating and coordinating effectively among the various Federal agencies to obtain the necessary results to collectively execute the means in a unified approach; (2) develop a future architecture designed to

incrementally improve Federal spectrum management and use; (3) investigate advanced technologies and concepts for the management of the spectrum that hold the potential for increasing the efficiency of spectrum use; and (4) assessing the continued effectiveness of spectrum allocations in light of changes in planned spectrum usage.

Emergency Preparedness and Public Safety

In recognition of the importance of public safety services to the American public and the importance of spectrum to these activities, NTIA provides the necessary leadership, technical expertise, applied research, policy guidance, and spectrum management support for the successful coordination of national public safety requirements, goals and objectives both within the Federal Government and state and local entities in coordination with the Department of Homeland Security and the FCC. NTIA will address and support the needs of: (1) Project SAFECOM; (2) a follow-on program (National Public Safety Telecommunications Council) to the Public Safety Wireless Advisory Committee (PSWAC) to further address PSWAC recommendations including satisfying future spectrum needs; (3) interoperability between Federal, state and local emergency entities; (4) national and international public safety standards; (5) new technology evaluation and testing; and (6) funding assistance for state and local agencies to adopt new technology (as per the DTV Act, P.L. 109-171). Consideration also will be given to shared and joint use plans, use of standard radio systems, and coordination processes with all Federal agencies.

NTIA will address and implement the new requirements of National Communications System (NCS) Directive 3-10 to provide the required continuity communications capabilities at both the NTIA primary and alternate operating facilities. NTIA also will maintain a viable COOP capability by: (1) enhancing the capabilities of the NTIA COOP Alternate Operating Facilities, (2) conducting COOP/COG tests, training, and exercises for NTIA and IRAC personnel to include annual national exercises, and (3) supporting the National Response Framework (NRF) and upon activation of ESF #2 by DHS deploy (as needed) in support of the coordinated Federal response effort to provide Federal spectrum management services at the Joint Field Office or other designated facility.

NTIA will also serve in the capacity as the executive committee member to the Emergency Communications Preparedness Center. The Division will support the Assistant Secretary in that capacity while also serving as the working/focus group member for the Department.

Spectrum Services

NTIA, via the OSM Spectrum Services Division, reviews, processes, and authorizes federal radio frequency assignments. NTIA also reviews each frequency assignment action to determine the degree of compliance with authorized use and will continue its reviews of Federal frequency assignments to evaluate the validity of current needs. This frequency assignment responsibility involves chairing the IRAC Frequency Assignment Subcommittee (FAS) as well as directing the subcommittee's activities and providing its administrative support. The assignment responsibility also involves ensuring that the spectrum needs of certain federal agencies not represented on the IRAC and the spectrum access requirements of the United Nations and foreign embassies in the United States are satisfied. NTIA maintains and updates files and records for radio spectrum management. The computerized files include: the Government Master File of Frequency Assignments (GMF); portions of the FCC frequency records necessary for use in federal spectrum management, especially the management of frequency bands allocated for shared federal/non-federal use; frequency allocation records; terrain elevation data; and Federal systems characteristics data used to support the processing of requests for spectrum certification. NTIA also coordinates federal spectrum requirements with Canada and Mexico.

The Division also reviews proposed Federal radiocommunication systems to determine compliance with applicable Federal regulations and policies and to evaluate such systems for compatibility with

other present and planned spectrum-dependent systems, providing guidance concerning frequency bands, design parameters, and appropriate operating constraints necessary to mitigate harmful interference and ensure effective use of available spectrum resources. NTIA, in accordance with the advice of the IRAC Spectrum Planning Subcommittee (SPS), approves or withholds certification of spectrum support for the system or, alternatively, indicates what adjustments to the system are needed to enable the certification to be approved. The spectrum certification responsibility involves chairing the SPS and directing the subcommittee's activities. NTIA performs certification reviews at the conceptual, experimental, developmental, and operational stages of a given system's procurement cycle, as required by OMB Circular A-11.

Spectrum Engineering and Analysis

NTIA, via the OSM Spectrum Engineering and Analysis Division, conducts in-depth analyses of spectrum use, technically reviews new Federal radiocommunication systems, including space systems; assists Federal agencies in resolving operational problems; provides technical engineering/policy analysis support for international radio treaty conferences; and establishes and improves Federal standards to assure efficient use of the spectrum. The in-depth studies evaluate the effect of existing and planned radiocommunication systems on the radio frequency spectrum and provide technical engineering support for domestic and international policy development and long range planning. These technical/policy analyses fall into two categories, the first focusing on the selected portions of the radio frequency spectrum and the second focusing on particular types of uses of the spectrum. Both types of studies examine present and planned equipment usage to determine if the spectrum is efficiently and effectively used, the potential for compatible sharing of federal radio services, and the effects of proposed and planned national and international allocation changes on the ability of Federal agencies to complete their mandated missions. NTIA also investigates the possibility of increased sharing of spectrum resources between federal and non-federal radiocommunication systems in order to increase the efficient use of the spectrum within the United States. Results from field and laboratory measurements aid in the evaluation of frequency utilization, policy compliance, new technologies, and radio frequency interference.

The Division resolves operational conflicts that arise between Federal agencies regarding the use of the spectrum and coordinate the process of meeting spectrum requirements that cannot be satisfied within existing policies and procedures. These operational problems come to light through NTIA studies or concerns from other agencies. Solving such problems demands analyses of the effects that proposed changes in frequency assignments, operational procedures, or equipment will have on the electromagnetic environment as well as consideration of the various tradeoffs between technical and operational factors. In support of international spectrum management, NTIA provides engineering analyses on technical issues necessary to support U.S. participation in and preparation for international conferences and meetings.

National and international radio regulations ensure that various radio services can operate compatibly in the same environment without unacceptable levels of radio interference. These regulations focus primarily on radio systems using the same allocated bands. Recent years have seen a dramatic increase in the number of problems and spectrum issues involving adjacent band interference *(i.e.*, interference from a transmitter operating in one band to a receiver operating in an adjacent allocated band). In the national and international marketplace, adjacent band problems surface as the search goes on to identify spectrum for an ever-expanding number of new and innovative radio-based telecommunication services continues. Billions of dollars of investment depend on the availability of spectrum and the resolution of in-band and adjacent band interference concerns through proper coordination or by effective equipment designs through the use of technologies. Within this environment, addressing the adjacent band interference problem has become a significant issue. The effects of adjacent band emission from transmitters and the characteristics of the adjacent band receiving equipment and its interference susceptibility to unwanted signals creates a particularly challenging problem because the FCC has not traditionally applied standards to receivers and cost factors have led to interference prone designs. NTIA has

undertaken a comprehensive examination of adjacent band and man-made interference, including technical and regulatory issues.

NTIA evaluates new technologies that can be used to increase the efficiency with which the federal and private sector use the radio spectrum, making more spectrum available for emerging technologies, develops new engineering analysis capabilities to improve spectrum efficiency in the federal frequency assignment process, uses advances in engineering modeling and information technology to improve existing federal spectrum certification and frequency assignment processes, and develops measurement techniques to assess innovative adaptive sharing techniques between federal and non-federal systems.

Information Technology

NTIA, via the OSM Information Technology Division, will continue its activities relative to Systems Development, Network Engineering & Operations, Customer Support Operations, Systems Support, Enterprise Architecture, Information Assurance and Project Management.

Systems Development -- NTIA will design, develop, and implement software and services that are necessary to optimize the spectrum authorization processes; optimize the Federal agencies' computer automated capabilities to manage their frequency spectrum assets; and provide the spectrum management community the optimal spectrum information (*e.g.*, Federal Spectrum Management System) that will enable the Federal agencies to manage their spectrum assets without interference and within the current rules and regulations. The goal is to ensure that Federal agencies have access to accurate spectrum management data, that Federal agencies have the information technology tools necessary to use that data to develop new assignment application requests or changes to existing authorizations that comply with Federal regulations and procedures for using the radio frequency spectrum, and that NTIA has the information technology required to effectively process agency requests for frequency assignment authorizations in a timely manner. NTIA will also develop and improve engineering and analysis models and tools to support spectrum engineering and analysis and the spectrum authorization processes; review its automated analytical capability to ensure the methods of problem solving are appropriate for new communications systems and for state-of-the-art changes in telecommunications technology; develop and enhance analytical computer programs that permit rapid computation of potential interference between existing and proposed communications systems. NTIA also supports design, development, and implementation of administrative/back office systems that support NTIA mission-specific functions including domestic and international telecommunications policy, financial management, human resources, and grants administration.

Network Engineering & Operations - NTIA will provide the information technology systems and services required for inter-office communications, processing frequency assignment requests, exchanging spectrum management information with Federal agencies using the radio-frequency spectrum, telecommunications grants administration, and providing the public with electronic access to spectrum management and telecommunications policy information. It will also maintain and enhance local area networks and use the Internet to support spectrum management activities (NTIA's unclassified local area network supports traditional office automation activities, such as e-mail and word processing. A classified local area network provides the NTIA staff with access to the computers that process frequency assignment actions and provides secure access to Federal spectrum managers via remote access servers and through the Secret Internet Protocol Router Network (SIPRNet). Internet servers provide spectrum management information on NTIA's World Wide Web pages. List-servers provide a means for electronic conferences); and provide the necessary coordination with and support of NTIA's Chief Information Officer (CIO) to implement guidance provided by the Department of Commerce CIO relative to information technology (IT). NTIA also serves as the Department of Commerce SIPRNet and Information Sharing Environment program office, providing a centralized, managed interconnection to the multiple systems at varying security levels.

Customer Support Operations – NTIA will provide the Bureau's information technology (IT) users a central point of contact for NTIA and Department of Commerce (DOC) provided services. It serves as liaison to DOC in securing telephone and other services supplied by the Department, as well as reporting and tracking of requests and anomalies. It coordinates user based support activities with NTIA IT support groups, allowing the user to have a single interface for problem reporting, status updates and resolution confirmation. It provides direct support of Desktop services of classified and unclassified systems.

Systems Support - NTIA will modify and maintain the production software and databases necessary to operate the spectrum authorization process; provide the Federal agencies the computer automated capability to manage their frequency spectrum assets; and provide the spectrum management community the necessary spectrum information which will enable the Federal agencies to manage their spectrum assets without interference and within the current rules and regulations. Additionally, as the new Federal Spectrum Management System is placed into production, provide the application, database, and end-user support necessary to ensure a smooth transition from the legacy system to the new system.

Enterprise Architecture - NTIA will provide the business strategy and operational transformation to support the information technology required for NTIA to manage the Federal Government's use of the radio frequency spectrum, formulate international information and communications policy, goals, and strategies; enhance the public interest by generating, articulating, and advocating creative and influential policies and programs in the telecommunications and information sectors; and to assist public and non-profit entities in effectively using telecommunications and information technologies to better provide public services and advance other national goals.

This will ensure that the business of NTIA supports the Government's goals for providing value to the public through citizen-centered, results-oriented, and market-based approaches. This is accomplished by providing a common framework for improvement in the following areas:

- Budget Allocation
- Information Sharing
- Performance Measurement
- Budget/Performance Integration
- Cross-Agency Collaboration
- E-Government
- Component-Based Architectures

These methodologies will be used for all Information Technology projects.

Enterprise Architecture (EA) will assure alignment of NTIA business processes with NTIA objectives by conducting a maturity assessment of NTIA's EA using as a guideline OMB's EA Assessment framework. A plan for improvement will be developed, if necessary.

EA assists with Capital Planning and purchasing by aligning the NTIA EA model with the following documents and processes:

- OMB Federal Enterprise Architecture (FEA) Model;
- Exhibit 300 Capital Asset Plans and Business Cases;
- NTIA IT Strategic Plan and OSM Acquisition Plan and budget planning process;
- Conducting a maturity assessment using the Commerce IT Capital Planning and Investment Control Maturity Model; and
- Processing IT related purchase requests ensuring all requests meet established guidelines, procedures, and architectural compliance.

Information Assurance - NTIA will provide compliance with applicable information technology laws and regulations regarding the security of information systems and communications security. In support of future system requirements, Information Assurance will design, develop, and implement the policies and procedures that will allow implementation of cross-domain security systems that protect national security information while simultaneously providing greater access to Federal spectrum managers and the public to spectrum management data. Information Assurance includes certification and accreditation of system; active monitoring of systems, networks, and applications to ensure compliance with security related parameters; maintenance of a computer incident response capability; and Federal Information Security Management Act (FISMA) reporting.

Project Management in which NTIA will plan, charter, and establish a Program Management Office (PMO) in order to standardize and more effectively manage NTIA IT projects, maximize returns on investment, provide better reporting to NTIA and DOC management, and ensure compliance with all OMB and GAO mandates and regulations regarding project planning and execution. The PMO will provide the leadership that will enable the Administration to manage its IT portfolio, programs, and projects utilizing sound project management methodologies based on industry best practices as presented in the Project Management Institute's Project Management Body of Knowledge Guide and The Standard for Program Management. NTIA established a PMO charter, scope statement, and management team; developed the PMO implementation plan; and partnered with an industry expert to establish the NTIA PMO organizational and mission constructs. Effective portfolio management is essential to achieving the mission and objectives of NTIA. The NTIA PMO will develop and implement portfolio management tools and processes to ensure that IT Project Managers conduct projects in a disciplined, well-managed, and consistent manner so that quality products are completed on time and within budget. The systematic process for portfolio management will ensure that project needs are prioritized and governed by importance to the Administration's mission rather than by urgency. NTIA will conduct impact analyses for projects within the portfolio, including project impacts resulting for schedule, manpower and resource changes. The NTIA PMO will partner with the NTIA Enterprise Architecture office in working with DOC procurement organizations to establish and subsequently assist in the management of IT procurements that are in response to NTIA's business needs. The NTIA PMO will develop and implement contract management processes and procedures in order to ensure that new IT procurements are planned and executed in a timely manner.

Information technology ensures compliance with applicable information technology laws and regulations regarding the operation, information assurance, including continuity of operations, communications security, emergency operations, and procurement of IT products and services. NTIA has established an Enterprises Architecture Council to ensure IT capital investments are made wisely and in coordination with all business processes. Information Technology also maintains an active Emergency Relocation Site to meet the National Security/Emergency Preparedness functions of the NTIA.

