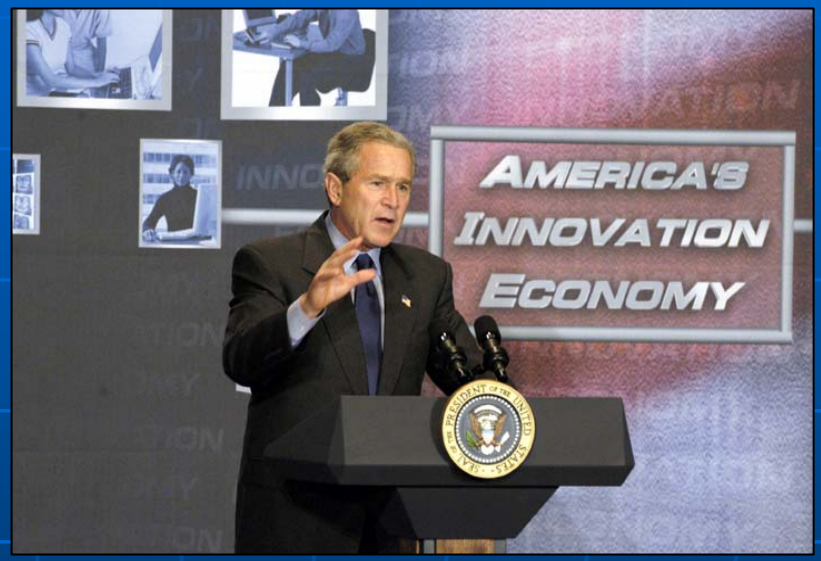
The President's Spectrum Policy Initiative



THE PRESIDENT'S SPECTRUM POLICY INITIATIVE

SPECTRUM MANAGEMENT FOR THE 21ST CENTURY

SPECTRUM MANAGEMENT REFORM

Presentation
To

The National Academies Committee on Radio Frequencies (CORF)

by

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OVERVIEW

- Spectrum Management in the United States
- President’s Spectrum Policy Initiative
- Spectrum Management Reform … in General
- Spectrum Management Reform Activities
- Federal Strategic Spectrum Plan

SPECTRUM MANAGEMENT REFORM

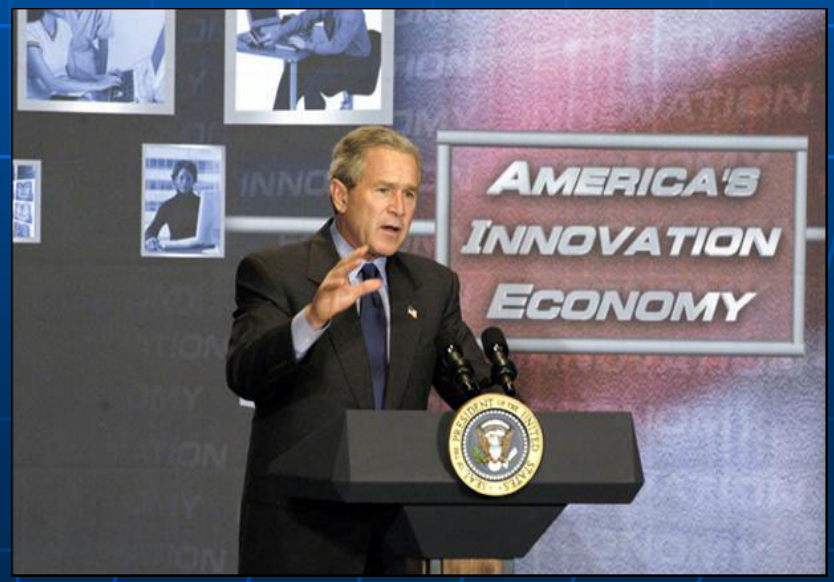
WHY IS REFORM NECESSARY ????

