

# SPECTRUM MANAGEMENT FOR THE 21ST CENTURY

PLAN TO IMPLEMENT RECOMMENDATIONS  
OF THE PRESIDENT'S SPECTRUM  
POLICY INITIATIVE



**U.S. DEPARTMENT OF COMMERCE**

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# TABLE OF CONTENTS

## EXECUTIVE SUMMARY

### Section 1 – Introduction

### Section 2 – Project and Task Descriptions

- ***Project A:*** Improve Stakeholder Participation and Maintain High Qualifications of Spectrum Managers
- ***Project B:*** Reduce International Barriers to U.S. Innovations in Technologies and Services
- ***Project C:*** Modernize Federal Spectrum Management Processes with Advanced Information Technology
- ***Project D:*** Satisfy Public Safety Communication Needs and Ensure Interoperability
- ***Project E:*** Enhance Spectrum Engineering and Analytical Tools
- ***Project F:*** Promote Efficient and Effective Use of Spectrum
- ***Project G:*** Improve Long-term Planning and Promote Use of Market-based Economic Mechanisms in Spectrum Management

### Appendices

1. Overview of Key Deliverables and Target Dates
2. Executive Memorandum (June 5, 2003)
3. Executive Memorandum (November 30, 2004)

# SPECTRUM POLICY FOR THE 21<sup>ST</sup> CENTURY

## PLAN TO IMPLEMENT THE RECOMMENDATIONS OF THE PRESIDENT'S SPECTRUM POLICY INITIATIVE

### Executive Summary

Spectrum enables military operations, communications among first responders to natural disasters and terrorist attacks, and scientific discovery. At the same time, spectrum contributes to innovation, job creation, and economic growth. Wireless technologies and services that depend on spectrum provide critical support to federal agency missions that serve the American people and support a wide array of commercial and non-federal government applications that provide economic benefits and protect lives and property. To further develop and implement a U.S. spectrum policy for the 21st century that meets the Nation's needs and spurs economic growth, President George W. Bush established the Spectrum Policy Initiative (the Initiative) in June 2003.<sup>1</sup>

Since the Initiative was launched, the demand for spectrum to support commercial services as well as critical government missions such as national defense, public safety, homeland security, scientific research, and other uses has continued to increase. For example, in 2003 and 2004, NTIA addressed almost 185,000 assignment actions for federal government spectrum use. Today, there are over 182 million commercial mobile wireless subscribers - 23 million more than in 2003.<sup>2</sup> Expanding the amount of spectrum available for commercial uses will support high speed Internet access.

In addition, in March 2004, the President announced that all Americans should have universal, affordable access to broadband technology by 2007. Some of the most promising new broadband technologies are wireless. Technologies such as Wi-Fidelity (Wi-Fi), Wi-Max and cellular networks are increasingly seen as last mile broadband solutions that can be effectively used to achieve the President's goal of broadband access for all Americans by 2007. There are now over 63,000 Wi-Fi hotspots around the world -- more than 25,000 in the United States alone -- compared to about 11,000 globally in 2003.<sup>3</sup>

In response to the President's Spectrum Policy Memorandum, the Department of Commerce (Department) organized the Federal Government Spectrum Task Force, an interagency advisory group of federal agencies that use spectrum. The Department also sought the views of the private sector and of state, local, and regional governments for improving U.S. spectrum use. In June 2004, the Department submitted two reports to the President that reflect the views obtained. The reports contained far-reaching recommendations on a wide range of

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<sup>1</sup> Memorandum on the Spectrum Policy for the 21<sup>st</sup> Century, 39 Weekly Comp. Pres. Doc. 726, 727 (May 29, 2003) (Spectrum Policy Memorandum), *available at* <http://www.whitehouse.gov/news/releases/2003/06/20030605-4.html>; *see also* Appendix 2, *infra* pp. 26.

<sup>2</sup> CTIA--The Wireless Association <sup>TM</sup>, *Annualized Wireless Industry Survey Results*, CTIA's Wireless Industry Indices: 1985-2004, *at* [http://www.files.ctia.org/pdf/CTIA\\_Yearend2004Survey.pdf](http://www.files.ctia.org/pdf/CTIA_Yearend2004Survey.pdf).

<sup>3</sup> JiWire <sup>TM</sup> Hotspot Directory, *at* <http://www.jiwire.com/browse-hotspot-united-states-us.htm> (last visited May 11, 2005); Bob Tedeschi, *Cyber Scout: Cutting the Cord*, N.Y. Times, Dec. 7, 2003, § 5 at 6.

issues. On November 30, 2004, the President issued a second Memorandum that directed *inter alia*, the Department to submit by May 2005 a plan to implement those recommendations of the reports that were not expressly directed to other agencies and offices.<sup>4</sup> In this plan, the Department's National Telecommunications and Information Administration (NTIA) outlines seven projects that together implement the recommendations of Reports 1 and 2 as directed by the President.<sup>5</sup> The projects are summarized below. The dates for completion associated with these projects and tasks are target dates set forth by NTIA.

## **PROJECT A: Improve Stakeholder Participation and Maintain High Qualifications of Spectrum Managers**

NTIA will increase the participation of stakeholders in the resolution of spectrum management issues and strategic spectrum planning, and will address human resource needs for effective spectrum management.

**Task A.1 – Establish a Commerce Spectrum Management Advisory Committee: *Chartered May 2005.***

**Task A.2 – Establish a High Level Interagency Advisory Group - the Policy and Plans Steering Group (PPSG): *Established January 2005.***

**Task A.3 – Resolve Inter-governmental Spectrum Disputes Through the Existing White House Policy Coordinating Committee (PCC) Process and Revise the NTIA/FCC Memorandum of Understanding (MOU) to Provide an Additional Minimum 15 Business Days to Accommodate the PCC Process: *The existing PCC is on-going. With respect to revising the NTIA/FCC MOU, NTIA plans to submit proposed language to the FCC by March 2006.***

**Task A.4 – Expand the Role of the FCC Defense Commissioner: *NTIA plans to submit proposed language to the FCC by March 2006.***

**Task A.5 – Promote a Career Development Program and Spectrum Management Training: *To be completed by September 2007.***

## **PROJECT B: Reduce International Barriers to U.S. Innovations in Technologies and Services**

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<sup>4</sup> Presidential Determination: Memorandum for the Heads of Executive Departments and Agencies, 40 Weekly Comp. Pres. Doc. 2875, 2876, sec. 3(c) (Nov. 30, 2004) (Executive Memorandum), *available at* <http://www.whitehouse.gov/news/releases/2004/11/20041130-8.html>; *see also* Appendix 3, *infra* pp. 30.

<sup>5</sup> National Telecommunications and Information Administration, U.S. Dep't of Commerce, *Spectrum Policy for the 21<sup>st</sup> Century – The President's Spectrum Policy Initiative: Report 1*, (2004) (Report 1), *available at* [http://www.ntia.doc.gov/reports/specpolini/presspecpolini\\_report1\\_06242004.htm](http://www.ntia.doc.gov/reports/specpolini/presspecpolini_report1_06242004.htm); National Telecommunications and Information Administration, U.S. Dep't of Commerce, *Spectrum Policy for the 21<sup>st</sup> Century – The President's Spectrum Policy Initiative: Report 2* (2004) (Report 2), *available at* [http://www.ntia.doc.gov/reports/specpolini/presspecpolini\\_report2\\_06242004.htm](http://www.ntia.doc.gov/reports/specpolini/presspecpolini_report2_06242004.htm). NTIA serves as the President's principal adviser on telecommunications and information policies and as manager of the federal government's use of the radio spectrum. 47 U.S.C. § 902(b)(2).