Statement of Operating Objectives

During FY11, NTIA's Office of Spectrum Management will:

- provide IRAC Support administrative services for the IRAC, its subcommittees, and ad hoc groups (benefits realized through the year);
- maintain the Manual of Regulations and Procedures for Federal Radio Frequency Management (benefits realized through the year);
- complete one USTTI course for foreign students and two courses on federal spectrum management (benefits realized at the completion of the courses);
- implement policies regarding spectrum use by the federal agencies and respond to FCC decisions that may impact federal operations (benefits realized through the year);
- review and improve international spectrum management policies, including U.S. processes for World Radiocommunication Conferences (WRCs), outreach efforts to foreign administrations, and

participation and representation in international fora addressing spectrum management policies (benefits realized leading up to the WRC in 2012);

- provide leadership and participate in ITU-R Study Activities affecting international treaty text, technical studies in preparation for WRCs, and development of regional positions (benefits realized at the WRC in 2012);
- review federal space systems for compliance with Federal and non-Federal radiocommunication systems, and participate in satellite coordination meetings with other administrations (benefits realized through the year);
- provide updated version to the Federal Strategic Spectrum Plan by 2nd quarter of FY11 (benefits being realized by 4th quarter of FY11 to improve transparency of Federal spectrum usage);
- establish a strategic planning and requirements process to identify and coordinate long-term plans and future spectrum requirements by the beginning of FY11 (benefits realized immediately for effective planning and policy development).
- execute a pilot program to evaluate spectrum requirements methodology by 2nd quarter of FY11 (benefits realized by 4th quarter of FY11 for validity of methodology);
- conduct a series of workshops to coordinate and refine the draft future Federal spectrum management architecture by 1st quarter of FY11 (benefits realized immediately to obtain Federal agency endorsement by 4th quarter of FY11);
- maintain a viable alternate COOP site and capability so that its Primary Mission Essential Function of spectrum management can continue to be performed should its primary site be inaccessible (benefits realized through the year);
- provide cognizant spectrum management liaison support to the National Response Framework, specifically Emergency Support Function 2, so that Federal requirements can be met in the event of a natural or man-made disaster (benefits realized through the year, but particularly during hurricane season);
- serve as the Department of Commerce representative to the Emergency Communications Preparedness Center so that emergency responders have the necessary tools to communicate with each other in the event of a disaster (benefits realized through the year);
- review and coordinate requests from federal agencies for frequency assignments in a thorough and timely manner (benefits realized through the year);
- review and process requests from federal agencies for certification of spectrum support in a thorough and timely manner (benefits realized through the year);
- improve the methods and procedures use to process requests for frequency authorizations and certification of spectrum support to ensure equitable and expeditious access to the radio spectrum resource (benefits realized through the year),
- complete the Spectrum Sharing Innovation Test-Bed Pilot Program, evaluating the ability of devices employing Dynamic Spectrum Access sharing techniques to compatibly operate with systems in the land mobile radio service frequency bands (benefits realized in the following years);
- complete the technical studies identifying changes to the federal regulations, procedures, and processes necessary to improve spectrum efficiency in the land mobile radio, fixed, and radiolocation service frequency bands (benefits realized through the year)
- implement the unclassified version of Federal Spectrum Management System (FSMS);
- migrate the NTIA Data Center to the HCHB Consolidated Server Area; and
- implement the electronic exchange of information between the OSM and National Archives and Records Administration (NARA).

Explanation and Justification

The subsequent paragraphs define the areas in which plans and necessary activities are defined to execute the NTIA's statutory responsibilities under 47 U.S.C 902 and 903 in Fiscal Year 2011.

Interdepartment Radio Advisory Committee (IRAC) Support

NTIA will:

- provide the necessary leadership and administrative support for the IRAC, its subcommittees, and ad hoc groups as the committee provides advice to NTIA on spectrum management, including coordination of spectrum use, review of spectrum plans, development of federal technical standards, emergency planning, satellite registration and coordination, international conference preparations, and development of coordination arrangements with Canada and Mexico;
- with the advice of the IRAC, coordinate with the FCC views on all technical and policy decisions under consideration by the FCC which may impact federal operations, and decisions under consideration by NTIA which may impact non-federal operations;
- develop and update the Federal Government rules and regulations necessary to manage the Federal Government's use of the spectrum including those governing the relationships between the FCC and the NTIA;
- provide public access to the IRAC and to releasable spectrum management information; and
- improve and upgrade the electronic archives of the IRAC and distribute it periodically to the NTIA staff and Federal agencies.

Domestic Spectrum Policies

NTIA will:

- provide leadership and support for the Policy and Plans Steering Group, an interagency advisory committee whose membership includes representatives from those Federal agencies whose missions require significant use of the radio frequency spectrum resource. The representation of the Federal agencies on this committee will be limited to individuals holding the rank equivalent to Assistant Secretary in their respective agencies; the role of this committee will be advisory and this committee will report to the Assistant Secretary of Commerce for Communications and Information. This forum will serve as a significant mechanism for resolving spectrum policy issues within the Executive Branch.
- plan and conduct spectrum training courses and seminars for U.S. and foreign spectrum managers;
- respond to queries from the private sector relative to the use of spectrum by the Federal Government;
- develop and disseminate via the web and printed materials information describing executive branch spectrum management and federal agency use of spectrum; and
- develop and implement policies regarding spectrum use by the federal agencies.

International Spectrum Plans and Policies

NTIA will:

- Coordinate, develop, and present the Federal Government's contribution to U.S. proposals and positions for international fora where radio frequency spectrum management issues are addressed such as the ITU World and Regional Radiocommunication Conferences, ITU Plenipotentiary Conferences, ITU Council, ITU Standards Conferences, the ITU Development Conferences and the OAS CITEL;
- Analyze other administration's proposals to determine the impact on U.S. spectrum requirements:
- Develop and implement a plan for ongoing outreach strategies to facilitate gaining international support for U.S. positions;
- Lead or participate in and contribute to ITU-R study groups and other international telecommunication regulatory fora;
- Participate in and contribute to other international fora dealing with radio spectrum issues

such the NATO Joint Civil/Military Committees, the International Civil Aviation Organization and the International Maritime Organization.

- Chair the IRAC Radio Conference Subcommittee (RCS) and through this forum coordinate Federal Government positions and proposals to be submitted to international fora involved in spectrum management matters;
- Consult with foreign countries on reforming their spectrum management processes to use the spectrum more efficiently and effectively;
- Lead and participate in bilateral and multilateral meetings on spectrum management issues with foreign administrations including bi-lateral frequency coordination agreements with Mexico and Canada;
- Implement the results of international radio treaty conferences by recommending changes to U.S. domestic rules;
- Chair the IRAC ad hoc group on WRC Implementation;
- Provide leadership on spectrum-related issues that come before the ITU Council and Plenipotentiary Conference;
- Review Federal space systems for compliance with national requirements, coordinate with other Federal and non-Federal radiocommunication systems, and participate in satellite coordination meetings with other administrations;
- Chair the IRAC Space Systems Subcommittee;
- Coordinate non-Federal space systems with Federal radiocommunication systems;
- Develop spectrum policies relative to satellite operation, national and international coordination, notification, and advanced publication;
- Negotiate satellite coordination agreements with foreign countries relative to either Federal Government satellite operations or foreign government satellite operations;
- Coordinate with the FCC on both domestic satellite systems and Federal Government systems. Provide recommendations on FCC rulemakings on space allocations and rules and regulations;
- Provide comments to the FCC on rulemakings concerning international activities;
- Provide support and technical analysis in cooperation with other Department offices to promote U.S. product sales to other countries;
- Initiate and conduct scientific and technical cooperation in the field of telecommunications and spectrum management with specific foreign countries in accordance with U.S. foreign and international trade policy objectives;
- Identify regulatory and procedural barriers to the timely and global implementation of United States innovations in radiocommunications technologies and services and recommend methods to remove those barriers;
- Participate in and contribute to Federal strategic spectrum planning on emerging technologies such as dynamic spectrum access, and incorporate domestic activities in international planning; and
- Lead and participate in international spectrum management training activities including support for the U.S. Telecommunications Training Institute (USTTI).

Strategic Planning

NTIA will:

- Develop, coordinate, and execute an integrated program that responds to the basic tenets of the SPI for the 21st Century;
- Promote and bring awareness to the outcomes of the SPI to include the planned strategic elements identified in item (6) above;
- Develop long range goals for Federal Spectrum Management that will include the development of a spectrum management architecture for the future and coordinate among affected stakeholders;
- Assist the Federal agencies in maintaining and updating their agency-specific spectrum

plans defining current and future spectrum requirements; to include the identification of those spectrum efficiency enhancing technologies under consideration;

- Develop a methodology and provide an implementation for a NTIA capability to electronically compile, store, update, and analyze current and future spectrum requirements for all the Federal agencies that will include how, where and when it is intended to be used;
- Maintain and update the Federal Strategic Spectrum Plan, biennially, and coordinate the Plan with appropriate Federal agencies;
- Assist the Federal agencies and the Office of Management and Budget with incorporating the consideration of spectrum-related requirements within the capital planning process;
- In coordination with the FCC, assist in the development and updating of a National Strategic Spectrum Plan to include appropriate coordination with affected Federal agencies and other executive components;
- Assist NTIA's Office of Policy and Development in formulating, revising and advocating plans and policies that provide both market and non-market based incentives for Federal agencies to implement spectrum efficient concepts and technologies in their respective acquisitions of mission-related systems;
- Investigate and develop a future Federal spectrum management architecture that considers advanced and spectrum efficient concepts to improve the effectiveness and efficiency of spectrum use by the Federal agencies thereby increasing the spectrum availability in fulfilling the national interest for national security, public safety and economic opportunities; and
- Provide monitoring of and annual reporting on the progress achieved toward the satisfaction of the United States Spectrum Policy for the 21st Century: this, in coordination with the Federal agencies, and other relevant components of the Executive branch.

Emergency Planning and Public Safety

NTIA will:

- Develop Public Safety Telecommunications Policy consistent with Administration goals;
- Provide leadership, liaison, and guidance for the integration of National Public Safety telecommunications systems, ensuring inter-operability among Federal, state, and local public safety agencies; provide for the spectrum needs of these integrated systems,
- Provide the necessary leadership, technical expertise, applied research, policy guidance, and spectrum management support for the successful coordination of national public safety requirements, goals and objectives both within the Federal Government and the state and local entities in coordination with the FCC;
- Identify current and future technology which could enhance interoperability;
- Develop security/emergency preparedness and long-range plans for use of the spectrum;
- Develop procedures and incorporate them in the planning process for a timely and orderly transition from normal to emergency modes;
- Participate with other Federal agencies in communications emergency readiness planning and implementation;
- Formulate and advocate plans and policies necessary to the development of strategies to improve and restore U.S. telecommunications resources;
- develop and modify spectrum policies and procedures for crisis-related situations under the National Response Framework, specifically Emergency Support Function 2;
- provide emergency readiness planning for the Federal use of the radio frequency spectrum;
- identify and provide solutions to issues and deficiencies in the national security/emergency preparedness communications planning process in support of the National Communications System (NCS);
- Serve as the Department's working group and focus group representative for the Emergency Communications Preparedness Center; and
- Maintain a viable NTIA continuity of operations (COOP) capability.

Spectrum Services

NTIA will**:**

- Process Federal agencies requests for frequency assignment authorizations and actions;
- Provide Federal agencies with accurate spectrum management data;
- Assist non-IRAC agencies in identifying spectrum to meet their radiocommunications needs;
- Resolve conflicting requirements concerning Federal agencies' use of the spectrum;
- Evaluate proposed Federal radiocommunications systems for certification for spectrum support in accordance with OMB Circular A-11;
- Identify and implement the information technology capabilities required to satisfy the needs of the Federal agencies for computer automated tools to assist in the preparation of frequency authorization and spectrum certification requests, the determination of compliance with rules and regulations, and the prediction and mitigation of interference;
- Participate in the negotiation of spectrum coordination agreements and spectrum sharing protocols with Mexico and Canada;
- Coordinate requests for radio frequency assignments in the US/Canadian border area in order to ensure interference-free operations to both the US and Canada;
- Coordinate FCC requests for Special Temporary Authorizations from the private sector when such requests use spectrum that is allocated for Federal use on a primary or shared Federal/non-Federal basis; and
- Chair the IRAC Frequency Assignment and Spectrum Planning Subcommittees (FAS and SPS) and through these forums, coordinate the processing of requests by the Federal agencies for frequency assignment and spectrum certification actions.

Spectrum Engineering and Analysis

NTIA will:

- Assess the present and projected Federal use of the spectrum by conducting studies of spectrum use, concentrating on bands and services involving: upcoming international radiocommunication conferences, federal and non-federal sharing, and those areas where significant improvements in utilization appear possible;
- Resolve spectrum sharing problems concerning conflicts between Federal agencies or between Federal and non-Federal spectrum users, and identify any changes to existing spectrum policies and procedures that could minimize such problems in the future;
- Provide technical engineering support to the IRAC and its subcommittees, especially in the area of spectrum standards, FCC proposed rulemaking, improved frequency coordination procedures, and resolving reported interference cases;
- Undertake a comprehensive examination of adjacent band interference, including technical and regulatory issues, and make appropriate recommendations;
- Evaluate new technologies, applicable to various radio services and frequency bands, to determine their potential spectrum efficiency and usefulness for Government applications;
- Develop plans for intra-service and inter-service sharing in selected bands;
- Define new or improved automated techniques for the study of spectrum sharing, interference prediction, and frequency coordination;
- Plan and coordinate spectrum measurements in selected frequency bands to support ongoing studies involving spectrum sharing, radio interference, spectrum standards, spectrum policy development, frequency coordination, and/or spectrum efficiency;
- Provide technical support in performing research and development of automated spectrum engineering and analysis capabilities;
- Provide technical engineering and policy analysis support in preparation for and participation in international radiocommunication conferences and in development of domestic spectrum policy and long-range planning; and

- Chair the IRAC Technical Subcommittee (TSC) and through this forum, coordinate and develop spectrum standards that apply to all Federal systems.

Information Technology

NTIA, via OSM's Information Technology Division (ITD), provides support to the spectrum management, grants administration, and domestic and international policy development mission areas as well as, back-office administrative support. As such, the Chief, ITD also serves as the NTIA Chief Information Officer (CIO).

Under the CIO functions, NTIA will: (1) continue to provide the information technology management and oversight activities required by the Clinger-Cohen Act; (2) continue to participate in the Infrastructure Optimization Initiative and other OMB initiatives by aligning common resources and services within the Department of Commerce; (3) develop and implement standardized processes to ensure alignment of NTIA business processes through centralized IT investment, architectural planning and project management methodologies; (4) support the requirements of National Communications System Directive 3-10 through the implementation of crisis management systems that ensure the business continuity of all NTIA mission areas; (5) continue to serve as the Department's Executive Agent for management, operation, and maintenance of the Department's national security systems infrastructure; (6) continue to support the activities of the Information Sharing Environment; (7) continue to support the activities of the National Cyber Response Coordinating Group; and (7) continue to provide support for various standing and ad hoc committees affecting cyber security and national security systems.

NTIA will:

- Provide the information technology systems required for inter-office and back-office communications in support of administrative systems;
- Provide creation and maintenance of NTIA Internet and Intranet web site pages, software, hardware, and network connectivity; and
- Develop, modify, implement, and maintain software that is necessary to operate and administer NTIA grant-making activities.