We need to MODERNIZE TO:

- **Encourage telecommunications and economic growth**
- **Ensure spectrum for national and homeland security**
- **Ensure ease of adopting advanced technologies**
- **Satisfy spectrum needs rapidly**
- **Satisfy other vital spectrum needs such as public safety, *scientific research*, transportation infrastructure and law enforcement**

U.S. FEDERAL SPECTRUM MANAGEMENT REFORM

- NTIA's Role in Spectrum Management
- President's Spectrum Policy Reform Initiative



U.S. Spectrum Management Organization

Communications Act of 1934

Executive Branch
(President)

NTIA

Federal Users

National Defense
Law Enforcement,
Homeland Security &
Emergency Services
Transportation
Resource Mgmt & Control

Legislative Branch
(Congress)

FCC

Non-Federal Users

Commercial
Private/Public
Business
State & Local Government
Broadcasting & Media

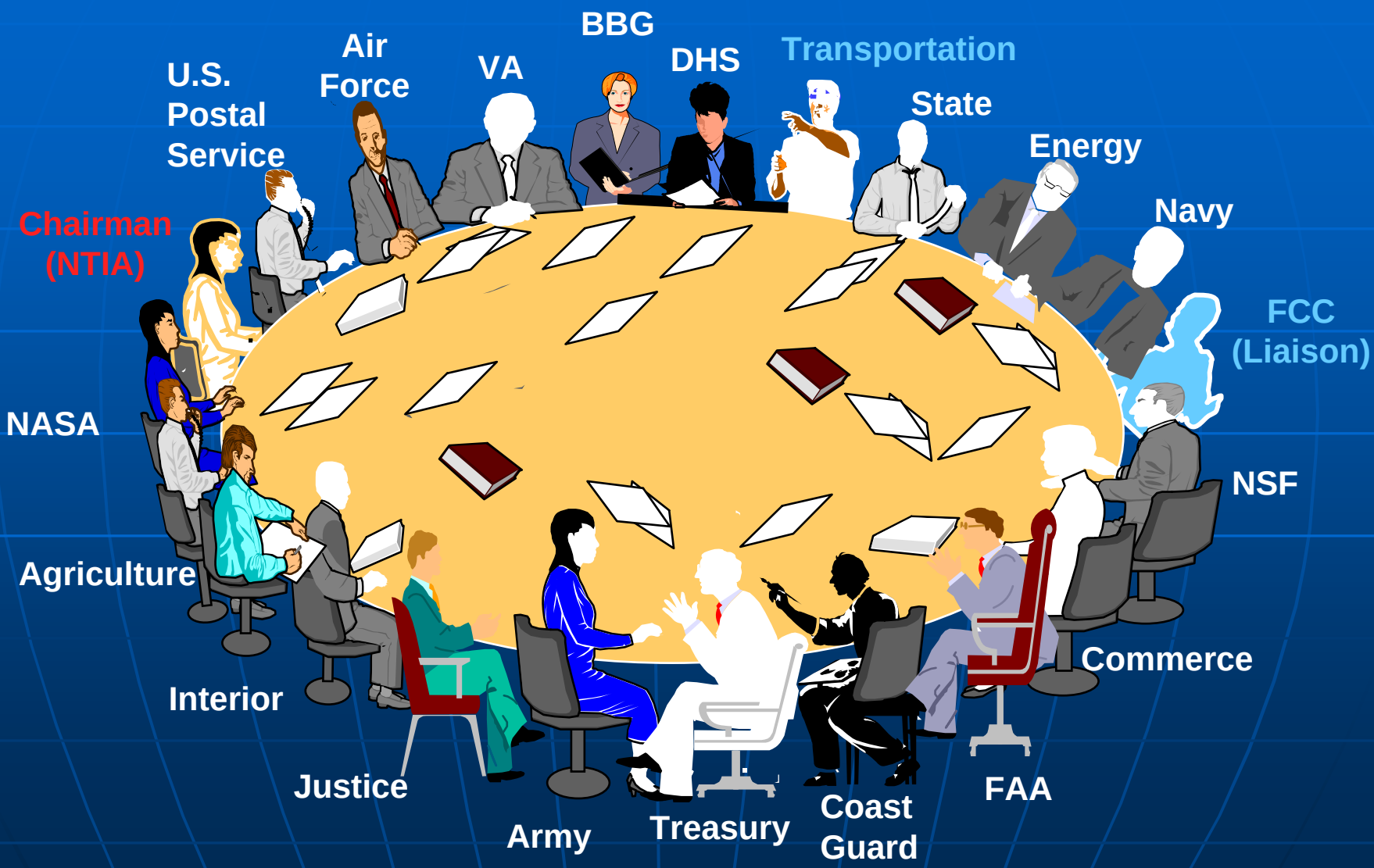
COORDINATION

ADVISORY

LIAISON

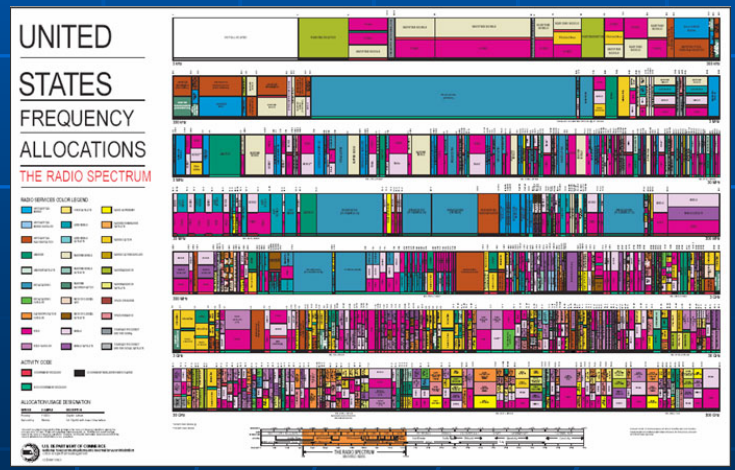
INTERDEPARTMENT RADIO ADVISORY COMMITTEE
(IRAC)
Chaired by NTIA