NTIA will evaluate and make recommendations for spectrum policies regarding the potential for reducing global barriers affecting implementation of new U.S. telecommunications technologies internationally. NTIA also will examine the issue of how the U.S. can balance the costs and benefits of globalization and harmonization of spectrum use and interoperability in a flexible manner.

**Task B.1 – Improve U.S. Preparations for World Radiocommunication Conferences:**  
*Completed May 2005.*

**Task B.2 – Improve International Spectrum Management Policies and Regulatory Environment:** *NTIA to provide recommendations by June 2006.*

### **PROJECT C: Modernize Federal Spectrum Management Processes with Advanced Information Technology**

NTIA will employ IT to satisfy the needs of NTIA and the federal agencies for effective and efficient processes that permit agencies to obtain timely wireless system authorizations. Application of IT tools will also facilitate the sharing of spectrum between the public and private sectors by streamlining the NTIA and FCC coordination process.

**Task C.1 – Implement Advanced Information Management Systems:** *Is on-going.*

### **PROJECT D: Satisfy Public Safety Communication Needs and Ensure Interoperability**

In the Executive Memorandum, the President directed the Department of Homeland Security (DHS), in consultation with the Department of Commerce and other agencies, to identify public safety spectrum requirements, and to develop a comprehensive Spectrum Needs Plan to address spectrum issues related to the public safety community, as well as the continuity of government operations.<sup>6</sup> DHS and NTIA have determined that to respond to this directive, DHS will have several responsibilities for identifying and addressing the spectrum requirements of the public safety community, and will develop a comprehensive plan to address public safety spectrum needs, interference, technology, and security issues.<sup>7</sup>

NTIA, with the assistance of the federal agencies and the FCC, will examine the feasibility of sharing spectrum among commercial, federal and local public safety, and critical infrastructure applications through a public safety demonstration program. This task will require close liaison with and support of DHS.

**Task D.1 – Spectrum Sharing Between Federal and Non-federal Public Safety Agencies:** *To be completed by December 2006.*

### **PROJECT E: Enhance Spectrum Engineering and Analytical Tools**

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<sup>6</sup> Executive Memorandum, *supra* note 4, at sec. 2(c). Report 2 contains a detailed description of the analyses and assessments that DHS will perform to identify and address unsatisfied spectrum requirements for public safety. *See* Report 2, *supra* note 5, Recommendation 9(a), at 26.

<sup>7</sup> *See* Report 2, *supra* note 5, Recommendation 9(c), at 27.

NTIA will conduct a comprehensive review of existing federal agencies' spectrum use for the purpose of improving efficiency; promote selected best practices in spectrum engineering; establish a pilot program to examine the potential impact of new technologies and spectrum uses; and develop modern analytic tools and promote their use by U.S. spectrum managers.

**Task E.1 – Develop Analytic Approaches, Software Tools, and Engineering Techniques for Evaluating and Improving the Efficiency and Effectiveness of Federal Spectrum Use: *To be completed by September 2007.***

**Task E.2 – Develop and Promote Recognition in the Spectrum Management Community for Best Practices in Spectrum Engineering: *To be completed by November 2007.***

**Task E.3 – Conduct a Pilot Program to Evaluate Approaches and Techniques to Increase Spectrum Sharing Between Federal and Non-federal Spectrum Users: *The pilot program is to be completed by June 2006. Results and recommendations of the pilot program are to be completed by September 2008.***

**Task E.4 – Develop and Promote the Use of Modern Analytic Tools for Spectrum Engineering: *To be completed by December 2006.***

## **PROJECT F: Promote Efficient and Effective Use of Spectrum**

Report 1 stressed that agencies should implement policies and procedures to evaluate their proposed needs for use of the spectrum before seeking spectrum certification from NTIA for new or improved radio systems, considering approaches that may use less spectrum or commercial services to meet their requirements. NTIA will develop a standard format for agencies to summarize these analyses, and review these analyses within its certification of spectrum support processes.

**Task F.1 – Improve the Technical Planning Process: *To be completed by December 2006.***

NTIA will work with federal agencies to develop a standard format for summarizing the analyses and assessments performed by the federal agencies to support the selection of spectrum dependent systems, and a process for reviewing these analyses.

## **PROJECT G: Improve Planning and Promote Use of Market-Based Economic Mechanisms in Spectrum Management**

NTIA will promote improved long-term spectrum planning and the implementation of spectrum efficiency incentives, where appropriate. NTIA will improve the federal government's long-range spectrum planning processes, support the Office of Management and Budget (OMB) in improving the consideration of spectrum as a resource when procuring spectrum-dependent systems, and develop a plan to identify and implement incentives to improve the efficiency of both government and private sector spectrum use.

**Task G.1 – Improve the Processes for Federal Agencies' Spectrum Planning and Produce a National Spectrum Plan: *Federal Strategic Spectrum Plan to be completed by May 2006; National Spectrum Plan to be completed by December 2007.***

**Task G.2 – Improve Federal Agencies’ Processes and Procedures to Better Consider the Economic Value of Spectrum When Investing in Spectrum-Dependent Systems: *OMB portion completed at the end of November 2004.***

**Task G.3 – Develop a Plan to Identify and Implement Incentives for Improving Efficiency in Federal Agencies’ Spectrum Use: *To be completed by November 2005.***

**Task G.4 – Promote the Implementation of a Wide Range of Incentives to Improve the Efficiencies of Both Government and Private Sector Spectrum Use: *Is on-going.***

While the above plan will result in the implementation of the recommendations submitted to the President, NTIA has already taken the following actions pursuant to the recommendations of the reports:

- To improve stakeholder participation, NTIA has established a high-level interagency advisory group, and an advisory committee composed of non-federal government representatives.
- To better serve U.S. global interests in international spectrum use, NTIA issued a report evaluating the U.S. preparatory process for World Radio Conferences (WRCs) and considering potential improvements to the process.<sup>8</sup>
- To leverage benefits of advanced information technologies (IT), NTIA launched a new system that coordinates frequency use between the private and public sectors in the 70/80/90 GHz range. NTIA continues to modernize its business practices and increase its efficiency through the application of IT.
- To facilitate the reallocation of federal spectrum to commercial uses, the Commercial Spectrum Enhancement Act was enacted on December 23, 2004. NTIA is working with the FCC to implement the provisions of the Act. As a result, 90 MHz of spectrum, half of which is federal spectrum slated to be reallocated to commercial use, will be auctioned as soon as June 2006 for advanced wireless services – supporting the President’s goal of universal, affordable access to broadband by 2007.

In addition, the Spectrum Initiative builds on the successful record of NTIA, which has improved access to spectrum for commercial and government uses in the following ways.

- In 2003 and 2004, NTIA reviewed and certified 375 requests from the Federal agencies for spectrum to support their future radiocommunications use for land mobile; surveillance; weapons control; meteorological; radionavigation; space; air-to-air, air-to-ground, and ground-to-ground voice; data transfer; video; microwave; and research and experimental operations.
- Recently, NTIA has led efforts to develop ways to allow commercial deployment of innovative technologies in spectrum bands currently used for federal operations.

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<sup>8</sup> National Telecommunications and Information Administration, U.S. Dep’t of Commerce, NTIA Special Report No. 05-427, *World Radio Conference – Recommendations for Improvement in the U.S. Preparatory Process*, (May 2005), available at [http://www.ntia.doc.gov/reports/wrc/wrc\\_05232005.pdf](http://www.ntia.doc.gov/reports/wrc/wrc_05232005.pdf).