Under the ITD functions, NTIA will: (1) continue to maintain and update existing computer software used for processing assignments, databases, and interference calculations; (2) continue to design or implement new software packages to further improve assignment data processing and analytical engineering evaluation; (3) develop new automated systems to improve access to spectrum management information; (4) plan for upgrading the spectrum management frequency assignment and system review processes; (5) plan, upgrade and improve the computer automated software tools (*e.g.*, Federal Spectrum Management System) provided to the Federal agencies to assist them in: (a) making more efficient and effective use of the spectrum, (b) preparing frequency assignment and spectrum certification applications, (c) developing spectrum related policies and procedures and (d) resolving interference problems; (6) prepare and implement plans to improve the efficiency and effectiveness of the Federal Government's spectrum management process using advanced information technology techniques and business re-engineering; and (7) plan, upgrade and implement new methods of providing secure and non-secure access to Federal spectrum management data by NTIA staff, Federal spectrum managements, the telecommunications industry, and the general public.

NTIA will:

- Provide the information technology systems required for inter-office communications, processing frequency assignment requests, exchanging spectrum management information with Federal agencies using the radio-frequency spectrum, and providing the public with

electronic access to spectrum management information;

- Develop and improve engineering and analysis models and tools to support spectrum engineering and analysis and the spectrum authorization processes;
- Develop, modify and implement software that is necessary to operate the spectrum authorization processes, to provide the Federal agencies the computer automated capability to manage their frequency spectrum assets, and to provide the spectrum management community the necessary spectrum information that will enable the Federal agencies to manage their spectrum assets without interference and within the current rules and regulations;
- Develop plans to implement computer automated software tools to assist the Federal agencies in: (1) preparing their requests for frequency authorization and spectrum certification; (2) insuring that requests for spectrum are interference free and comply with NTIA's rules and regulations; (3) coordinating spectrum requests of other agencies; (4) ensuring that their use of the spectrum is efficient and effective; (5) managing their frequency assignment assets; and (6) resolving interference problems;
- Implement the FY 2003 Paperless initiative that will: (1) enhance technology development and commercialization by improving the use of spectrum through increased sharing and spectrum efficiency; (2) provide a more rapid method for the Federal agencies to obtain spectrum to operate their radiocommunications; and (3) provide a method for the radiocommunication manufacturers to ensure that their systems meet Federal spectrum standards; and (4) provide the Federal agencies a means to obtain technical information on radiocommunications for planning spectrum use in the future; Develop, and implement automated workflow processes and the electronic exchange of information between the OSM and National Archives and Records Administration (NARA) for the purpose of archiving OSM federal records; and
- Develop and implement standardized processes to ensure alignment of spectrum management systems with the Federal IT Enterprise Architecture Models, Capital Planning and Investment Control guidelines, IT security regulations and best practices.

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Salaries and expenses
Subactivity: Telecommunication sciences research

Comparison by line item		2009 Actual		2010 Enacted		2011 Base		2011 Estimate		2011 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Telecommunication sciences research.....	Pos/BA	45	$6,747	45	$7,140	45	$7,266	49	$8,316	4	$1,050
	FTE/Obl.	43	6,562	45	7,486	45	7,266	48	8,316	3	
Direct Obligations.....	Pos/BA	45	6,747	45	7,140	45	7,266	49	8,316	4	1,050
	FTE/Obl.	43	6,562	45	7,486	45	7,266	48	8,316	3	

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
Telecommunication Sciences Research
Justification of Program and Performance

Goal Statement

Through telecommunications research and engineering, NTIA supports Administration telecommunications goals, such as enhanced domestic competition, advanced services and new technology deployment, improved foreign trade opportunities for U.S. telecommunication firms, and more efficient use of the radio frequency spectrum. These activities fall within the Department of Commerce Strategic Goal 2 - Promote U.S. innovation and industrial competitiveness, Performance Goal/Objective 2.3: Advance global e-Commerce and enhanced telecommunications and information services. Specifically, the objectives of the Telecommunication Sciences Research activity are to:

- Continue applied engineering and measurement work that is essential to effective NTIA and FCC management of the radio frequency spectrum, the efficient implementation and electromagnetic compatibility of advanced wireless, public safety, broadcasting, and satellite communications technologies, and the development and effective use of emerging technologies, such as dynamic spectrum access, ultrawideband, dynamic frequency selection, digital television, land mobile radio communications, RFID, WiMAX, LTE, and software-defined radio systems.

- Provide timely technical advice to support the mandate of NTIA to develop and promulgate executive branch policies addressing domestic and international telecommunications and information issues. Provide support through leadership and participation in standards organizations both international and national.

- Promote timely, effective application of NTIA's research and engineering results to U.S. industry through technology transfer and commercialization activities.

- Accomplish research and engineering to promote technology advancement and the efficient delivery of public services, enabling private industry, other Federal agencies, and state and local governments to meet their specific telecommunications needs in the areas of applied radio science, public safety communications, and next-generation networks (NGN).

- Organize and coordinate preparations for U.S. participation in international telecommunications conferences, standards development organizations, and negotiations in cooperation with other interested U.S. government agencies and industry groups.

- Develop and present public interest and user-oriented technical contributions to national and international standards organizations addressing quality of service (QOS), communication network resource management, and other topics critical to the development and implementation of advanced IP-based networks, optical transport networks, NGNs, and supporting broadband infrastructures.

Statement of Operating Objectives

FY 2011 operating objectives for the Telecommunication Sciences Research activity are summarized by program area below.

Characterization of the Radio Environment: Advance the current state of knowledge, including the impact of radio frequency noise and interference on radio systems. Develop analysis techniques that may be used to describe the radio environment.

Radio Spectrum Measurement and Analysis: Provide measurements of environmental radio signals assessing levels and types of spectrum occupancy, and technical support to help resolve selected spectrum management problems and interference issues. Perform engineering analyses to characterize telecommunications systems and apply radio/wireless propagation models to help maximize performance of systems and to ensure interference-free sharing of bands.

Propagation Model Development: Conduct radio propagation measurements and analyses in support of the development and validation of improved radio propagation models across various frequencies and environments. Share these models with industry, other agencies, and national and international standard bodies.

Broadband Radio: Study and characterize the broadband transmission channel for within-building and campus-wide wireless local area networks and ultrawideband communications. Develop models and radio link simulators.

Interoperability of Public Safety Communication Systems: Develop standards, technologies, and test methods to ensure interoperability of land mobile radio and broadband systems used by public safety and justice communities. Develop information technology standards that public safety can adopt to ensure interoperability for information sharing.

Land Mobile Radio Service Analysis: Provide analysis methods to evaluate new wireless communication systems and to ensure compatible operation between systems to be used by public safety, public service, and land transportation agencies.

Domestic and International Standards: In cooperation with the U.S. ITU National Committees, continue leadership of committees in ITU-T and ITU-R Study Groups developing technical standards of importance to U.S. industry and Government (e.g., NGNs, switched optical networks, IMS and other advanced signaling systems, integrated broadband cable networks, and radar systems). Submit ITU recommendations on emerging mobile radio technologies, broadband network performance (e.g., NGN QOS), radio propagation prediction, multimedia quality of service, and radar systems, and coordinate their formal review and approval. Develop and coordinate approval of related U.S. voluntary consensus standards where appropriate.

Performance Assessment: Demonstrate NTIA-developed, perception-based audio and video performance assessment tools for critical new areas including Internet multimedia conferencing, advanced television, and wireless services. Document the advances associated with these tools in open-literature publications. Encourage technology transfer to Government, industrial, academic, and individual users via NTIA-developed, easy-to-use, portable software toolkit.

Wireless Networks: Perform interoperability and quality assessments of representative wireless network technologies. Spearhead standards committee activities and provide engineering analysis and simulation results defining quantitative limits for adjacent and co-frequency block interference within and among advanced wireless communications technologies.

E-Government Research and Engineering: Support agencies and industry in the evaluation and development of cutting edge E-government tools aimed at improving government services, expanding internet access, and promoting technology transfer opportunities.

Base Program

Explanation and Justification

Through the Telecommunication Sciences Research activity, NTIA performs state-of-the-art telecommunications research and engineering to further the knowledge of the radio frequency spectrum and to improve wireless telecommunications system planning, design, and evaluation. These efforts strengthen coordination with the FCC on the use of the non-Federal portion of the spectrum. This technical research also improves fundamental understanding of radio-wave transmission, wireless communications technologies, and networking systems, thereby enhancing spectrum utilization and the performance of advanced wireless systems. These efforts directly support industry and Government needs, and directly address NTIA requirements to manage Federal use of the radio spectrum. Important results of this research include spectrum use and interference mitigation strategies, models, and measurements that lead to more efficient industry and Government use of the radio frequency spectrum, improved radio-wave propagation and wireless communication techniques to enhance spectrum efficiency, and better methods to describe the performance of both conventional radio and emerging wireless systems. This knowledge base is essential to support the Government's spectrum management responsibilities and for technical support to other Federal agencies and industry. These research and engineering efforts will result in an improved U.S. telecommunications technology base and a strong technical foundation for telecommunication standards development in national and international arenas.

As a result of these activities, NTIA has established a core telecommunications research expertise that is accessible to both the public and private sectors. Through cooperative research and development agreements (CRADAs) with industry and reimbursable agreements with other Federal agencies, NTIA applies its expertise to some of the most important practical problems in telecommunications today. For example, both the private sector and other government agencies have direct access, at cost, to an on-line radio-wave propagation model. Direct-funded NTIA programs and other agency-sponsored research activities interact in a synergistic manner, leading to greater contributions to national goals and the spectrum management role of the Government.

In support of NTIA’s mandate to oversee the usage of the radio spectrum by Federal agencies, NTIA maintains a comprehensive capability to measure spectrum use. NTIA's Radio Spectrum Measurement Science (RSMS) program uses the most modern test equipment to measure and record signals between 10 kHz and 26 GHz. A transportable radiofrequency shielded enclosure isolates the equipment from strong external signals to ensure the integrity of the measurements. NTIA uses this system to perform measurements at selected sites, to make specialized measurements necessary to ensure compliance with frequency assignment rules and regulations or to investigate the efficacy of new proposed rules and regulations. NTIA conducts measurements of spectrum usage, efficiency and channel occupancy in selected bands and summarizes the results in support of specific Inter-department Radio Advisory Committee (IRAC) concerns. The RSMS program also analyzes and resolves difficult or unusual interference problems where a Government system is thought to be involved. This often saves costs to Federal agencies and the private sector. NTIA also assists various Department of Defense agencies and Department of Commerce agencies in efficiently operating their own radio spectrum measurement programs through technical consultations, and modification, design, and construction of new radio spectrum and propagation measurement systems. This work draws on expertise developed for the RSMS program, but also provides an opportunity to investigate advanced measurement methods for use in the system itself.

As new wireless technologies emerge, NTIA must strengthen its efforts to develop improved software and measurement techniques to support increasingly sophisticated uses of the spectrum, including spread-spectrum, ultrawideband, and frequency-agile systems, i.e. Dynamic Frequency Selection or Dynamic Spectrum Access. NTIA performs spectrum engineering analyses to assess current and future Federal use of the spectrum and determine where significant improvements in utilization appear possible. NTIA is

currently assessing emerging spectrum requirements for public safety and law enforcement in coordination with the Public Safety Wireless Communications Program, and a number of different Federal departments and programs that have a keen interest in public safety interoperability. NTIA is also evaluating the Federal Government's use of its spectrum to promote more efficient and economic spectrum use. In FY 2011, NTIA will continue to support essential spectrum utilization analyses, including the impact of new frequency-agile, software defined Dynamic Spectrum Access radio technologies. NTIA develops the measurement procedures needed to characterize these new signals and perform the increasingly complex system compatibility analyses to assess, for example, the effects such technologies may have on incumbent systems. Technical support will be continued for major frequency management concerns through representation at technical subcommittee (IRAC) meetings with principal emphasis on improving Federal spectrum efficiency.

Global trends are moving toward providing diverse services, such as audio, video, data, broadcasting, and common carrier services through a converged system of wireline and wireless networks. Radio science has an important role in portable and mobile communications, and will play an increasingly important role in connecting the end user to the information infrastructure and in providing personal communication services. Another trend becoming evident as technology advances is that of radio systems utilizing higher frequencies. Some radio systems are already moving into the millimeter-wave band, located at the upper end of the allocated radio spectrum (30-300 GHz). NTIA is a key developer of radio propagation models in support of spectrum policy and management. NTIA is also involved in efforts to allow different types of users to share spectrum.

NTIA continues to provide support to the development and deployment of various wireless technologies such as dynamic spectrum access (DSA) technologies which have been proposed as interference-free secondary users in Land Mobile Radio bands. Knowledge from measurements and modeling DSA technologies are crucial in determining the feasibility of interference-free, commercially viable systems. NTIA is developing models to predict the performance of radio systems operating over short paths using detailed geographic information systems (GIS). NTIA is also operating an advanced antenna test bed for evaluation and comparison of the performance and spectral efficiency of adaptive antennas. Adaptive antennas have the capability to dynamically increase the number of users in a limited bandwidth, such as in Commercial Mobile Radio Services (CMRS) applications.

NTIA supports private industry in their wireless technology development efforts through technology transfer under a Cooperative Research and Development Agreements (CRADAs). Under a CRADA, NTIA is able to collaborate with a variety of companies, state agencies, and non-profit organizations on research projects where technology and knowledge are transferred from the government to commercial organizations and academia resulting in new or improved technologies. CRADAs also create opportunities for government, industry, and academia to jointly publish scientific information.

NTIA provides telecommunications engineering support to improve public safety communications interoperability through the Public Safety Communications Research program on behalf of a multiagency effort that includes the NIST Office of Law Enforcement Standards (OLES), the DHS Office for Interoperability and Compatibility (OIC), the DOJ Office of Community Oriented Policing Services (COPS), and the DHS' Office of Emergency Communications (OEC) Federal Partnership for Interoperable Communications (FPIC). In general, the broad based interoperability effort addresses four key areas: (1) development of qualitative and quantitative public safety communication and information sharing requirements that are accepted nationally by the public safety community and industry; (2) identification and development of interface standards that satisfy defined user requirements through leadership and direct technical contribution to national and international standards bodies focused on public safety communications; (3) research, development, test and evaluation of concepts, products, and services for long-term interoperability solutions as well as interim improvements; and (4) research and development to accommodate technical gaps that emerge during the entire process. All elements of the NTIA public safety activity involve close and constant coordination with public safety practitioners.

The demand for new and enhanced telecommunication services, such as digital television (DTV), wireless voice and data, and radio navigation, has placed increased burdens on spectrum planners and policy makers. To address this situation, NTIA developed fundamental data and more accurate modeling of radio propagation that led to improved methods for planning spectrum sharing among the various users. Predicting how these systems can share the same spectrum space requires a better understanding of broadband radio propagation and the use of multi-dimensional modeling techniques – both areas in which NTIA has unique expertise. NTIA has provided analysis tools and techniques used in the allocation of channels for digital television systems, and a technical analysis of DTV broadcasting options. NTIA and FCC engineering personnel have jointly developed the signal coverage and interference analysis programs to evaluate the DTV Allotment Table for over 1,600 broadcast TV stations. NTIA has provided spectrum management tools to assist the private sector in planning and deploying DTV systems. NTIA recently tackled, for example, the technical issues associated with the grant programs for digital to analog conversion and public safety interoperable communications.