Representing 20 Federal Agencies

Interdepartment Radio Advisory Committee (IRAC)



The National Telecommunications and Information Administration (NTIA)

- **Principal adviser to the President on telecommunications and information policy issues**
- **Represent the Executive Branch in international & domestic telecommunications policy activities**
- ***Manage Federal Government use of frequency spectrum***
- Perform telecommunications research and engineering for both the Federal Government and the private sector



- BASED ON THE TELECOMMUNICATIONS AUTHORIZATION ACT OF 1992

The President's Spectrum Policy Initiative

"The existing legal and policy framework for spectrum management has not kept pace with the dramatic changes in technology and spectrum use."

- President George W. Bush, Presidential Memorandum, May 29, 2003

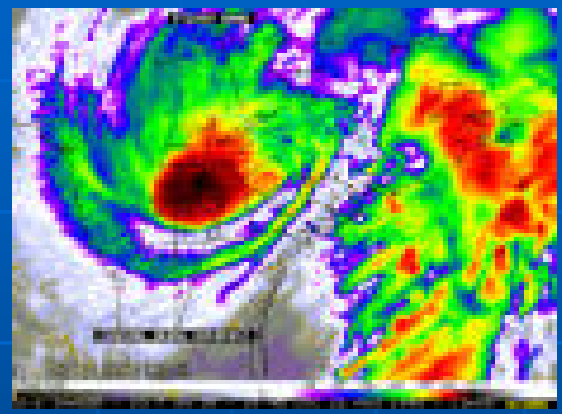
- **Committed the Administration to develop a comprehensive U.S. spectrum policy for the 21st century**
- **The Secretary of Commerce was charged to lead this initiative**