- Based on its technical analysis, and in cooperation with the FCC, NTIA has enabled the operation of new technologies, such as Ultrawideband and Broadband Over Power Lines (BPL).
- NTIA is also working with the private sector and the Department of Defense (DoD) on a technical solution that may permit unlicensed broadband services to share 255 MHz of spectrum at 5 GHz available for unlicensed use with sensitive military radars.
- As part of the effort to improve coordination, FCC and NTIA leadership has also established regular biannual meetings to discuss plans and exchange information on various spectrum issues.<sup>9</sup>

## SECTION 1 - INTRODUCTION

### SPECTRUM POLICY FOR THE 21<sup>ST</sup> CENTURY

#### PLAN TO IMPLEMENT THE RECOMMENDATIONS OF THE PRESIDENT'S SPECTRUM POLICY INITIATIVE

*We must unlock the economic value and entrepreneurial potential of U.S. spectrum assets while ensuring that sufficient spectrum is available to support critical Government functions.*

*George W. Bush, Executive Memorandum, June 2003*

Wireless communications provide critical support to federal agency missions in service to the American people. They also support a wide array of commercial and non-federal government applications that provide efficiencies and innovations across our economy and that protect lives and property. To ensure the availability of wireless capabilities to meet our nation's needs and to ensure that wireless communications continue to spur economic growth, President George W. Bush established the Spectrum Policy Initiative in June 2003. Since that time, the need for spectrum to support commercial services as well as critical government missions such as national defense, public safety, homeland security, scientific research, and other uses has continued to increase. Commercial spectrum applications continue to grow as well. For example, in 2003 and 2004, NTIA addressed almost 185,000 assignment actions for federal government spectrum use. Today, there are over 182 million commercial mobile wireless subscribers - 23 million more than in 2003.<sup>10</sup> Technologies such as Wi-Fi, Wi-Max and cellular networks are increasingly seen as last mile broadband solutions that will assist in meeting the President's goal that all Americans should have universal, affordable access to broadband

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<sup>9</sup> The most recent meeting in November 2004 included discussions on joint participation in implementing this Initiative, establishment of a FCC/NTIA information technology partnership, the status of federal government spectrum relocation, Digital Television (DTV) migration, which will provide 24 MHz of spectrum for public safety, and preparations for the next World Radio Conference.

<sup>10</sup> CTIA – The Wireless Association™ *supra* note 2.

technology by 2007. There are now over 63,000 Wi-Fi hotspots around the world -- more than 25,000 in the United States alone -- compared to about 11,000 globally in 2003.<sup>11</sup>

In creating this Initiative, President George W. Bush recognized that the legal and policy framework for managing the use of the radio frequency spectrum has not kept pace with the increasing demand for spectrum or with advances in technologies that are available to provide government agencies and consumers a broadening range of wireless services. The President committed this Administration to promoting the development and implementation of a U.S. Spectrum Policy for the 21<sup>st</sup> Century. The President recognized that ensuring needed access to the spectrum resource is a critical element in satisfying diverse U.S. interests, such as national defense, public safety, transportation infrastructure, and scientific research. At the same time, the President recognized the importance of spectrum to innovation, job creation, economic growth, and consumer services. The President established the following goals for the initiative:

- Foster economic growth;
- Ensure our national and homeland security;
- Maintain U.S. global leadership in communications technology development and services; and
- Satisfy other vital U.S. needs in areas, such as public safety, scientific research, federal transportation infrastructure, and law enforcement.

The Department of Commerce's National Telecommunications and Information Administration (NTIA) sought comment from a broad range of stakeholders in satisfying the President's directive. NTIA organized the Federal Government Spectrum Task Force, an interagency advisory group formed to obtain the views of federal agencies on improving their use of spectrum. NTIA also sought the views of the private sector and of state, local, and regional governments for improving U.S. spectrum use as a whole.

In June 2004, the Department submitted to the President two reports containing the recommendations developed during this one-year analysis of spectrum policy issues. Report 1 contained recommendations of the Federal Government Spectrum Policy Task Force. Report 2 presented the recommendations from state and local governments, and from private sector responders, as expressed during a series of meetings and through written comments submitted to NTIA.

In a second Executive Memorandum, signed on November 30, 2004, the President directed the Department to submit, by May 2005, a plan to implement those recommendations of the Initiative that were not expressly directed to other agencies and offices. NTIA has defined seven projects that, taken together, present an implementation plan and address the recommendations of Reports 1 and 2, as directed by the President. The following projects aggregate related recommendations that NTIA staff will address:

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<sup>11</sup> JiWire™, *supra* note 3; Tedeschi, *supra* note 3.

- A. Improve Stakeholder Participation and Maintain High Qualifications of Spectrum Managers
- B. Reduce International Barriers to U.S. Innovations in Technologies and Services
- C. Modernize Federal Spectrum Management Processes with Advanced Information Technology
- D. Satisfy Public Safety Communication Needs and Ensure Interoperability
- E. Enhance Spectrum Engineering and Analytical Tools
- F. Promote Efficient and Effective Use of Spectrum
- G. Improve Planning and Promote Use of Market-based Economic Mechanisms in Spectrum Management

The Department will provide opportunities for the federal agencies to express their interests in the development of proposed spectrum policy reforms through working level groups, organized for each of the seven projects. The Federal Communications Commission (FCC) will also be invited to participate in these working groups.

While the following plan will result in the implementation of all of the recommendations submitted to the President, NTIA has already taken the following actions to implement recommendations of the reports:

- To improve stakeholder participation, NTIA has established a high-level interagency advisory group, the Policy and Plans Steering Group (PPSG). NTIA also established the Commerce Spectrum Management Advisory Committee (CSMAC), an advisory committee composed of non-federal government representatives.
- To better serve U.S. global interests in international spectrum use, NTIA has released a report exploring the U.S. preparatory process for World Radio Conferences (WRCs).<sup>12</sup>
- To leverage the benefits of advanced information technologies (IT), NTIA launched a new system that coordinates frequency use between the private and public sectors in the 70/80/90 GHz range. In addition, NTIA is modernizing its business practices and increasing the effective application of IT to improve federal spectrum management.
- To facilitate the reallocation of spectrum to commercial uses, NTIA worked with Congress to ensure passage of the Commercial Spectrum Enhancement Act, signed into law by President Bush on December 23, 2004. NTIA is working with the FCC to implement the provisions of the Act. As a result, 90 MHz of spectrum, half of which is federal spectrum slated to be reallocated to commercial use, will be auctioned as soon as June 2006 for advanced wireless services – supporting the President’s goal of

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<sup>12</sup> See Nat’l Telecomm. and Info. Admin., *supra* note 6.

universal, affordable access to broadband by 2007, which will result in the availability of 90 MHz of spectrum for advanced wireless services.

The Plan that follows consists of summary descriptions of each of the seven projects and their underlying tasks. Appendix 1 summarizes key deliverables and target dates.

## **SECTION 2 - PROJECT AND TASK DESCRIPTIONS**

### **PROJECT A: Improve Stakeholder Participation and Maintain High Qualifications of Spectrum Managers**

NTIA will increase the participation of stakeholders in the resolution of spectrum management issues and strategic spectrum planning, and will address human resource needs for effective spectrum management.

#### **Task A.1 – Establish a Commerce Spectrum Management Advisory Committee (CSMAC)**

NTIA established the Department's CSMAC in May 2005 to provide advice and recommendations to the Assistant Secretary for Communications and Information (Assistant Secretary) on a broad range of issues regarding spectrum policy, including the implementation of innovative technologies and services.

The CSMAC will operate in accordance with the Federal Advisory Committee Act. The membership of the committee will include senior representatives from the private sector and from non-federal government agencies. The Assistant Secretary will appoint the committee chair. NTIA expects to convene the first meeting of this committee later in 2005, and subsequent meetings at approximate six-month intervals thereafter.