In cooperation with U.S. industry, NTIA prepares and coordinates proposed domestic and international telecommunications standards, develops and demonstrates technologies for assessing the performance and optimizing the utilization of public and private telecommunication networks from a user perspective, and evaluates emerging technologies for application to future needs. These activities promote international trade opportunities for U.S. telecommunication firms, enhance competition in the U.S. telecommunications industry, and improve the cost effectiveness of Government telecommunications use. In its international standards activity, NTIA is working to expand trade opportunities for U.S. telecommunications and information providers by leading and supporting U.S. participation in key technical negotiations of the International Telecommunication Union's Telecommunication Standardization Sector (ITU-T) and Radiocommunication Sector (ITU-R). ITU telecommunication standards and radiocommunication recommendations serve as blueprints for future technology development involving billions of dollars in telecommunications industry investment worldwide. NTIA activities strengthen U.S. participation in ITU negotiations and provide the technical content for international standards and recommendations.

To support fundamental research into the nature, interaction, and evaluation of telecommunication devices, systems, and services NTIA manages the Table Mountain Field Site and Radio Quiet Zone. This is a 1,800 acre open air test location protected from strong external radio signals by both Federal and State laws. This site is used for performing sensitive radio or electromagnetic experiments, as well as for applications needing low vibration and unobstructed views of the sky. NTIA actively solicits research proposals from inside the Institute as well as from external agencies. This research serves to expand the knowledge base available to the Institute, helps identify emerging technologies, and provides for the development of new measurement methods needed to study the characteristics of new devices and systems based on this technology. The results of the Table Mountain work benefit the public via reports, technical papers, journal articles, conference papers, web documents, and computer programs.

In FY 2011, NTIA will continue to provide leadership in key ITU-T standards development groups. This work will advance the realization of multi-service; Internet Protocol (IP) based NGNs and will provide objective quality metrics and quality objectives enabling assessment and optimization of NGN services. NTIA will continue to Chair ITU-T Study Group 9 (Television and sound transmission and integrated broadband cable networks) and contribute to its technical work.

NTIA will continue to spearhead and contribute to the ITU-affiliated Video Quality Experts Group (VQEG) and will promote and lead related national standards work organized by the Alliance for Telecommunications Industry Solutions (ATIS), the Society of Cable Telecommunications Engineers (SCTE), and other U.S. voluntary consensus standards organizations. NTIA contributions to national standards committees provide technical solutions to some of the most compelling issues facing U.S. telecommunications planners, and thereby help to more rapidly evolve our national information infrastructures. Examples include the inter-operation of multi-vendor systems employing various transmission media (cable, microwave, fiber, satellite) in a competitive environment and key IP/optical

network planning issues including traffic management and economical resource sharing among integrated multimedia services. This work promotes industry competition and innovation in the provision of integrated broadband digital services, facilitates efficient matching of offered services with user needs, and ensures that emerging U.S. broadband network standards are consistent with Internet evolution, U.S. broadband network deployment objectives, and applicable Government (e.g., OMB, FCC) policy guidelines.

NTIA provides important, ongoing technical support for the U.S. Administration in ITU-R Study Group 3 (Radiowave Propagation) and Study Group 5 (Mobile, Radiodetermination, Amateur and Related Satellite Services); Working Party 5B; the Radar Correspondence Group, and the Radar Unwanted Emissions Group. In Study Group 3, NTIA is a leader in the development and evaluation of radio propagation models for Working Party 3K. An NTIA engineer serves as the Chair of U.S. Study Group 3. It is devoted to making improvements in propagation models and studies with the goal of improved efficiency in radio spectrum usage domestically and internationally.

In Study Group 5, Working Party 5B, current areas of interest include (but are not limited to): potential reallocation of radar spectrum; effects on radars of interference from communication systems; dynamic frequency selection technology; development of radar emission spectrum measurement techniques; development of more efficient radar spectrum emission criteria. ITS staff provides critical support to the U.S. Administration on radar systems, preserving the spectrum that critically important radar systems need for their continued operation in areas of safety and defense.

ITU-R Working Party 5D is involved with the development of standards for future terrestrial wireless communication networks. Current work involves the development of guidelines involving technologies to be considered for the next generation of communication systems (International Mobile Telecommunications Advanced (IMT-Advanced)). ITS staff provides necessary technical support for the policy decisions made by other members of the U.S. Delegation to WP-5D to assure that the guidelines and standards produced by WP-5D are technology-neutral and that U.S. interests and needs are taken into account.

NTIA's international and U.S. standards committee leadership is supported by telecommunications research and engineering activities directed toward the development, implementation, and promulgation of user-oriented performance measures for integrated data, audio (including voice), video, and multimedia communication equipment and services. NTIA will continue to apply its unique expertise and state-of-the-art voice and video measurement laboratories to validate and optimize telecommunication performance standards. This research is leading U.S. industry and the world in the development of user-oriented, technology-independent performance parameters and measurement methods for high-speed data communication services. In FY 2011, NTIA will continue its groundbreaking work in perception-based audio and video quality assessment and associated digital compression and transmission issues. NTIA will focus its development work toward important new technology areas including Internet multimedia conferencing and advanced television (e.g., IPTV) services. Both of these fundamentally new areas pose significant and novel coding, transmission, and quality assessment challenges. NTIA will also conduct research addressing specific coding and transmission quality issues associated with wireless and broadband access services. NTIA will continue to pursue in-service quality assessment techniques, since these allow for the most relevant assessments and do not require the interruption of services. NTIA will continue to enhance its laboratory facilities to support fully-automated, all-digital subjective audio-visual testing, and will demonstrate the enhanced audio/video test capabilities to industry and Government users. To encourage technology transfer and widespread adoption of NTIA-developed audio and video quality assessment technologies, NTIA will enhance and make available an easy-to-use, highly portable audio-video assessment software toolkit.

Under agency Reimbursable Agreements, NTIA will continue to support other federal agencies with telecommunication challenges. This work includes the development of telecommunication specifications, standards, proof of concept and demonstration measurements, interoperability analyses, and technical

and economic impact assessments, and prototype development. FY 2011 reimbursable programs are expected to address Public Safety communications interoperability, digital land mobile radio standards development, network reliability and restoration, and priority access capabilities for public wireless and IP-based networks. In Public Safety work, for example, NTIA advances the work of other Federal Programs (e.g., NIST/OLES, DHS/OIC, etc.) through leadership and critical technical contributions to the Project 25 Technical Committees, Working Groups, and Task Groups, as well as the associated organizational entities within the Telecommunications Industry Association (TIA) TR-8 Committees. NTIA is also supporting the National Archives and Records Administration in an effort to develop a prototype system for storing temporary electronic records.

NTIA will continue its on-going program in wireless networking in FY 2011. Advanced wireless technologies are expected to provide wireless voice, data, and image communications and a variety of advanced service features using small, inexpensive, lightweight, low-powered portable radio terminals. Advanced wireless technologies can extend wired information infrastructures to mobile, rural, and other users and can dramatically improve telecommunication service availability in natural disaster and other emergency situations. However, achieving these benefits will require solutions to major implementation problems. As wireless networks and applications expand, interference among users sharing spectrum is likely. Users and service providers hoping to develop advanced wireless networks may be faced with an over-abundance of candidate technologies, many of which are non-interoperable. NTIA is addressing these problems by providing objective, expert technical contributions in support of public interest concerns in national and international committees responsible for resolving wireless network implementation issues. A particular focus of NTIA activity is in the development of intra-system and inter-system interference assessment metrics and standards in the Alliance for Telecommunications Industry Solutions (ATIS) subcommittee WTSC/G3GRA (Wireless Technologies and Systems Committee — Radio Aspects of GSM/3G and Beyond) to enhance capability and harmonization among telecommunication systems in the environment. Results promote efficient use of increasingly scarce radio spectrum and improve wireless system coverage and performance.

Department of Commerce
National Telecommunications and Information Administration
Telecommunication Sciences Research

FY 2011 Budget Initiative: Spectrum Access with Intelligent Networks and Cognitive Radios
(Dollar amounts in thousands)

	FY 2011 Base		FY 2011 Estimate		Increase/(Decrease)	
	Personnel	Amount	Personnel	Amount	Personnel	Amount
POS/BA	0	$0	4	$1,050	4	$1,050
FTE/Obl	0	$0	3	$1,050	3	$1,050

The goal of this research program is to is examine spectrum sharing approaches and to identify the techniques that can provide the most efficient and effective sharing of the radio spectrum through the use of “Intelligent Radios”. This research will aid the NTIA, FCC, the telecommunications industry, and other government agencies in the design of dynamic spectrum access schemes for cognitive radio under different communication requirements. The research will also produce interference protection criteria (IPC) for all types of Federal Government radio and radar systems and provide insights and solutions for technical issues associated with spectrum sharing.

The FCC recently initiated a new spectrum licensing paradigm which will allow unlicensed users to access the spectrum as long as the licensed users are not interfered with. There are two challenges associated with developing spectrum-sharing approaches. First, spectrum sharing needs to work in bands that already contain traditional radio assignments, known as static legacy assignments. Studies have shown that when all available frequencies in radio bands have been assigned to individual users and agencies in geographical areas, the channel-by-channel usage in those bands is unoccupied most of the time. If radio spectrum bands could be shared on a dynamic basis rather than simply assigned on a static basis, more use could be made of the overall radio spectrum. Maximal use can potentially be made of the radio spectrum if effective spectrum-sharing technologies can be developed using a combination of cognitive radios and intelligent networks.

Second, spectrum sharing requires that secondary users who are accessing spectrum dynamically will not cause harmful interference to primary users who are using spectrum with static assignments. To successfully meet this challenge, it will be necessary to develop interference protection criteria (IPC) for all radio systems. IPC are essentially the interference power levels at which legacy and dynamic radio systems will interfere with each other. When these levels are known, rules and algorithms can be developed to ensure that such levels are not exceeded and that interference therefore does not occur between older legacy and newer dynamic radios systems.

Under this initiative, NTIA’s Institute for Telecommunication Sciences (ITS) will identify, evaluate and recommend solutions for the technical issues and challenges of spectrum sharing. The goal is to identify the techniques that can provide the most efficient and effective sharing of the radio spectrum. In addition to developing IPC for a broad range of radio systems, ITS will analyze two major approaches for spectrum sharing. These are detection-and-avoidance and geolocation-with-database techniques.

Detect-and-avoid technologies, including dynamic frequency sharing (DFS), allow unlicensed devices to share spectrum with existing radar systems by automatically identifying unused radio channels moment-by-moment and then using those channels while continuing to monitor for incumbent, static-assignment users who may try to begin using any channel at any moment. Specific challenges associated with detect-and-avoid technologies include: 1) developing techniques for fast spectral sensing; 2) developing

algorithms for exchanging sensing data between network nodes; and 3) developing techniques for channel-use optimization.

A promising alternative to detect-and-avoid technologies is geolocation-with-databases. Cognitive devices are used to measure radio locations and make use of geolocation frequency-assignment databases to determine which frequencies they should be able to use at their current locations. Geolocation cognitive radios are prohibited from transmitting until they have successfully determined from the database which frequencies, if any, are available at their locations. Specific challenges associated with this technology include: 1) locational accuracy; 2) database accuracy; 3) database access permission; and 4) nationwide frequency assignments in databases for radios that are only deployed at a limited number of locations.

In FY 2011, ITS will evaluate various cognitive radio approaches and technologies associated with three major classes of federal radio systems: radars, mobile radios, and satellite downlinks. The purpose of the evaluations is to produce interference protection criteria for these systems and to identify cognitive radio techniques that provide the most efficient and effective sharing of the radio spectrum. At the end of FY 2011, NTIA will release a preliminary report on interference protection criteria and effective cognitive radio approaches for the federal radio system classes listed above. Information in this report will benefit U.S. federal agencies and commercial service providers. The FCC and NTIA, responsible for spectrum management, are very interested in what cognitive radio technology has to offer and how it would affect their current regulatory scheme. The military and the public safety and emergency response communities see the benefits that this new radio technology offers, with frequency agility and/or flexibility, the ability to enhance interoperability between different radio standards, and the capability to sense the presence of interferers. The cognitive radio impacts also extends beyond our geographical border as other countries and international agencies such as the International Telecommunications Union (ITU) are looking to adopt similar cognitive radio approaches to increase spectrum utilization.

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
PROGRAM CHANGE PERSONNEL DETAIL

Activity: Telecommunications Sciences Research
Program Change: Spectrum Access with Intelligent Networks and Cognitive Radio

Personnel Title		Grade	Number	2010 Annual Salary	Total Salaries
Electronics Engineer		ZP-IV	2	130,931	261,863
Electronics Engineer		ZP-III	2	93,069	186,139
Subtotal					448,001
Less lapse	25.00%		(1)		(112,000)
Total full-time permanent			3		336,001
2011 Pay Adjustment	1.4%				4,704
					340,705

Personnel Data

Full-Time Equivalent Employment:	
Full-time permanent	3
2011 Pay Adjustment	0
Total	3
Authorized Positions:	
Full-time permanent	4
Other than full-time permanent	0
Total	4

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Telecommunication Sciences Research
Program Change: Spectrum Access with Intelligent Networks and Cognitive Radio

Object Class		2011 Increase
11	Personnel compensation	
11.1	Full-time permanent	$341
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.9	Total personnel compensation	341
12.1	Civilian personnel benefits	91
21	Travel and transportation of persons	10
22	Transportation of things	1
23.1	Rental payments to GSA	21
23.2	Rental payments to others	0
23.3	Communications, utilities and miscellaneous charges	7
24	Printing and reproduction	0
25.1	Consulting services	0
25.2	Other services	99
25.3	Purchases of goods and services from Government accounts	153
25.7	Operation and maintenance of equipment	8
26	Supplies and materials	6
31	Equipment	313
41	Grants	0
99	**Total obligations**	1,050

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	2009 Actual *	2010 Enacted *	2011 Base	2011 Estimate *	2011 Increase/ (Decrease)
11	Personnel compensation					
11.1	Full-time permanent	$9,871	$11,854	$12,108	$12,449	$341
11.3	Other than full-time permanent	0	260	260	260	0
11.5	Other personnel compensation	214	20	20	20	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	**Total personnel compensation**	10,085	12,134	12,388	12,729	341
12.1	Civilian personnel benefits	2,512	2,336	2,440	2,531	91
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	376	328	327	337	10
22	Transportation of things	5	10	10	11	1
23.1	Rental payments to GSA	992	1,372	1,391	1,412	21
23.2	Rental payments to others	0	10	10	10	0
23.3	Communications, utilities and miscellaneous charges	103	94	95	102	7
24	Printing and reproduction	20	36	36	36	0
25.1	Advisory and assistance services	325	410	410	410	0
25.2	Other services	1,310	1,641	1,053	1,152	99
25.3	Purchases of goods and services from Government accounts	1,165	2,582	1,889	2,042	153
25.7	Operation and maintenance of equipment	93	93	93	101	8
26	Supplies and materials	201	219	221	227	6
31	Equipment	661	409	412	725	313
41	Grants, subsidies and contributions	0	0	0	0	0
99	**TOTAL OBLIGATIONS**	$17,848	$21,674	$20,775	$21,825	$1,050
	Prior Year Recoveries/Refunds	(37)				
	Unobligated balances from Prior Years	(3,268)	(1,675)			
	Unobligated balance EOY	1,675				
	Unobligated balance, rescission	3,000				
	Total Budget Authority	$19,218	$19,999	$20,775	$21,825	$1,050

* Estimates have changed since submission into MAX.