Major Goals
Spectrum Reform Initiative

- Encourage economic growth
- Ensure national and homeland security
- Ensure communications technology development and services
- Satisfy other vital U.S. needs such as public safety, ***scientific research***, federal transportation infrastructure and law enforcement

Spectrum Policy Vision

- The timely deployment of new products and services *benefit society*
- Market-driven competition *results in benefits to everyone*
- Assured availability of public services is *a prerequisite to economic growth*
- National defense, homeland security and public safety are *critical spectrum uses requiring access to spectrum and protection from interference*



Some Goals of U.S. Spectrum Reform

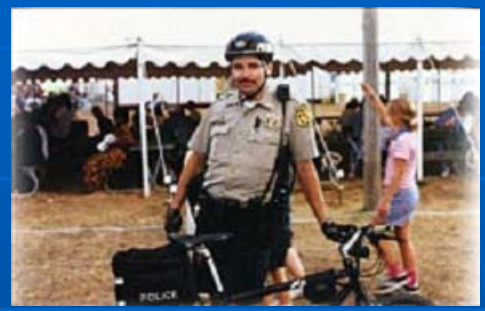
- Identify critical spectrum requirements of the United States, including those for national defense and homeland security, public safety, transportation, and science
- Create incentives for efficient and beneficial use of the spectrum
- Promote the implementation of new and expanded radiocommunication services and technologies

Supporting New Technologies

- Spectrum management should facilitate the introduction of new technologies
- Processes for allocating spectrum and licensing systems, both in government and private sector, should be improved
- Unlicensed systems (such as wi-fi, ultra-wideband and others) should protect private sector and government users operating pursuant to primary allocations
- Government spectrum managers should have spectrum management training and have access to information on technological developments

Public Safety Interoperability and Communications Survivability

- Recent natural disasters and 9/11 showed that more progress is needed on public safety interoperability
- NTIA works with Homeland Security, DOD, FAA and other agencies to identify means to facilitate interoperability
- Technical methods to improve interoperability are being tested and evaluated
- NTIA will have a role in supporting implementation of E-911



Responding to the President's Directive

During 2003 -2004, the Secretary of Commerce:

- **Created a Federal Government Spectrum Task Force to develop recommendations for improving the federal agencies' use of the spectrum**

- **Conducted public meetings and obtained comments from a wide range of stakeholders on how to improve U.S. spectrum management (including management of spectrum use by federal, state, local, and private sector entities)**
- **Prepared two reports with recommendations which were released on June 24, 2004**
  - **Report 1: "Recommendations of the Federal Government Spectrum Task Force"**
  - **Report 2: "Recommendations from State and Local Governments and the Private Sector Responders"**

Responding to the President's Directive

- The 24 Recommendations focused on the following issues:
  - Modernize and Improve the Spectrum Management System
  - Establish incentives for achieving improved efficiencies in spectrum use and for providing incumbent users more certainty of protection from unacceptable interference
  - Promote the timely implementation of new technologies and services while preserving national and homeland security, enabling public safety, and encouraging scientific research
  - Develop means to address the spectrum needs of critical governmental missions

Spectrum Report Recommendations

OBJECTIVE A: Facilitate a Modernized & Improved Spectrum Management System

- Consistent Methods for Assessing New Technologies
- Best Practices Handbook
- Application of Information Technology
- Spectrum Manager Career Development Program
- Spectrum Management Advisory Committee
- International Spectrum Management Policies
- Spectrum Management Tools for Coordinating New Services and Managing Interference
- Spectrum Management Training

Spectrum Report Recommendations

OBJECTIVE B: Facilitate Policy Changes To Create Incentives For More Efficient & Beneficial Use Of Spectrum & To increase Predictability & Certainty For Incumbent Spectrum Users

- Capital Planning Process
- Technical Planning Process
- Use of Efficient Technologies for Effective Radiocommunications
- Incentives for Use of Efficient Radiocommunication Systems
- Economic and Regulatory Incentives
  - Spectrum fees
  - Secondary markets
  - Other methods