#### **Task A.2 – Establish a High Level Interagency Advisory Group -- the Policy and Plans Steering Group (PPSG)**

In January 2005, NTIA established a senior-level interagency committee, the PPSG, in furtherance of the development of this Plan. The PPSG will advise the Assistant Secretary on difficult and pressing spectrum issues that affect federal agencies, thus speeding their resolution. PPSG members are Assistant Secretaries or their equivalents with spectrum management oversight in agencies that are major stakeholders in spectrum issues. Creation of the PPSG fulfills a recommendation in Report 1 to formalize the coordination process among agencies and to create an organization to provide advice to the Assistant Secretary on federal government spectrum issues, policies, and plans.

NTIA will staff, chair, and focus the activities of the PPSG. To promote effective coordination between the federal and private sectors, the Assistant Secretary has invited the FCC to participate in the PPSG. The Assistant Secretary may also seek the participation of any federal entity that is a stakeholder in a specific issue under consideration on an *ad hoc* basis.

### **Task A.3 – Resolve Inter-governmental Spectrum Disputes Through the Existing White House Policy Coordinating Committee (PCC) Process and Revise the NTIA/FCC MOU to Provide an Additional Minimum 15 Business Days to Accommodate the PCC Process**

Some spectrum policy issues or specific policy proposals may be of such magnitude and complexity that they cannot be resolved among the federal agencies or between the affected federal and non-federal spectrum users. These differences may affect critical government missions such as national security, public safety, federal agency missions, as well as critical economic or trade opportunities involving innovative technologies and services. NTIA will convene the PPSG to resolve these issues whenever possible. The existing White House Policy Coordinating Committee (PCC) process is designed, however, to serve as a mechanism to resolve issues on those rare occasions where the stakeholders cannot reach agreement and the issues are not resolved through the PPSG. The Assistant Secretary or a representative who is an Assistant Secretary or higher of an affected federal agency, may request PCC review of these issues.

Report 1 recommended a specific change to the 2003 memorandum of understanding between the FCC and NTIA to give the Executive Branch an additional 15 days to review a proposed FCC action in any proceeding that has become the subject of PCC review. NTIA will forward draft language to the FCC to implement this change by March 2006.

### **Task A.4 – Expand the Role of the FCC Defense Commissioner**

Under the provisions of title 47, section 0.181 of the Code of Federal Regulations, the FCC Defense Commissioner directs the homeland security, national security and emergency preparedness, and defense activities of the Commission.<sup>13</sup> Report 1 recommended that the Assistant Secretary of Commerce work closely with the FCC to ensure that NTIA and the FCC fully consider the concerns of the agencies affected by national security, homeland security, public safety, and federal transportation infrastructure issues during the course of FCC rulemaking proceedings. Report 1 also recommended the formalization of this cooperative arrangement by modifying the rule to include the coordination of those critical government missions.

NTIA will work with the FCC to modify 47 CFR section 0.181 to include the coordination of public safety activities as well as “national security, homeland security, and federal transportation infrastructure activities” as being within the purview of the Defense Commissioner at the FCC. In drafting the foregoing amendment, NTIA and the FCC will determine: (1) which federal agencies should be included under the FCC’s Defense Commissioner’s purview; and (2) which structural revisions in NTIA and the FCC are needed to ensure proper consideration of critical national security issues. Following these determinations, NTIA will submit a proposed rule change to the FCC for action by March 2006.

### **Task A.5 – Promote a Career Development Program and Spectrum Management Training**

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<sup>13</sup> 47 CFR § 0.181 (2004).

Report 1 recognized that effective spectrum management requires a well-trained, motivated workforce. NTIA will examine and recommend a training curriculum for spectrum management personnel in various technical disciplines, and related fields including economics and public policy. This could include certification curricula and ways to make the courses available to a broad cross-section of spectrum managers. Actual courses may be available through partnerships with local educational institutions, through government programs or staff, or through contractual assistance from professional educators or acknowledged experts.

## **PROJECT B: Reduce International Barriers to U.S. Innovations in Technologies and Services**

NTIA will continue to propose improvements to serve U.S. global interests in spectrum use and improvements to the processes used by the United States in preparation for WRCs. Further, NTIA will evaluate and make recommendations for spectrum policies regarding the potential for reducing barriers affecting implementation of new U.S. telecommunications technologies internationally. NTIA also will examine the issue of how the U.S. can balance the costs and benefits of globalization and harmonization of spectrum use and interoperability in a flexible manner.

### **Task B.1 – Improve U.S. Preparations for World Radiocommunication Conferences (WRCs)**

WRCs provide an opportunity for the United States to establish international agreements on spectrum use proposals that affect long-term national interests. Preparations for these intermittent conferences are time consuming and resource intensive. Report 2 recommended specific improvements to this process.

NTIA, with the assistance of other federal agencies and in coordination with the State Department and the FCC, has examined the U.S. preparatory activities for recent WRCs. NTIA has also explored options for improving these preparatory activities to enhance the effectiveness of U.S. participation in future conferences, issuing a report in May 2005 focusing on the U.S. WRC preparatory process.<sup>14</sup> Working with these same U.S. government organizations, NTIA will promote improvements in preparations for the next WRC.

### **Task B.2 – Improve International Spectrum Management Policies and Regulatory Environment**

Spectrum-based services, operations, and technologies are increasingly international in nature. U.S. policies and positions in international fora and within the international regulatory and procedural framework for international spectrum management are critically important to the success of new U.S. technologies and to U.S. federal and non-federal radiocommunication interests. To implement the recommendations of Report 2, NTIA will address and make recommendations as appropriate to federal agencies, which may include the State Department. Some recommended changes may also concern the FCC. The recommendations will focus on:

- barriers to the global implementation of U.S. technology and services,

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<sup>14</sup> See Nat'l Telecomm. and Info. Admin., *supra* note 8.

- cross-border coordination processes with administrations in neighboring countries,
- U.S. technical, administrative, and financial contributions to organizations involved in international spectrum policy issues, and
- balancing costs and benefits of global harmonization and interoperability of spectrum.

NTIA will participate in international fora discussing the international regulatory and procedural framework to promote a framework increasingly responsive to new technologies and services of interest to the United States. To obtain more insight into progressive spectrum management policies and tools and to promote the U.S. goals within the President's Initiative, NTIA also will review steps taken by other administrations and regional bodies. This outreach program will include sharing with other administrations and organizations concepts for spectrum management and reform.

### **PROJECT C: Modernize Federal Spectrum Management Processes with Advanced Information Technology**

NTIA will seek to satisfy the needs of NTIA and the federal agencies for effective and efficient spectrum management and facilitate shared spectrum use between the public and private sectors through improved information technology.

#### **Task C.1 – Implement Advanced Information Management Systems**

In February 2005, NTIA launched a new system that can coordinate frequency use between the private and public sectors in the 70/80/90 GHz range within seconds. Moreover, NTIA is modernizing its information technology systems to better support spectrum management business practices. NTIA is also developing a partnership agreement with the DoD and the FCC to harmonize and standardize the necessary IT processes (including the coordination process) used to manage the spectrum efficiently and effectively in both the short and long terms.