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Personnel Data	2009 Actual	2010 Enacted	2011 Base	2011 Estimate	2011 Increase/ (Decrease)
Full-Time Equivalent Employment:					
Full-time permanent	94	103	103	106	3
Other than full-time permanent	0	0	0	0	0
Total	94	103	103	106	3
Authorized Positions:					
Full-time permanent	103	103	103	107	4
Other than full-time permanent	0	0	0	0	0
Total	103	103	103	107	4

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
DETAILED REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class		2011 Adjustments to Base	2011 Base	2011 Estimate	2011 Increase/ (Decrease)
11	Personnel compensation				
11.1	Full-time permanent				
	Senior Executive Level	$0	0	$0	$0
	General schedule	254	12,108	12,449	341
	Subtotal	254	12,108	12,449	341
11.3	Other than full-time permanent				
	General schedule	0	260	260	0
	Subtotal	0	260	260	0
11.5	Other personnel compensation				
	Cash awards		20	20	0
	Subtotal	0	20	20	0
11.8	Special personnel services payments				
	Other	0	0	0	0
	Subtotal	0	0	0	0
11.9	Total personnel compensation	254	12,388	12,729	341
12.1	Civilian personnel benefits				
	Civil service retirement	(11)	(11)	(11)	0
	Federal employees' retirement	72	941	979	38
	Thrift savings plan	3	166	173	7
	Federal insurance contribution act - Medicare	0	157	162	5
	Federal insurance contribution act - OASDI	9	454	475	21
	Health insurance	43	689	709	20
	Change in Compensable Day	0	4	4	0
	Life insurance	0	7	7	0
	Employees' compensation fund	(12)	33	33	0
	Subtotal	104	2,440	2,531	91
13	Benefits for former personnel	0	0	0	0
	Subtotal	0	0	0	0

Exhibit 17

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
DETAILED REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class		2011 Adjustments to Base	2011 Base	2011 Estimate	2011 Increase/ (Decrease)
21	Travel and transportation of persons				
	Common carrier	$0	178	188	10
	Per diem/actual	0	136	136	0
	mileage	(1)	13	13	0
	Subtotal	(1)	327	337	10
22	Transportation of things	0	10	11	1
23.1	Rental payments to GSA	19	1,391	1,412	21
23.2	Rental payments to others	0	10	10	0
23.3	Communications, utilities and miscellaneous charges				
	Rental of ADP equipment	0	0	0	0
	Rental of office copying equipment	0	0	0	0
	Other equipment rental	0	0	0	0
	Federal telecommunications system	0	32	39	7
	Other telecommunications services	0	50	50	0
	Postal Service by USPS	1	13	13	0
	Other	0	0	0	0
	Subtotal	1	95	102	7
24	Printing and reproduction	0	35	35	0
	Publications	0	1	1	0
	Other	0	0	0	0
	Subtotal	0	36	36	0
25.1	Advisory and assistance services				
	Management and professional support services	0	60	60	0
	Studies, analyses, and evaluation	0	0	0	0
	Engineering and technical services	0	350	350	0
	Subtotal	0	410	410	0

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
DETAILED REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class		2011 Adjustments to Base	2011 Base	2011 Estimate	2011 Increase/ (Decrease)
25.2	Other services				
	Training	$0	0	0	0
	Other non-government contracts	12	1,053	1,152	99
	Subtotal	12	1,053	1,152	99
25.3	Purchases of goods and services from Government accounts	69	1,576	1,729	153
	Maintenance of equipment	0	0	0	0
	Payments to GA, WCF, NARA	313	313	313	
	Subtotal	382	1,889	2,042	153
25.7	Operation and maintenance of equipment	0	93	101	8
26	Supplies and materials				
	Office supplies	0	2	2	0
	ADP supplies	2	219	225	6
	Other	0	0	0	0
	Subtotal	2	221	227	6
31	Equipment				
	Office machines and equipment	0	0	0	0
	ADP hardware/software	3	412	725	313
	Equipment depreciation	0	0	0	0
	Other	0	0	0	0
	Subtotal	3	412	725	313
41	Grants, subsidies and contributions	0	0	0	0
99	**Budget Authority**	$776	$20,775	$21,825	$1,050

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
APPROPRIATIONS LANGUAGE AND CODE CITATIONS

For necessary expenses, as provided for by law, of the National Telecommunications and Information Administration (NTIA), [$19,999,000] *$21,825,000*, to remain available until September 30, [2011] *2012*. Provided, That notwithstanding 31 U.S.C. 1535(d), the Secretary of Commerce shall charge Federal agencies for costs incurred in spectrum management, analysis and operations, and related services and such fees shall be retained and used as offsetting collections for costs of such spectrum services, to remain available until expended: Provided further, That the Secretary of Commerce is authorized to retain and use as offsetting collections all funds transferred, or previously transferred, from other Government agencies for all costs incurred in telecommunications research, engineering, and related activities by the Institute for Telecommunication Sciences of NTIA, in furtherance of its assigned functions under this paragraph, and such funds received from other Government agencies shall remain available until expended.

15 U.S.C. § 1512
15 U.S.C. § 1532
47 U.S.C. § 305
47 U.S.C. § 606
47 U.S.C. § 901, et seq.

15 U.S.C. § 1512 authorizes the Secretary of Commerce to foster, promote and develop foreign and domestic commerce.

15 U.S.C. § 1532 authorizes the Secretary of Commerce to conduct research and analysis in all telecommunications sciences; to investigate the transmission of radio waves and electromagnetic radiation; and to compile, evaluate, publish, and distribute related information.

47 U.S.C. § 305 authorizes the President to assign frequencies to radio stations or classes of radio stations belonging to and operated by the United States. Originally delegated to the Department of Commerce by Executive Order 12046, as later codified in the National Telecommunications and Information Administration Organization Act, 47 U.S.C. § 901, et seq.

47 U.S.C. § 606 and associated Executive Orders authorize the President to perform certain telecommunications emergency functions essential to security and the national defense.

47 U.S.C. § 901, et seq., authorizing NTIA to perform the Secretary's communications and information functions.

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
ADVISORY AND ASSISTANCE SERVICES

	2009 Actual	2010 Enacted	2011 Estimate
Management and Professional Support Services	$250	$200	$200
Studies, Analysis & Evaluations	0	0	0
Engineering & Technical Services	75	210	210
Total	$325	$410	$410

NTIA utilizes consultants throughout its programs to provide scientific or technical expertise in specialized areas.

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
PERIODICALS, PAMPHLETS AND AUDIOVISUAL PRODUCTS

	2009 Actual	2010 Enacted	2011 Estimate
Periodicals	$0	$0	$0
Pamphlets	15	20	20
Audiovisual Products	0	0	0
Total	$15	$20	$20

NTIA utilizes pamphlets to provide an overview of NTIA programs and services to the public.

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
AVERAGE GRADE AND SALARIES

	2009 Actual	2010 Enacted	2011 Estimate
Direct:			
Average ES Salary	$155,641	$158,754	$162,088
Average Career Path Salary	93,410	95,278	$97,279
Average GS Grade	12.9	12.9	12.9
Average GS Salary	$101,641	$103,674	$105,747

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Exhibit 5

Department of Commerce
National Telecommunications and Information Administration
Public Telecommunications Facilities, Planning and Construction
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
FY 2010 Enacted	13	13	$20,000	$23,251
less: Obligations from prior years	0	0	0	(3,251)
plus: 2011 adjustments to base	0	0	0	0
2011 Base	13	13	20,000	20,000
less: 2011 program changes	(13)	0	(20,000)	(20,000)
2011 Estimate	0	13	0	0

Comparison by activity/subactivity		2009 Actual		2010 Enacted		2011 Base		2011 Estimate		2011 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Public Telecommunications Facilities, Planning and Construction											
Grants	Pos/BA	0	$16,681	0	$18,000	0	$18,000	0	$0	0	(18,000)
	FTE/Obl.	0	19,005	0	20,771	0	0	0	0	0	0
Program management	Pos/BA	13	1,719	13	2,000	13	2,000	0	0	(13)	(2,000)
	FTE/Obl.	9	1,938	13	2,480	0	0	0	0	0	0
TOTALS	Pos/BA	13	18,400	13	20,000	13	20,000	0	0	(13)	(20,000)
	FTE/Obl.	9	20,943	13	23,251	0	0	0	0	0	0
Adjustments to Obligations											
Recoveries/Refunds			(3,483)		0		0		0		0
Unobligated Balance, start of year			(2,311)		(3,251)		0		0		0
Unobligated Balance, end of year			3,251		0		0		0		0
Unobligated Balance, rescission			1,600		0		0		0		0
Unobligated Balance expiring			0		0		0		0		0
Financing from transfers:											
Transfer from other accounts (-)			0		0		0		0		0
Transfer to other accounts (+)			0		0		0		0		0
Appropriation			20,000		20,000		20,000		0		(20,000)

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Department of Commerce
National Telecommunications and Information Administration
Public Telecommunications Facilities, Planning and Construction
SUMMARY OF FINANCING
(Dollar amounts in thousands)

Comparison by activity	2009 Actual	2010 Enacted	2011 Base	2011 Estimate	2011 Increase/ (Decrease)
Total Obligations	**$20,943**	**$23,251**	**$20,000**	**$0**	**($20,000)**
Offsetting collections from:					
Federal funds	0	0	0	0	0
Non-Federal sources	0	0	0	0	0
Recoveries/Refunds	(3,483)	0	0	0	0
Unobligated balance, start of year	(2,311)	(3,251)	0	0	0
Unobligated balance, end of year	3,251	0	0	0	0
Unobligated balance expiring	0	0	0	0	0
Budget Authority	**18,400**	**20,000**	**20,000**	**0**	**(20,000)**
Restoration of unobligated balance, rescission	1,600	0	0	0	0
Financing:					
Transferred from other accounts (-)	0	0	0	0	0
Transferred to other accounts (+)	0	0	0	0	0
Appropriation	**20,000**	**20,000**	**20,000**	**0**	**(20,000)**

Department of Commerce
National Telecommunications and Information Administration
Public Telecommunications Facilities, Planning and Construction
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Public telecommunications, facilities, planning and construction
Subactivity: Grants and program management

Comparison by line item		2009 Actual		2010 Enacted		2011 Base		2011 Estimate		2011 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	.	Amount	Personnel	Amount
Grants.....	Pos/BA	0	$16,681	0	$18,000	0	$18,000	0	$0	0	($18,000)
	FTE/Obl.	0	19,005	0	20,771	0		0		0	
Program management.....	Pos/BA	13	1,719	13	2,000	13	2,000	0	0	(13)	(2,000)
	FTE/Obl.	9	1,938	13	2,480	0		0		0	
Direct Obligations.....	Pos/BA	13	18,400	13	20,000	13	20,000	0	0	(13)	(20,000)
	FTE/Obl.	9	20,943	13	23,251	0		0		0	

Department of Commerce
National Telecommunications and Information Administration
Public Telecommunications Facilities, Planning and Construction
Justification of Program and Performance

Goal Statement

PTFPC grant awards are being terminated in FY 2011. Recoveries and unobligated balances of funds previously appropriated to this account will remain available for the administration of prior year grants. For the period from FY 2000 through FY 2009, approximately 70 percent of the funds that PTFPC awarded were for digital television conversion projects. By the deadline date of June 12, 2009, all full-power public television stations met the FCC requirement for the transmission of a digital television signal. Public television stations are continuing with the digital conversion of their Master Control and Production facilities. Funding for remaining digital conversion and other activities is available from other sources.

Department of Commerce
National Telecommunications and Information Administration
Public Telecommunications Facilities, Planning and Construction
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class		2009 Actual	2010 Enacted	2011 Base	2011 Estimate	2011 Increase/ (Decrease)
11	Personnel compensation					
11.1	Full-time permanent	$741	$1,246	$1,246	$0	(1,246)
11.3	Other than full-time permanent	0	0	0	0	0
11.5	Other personnel compensation	65	0	0	0	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	**Total personnel compensation**	806	1,246	1,246	0	(1,246)
12.1	Civilian personnel benefits	260	350	350	0	(350)
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	19	20	20	0	(20)
22	Transportation of things	2	2	2	0	(2)
23.1	Rental payments to GSA	68	70	70	0	(70)
23.2	Rental payments to others	0	0	0	0	0
23.3	Communications, utilities and miscellaneous charges	10	10	10	0	(10)
24	Printing and reproduction	22	22	22	0	(22)
25.2	Other services	0	0	0	0	0
25.3	Purchases of goods and services from Government accounts	690	700	220	0	(220)
25.7	Operation and maintenance of equipment	0	0	0	0	0
26	Supplies and materials	26	25	25	0	(25)
31	Equipment	35	35	35	0	(35)
41	Grants, subsidies and contributions	19,005	20,771	18,000	0	(18,000)
99	**TOTAL OBLIGATIONS**	$20,943	$23,251	$20,000	$0	(20,000)
	Unobligated Balance SOY	(3,483)	(3,251)			
	Unobligated balances from Prior Years	(2,311)				
	Unobligated balance EOY	3,251				
	Unobligated balance, rescission	1,600				
	Total Budget Authority	$20,000	$20,000	$20,000	$0	($20,000)

Department of Commerce
National Telecommunications and Information Administration
Public Telecommunications Facilities, Planning and Construction
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Personnel Data	2009 Actual	2010 Enacted	2011 Base	2011 Estimate	2011 Increase/ (Decrease)
Full-Time Equivalent Employment:					
Full-time permanent	9	13	13	0	-13
Other than full-time permanent	0	0	0	0	0
Total	9	13	13	0	-13
Authorized Positions:					
Full-time permanent	13	13	13	0	-13
Other than full-time permanent	0	0	0	0	0
Total	13	13	13	0	-13

Department of Commerce
National Telecommunications and Information Administration
Public Telecommunications Facilities, Planning and Construction
APPROPRIATIONS LANGUAGE AND CODE CITATIONS:

For the administration of prior year grants, recoveries and unobligated balances of funds previously appropriated are hereafter available for the administration of all open grants until their expiration. (Department of Commerce Appropriations Act, 2009)

47 U.S.C. 391 authorizes the Secretary of Commerce to provide grant funds for the planning and construction of public telecommunications facilities by eligible entities.