Spectrum Report Recommendations

OBJECTIVE C: Develop Policy Tools to Streamline Deployment of New & Expanded Services & Technologies While Preserving National & Homeland Security & Public Safety, & Encouraging Research

- ***Federal (NTIA) Strategic Spectrum Plan***
- ***National (NTIA and FCC) Strategic Spectrum Plan***
- **Facilitation of Interoperability & Continuity of Government Communications**
- **Spectrum Sharing Innovation Test-Bed**
- **Characterization of New Technology & Expanded Services & Their Impact**
- **Emerging Technologies and Innovation**
- **Information Technology to Modernize Spectrum Management**

Spectrum Report Recommendations

OBJECTIVE D: Develop Means to Address the Critical Spectrum Needs of National & Homeland Security, Public Safety, Federal Transportation Infrastructure & Science

- Policy & Plans Steering Group (PPSG)
- Policy Coordinating Committee (PCC)
- Formalize Arrangement with FCC Defense Commissioner
- ***Long-Range Spectrum Planning***
- Unsatisfied Spectrum Requirements for Public Safety

Long Range Spectrum Planning
Federal Strategic Spectrum Plan

- Federal agencies submitted agency-specific strategic spectrum plans – November 2005
- Plans provide current bands used, bandwidth, new technologies and future requirements
- NTIA is writing the Federal Strategic Spectrum Plan based on the agency plans and other information

Federal Agencies
Agency - Specific Strategic Spectrum Plans

- Department of Agriculture
- ***Department of Commerce***
- Department of Defense
- Department of Energy
- Department of Homeland Security
- Department of the Interior
- Department of Justice
- Department of State
- Department of Transportation
- Department of Treasury
- Board of Broadcasting Governors
- U.S. Postal Service
- ***National Science Foundation***
- Coast Guard
- ***NASA***

Federal Agency Strategic Spectrum Plans Initial Observations

- Federal agencies are using new technologies to make more efficient use of existing allocations
- Agencies are using more commercial facilities and services: satellite, commercial wireless, unlicensed
- IP-focus for communications and information is a major factor in new system design, and future spectrum requirements, e.g., everything is digital
- Public safety interoperability and continuity of government are major factors in future planning

RADIO ASTRONOMY
SPACE RESEARCH
REMOTE PASSIVE / ACTIVE SENSING
METEOROLOGICAL SATELLITE SERVICES

RELEVANT AGENCY-SPECIFIC STRATEGIC SPECTRUM PLANS

- NSF
- DOC
- NASA

SPECTRUM REQUIREMENTS DATA SAMPLES

23.6-24.0 GHz	EESS (Passive)	Space Research	NASA
52.6-54.25 GHz	EESS (Passive)	Space Research	NASA
119.98-122.25 GHz	EESS (Passive)	Space Research	NASA
1400-1427 MHz	Radio Astronomy	Radio Astronomy	NSF
2380 MHz	Arecibo radar astronomy		NSF
300-1000 GHZ	Future Requirements	Radio Astronomy	NSF
6425-7025 MHz	Satellite Passive Sensing		DOC NOAA
13.25-13.75 GHz	Satellite Active Sensing	NPOESS Altimeter	DOC NOAA

Summary
U.S. Spectrum Management Reform

- Spectrum dependent services are the backbone of our nation.
- Spectrum is the engine for economic growth and job creation.
- Administration is committed to spectrum policies that establish a domestic and international environment for economic growth while removing barriers to the timely implementation of American innovation in new technologies and services.
- NTIA strategy for 5-10 years will result in spectrum policy that satisfies the United States' requirements for using the spectrum domestically and globally.

SPECTRUM MANAGEMENT FOR THE 21ST CENTURY

A United States Policy Initiative

NTIA Website

http://ntia.doc.gov

NTIA Spectrum Reform website:

http://spectrumreform.ntia.doc.gov