Report 1 recommended that NTIA implement advanced information technology capabilities to modernize existing processes and procedures. Through this task, NTIA will expand its efforts to digitize paper-based processes and procedures associated with coordination of operations, assignment of frequencies, and certification of new radio systems. NTIA will also improve existing procedures internally and in collaboration with other federal agencies for authorizing and coordinating spectrum use. Specific activities are already underway focusing on modernizing NTIA's business processes. The Paperless Spectrum Management Initiative leveraged business process reengineering, and Enterprise Architecture principles and methods to develop new ways of doing business and to increase the effective application of IT. This project aligns the overall architecture for NTIA's spectrum management IT and all of NTIA's business processes associated with spectrum management.

### **PROJECT D: Satisfy Public Safety Communication Needs and Ensure Interoperability**

The safety and security of the American public requires coordinated efforts and communications among public safety organizations. In the Executive Memorandum, the President directed the Department of Homeland Security (DHS), in consultation with the Department of Commerce and other agencies, to identify public safety spectrum requirements,

and to develop a comprehensive Spectrum Needs Plan to address spectrum issues related to the public safety community, as well as the continuity of Government operations. DHS will conduct an inventory of the spectrum requirements of the public safety community, identify the major public safety requirements for spectrum-dependent services at local, regional and state government agencies, and analyze the efficiency and effectiveness of the spectrum used by the public safety community. DHS, in coordination with NTIA and other organizations, will also develop a comprehensive plan to address the spectrum requirements of the public safety community.

#### **Task D.1 – Spectrum Sharing Between Federal and Non-federal Public Safety Agencies**

NTIA, in coordination with DHS and with the assistance of the federal agencies and the FCC, will examine the feasibility of sharing spectrum among commercial, federal and local public safety, and critical infrastructure applications through a public safety demonstration program. The program chosen for examination is likely to be a program currently underway in order to avoid duplication of effort, reduce costs, and benefit from the potential synergies. This task will require close liaison with and support of DHS. NTIA will consider the potential to leverage this sharing demonstration with the pilot program for spectrum sharing addressed in Task E.3.

Depending upon the demonstration selected, the project may require special temporary authorizations and rule waivers during the demonstration phase and permanent changes in both NTIA regulations and FCC rules to permit authorization of joint-use stations. NTIA, or the non-federal public safety agencies, may be required to petition the FCC to take specific actions and initiate specific rulemakings. NTIA will aggressively prioritize any needed changes to its own regulations and work closely with the FCC to ensure that the FCC considers and processes requests for rule changes and/or waivers in a timely manner.

### **PROJECT E: Enhance Spectrum Engineering and Analytical Tools**

To support the goal of efficient and effective use of spectrum, NTIA will conduct a comprehensive review of existing spectrum uses, promote spectrum engineering best practices, and develop a pilot program for investigating the impacts of new technologies and services. These efforts will also focus on the development of modern analytic tools and will promote their use by U.S. spectrum managers.

#### **Task E.1 – Develop Analytic Approaches, Software Tools, and Engineering Techniques for Evaluating and Improving the Efficiency and Effectiveness of Federal Spectrum Use**

NTIA, with assistance from the federal agencies, will develop standardized methods for evaluating the efficiency of spectrum use by the federal government agencies to satisfy their missions effectively. NTIA will apply the methods developed in a review of the federal government's spectrum uses, to be conducted over a five-year period based on the outcome of this task and will start in 2007.

Drawing from previous work and available expertise, NTIA will develop draft metrics for evaluating achievable technical efficiency in spectrum use under specific operational conditions. NTIA will specifically: (1) determine and characterize current spectrum use by the federal

government; (2) describe how the current approval process influences spectrum efficiency or effectiveness; and (3) propose potential improvements, including the use of new technologies, spectrum management practices, standards, or policies that affect efficiency.

### **Task E.2 – Develop and Promote Recognition in the Spectrum Management Community for Best Practices in Spectrum Engineering**

NTIA will produce a handbook documenting the best practices in spectrum engineering for use by regulators, technology developers, manufacturers, and service providers. This “Best Practices Handbook” (BPH) will bring together a common set of approaches for conducting engineering analyses and will develop a common set of criteria for performing technical studies to evaluate emerging technologies. NTIA will solicit comments from the public, and once finalized, may adopt sections into the NTIA Manual as appropriate. The BPH is intended to guide the technical discourse on policy issues involving the potential interference impact of one system or technology on another, rather than be prescriptive or programmatic.

### **Task E.3 – Conduct a Pilot Program to Evaluate Approaches and Techniques to Increase Spectrum Sharing Between Federal and Non-federal Spectrum Users**

Report 1 called for the development of a plan to increase sharing and establish a pilot program within two years in which NTIA and the FCC would each identify approximately 10 MHz of spectrum as a test bed for shared federal and non-federal use from bands allocated either on an exclusive or shared basis. The test bed will provide a means for evaluating emerging technologies and expanded services as well as provide opportunities to develop processes for intra-government cooperation and spectrum sharing in other contexts.

Building on NTIA experiences with Ultrawideband, BPL, and 5 GHz, NTIA will work with the FCC and other relevant federal agencies to identify candidate bands for use in the pilot program. As part of the test bed activities, NTIA will develop objectives, rules, guidelines, and responsibilities needed for the cooperative effort among government agencies and with the private sector. NTIA will evaluate the success of these efforts and suggest new policies and procedures to govern the future structure and execution of coordinated sharing activities among NTIA, the FCC, and other interested parties.

Except for initial start-up planning, NTIA will operate the pilot spectrum test bed through use of one or more interagency agreements or cooperative research agreements undertaken by NTIA’s Institute for Telecommunication Sciences (ITS) and other federal laboratories. NTIA will complete the pilot program by June 2006 and will provide results and recommendations of the pilot program by September 2008.

### **Task E.4 – Develop and Promote the Use of Modern Analytic Tools for Spectrum Engineering**

NTIA will provide federal and non-federal spectrum managers with modern analytic tools to manage the spectrum efficiently and effectively. New analytic and procedural methodologies developed and included in the BPH will serve as the technical basis for more advanced tools in the future.

NTIA, with the assistance of the federal agencies and the FCC, will develop and maintain a comprehensive chart of all activities regarding ongoing spectrum engineering and analysis

model development at NTIA. These activities include making information available to federal agencies regarding the availability of adequate documentation and testing, making information available to federal agencies on the purchase of commercial products, when appropriate, dealing with spectrum engineering and analysis, and developing and maintaining a comprehensive summary of known capabilities addressing spectrum engineering from multiple government and commercial sources.

## **PROJECT F: Promote Efficient and Effective Use of Spectrum**

Report 1 stressed that agencies should implement policies and procedures to evaluate their proposed needs for use of the spectrum before seeking spectrum certification from NTIA for new or improved radio systems, considering approaches that may use less spectrum or commercial services to meet their requirements. NTIA will develop a standard format for agencies to summarize these analyses, and review these analyses within its certification of spectrum support processes.

### **Task F.1 – Improve the Technical Planning Process**

NTIA will work with federal agencies to develop a standard format for summarizing the analyses and assessments performed by the federal agencies to support the selection of spectrum dependent systems (and consider the use of commercial services, when appropriate), and a process for reviewing these analyses.

## **PROJECT G: Improve Planning and Promote Use of Market-Based Economic Mechanisms in Spectrum Management**

NTIA will promote improved long-term spectrum planning and increase the use of market-based economic mechanisms in spectrum management. NTIA will improve the federal government's long-range spectrum planning processes, support agencies' efforts to better consider the economic value of spectrum in major spectrum-dependent investments, and develop a plan to identify and implement incentives to improve the efficiency of both government and private sector spectrum use.