47 U.S.C. 392 sets forth the application requirements to be submitted to the Secretary of Commerce by eligible entities to request funds for the construction of public telecommunications facilities.

47 U.S.C. 902(b)(3) assigns to NTIA the administration of the Public Telecommunications Facilities Program.

Department of Commerce
National Telecommunications and Information Administration
Public Telecommunications Facilities, Planning and Construction
ADVISORY AND ASSISTANCE SERVICES
(Dollar amounts in thousands)

	2009 Actual	2010 Enacted	2011 Estimate
Management and Professional Support Services	$0	$0	$0
Studies, Analysis & Evaluations	0	0	0
Engineering & Technical Services	0	0	0
Total	$0	$0	$0

NTIA utilizes consultants throughout its programs to provide scientific or technical expertise in specialized areas.

Department of Commerce
National Telecommunications and Information Administration
Public Telecommunications Facilities, Planning and Construction
PERIODICALS, PAMPHLETS AND AUDIOVISUAL PRODUCTS
(Dollar amounts in thousands)

	2009 Actual	2010 Estimae	2011 Estimate
Periodicals	$0	$0	$0
Pamphlets	0	0	0
Audiovisual Products	0	0	0
Total	$0	$0	$0

NTIA utilizes pamphlets to provide an overview of NTIA programs and services to the public.

Department of Commerce
National Telecommunications and Information Administration
Public Telecommunications Facilities, Planning and Construction
AVERAGE GRADE AND SALARIES
(Dollar amounts in thousands)

	2009 Actual	2010 Enacted	2011 Estimate
Direct:			
Average ES Salary	$0	$0	$0
Average Career Path Salary	0	0	0
Average GS Grade	13.6	13.6	0.0
Average GS Salary	$101,416	$103,444	$0

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Department of Commerce
National Telecommunications and Information Administration
Information Infrastructure Grants
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
FY 2010, Enacted	0	0	$0	$2,313
less: Obligations from prior years	0	0	0	(2,313)
plus: 2011 adjustments to base	0	0	0	0
2011 Base	0	0	0	0
plus: 2011 program changes	0	0	0	0
2011 Estimate	0	0	0	0

Comparison by activity/subactivity		2009 Actual		2010 Enacted		2011 Base		2011 Estimate		2010 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Technology Opportunities Program											
Grants	Pos/BA	0	$0	0	$0	0	$0	0	$0	0	$0
	FTE/Obl.	0	0	0	0	0	0	0	0	0	0
Program management	Pos/BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl.	1	205	0	2,313	0	0	0		0	
TOTALS	Pos/BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl.	1	205	0	2,313	0	0	0	0	0	0
Adjustments to Obligations											
Recoveries/Refunds			(889)		0		0		0		0
Unobligated Balance, start of year			(1,629)		(2,313)		0		0		0
Unobligated Balance, end of year			2,313		0		0		0		0
Unobligated balance expiring			0		0		0		0		0
Financing from transfers:											
Transfer from other accounts (-)			0		0		0		0		0
Transfer to other accounts (+)			0		0		0		0		0
Appropriation			0		0		0		0		0

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Department of Commerce
National Telecommunications and Information Administration
Information Infrastructure Grants
SUMMARY OF FINANCING
(Dollar amounts in thousands)

Comparison by activity	2009 Actual	2010 Enacted	2011 Base	2011 Estimate	2011 Increase (Decrease)
Total Obligations	**$205**	**$2,313**	**$0**	**$0**	**$0**
Offsetting collections from:					
Federal funds	0	0	0	0	0
Non-Federal sources	0	0	0	0	0
Recoveries/Refunds	(889)	0	0	0	0
Unobligated balance, start of year	(1,629)	(2,313)	0	0	0
Unobligated balance, end of year	2,313	0	0	0	0
Unobligated balance expiring	0	0	0	0	0
Budget Authority	**0**	**0**	**0**	**0**	**0**
Financing:					
Transferred from other accounts (-)	0	0	0	0	0
Transferred to other accounts (+)	0	0	0	0	0
Appropriation	**0**	**0**	**0**	**0**	**0**

Department of Commerce
National Telecommunications and Information Administration
Information Infrastructure Grants
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Technology Opportunities Program
Subactivity: Grants and program management

Comparison by line item		2009 Actual		2010 Enacted		2011 Base		2011 Estimate		2011 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Grants	Pos/BA	0	$0	0	$0	0	$0	0	$0	0	$0
	FTE/Obl.	0	0	0	0	0	0	0	0	0	0
Program management	Pos/BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl.	1	205	0	2,313	0	0	0	0	0	0
Direct Obligations	Pos/BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl.	1	205	0	2,313	0	0	0	0	0	0

Department of Commerce
National Telecommunications and Information Administration
Information Infrastructure Grants
Justification of Program and Performance

Technology Opportunities Program

The Technology Opportunities Program was discontinued in FY 2005.

Department of Commerce
National Telecommunications and Information Administration
Information Infrastructure Grants
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	2009 Actual	2010 Enacted	2011 Base	2011 Estimate	2011 Increase/ (Decrease)
11	Personnel compensation					
11.1	Full-time permanent	$97	$100	$0	$0	$0
11.3	Other than full-time permanent	0	0	0	0	0
11.5	Other personnel compensation	4	4	0	0	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	**Total personnel compensation**	101	104	0	0	0
12.1	Civilian personnel benefits	33	35	0	0	0
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	0	0	0	0	0
22	Transportation of things	0	0	0	0	0
23.1	Rental payments to GSA	31	32	0	0	0
23.2	Rental payments to others	0	0	0	0	0
23.3	Communications, utilities and miscellaneous charges	0	0	0	0	0
24	Printing and reproduction	1	1	0	0	0
25.1	Advisory and assistance services	0	0	0	0	0
25.2	Other services	0	0	0	0	0
25.3	Purchases of goods and services from Government accounts	39	2,141	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0	0
26	Supplies and materials	0	0	0	0	0
31	Equipment	0	0	0	0	0
41	Grants, subsidies and contributions	0	0	0	0	0
44	Refunds	0	0	0	0	0
99	**TOTAL OBLIGATIONS**	205	2,313	0	0	0
	Prior Year Recoveries/Refunds	(889)				
	Unobligated balances from Prior Years	(1,629)	(2,313)	0	0	0
	Unobligated balance from EOY	2,313				
	Total Budget Authority	0	0	0	0	0

Department of Commerce
National Telecommunications and Information Administration
Information Infrastructure Grants
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Personnel Data	2009 Actual	2010 Enacted	2011 Base	2011 Estimate	2011 Increase/ (Decrease)
Full-Time Equivalent Employment:					
Full-time permanent	1	0	0	0	0
Other than full-time permanent	0	0	0	0	0
Total	1	0	0	0	0
Authorized Positions:					
Full-time permanent	0	0	0	0	0
Other than full-time permanent	0	0	0	0	0
Total	0	0	0	0	0

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Department of Commerce
National Telecommunications and Information Administration
Digital Television Transition and Public Safety Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
FY 2010, Enacted	13	13	$0	$142,298
less: Obligations from prior years	(6)	(6)	0	(142,298)
2011 Base	7	7	0	0
plus: 2011 program changes	0	0	0	0
2011 Estimate	7	7	0	(0)

Comparison by activity/subactivity		2009 Actual		2010 Enacted		2011 Base		2011 Estimate		2011 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Digital-to-Analog Converter Box Voucher Program.....	Pos/BA	2	22,062	0	$0	0	$0	0	$0	0	$0
	FTE/Obl.	2	535,132	0	0	0	0	0	0	0	0
Public Safety Interoperable Communications Grants.....	Pos/BA	3	0	3	0	0	0	0	0	0	0
	FTE/Obl.	3	5,589	3	6,700	0	3,500	0	3,500	0	0
Low-Power Television and Translator Digital to	Pos/BA	1	506	0	0	0	0	0	0	0	0
Analog Conversion Program.....	FTE/Obl.	1	1,028	0	858	0	0	0	0	0	0
Low-Power Television and Translator Upgrade Progran	Pos/BA	6	0	6	0	6	0	6	0	0	0
	FTE/Obl.	3	652	6	44,166	6	2,200	6	2,200	0	0
National Alert Program.....	Pos/BA	4	46,017	4	0	1	0	1	0	0	0
	FTE/Obl.	2	84	4	90,274	1	300	1	300	0	0
Tsunami Warning Program.....	Pos/BA	0	50,000	0	0	0	0	0	0	0	0
	FTE/Obl.	0	49,700	0	300	0	0	0	0	0	0
Enhanced 9-1-1 Service Support.....	Pos/BA	1	1,465	0	0	0	0	0	0	0	0
	FTE/Obl.	0	1,657	0	0	0	0	0	0	0	0
TOTALS.....	Pos/BA	17	119,813 (1)	13	0	7	0	7	0	0	0
	FTE/Obl.	11	593,842	13	142,298	7	6,000	7	6,000	0	0
Adjustments to Obligations:											
Recoveries/Refunds.....			(196,991)		0		0		0		0
Unobligated Balance, start of year.....			(686,703)		(8,696,735)		0		(9,437)		(9,437)
Unobligated Balance, end of year.....			8,696,735		9,437		0		3,437		3,437
Capital transfer to General Fund.....			0		8,545,000		0		0		0
Budget Authority			8,406,883		0		0		0		0
Financing from borrowing authority:											
Authority to borrow, start of year.....			2,689,500								
Borrowed (-).....			(4,724)								
Repaid (+).....			4,724								
Authority to borrow available, end of year.....			2,689,500								
Financing from appropriated receipts:											
Realized Receipts, start of year.....			1,778,983		18,553,540						
Realized Receipts, FY 2009 and 2010.....			16,774,557		400,450						
Repayment to Treasury:											
Borrowings Repaid (-).....			(4,724)								
Deficit Reduction (-).....			(7,363,000)		0						
Substitution of Borrowing Authority - not borrowed (-).....			(914,951)		0						
Obligated, not borrowed (-).....			(593,842)		(142,298)						
Precluded from Obligation (-).....			(8,287,069)		(8,944,773)						
Receipts available, end of year			16,327		9,437						

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Department of Commerce
National Telecommunications and Information Administration
Digital Television Transition and Public Safety Fund
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Digital Television Transition and Public Safety Fund
Subactivity: Digital-to-Analog Converter Box Voucher Program

Comparison by line item		2009 Actual		2010 Enacted		2011 Base		2011 Estimate		2011 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Digital-to-Analog Converter Box Voucher Program……	Pos/BA	2	$22,062	0	$0	0	$0	0	$0	0	$0
	FTE/Obl.	2	535,132	0	0	0	0	0	0	0	0
Direct Obligations.....	Pos/BA	2	22,062	0	0	0	0	0	0	0	0
	FTE/Obl.	2	535,132	0	0	0	0	0	0	0	0

Department of Commerce
National Telecommunications and Information Administration
Digital Television Transition and Public Safety Fund
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Digital Television Transition and Public Safety Fund
Subactivity: Public Safety Interoperable Communications Grants

Comparison by line item		2009 Actual		2010 Enacted		2011 Base		2011 Estimate		2011 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Public Safety Interoperable Communications											
Grants……	Pos/BA	3	$0	3	$0	0	$0	0	$0	0	$0
	FTE/Obl.	3	5,589	3	6,700	0	3,500	0	3,500	0	0
Direct Obligations.....	Pos/BA	3	0	3	0	0	0	0	0	0	0
	FTE/Obl.	3	5,589	3	6,700	0	3,500	0	3,500	0	0

Department of Commerce
National Telecommunications and Information Administration
Digital Television Transition and Public Safety Fund
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Digital Television Transition and Public Safety Fund
Subactivity: Low-Power Television and Translator Digital to Analog Conversion Program

Comparison by line item		2009 Actual		2010 Enacted		2011 Base		2011 Estimate		2011 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Low-Power Television and Translator Conversion Program……	Pos/BA	1	$506	0	$0	0	$0	0	$0	0	$0
	FTE/Obl.	1	1,029	0	858	0	0	0	0	0	0
Direct Obligations.....	Pos/BA	1	506	0	0	0	0	0	0	0	0
	FTE/Obl.	1	1,029	0	858	0	0	0	0	0	0

Department of Commerce
National Telecommunications and Information Administration
Digital Television Transition and Public Safety Fund
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Digital Television Transition and Public Safety Fund
Subactivity: Low-Power Television and Translator Upgrade Program

Comparison by line item		2009 Actual		2010 Enacted		2011 Base		2011 Estimate		2011 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Low-Power Television and Translator Upgrade Program……	Pos/BA	6	$0	6	$0	6	$0	6	$0	0	$0
	FTE/Obl.	3	652	6	44,166	6	2,200	6	2,200	0	0
Direct Obligations.....	Pos/BA	6	0	6	0	6	0	6	0	0	0
	FTE/Obl.	3	652	6	44,166	6	2,200	6	2,200	0	0

Department of Commerce
National Telecommunications and Information Administration
Digital Television Transition and Public Safety Fund
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Digital Television Transition and Public Safety Fund
Subactivity: National Alert Program

Comparison by line item		2009 Actual		2010 Enacted		2011 Base		2011 Estimate		2011 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
National Alert Program……	Pos/BA	4	$46,017	4	$0	1	$0	1	$0	0	$0
	FTE/Obl.	2	84	4	90,274	1	300	1	300	0	$0
Direct Obligations.....	Pos/BA	4	46,017	4	0	1	0	1	0	0	0
	FTE/Obl.	2	84	4	90,274	1	300	1	300	0	0

Department of Commerce
National Telecommunications and Information Administration
Digital Television Transition and Public Safety Fund
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Digital Television Transition and Public Safety Fund
Subactivity: Tsunami Warning Program

Comparison by line item		2009 Actual		2010 Enacted		2011 Base		2011 Estimate		2011 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Tsunami Warning Program ……	Pos/BA	0	$50,000	0	$0	0	$0	0	$0	0	$0
	FTE/Obl.	0	49,700	0	300	0	0	0	0	0	$0
Direct Obligations.....	Pos/BA	0	50,000	0	0	0	0	0	0	0	0
	FTE/Obl.	0	49,700	0	300	0	0	0	0	0	0

Department of Commerce
National Telecommunications and Information Administration
Digital Television Transition and Public Safety Fund
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Digital Television Transition and Public Safety Fund
Subactivity: Enhanced 9-1-1 Service Support

Comparison by line item		2009 Actual		2010 Enacted		2011 Base		2011 Estimate		2011 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Enhanced 9-1-1 Service Support…….....	Pos/BA	0	$1,465	0	$0	0	$0	0	$0	0	$0
	FTE/Obl.	0	1,657	0	0	0	0	0	0	0	$0
Direct Obligations.....	Pos/BA	0	1,465	0	0	0	0	0	0	0	$0
	FTE/Obl.	0	1,657	0	0	0	0	0	0	0	0