### **Task G.1 – Improve the Processes for Federal Agencies' Spectrum Planning and Produce a National Spectrum Plan**

NTIA will assist the federal agencies in developing strategic spectrum plans and consolidate these plans into a National Strategic Spectrum Plan. NTIA will request each federal agency to define its projected requirements for access to the spectrum and to update those requirements biennially. NTIA will incorporate into this Plan information from the National Public Safety Spectrum Needs Plan to be prepared under this initiative by DHS. NTIA will also encourage state, regional, and local government agencies to synthesize long-range planning processes into a Non-Federal Government Strategic Spectrum Plan, which would also provide input into the National Strategic Spectrum Plan. NTIA will also invite the FCC to provide information concerning future requirements of non-federal government spectrum users for incorporation into the National Strategic Spectrum Plan.

NTIA will provide guidance to the agencies, including a template defining the nature, scope, content, and format for the information on spectrum requirements that the agencies will supply to NTIA. NTIA will convene a series of meetings, in coordination with federal agency spectrum managers, to develop a common structure for the various spectrum plans that the federal agencies will prepare. By November 2005, NTIA will determine, in coordination with the FCC, the agencies' current spectrum requirements, the form and content of this information, and the nature and scope of the agencies' current long range planning processes and any additional spectrum requirements.

### **Task G.2 – Improve Federal Agencies' Processes and Procedures to Better Consider the Economic Value of Spectrum When Investing in Spectrum-Dependent Systems**

Report 1 recommended that OMB and NTIA explore improved procedures for agencies to use in considering the value of spectrum when planning investments in major spectrum-dependent systems. As directed by the President's November 30 Executive Memorandum, OMB issued guidance to federal agencies and directed them to consider the value of spectrum in developing their fiscal year 2007 budget requests for spectrum-dependent systems. Today, the federal agencies use a variety of approaches in budget planning for proposed investments in wireless systems, which may not consider the value of spectrum in comparing different investments. NTIA, in coordination with the federal agencies and OMB, will review the federal budget processes currently used at agencies to plan for proposed investments in wireless systems, and develop recommendations for considering the economic value of spectrum.

### **Task G.3 – Develop a Plan to Identify and Implement Incentives for Improving Efficiency in Federal Agencies' Spectrum Use**

NTIA will develop a plan for identifying and implementing incentives that promote more efficient use of spectrum, while protecting national and homeland security, critical infrastructure, and government services. NTIA will examine economic models to determine spectrum value. Recognizing that market-based incentives may not be appropriate for all federal radio services and in all bands, NTIA will recommend applying these incentives only in appropriate situations. NTIA will review current and alternative incentives, including the appropriateness of incentives used for private sector services and the fees currently assessed to federal agencies.

As part of this study, NTIA will consider, in consultation with the federal agencies: (1) user fees for government spectrum use, methodologies for setting fees for specific spectrum uses, and their effect on efficiency; (2) incentives allowing agencies to benefit from reducing or eliminating spectrum use; (3) options for giving agencies greater flexibility in managing their frequency assignments, including shared use and trading among federal and non-federal users; (4) incentives for use of more spectrally efficient systems; (5) possible models and methods for assigning monetary value to given portions of the spectrum; (6) incentives for agencies willing to be "first buyers" or anchor tenants for commercial services or technologies that result in decreased reliance on spectrum; and (7) legislation necessary for implementing incentives as appropriate.

NTIA will hold one or more public seminars involving government spectrum users, economists, academic professionals, and others to evaluate the advantages and disadvantages of particular incentives. NTIA will incorporate its findings into the Plan and will report on progress

in identifying appropriate incentives in the annual reports submitted to the President, recommending legislative proposals as appropriate.

**Task G.4 – Promote the Implementation of a Wide Range of Incentives to Improve the Efficiencies of Both Government and Private Sector Spectrum Use**

The FCC has adopted economic mechanisms of various types in recent years, such as competitive bidding, increased license flexibility, and some use of secondary markets. These tools, when applied appropriately, promote efficient and effective allocation of spectrum. The Administration has proposed legislation to provide the FCC the authority to extend permanent auction authority and establish market-based incentives, such as user fees on unauctioned commercial spectrum. The Administration has also proposed establishment of fees on analog television spectrum licenses held after the December 31, 2006 deadline for transition to digital broadcasting, to encourage broadcasters to return spectrum in a timely fashion. NTIA will work with the Congress, the FCC, and other Administration agencies to advance legislation for the efficient use of spectrum.

Report 2 also stated that the Administration should continue its support of legislation to establish a spectrum relocation fund to streamline the process for reimbursing government spectrum users to facilitate their relocation to comparable spectrum. The Commercial Spectrum Enhancement Act (Act) was enacted on December 23, 2004. The Act provides a mechanism for reimbursing federal agencies from auction proceeds for the costs of relocating their operations to other frequencies, allowing greater certainty for federal agencies and those seeking to provide advanced wireless services in these bands. NTIA is working with the FCC and other federal agencies to implement the Act by developing relocation cost estimates and a schedule for relocation of 45 MHz of federal spectrum – half of the 90 MHz for advanced wireless services slated for auction in mid-2006.

## *Appendix 1*

### **Overview of Key Deliverables and Target Dates**

#### **Project A: Improve Stakeholder Participation and Maintain High Qualifications of Spectrum Managers**

- |  |   |
|--|---|
| <b>A.1.</b> Establish a Commerce Spectrum Management Advisory Committee  | <b>Chartered in May, 2005</b>   |
| <b>A.2.</b> Establish a High Level Interagency Advisory Group -- Policy and Plans Steering Group (PPSG)  | <b>Established January 2005</b>   |
| <b>A.3.</b> Resolve Inter-governmental Spectrum Disputes Through the Existing White House Policy Coordinating Committee (PCC) Process and Revise the NTIA/FCC MOU to Provide an Additional Minimum 15 Business Days to Accommodate the PCC Process | <b>PCC is on-Going; with respect to the MOU, NTIA to submit proposed language to the FCC by March 2006.</b> |
| <b>A.4.</b> Expand the Role of the FCC Defense Commissioner.   | <b>NTIA to submit proposed language to the FCC by March 2006</b>  |
| <b>A.5.</b> Promote a Career Development Program and Spectrum Management Training  | <b>To be completed by September 2007</b>  |

#### **Project B: Reduce International Barriers to U.S. Innovations in Technologies and Services**

- |   |  |
|---|--|
| <b>B.1.</b> Improve U.S. Preparations for World Radiocommunication Conferences (WRCs)     | <b>Issued report May 2005</b>                      |
| <b>B.2.</b> Improve International Spectrum Management Policies and Regulatory Environment | <b>Recommendations to be provided by June 2006</b> |

#### **Project C: Modernize Federal Spectrum Management Processes with Advanced Information Technology**

- |   |                    |
|---|--------------------|
| <b>C.1.</b> Implement Advanced Information Management Systems | <b>Is on-going</b> |
|---|--------------------|

**Project D: Satisfy Public Safety Communication Needs and Ensure Interoperability**

**D.1.** Spectrum Sharing between Federal and Non-federal Public Safety Agencies **To be completed by December 2006**

**Project E: Enhance Spectrum Engineering and Analytical Tools**

**E.1.** Develop Analytic Approaches, Software Tools, and Engineering Techniques for Evaluating and Improving the Efficiency and Effectiveness of Federal Spectrum Use **To be completed by September 2007**

**E.2.** Develop and Promote Recognition in the Spectrum Management Community for Best Practices in Spectrum Engineering **To be completed by November 2007**

**E.3.** Conduct a Pilot Program to Evaluate Approaches and Techniques to Increase Spectrum Sharing Between Federal and Non-federal Spectrum Users **Pilot Program to be completed by June 2006. Results and recommendations of Pilot Program are to be completed by September 2008**

**E.4.** Develop and Promote the Use of Modern Analytic Tools for Spectrum Engineering **Is on-going**

**Project F: Promote Efficient and Effective Use of Spectrum**

**F.1.** Improve the Technical Planning Process **To be completed by December 2006**

**Project G: Improve Long-term Planning and Promote Use of Market-Based Economic Mechanisms in Spectrum Management**

**G.1.** Improve the Processes for Federal Agencies' Spectrum Planning and Produce a National Spectrum Plan **Federal Strategic Spectrum Plan to be completed by May 2006; National Spectrum Plan to be completed by December 2007**

**G.2.** Improve Federal Agencies' Processes and Procedures to Better **OMB portion**

Consider the Economic Value of Spectrum When Investing in Spectrum-Dependent Systems

**G.3.** Develop a Plan to Identify and Implement Incentives for Improving Efficiency in Federal Agencies' Spectrum Use

**G.4.** Promote the Implementation of a Wide Range of Incentives to Improve the Efficiencies of Both Government and Private Sector Spectrum Use

**completed at the end of November 2004**  
**To be completed by November 2005**  
**Is on-going**

## **Annual Reports**

As directed by the President's Executive Memorandum of May 30, 2005, in November 2005 and every year thereafter the Secretary of Commerce will submit a report to the President describing the progress in implementing the recommendations of the reports submitted in June 2004.

## *Appendix 2*



For Immediate Release  
Office of the Press Secretary  
June 5, 2003

### **Presidential Memo on Spectrum Policy**

Memorandum for the Heads of Executive Departments and Agencies

Subject: Spectrum Policy for the 21st Century

The radio frequency spectrum is a vital and limited national resource. Spectrum contributes to significant technological innovation, job creation, and economic growth, and it enables military operations, communications among first responders to natural disasters and terrorist attacks, and scientific discovery.

Recent years have witnessed an explosion of spectrum-based technologies and uses of wireless voice and data communications systems by businesses, consumers, and Government. Today there are over 140 million wireless phone customers and, increasingly, businesses and consumers are installing systems that use unlicensed spectrum to allow wireless data, called Wireless Fidelity (WiFi), on their premises. The Federal Government makes extensive use of spectrum for radars, communications, geolocation/navigation, space operations, and other national and homeland security needs. We must unlock the economic value and entrepreneurial potential of U.S. spectrum assets while ensuring that sufficient spectrum is available to support critical Government functions.

The existing legal and policy framework for spectrum management has not kept pace with the dramatic changes in technology and spectrum use. Under the existing framework, the Government generally reviews every change in spectrum use, a process that is often slow and inflexible, and can discourage the introduction of new technology. Some spectrum users, including Government agencies, maintain that the existing spectrum process is insufficiently responsive to the need to protect current critical uses.

My Administration is committed to promoting the development and implementation of a U.S. spectrum policy for the 21st century that will: (a) foster economic growth; (b) ensure our national and homeland security; (c) maintain U.S. global leadership in communications technology development and services; and (d) satisfy other vital U.S. needs in areas such as public safety, scientific research, Federal transportation infrastructure, and law enforcement. My Administration has already proposed several legislative changes or program initiatives to improve elements of the spectrum management process. These proposals would greatly enhance the Government's ability to efficiently manage spectrum. To further promote the development and implementation of a U.S. spectrum policy for the 21st century, I hereby direct the following:

Section 1. Establishment. There is established the "Spectrum Policy Initiative" (the "Initiative") that shall consist of activities to develop recommendations for improving spectrum management policies and procedures for the Federal Government and to address State, local, and private spectrum use. The Secretary of Commerce shall chair and direct the work of the Initiative. The Initiative shall consist of two courses of spectrum-related activity: (a) an interagency task force that is created by section 3 of this memorandum; and (b) a series of public meetings consistent with section 4 of this memorandum. The interagency task force and the public meetings shall be convened under the auspices of the Department of Commerce and used by the Department to develop spectrum management reform proposals.

Sec. 2. Mission and Goals. The Initiative shall undertake a comprehensive review of spectrum management policies (including any relevant recommendations and findings of the study conducted pursuant to section 214 of the E-Government Act of 2002) with the objective of identifying

recommendations for revising policies and procedures to promote more efficient and beneficial use of spectrum without harmful interference to critical incumbent users. The Department of Commerce shall prepare legislative and other recommendations to:

- (a) facilitate a modernized and improved spectrum management system;
- (b) facilitate policy changes to create incentives for more efficient and beneficial use of spectrum and to provide a higher degree of predictability and certainty in the spectrum management process as it applies to incumbent users;
- (c) develop policy tools to streamline the deployment of new and expanded services and technologies, while preserving national security, homeland security, and public safety, and encouraging scientific research; and
- (d) develop means to address the critical spectrum needs of national security, homeland security, public safety, Federal transportation infrastructure, and science.

Sec. 3. Federal Government Spectrum Task Force. There is hereby established the Federal Government Spectrum Task Force (the "Task Force") to focus on improving spectrum management policies and procedures to stimulate more efficient and beneficial use of Government spectrum. The Secretary of Commerce, or the Secretary's designee under this section, shall serve as Chairman of the Task Force.

(a) Membership of the Task Force. The Task Force shall consist exclusively of the heads of the executive branch departments, agencies, and offices listed below:

- (1) the Department of State;
- (2) the Department of the Treasury;
- (3) the Department of Defense;
- (4) the Department of Justice;
- (5) the Department of the Interior;
- (6) the Department of Agriculture;
- (7) the Department of Commerce;
- (8) the Department of Transportation;
- (9) the Department of Energy;
- (10) the Department of Homeland Security;
- (11) the National Aeronautics and Space Administration;
- (12) the Office of Management and Budget;
- (13) the Office of Science and Technology Policy;
- (14) such other executive branch departments, agencies, or offices as the Chairman of the Task Force may designate; and
- (15) subject to the authority of the Director of the Office of Management and Budget, the Office of Project SAFECOM.

A member of the Task Force may designate, to perform the Task Force functions of the member, any person who is a part of the member's department, agency, or office, and who is a full-time officer or employee of the Federal Government.

(b) Functions of the Task Force. The functions of the Task Force are advisory and shall include, but are not limited to, producing a detailed set of recommendations for improving spectrum management policies and procedures to stimulate more efficient and beneficial use of spectrum by the Federal Government. The recommendations shall be consistent with the objectives set out in section 2 of this memorandum. The Task Force may hold meetings to obtain information and advice concerning spectrum policy from individuals in a manner that seeks their individual advice and does not involve collective judgment or consensus advice or deliberation. At the direction of the Chairman, the Task Force may establish subgroups consisting exclusively of Task Force members or their designees under this section, as appropriate.

Sec. 4. Recommendations to Address State, Local, and Private Spectrum Use. Consistent with the objectives set out in section 2 of this memorandum, the Department of Commerce, separately from the Task Force process, shall, in accordance with applicable law, conduct public meetings that will assist with that Department's development of a detailed set of recommendations for improving policies and procedures for use of spectrum by State and local governments and the private sector, as well as the spectrum management process as a whole. These meetings will involve public events to provide an opportunity for the input of the communications industry and other interested parties. Participants may include spectrum users, wireless equipment vendors, financial and industry analysts, economists, technologists, and consumer groups. Interested Federal, State,

and local government agencies will be welcome to attend and participate. The Federal Communications Commission is also encouraged to participate in these activities and to provide input to the National Telecommunications and Information Administration at the Department of Commerce on these issues.