Department of Commerce
National Telecommunications and Information Administration
Digital Television Transition and Public Safety Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	2009 Actual	2010 Enacted	2011 Base	2011 Estimate	2011 Increase/ (Decrease)
11	Personnel compensation					
11.1	Full-time permanent	$1,586	$1,802	$1,802	$1,802	$0
11.3	Other than full-time permanent	0	0	0	0	0
11.5	Other personnel compensation	121	99	99	99	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	**Total personnel compensation**	1,707	1,901	1,901	1,901	0
12.1	Civilian personnel benefits	557	625	625	625	0
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	50	60	60	60	0
22	Transportation of things	2	5	5	5	0
23.1	Rental payments to GSA	213	100	100	100	0
23.2	Rental payments to others	0	0	0	0	0
23.3	Communications, utilities and miscellaneous charges	62	54	54	54	0
24	Printing and reproduction	212	45	45	45	0
25.1	Advisory and assistance services	0	0	0	0	0
25.2	Other services	85,670	5,608	1,276	1,276	0
25.3	Purchases of goods and services from Government accounts	4,445	42,798	1,832	1,832	0
25.7	Operation and maintenance of equipment	0	0	0	0	0
26	Supplies and materials	19	75	75	75	0
31	Equipment	0	27	27	27	0
41	Grants, subsidies and contributions	500,905	91,000	0	0	0
99	**TOTAL OBLIGATIONS**	$593,842	$142,298	$6,000	$6,000	$0
	Prior Year Recoveries/Refunds	(196,991)			(9,437)	
	Unobligated balances from Prior Years	(686,703)	(8,696,735)			
	Unobligated balance EOY	8,696,734	9,437		3,437	
	Capital transfer to General Fund		$8,545,000			
	Total Budget Authority	$8,406,882	$0	$0	$0	$0

Department of Commerce
National Telecommunications and Information Administration
Digital Television Transition and Public Safety Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Personnel Data	2009 Actual	2010 Enacted	2011 Base	2011 Estimate	2011 Increase/ (Decrease)
Full-Time Equivalent Employment:					
Full-time permanent	11	13	7	7	0
Other than full-time permanent	0	0	0	0	0
Total	11	13	7	7	0
Authorized Positions:					
Full-time permanent	11	13	7	7	0
Other than full-time permanent	0	0	0	0	0
Total	11	13	7	7	0

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Department of Commerce
National Telecommunications and Information Administration
Broadband Technology Opportunities Program, Recovery Act
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
FY 2010, Enacted	70	70	$0	$4,592,703
plus: Obligations from prior years	0	0	0	(4,592,703)
2011 Base	70	70	0	0
less: Non-recurring Recovery Act	(70)	(70)	0	0
2011 Estimate	0	0	0	0

Comparison by activity/subactivity		2009 Actual		2010 Enacted		2011 Base		2011 Estimate		2011 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Broadband Technology Opportunities Program											
Grants and Projects	Pos/BA	0	$4,528,945	0	$0	0	$0	0	$0	0	$0
	FTE/Obl.	0	325	0	4,529,222	0	0	0	0	0	0
Program Management	Pos/BA	30	141,000	70	0	0	0	0	0	0	0
	FTE/Obl.	7	76,917	70	63,481	0	0	0	0	0	0
TOTALS	Pos/BA	30	4,669,945	70	0	0	0	0	0	0	0
	FTE/Obl.	7	77,242	70	4,592,703	0	0	0	0	0	0
Adjustments to Obligations:											
Recoveries/Refunds			0		0		0		0		0
Unobligated Balance, start of year			0		(4,592,703)		0		0		0
Unobligated Balance, end of year			4,592,703		0		0		0		0
Unobligated Balance expiring			0		0		0		0		0
Financing from transfers:											
Transfer from other accounts (-)			0		0		0		0		0
Transfer to other accounts (+)			30,055		0		0		0		0
Appropriation			4,700,000		0		0		0		0

NOTE: The grant allocations for the Public Computer Center and sustainable Broadband Service programs reflect the minimum amounts provided by the ARRA. To the extent NTIA allocates more to these components, funds will be taken from the Broadband Technology Opportunities Program. Accordingly, the BTOP amount represents the maximum allocation for this program. The plan will be updated as more information becomes available.

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Department of Commerce
National Telecommunications and Information Administration
Broadband Technology Opportunities Program, Recovery Act
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Broadband Technology Opportunities Program
Subactivity: Broadband Technology Opportunities Program

Comparison by line item		2009 Actual		2010 Enacted		2011 Base		2011 Estimate		2011 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Broadband Technology Opportunities	Pos/BA	0	$3,749,000	0	$0	0	$0	0	$0	0	$0
Program Grants……	FTE/Obl.	0	0	0	3,749,000	0	0	0	0	0	0
Direct Obligations.....	Pos/BA	0	3,749,000	0	0	0	0	0	0	0	0
	FTE/Obl.	0	0	0	3,749,000	0	0	0	0	0	0

Department of Commerce
National Telecommunications and Information Administration
Broadband Technology Opportunities Program, Recovery Act
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Broadband Technology Opportunities Program
Subactivity: Public Computer Center Program

Comparison by line item		2009 Actual		2010 Enacted		2011 Base		2011 Estimate		2011 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Public Computer Center Program											
Grants……	Pos/BA	0	$200,000	0	$0	0	$0	0	$0	0	$0
	FTE/Obl.	0	0	0	200,000	0	0	0	0	0	0
Direct Obligations.....	Pos/BA	0	200,000	0	0	0	0	0	0	0	0
	FTE/Obl.	0	0	0	200,000	0	0	0	0	0	0

Department of Commerce
National Telecommunications and Information Administration
Broadband Technology Opportunities Program, Recovery Act
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Broadband Technology Opportunities Program
Subactivity: Sustainable Broadband Service Program

Comparison by line item		2009 Actual		2010 Enacted		2011 Base		2011 Estimate		2011 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Sustainable Broadband Service	Pos/BA	0	250,000	0	$0	0	$0	0	$0	0	$0
Program Grants……	FTE/Obl.	0	0	0	250,000	0	0	0	0	0	0
Direct Obligations.....	Pos/BA	0	250,000	0	0	0	0	0	0	0	0
	FTE/Obl.	0	0	0	250,000	0	0	0	0	0	0

Department of Commerce
National Telecommunications and Information Administration
Broadband Technology Opportunities Program, Recovery Act
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Broadband Technology Opportunities Program
Subactivity: Broadband Inventory Mapping Program

Comparison by line item		2009 Actual		2010 Enacted		2011 Base		2011 Estimate		2011 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Broadband Inventory Mapping											
Program Grants……	Pos/BA	0	$329,945	0	$0	0	$0	0	$0	0	$0
	FTE/Obl.	0	325	0	330,222	0	0	0	0	0	0
Direct Obligations.....	Pos/BA	0	329,945	0	0	0	0	0	0	0	0
	FTE/Obl.	0	325	0	330,222	0	0	0	0	0	0

Department of Commerce
National Telecommunications and Information Administration
Broadband Technology Opportunities Program, Recovery Act
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Broadband Technology Opportunities Program
Subactivity: Program Management

Comparison by line item		2009 Actual		2010 Enacted		2011 Base		2011 Estimate		2011 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Program Management……	Pos/BA	30	$141,000	70	$0	0	$0	0	$0	0	$0
	FTE/Obl.	7	76,917	70	63,481	0	0	0	0	0	0
Direct Obligations.....	Pos/BA	30	141,000	70	0	0	0	0	0	0	0
	FTE/Obl.	7	76,917	70	63,481	0	0	0	0	0	0

Department of Commerce
National Telecommunications and Information Administration
Broadband Technology Opportunities Program, Recovery Act
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	2009 Actual	2010 Enacted	2011 Base	2011 Estimate	2011 Increase/ (Decrease)
11	Personnel compensation					
11.1	Full-time permanent	$1,759	$2,000	$0	$0	$0
11.3	Other than full-time permanent	0	0	0	0	0
11.5	Other personnel compensation	157	31	0	0	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	**Total personnel compensation**	1,916	2,031	0	0	0
12.1	Civilian personnel benefits	844	844	0	0	0
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	86	80	0	0	0
22	Transportation of things	9	0	0	0	0
23.1	Rental payments to GSA	326	321	0	0	0
23.2	Rental payments to others	0	0	0	0	0
23.3	Communications, utilities and miscellaneous charges	0	2	0	0	0
24	Printing and reproduction	94	100	0	0	0
25.1	Advisory and assistance services	0	0	0	0	0
25.2	Other services	73,930	39,000	0	0	0
25.3	Purchases of goods and services from Government accounts	0	21,100	0	0	0
25.7	Operation and maintenance of equipment	0	1	0	0	0
26	Supplies and materials	20	2	0	0	0
31	Equipment	17	0	0	0	0
41	Grants, subsidies and contributions	0	4,529,222	0	0	0
99	**TOTAL OBLIGATIONS**	$77,242	$4,592,703	$0	$0	$0
	Prior Year Recoveries/Refunds					
	Unobligated balances from Prior Years		(4,592,703)			
	Unobligated balance EOY	4,592,703				
	Unobligated balance, expiring					
	Total Budget Authority	$4,669,945	$0	$0	$0	$0

Department of Commerce
National Telecommunications and Information Administration
Broadband Technology Opportunities Program, Recovery Act
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Personnel Data	2009 Actual	2010 Enacted	2011 Base	2011 Estimate	2011 Increase/ (Decrease)
Full-Time Equivalent Employment:					
Full-time permanent	7	70	0	0	0
Other than full-time permanent	0	0	0	0	0
Total	7	70	0	0	0
Authorized Positions:					
Full-time permanent	30	70	0	0	0
Other than full-time permanent	0	0	0	0	0
Total	30	70	0	0	0

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Department of Commerce
National Telecommunications and Information Administration
Digital-To-Analog Converter Box Program, Recovery Act
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
FY 2010, Enacted	0	3	($128,000)	$4,000
plus: Obligations from prior years	0	0	0	(132,000)
2011 Base	0	3	(128,000)	(128,000)
plus: Non-recurring Recovery Act	0	(3)	0	0
2011 Estimate	0	0	(128,000)	(128,000)

Comparison by activity/subactivity		2009 Actual		2010 Enacted		2011 Base		2011 Estimate		2011 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Digital-To-Analog Converter Box Program	Pos/BA	0	$579,395	0	($128,000)	0	$0	0	$0	0	$0
	FTE/Obl.	0	418,341	3	4,000	0	0	0	0	0	0
TOTALS	Pos/BA	0	579,395	0	(128,000)	0	0	0	0	0	0
	FTE/Obl.	0	418,341	3	4,000	0	0	0	0	0	0
Adjustments to Obligations:											
Recoveries/Refunds			0		0		0		0		0
Unobligated Balance, start of year			0		(161,054)		0		0		0
Unobligated Balance, end of year			161,054				0		0		0
Permanently not available			0		29,054						
Unobligated Balance permanently reduced			0		128,000		0		0		0
Financing from transfers:											
Transfer from other accounts (-)			0		0		0		0		0
Transfer to other accounts (+)			70,605		0		0		0		0
Appropriation			650,000		0		0		0		0

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Department of Commerce
Digital-To-Analog Converter Box Program, Recovery Act
Digital-To-Analog Converter Box Program, Recovery Act
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Digital-To-Analog Converter Box Program
Subactivity: Digital-To-Analog Converter Box Program

Comparison by line item		2009 Actual		2010 Enacted		2011 Base		2011 Estimate		2011 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
DTV Converter Box coupon program	Pos/BA	0	$579,395	0	($128,000)	0	$0	0	$0	0	$0
	FTE/Obl.	0	418,341	3	4,000	0	0	0	0	0	0
Direct Obligations.....	Pos/BA	0	579,395	0	(128,000)	0	0	0	0	0	0
	FTE/Obl.	0	418,341	3	4,000	0	0	0	0	0	0

Department of Commerce
National Telecommunications and Information Administration
Digital-to-Analog Converter Box Program, Recovery Act
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	2009 Actual	2010 Enacted	2011 Base	2011 Estimate	2011 Increase/ (Decrease)
11	Personnel compensation					
11.1	Full-time permanent	$0	$0	$0	$0	$0
11.3	Other than full-time permanent	0	0	0	0	0
11.5	Other personnel compensation	0	0	0	0	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	**Total personnel compensation**	0	0	0	0	0
12.1	Civilian personnel benefits	0	0	0	0	0
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	0	0	0	0	0
22	Transportation of things	0	0	0	0	0
23.1	Rental payments to GSA	0	0	0	0	0
23.2	Rental payments to others	0	0	0	0	0
23.3	Communications, utilities and miscellaneous charges	0	0	0	0	0
24	Printing and reproduction	3	0	0	0	0
25.1	Advisory and assistance services	0	0	0	0	0
25.2	Other services	43,652	4,000	0	0	0
25.3	Purchases of goods and services from Government accounts	0	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0	0
26	Supplies and materials	0	0	0	0	0
31	Equipment	0	0	0	0	0
41	Grants, subsidies and contributions	374,686	0	0	0	0
99	**TOTAL OBLIGATIONS**	$418,341	$4,000	$0	$0	$0
	Unobligated balances from Prior Years		(161,054)			
	Unobligated balance EOY	161,054				
	Unobligated balance recission, permanently reduced		$128,000			
	Unobligated balance, EOY		$29,054			
	Total Budget Authority	$579,395	$0	$0	$0	$0

Department of Commerce
National Telecommunications and Information Administration
Digital-to-Analog Converter Box Program, Recovery Act
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Personnel Data	2009 Actual	2010 Enacted	2011 Base	2011 Estimate	2011 Increase/ (Decrease)
Full-Time Equivalent Employment:					
Full-time permanent	0	3	0	0	0
Other than full-time permanent	0	0	0	0	0
Total	0	3	0	0	0
Authorized Positions:					
Full-time permanent	0	0	0	0	0
Other than full-time permanent	0	0	0	0	0
Total	0	0	0	0	0

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Department of Commerce
National Telecommunications and Information Administration
Broadband Technology Opportunities Program--Admin. Expenses
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
FY 2010, Enacted	0	0	$0	$0
less: Obligations from prior years	0	0	0	0
plus: 2011 adjustments to base	0	0	0	0
2011 Base	0	0	0	0
plus: 2011 program changes	50	50	23,700	23,700
2011 Estimate	50	50	23,700	23,700

Comparison by activity/subactivity		2009 Actual		2010 Enacted		2011 Base		2011 Estimate		2010 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Broadband Technology Opportunities Program--											
Admin. Expenses	Pos/BA	0	0	0	0	0	0	50	23,700	50	23,700
	FTE/Obl.	0	0	0	0	0	0	50	23,700	50	23,700
TOTALS.....	Pos/BA	0	0	0	0	0	0	50	23,700	50	23,700
	FTE/Obl.	0	0	0	0	0	0	50	23,700	50	23,700
Adjustments to Obligations											
Recoveries/Refunds.....			0		0		0		0		0
Unobligated Balance, start of year.....			0		0		0		0		0
Unobligated Balance, end of year.....			0		0		0		0		0
Unobligated balance expiring.....			0		0		0		0		0
Financing from transfers:											
Transfer from other accounts (-).....			0		0		0		0		0
Transfer to other accounts (+).....			0		0		0		0		0
Appropriation.....			0		0		0		23,700		23,700