Sec. 5. Reports. The Secretary of Commerce, or the Secretary's designee, shall present to me, through the Assistant to the President for Economic Policy and Director of the National Economic Council and the Assistant to the President for National Security Affairs, in consultation with the Assistant to the President for Homeland Security, two separate reports no later than 1 year from the date of this memorandum, one of which shall contain recommendations developed under section 3 of this memorandum by the Task Force and the other containing recommendations developed under section 4.

Sec. 6. General Provisions.

(a) The heads of Federal Government departments and agencies shall assist the Chairman of the Task Force established by section 3 and provide information to the Task Force consistent with applicable law as may be necessary to carry out the functions of the Task Force. Each Federal department and agency shall bear its own expense for participating in the Task Force. To the extent permitted by law and within existing appropriations, the Department of Commerce shall provide funding and administrative support for the Task Force.

(b) Nothing in this memorandum shall be construed to impair or otherwise affect the functions of the Director of the Office of Management and Budget relating to budget, administrative, or legislative proposals.

Sec. 7. Judicial Review. This memorandum is intended only to improve the internal management of the Federal Government and is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or equity by a party against the United States, its departments, agencies, instrumentalities or entities, its officers or employees, or any other person. Sec. 8. Publication. The Secretary of Commerce is authorized and directed to publish this memorandum in the Federal Register.

GEORGE W. BUSH

## *Appendix 3*



For Immediate Release  
Office of the Press Secretary  
November 30, 2004

### **Presidential Determination: Memorandum for the Heads of Executive Departments and Agencies**

MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

SUBJECT: Improving Spectrum Management for the 21st Century

In May 2003, I established the Spectrum Policy Initiative to promote the development and implementation of a U.S. spectrum management policy for the 21st century. This initiative will foster economic growth; promote our national and homeland security; maintain U.S. global leadership in communications technology; and satisfy other vital U.S. needs in areas such as public safety, scientific research, Federal transportation infrastructure, and law enforcement.

The existing legal and policy framework for spectrum management has not kept pace with the dramatic changes in technology and spectrum use. Under the existing framework, the Federal Government generally reviews every change in spectrum use. This process is often slow and inflexible and can discourage the introduction of new technologies. Some spectrum users, including Government agencies, have argued that the existing spectrum process is insufficiently responsive to the need to protect current critical uses.

As a result, I directed the Secretary of Commerce to prepare recommendations for improving spectrum management. The Secretary of Commerce then established a Federal Government Spectrum Task Force and initiated a series of public meetings to address improvements in policies affecting spectrum use by the Federal Government, State, and local governments, and the private sector. The recommendations resulting from these activities were included in a two-part series of reports released by the Secretary of Commerce in June 2004, under the title Spectrum Policy for the 21st Century - The Presidents Spectrum Policy Initiative (Reports).

Therefore, to the extent permitted by law and within existing appropriations, I hereby direct the heads of executive departments and agencies (agencies) to implement the recommendations in the Reports as follows:

#### Section 1. Office of Management and Budget.

Within 6 months of the date of this memorandum, the Office of Management and Budget (OMB) shall provide guidance to the agencies for improving capital planning and investment control procedures to better identify spectrum requirements and the costs of investments in spectrum-dependent programs and systems. Within 1 year of the date of this memorandum, agencies shall implement methods for improving capital planning and investment control procedures consistent with the OMB guidance, including making any modifications to agency capital planning procedures necessary to ensure greater consideration of more efficient and cost-effective spectrum use.

#### Section 2. Other Executive Departments and Agencies.

(a) Within 1 year of the date of this memorandum, the heads of agencies selected by the Secretary of Commerce shall provide agency-specific strategic spectrum plans (agency plans) to the Secretary of Commerce that include: (1) spectrum requirements, including bandwidth and frequency location for future technologies or services; (2) the planned uses of new technologies or expanded services requiring spectrum over a period of time agreed to by the selected agencies; and (3) suggested spectrum efficient approaches to meeting identified spectrum requirements. The heads of agencies shall update their agency plans biennially. In addition, the heads of agencies will implement a formal process to evaluate their proposed needs for spectrum. Such process shall include an analysis and assessment of the options available to obtain the associated communications services that are most spectrum-efficient and the effective alternatives available to meet the agency mission requirements. Heads of agencies shall provide their analysis and assessment to the National Telecommunications and Information Administration (NTIA) for review when seeking spectrum certification from the NTIA.

(b) Within 6 months of the date of this memorandum, the Secretary of Homeland Security, in coordination with the Secretary of Commerce and, as appropriate, the Chairman of the Federal Communications Commission, and considering the views of representatives from: (1) the public safety community, (2) State, local, tribal, and regional governments; and (3) the private sector, shall identify public safety spectrum needs.

(c) Within 1 year of the date of this memorandum, the Secretary of Homeland Security, in consultation with the Secretary of Commerce, the Director of the Office of Science and Technology Policy, the Director of the Office of Management and Budget, the Attorney General, the Secretaries of State, Defense, Transportation, Agriculture, and the Interior, the heads of other appropriate agencies, and, as appropriate, the Chairman of the Federal Communications Commission, shall develop a comprehensive plan, the Spectrum Needs Plan, to address issues related to communication spectrum used by the public safety community, as well as the continuity of Government operations. The Spectrum Needs Plan shall be submitted to the President through the Assistant to the President for Homeland Security, in coordination with the Assistant to the President for Economic Policy and other relevant components of the Executive Office of the President.

### Section 3. Department of Commerce.

(a) Within 6 months after receiving the agency plans developed in section 2(a) of this memorandum, the Secretary of Commerce shall integrate the agency plans and Spectrum Needs Plan, based upon a Department of Commerce framework, into a Federal Strategic Spectrum Plan and shall assist in the formulation of a National Strategic Spectrum Plan. The Secretary of Commerce, in consultation with the Chairman of the Federal Communications Commission, as appropriate, shall update the National Strategic Spectrum Plan on a biennial basis thereafter.

(b) Within 1 year of the date of this memorandum, the Secretary of Commerce, in coordination with other relevant Federal agencies identified by the Secretary, shall develop a plan for identifying and implementing incentives that promote more efficient and effective use of the spectrum while protecting national and homeland security, critical infrastructure, and Government services.

(c) Within 6 months of the date of this memorandum, the Secretary of Commerce shall establish a plan for the implementation of all other recommendations included in the Reports. Not more than 1 year from the date of this memorandum, the Secretary of Commerce shall provide to the President a report describing the progress on implementing the recommendations in the Reports. The report shall include a section prepared by the Secretary of Homeland Security that describes the progress made with respect to public safety spectrum issues. This report shall be updated on an annual basis, until completion of the actions required by this memorandum. The heads of agencies shall provide the Secretary of Commerce and the Secretary of Homeland Security with any assistance or information required in the preparation of the annual report.

(d) The plans in sections 3(a)-(c) and the annual report developed in section 3(c) of this memorandum shall be submitted to the President through the Assistant to the President for Economic Policy, in

coordination with the Assistant to the President for National Security Affairs and other relevant components of the Executive Office of the President.

(e) As appropriate, the Secretary of Commerce and heads of other agencies shall consult with the Chairman of the Federal Communications Commission regarding the implementation of the recommendations in the Reports.

#### Section 4. General.

(a) Nothing in this memorandum shall be construed to impair or otherwise affect the functions of the Director of the Office of Management and Budget relating to budget, administrative, or legislative proposals.

(b) This memorandum is intended only to improve the internal management of the Federal Government and is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity, by a party against the United States, its departments, agencies, entities, instrumentalities, its officers or employees, or any other person.

(c) This order shall be implemented in a manner consistent with existing statutes, treaties, Executive Agreements, and Executive Orders affecting the operation of any of the departments, agencies, or instrumentalities of the Federal Government.

GEORGE W. BUSH

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