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Department of Commerce
National Telecommunications and Information Administration
Broadband Technology Opportunities Program--Admin. Expenses
SUMMARY OF FINANCING
(Dollar amounts in thousands)

Comparison by activity	2009 Actual	2010 Enacted	2011 Base	2011 Estimate	2011 Increase (Decrease)
Total Obligations	$0	$0	$0	$23,700	$23,700
Offsetting collections from:					
Federal funds	0	0	0	0	0
Non-Federal sources	0	0	0	0	0
Recoveries/Refunds	0	0	0	0	0
Unobligated balance, start of year	0	0	0	0	0
Unobligated balance, end of year	0	0	0	0	0
Unobligated balance expiring	0	0	0	0	0
Budget Authority	**0**	**0**	**0**	**23,700**	**23,700**
Financing:					
Transferred from other accounts (-)	0	0	0	0	0
Transferred to other accounts (+)	0	0	0	0	0
Appropriation	**0**	**0**	**0**	**23,700**	**23,700**

Department of Commerce
National Telecommunications and Information Administration
Broadband Technology Opportunities Program--Admin. Expenses
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Broadband Technology Opportunities Program--Admin. Expenses
Subactivity: Broadband Technology Opportunities Program--Admin. Expenses

Comparison by line item		2009 Actual		2010 Enacted		2011 Base		2011 Estimate		2011 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Broadband Technology Opportunities Pr	Pos/BA	0	0	0	0	0	0	50	23,700	50	23,700
Admin. Expenses	FTE/Obl.	0	0	0	0	0	0	50	23,700	50	23,700
Direct Obligations.....	Pos/BA	0	0	0	0	0	0	50	23,700	50	23,700
	FTE/Obl.	0	0	0	0	0	0	50	23,700	50	23,700

National Telecommunications and Information Administration
Department of Commerce
Broadband Technology Opportunities Program – Admin Expenses

FY 2011 Budget Initiative: Broadband Technology Opportunities Program—Admin. Expenses
(Dollar amounts in thousands)

	FY 2011 Base		FY 2011 Estimate		Increase/(Decrease)	
	Personnel	Amount	Personnel	Amount	Personnel	Amount
Pos/BA	0	$0	50	$23,700	50	$23,700
FTE/Obl	0	$0	50	$23,700	50	$23,700

The American Recovery and Reinvestment Act of 2009 (Recovery Act, Public Law No. 111-5) appropriated $4.7 billion to NTIA to provide grants for broadband initiatives throughout the United States. The Recovery Act instructed NTIA to establish the Broadband Technology Opportunities Program (BTOP), a grant program of which the purpose is to provide access to broadband in unserved areas of the United States; improve access in underserved areas; provide broadband technologies to schools, hospitals, libraries and other strategic institutions; improve broadband capabilities for public safety agencies; and stimulate demand for broadband. In addition to fostering greater availability and use of broadband technologies, BTOP is helping to jump-start economic growth, create jobs, and lay the foundation for long-term prosperity for all Americans. The goal of this program is to improve broadband services in unserved and underserved areas of the United States, ensure that every American may benefit from broadband technologies, and enhance America's competitiveness through advances in broadband speeds, deployment and adoption. The Recovery Act also required NTIA to use a portion of these funds for the purpose of developing a map of broadband services in the United States. All BTOP and mapping grants are to be obligated before the end of fiscal year 2010. Among other things, NTIA must ensure that projects supported by BTOP funds are substantially completed within two years and fully completed within three years, and that funds are used by recipients in an efficient, expeditious, and competent manner.

This initiative will provide $23,700,000 to oversee approximately $4.4 billion in grants for broadband technologies and mapping funded through the Recovery Act. Because the majority of the Recovery Act grant funds will be awarded during fiscal year 2010, and recipients will have three years in most cases to complete their projects, it is imperative that NTIA continue to operate its grants management office to ensure that taxpayer dollars are used in an efficient, effective and accountable manner. The program management office will continue to provide oversight and monitoring of Federal spending, grant evaluation, impact assessments, and reporting essential to ensure these grants comply with Federal grants management regulations and requirements.

By providing NTIA with an initial $4.7 billion to expand access to broadband services in the United States, the President and Congress recognize the growing importance of access to broadband services to economic development and the quality of life of all Americans. In addition to serving as an engine of economic growth, broadband promotes innovation and improvements in healthcare, education, smart use of energy, and government services. Increasing broadband services for unserved and underserved areas and for strategic institutions will benefit the entire nation in a number of critical ways. Students will have improved educational opportunities; hospitals and patients will transmit medical information more efficiently; smart-grid systems and teleworking opportunities will reduce energy consumption; and government services will be delivered more equitably and efficiently, saving taxpayer dollars. In addition, expanding broadband capabilities will help create jobs and lay the foundation for long-term economic prosperity for all Americans.

A portion of the funds for program administration will provide oversight of the grants funded through the broadband mapping program and for consultation with the Federal Communications Commission (FCC) on the maintenance of the national broadband map. The Recovery Act stated that up to $350 million may be expended for the purpose of developing and maintaining a broadband inventory map that depicts the geographic extent of broadband availability and adoption in the United States. This program has been awarding grants to eligible entities for the purposes of undertaking data collection, mapping, and other activities consistent with the Recovery Act and the Broadband Data Improvement Act. Data and mapping information collected as part of these grants are being submitted to NTIA in order to develop a nationwide map, which will be made publicly available online no later than February 17, 2011. NTIA will award all grant funds before the end of fiscal year 2010, but will continue to manage the grants and to receive and process data collected pursuant to such grants into fiscal year 2014. This initiative will support continued operation of the program management office to ensure that grants are effectively and efficiently used by recipients, and that the information gathered is used to fulfill the statutory objective that a nationwide broadband map be developed and made available to the public by February 17, 2011 and maintained thereafter. The Federal Communications Commission has been developing the national broadband map on NTIA's behalf. In 2011, NTIA will continue working with the FCC to maintain the National Broadband Map.

Summary of Resources – FY 2011 to FY 2015
(dollars in thousands)

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Program Administration--Recovery Act (grants management and maintenance of National Broadband Map funded by ARRA)	$23,700	$45,715	$43,194	$6,000	$0

Department of Commerce
National Telecommunications and Information Administration
Broadband Technology Opportunities Program--Admin. Expenses
PROGRAM CHANGE PERSONNEL DETAIL

Activity: Broadband Technology Opportunities Program--Admin. Expenses
Program Change: Broadband Technology Opportunities Program--Admin. Expenses

Personnel Title		Grade	Number	2010 Annual Salary	Total Salaries
Deputy Associate Administrator		SES-IV	1	156,264	156,264
Communications Program Specialist		GS-15	5	123,367	616,837
Management and Program Analyst		GS-15	2	123,367	246,735
Communications Program Specialist		GS-14	22	104,878	2,307,319
Communications Program Specialist		GS-13	9	88,752	798,772
Management and Program Analyst		GS-12	2	88,752	177,504
Management and Program Analyst		GS-12	2	74,635	149,270
Grants Specialist		GS-12	4	74,635	298,540
Secretary		GS-9	3	51,467	154,401
Subtotal			50		4,905,642
Less lapse	0.00%		0		0
Total full-time permanent			50		4,905,642
2011 Pay Adjustment	1.4%				68,679
					4,974,321

Personnel Data

Full-Time Equivalent Employment:	
Full-time permanent	50
2011 Pay Adjustment	0
Total	50
Authorized Positions:	
Full-time permanent	50
Other than full-time permanent	0
Total	50

Department of Commerce
National Telecommunications and Information Administration
Broadband Technology Opportunities Program--Admin. Expenses
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Broadband Technology Opportunities Program--Admin. Expenses
Program Change: Broadband Technology Opportunities Program--Admin. Expenses

Object Class		2011 Increase
11	Personnel compensation	
11.1	Full-time permanent	$4,974
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	0
11.9	Total personnel compensation	4,974
12.1	Civilian personnel benefits	1,340
21	Travel and transportation of persons	420
22	Transportation of things	30
23.1	Rental payments to GSA	988
23.2	Rental payments to others	0
23.3	Communications, utilities and miscellaneous charges	118
24	Printing and reproduction	50
25.1	Consulting services	0
25.2	Other services	11,791
25.3	Purchases of goods and services from Government accounts	3,863
25.7	Operation and maintenance of equipment	21
26	Supplies and materials	75
31	Equipment	30
41	Grants	0
99	**Total obligations**	23,700

Department of Commerce
National Telecommunications and Information Administration
Broadband Technology Opportunities Program--Admin. Expenses
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	2009 Actual	2010 Enacted	2011 Base	2011 Estimate	2011 Increase/ (Decrease)
11	Personnel compensation					
11.1	Full-time permanent	$0	$0	$0	$4,974	$4,974
11.3	Other than full-time permanent	0	0	0	0	0
11.5	Other personnel compensation	0	0	0	0	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	**Total personnel compensation**	0	0	0	4,974	4,974
12.1	Civilian personnel benefits	0	0	0	1,340	1,340
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	0	0	0	420	420
22	Transportation of things	0	0	0	30	30
23.1	Rental payments to GSA	0	0	0	988	988
23.2	Rental payments to others	0	0	0	0	0
23.3	Communications, utilities and miscellaneous charges	0	0	0	118	118
24	Printing and reproduction	0	0	0	50	50
25.1	Advisory and assistance services	0	0	0	0	0
25.2	Other services	0	0	0	11,791	11,791
25.3	Purchases of goods and services from Government accounts	0	0	0	3,863	3,863
25.7	Operation and maintenance of equipment	0	0	0	21	21
26	Supplies and materials	0	0	0	75	75
31	Equipment	0	0	0	30	30
41	Grants, subsidies and contributions	0	0	0	0	0
99	**TOTAL OBLIGATIONS**	$0	$0	$0	$23,700	$23,700
	Prior Year Recoveries/Refunds					
	Unobligated balances from Prior Years	0				
	Unobligated balance EOY					
	Total Budget Authority	$0	$0	$0	$23,700	$23,700

Department of Commerce
National Telecommunications and Information Administration
Broadband Technology Opportunities Program--Admin. Expenses
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Personnel Data	2009 Actual	2010 Enacted	2011 Base	2011 Estimate	2011 Increase/ (Decrease)
Full-Time Equivalent Employment:					
Full-time permanent	0	0	0	50	50
Other than full-time permanent	0	0	0		0
Total	0	0	0	50	50
Authorized Positions:					
Full-time permanent	0	0	0	50	50
Other than full-time permanent	0	0	0	0	0
Total	0	0	0	50	50

Department of Commerce
National Telecommunications and Information Administration
Broadband Technology Opportunities Program--Admin. Expenses
DETAILED REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class		2011 Adjustments to Base	2011 Base	2011 Estimate	2011 Increase/ (Decrease)
11	Personnel compensation				
11.1	Full-time permanent				
	Senior Executive Level	$0	$0	$0	$0
	General schedule	0	0	4,974	4,974
	Subtotal	0	0	4,974	4,974
11.3	Other than full-time permanent				
	General schedule	0	0	0	0
	Subtotal	0	0	0	0
11.5	Other personnel compensation				
	Cash awards		0	0	0
	Subtotal	0	0	0	0
11.8	Special personnel services payments				
	Other	0	0	0	0
	Subtotal	0	0	0	0
11.9	Total personnel compensation	0	0	4,974	4,974
12.1	Civilian personnel benefits				
	Civil service retirement	0	0	0	0
	Federal employees' retirement	0	0	561	561
	Thrift savings plan	0	0	100	100
	Federal insurance contribution act - Medicare	0	0	73	73
	Federal insurance contribution act - OASDI	0	0	311	311
	Health insurance	0	0	290	290
	Change in Compensable Day	0	0	0	0
	Life insurance	0	0	5	5
	Employees' compensation fund	0	0	0	0
	Subtotal	0	0	1,340	1,340
13	Benefits for former personnel	0	0	0	0
	Subtotal	0	0	0	0

Department of Commerce
National Telecommunications and Information Administration
Broadband Technology Opportunities Program--Admin. Expenses
DETAILED REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	2011 Adjustments to Base	2011 Base	2011 Estimate	2011 Increase/ (Decrease)
21	Travel and transportation of persons				
	Common carrier	$0	0	228	228
	Per diem/actual	0	0	176	176
	mileage	0	0	16	16
	Subtotal	0	0	420	420
22	Transportation of things	0	0	30	30
23.1	Rental payments to GSA	0	0	988	988
23.2	Rental payments to others	0	0	0	0
23.3	Communications, utilities and miscellaneous charges				
	Rental of ADP equipment	0	0	0	0
	Rental of office copying equipment	0	0	0	0
	Other equipment rental	0	0	0	0
	Federal telecommunications system	0	0	50	50
	Other telecommunications services	0	0	55	55
	Postal Service by USPS	0	0	13	13
	Other	0	0	0	0
	Subtotal	0	0	118	118
24	Printing and reproduction	0	0		0
	Publications	0	0	1	1
	Other	0	0	49	49
	Subtotal	0	0	50	50
25.1	Advisory and assistance services				
	Management and professional support services	0	0	0	0
	Studies, analyses, and evaluation	0	0	0	0
	Engineering and technical services	0	0	0	0
	Subtotal	0	0	0	0

Department of Commerce
National Telecommunications and Information Administration
Broadband Technology Opportunities Program--Admin. Expenses
DETAILED REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	2011 Adjustments to Base	2011 Base	2011 Estimate	2011 Increase/ (Decrease)
25.2	Other services				
	Training	$0	0	0	0
	Other non-government contracts	0	0	11,791	11,791
	Subtotal	0	0	11,791	11,791
25.3	Purchases of goods and services from Government accounts	0	0	3,243	3,243
	Maintenance of equipment	0	0	0	0
	Payments to GA, WCF, NARA	0	0	620	620
	Subtotal	0	0	3,863	3,863
25.7	Operation and maintenance of equipment	0	0	21	21
26	Supplies and materials				
	Office supplies	0	0	1	1
	ADP supplies	0	0	74	74
	Other	0	0	0	0
	Subtotal	0	0	75	75
31	Equipment				
	Office machines and equipment	0	0	0	0
	ADP hardware/software	0	0	30	30
	Equipment depreciation	0	0	0	0
	Other	0	0	0	0
	Subtotal	0	0	30	30
41	Grants, subsidies and contributions	0	0	0	0
99	**Budget Authority**	$0	$0	$23,700	$23,700

DEPARTMENT OF COMMERCE
National Telecommunications and Information Administration
Broadband Technology Opportunities Program—Admin. Expenses

Justification of Proposed Language Changes

For the administration of grants and the development and maintenance of the national broadband map authorized by section 6001 of the American Recovery and Reinvestment Act of 2009, $23,700,000 to remain available until expended.