Role of National Science and Technology Council

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Office of Science & Technology Policy

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2009 National State Liaison Officers Conference

Office of Science & Technology Policy

The President of the United States

Executive Office of the President

- Office of Management and Budget
- Office of Science and Technology Policy
- National Security Staff
- Other Offices: OVP, NSC, etc

Federal S&T Organizations

Office of Science & Technology Policy

- Dr. John Holdren – Director and Advisor for Science and Technology to the President
  - Dr. Aneesh Chopra – Associate Director for Technology and Chief Technology Officer to the President
  - Shere Abbott – Associate Director for Environment
  - To be filled – Associate Director for Science
  - To be filled – Associate Director for National Security and International Affairs

OSTP Organization

Science Directorate:

- Physical Sciences and Engineering
- Life Sciences

Technology Directorate :

- Technology
- Space and Aeronautics
- Telecommunications and Information Technology

National Security and International Affairs Directorate:

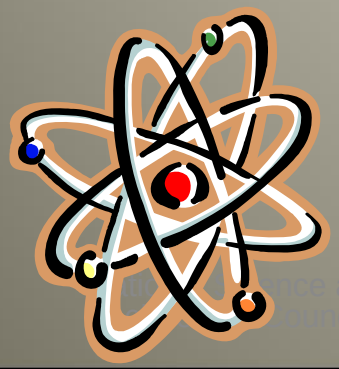
- Chemical, Biological, Nuclear, Radiological Threats
- Biometrics

Environment Directorate:

- Environmental Sciences

Breadth of Activities

- Climate Change Research
- Agricultural Issues (Genetically Modified Organisms, Food Safety, etc)
- Environment (mercury, dioxin, etc)
- Visa issues impacting scientists and students
- Telecommunications/Information Technology
- Energy policy (fusion, fuel cells...)
- National Nanotechnology initiative
- Balance (Physical science/Life science)
- Countering Terrorism with Science

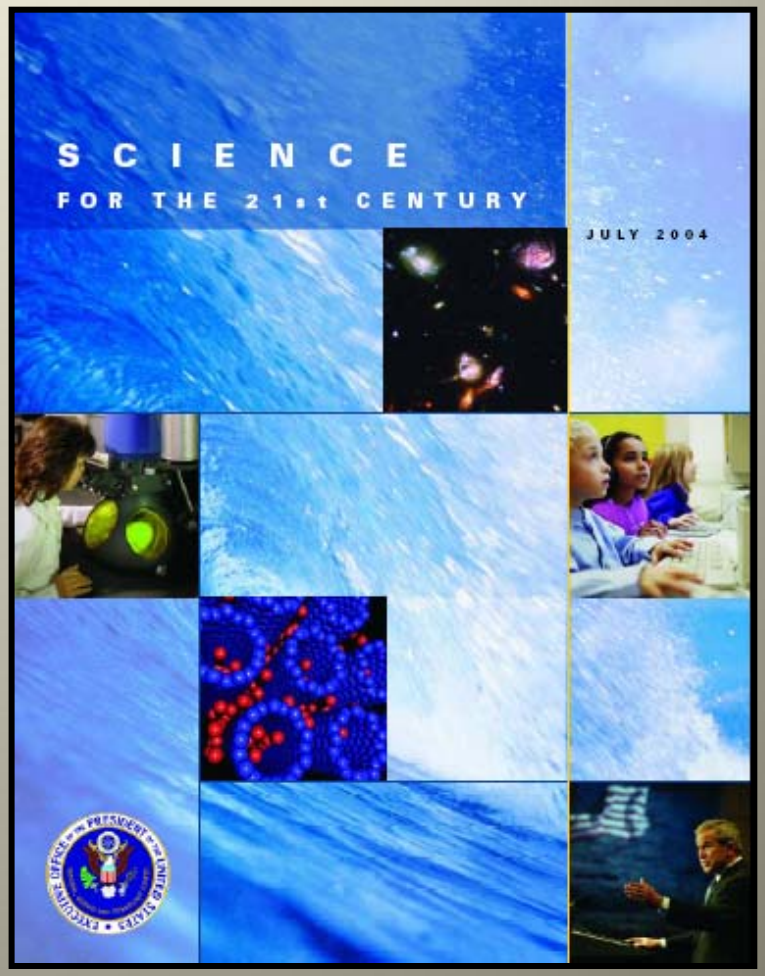


OSTP's Mission

- Advise the President and others within the EOP on the impacts of science and technology on domestic and international affairs
- Lead interagency effort to develop and implement sound S&T policies and budgets
- Work with the private sector to ensure Federal investments in science and technology contribute to economic prosperity, environmental quality, and national security
- Build strong partnerships among Federal, State, and local governments, other countries, and the scientific community
- Evaluate the scale, quality, and effectiveness of the Federal effort in science and technology

Role of Government in Advancing Science

- The four major responsibilities of the federal science enterprise are to:
  - Promote discovery and sustain the excellence of the Nation's scientific research enterprise
  - Respond to the Nation's challenges with timely, innovative approaches
  - Invest in and accelerate the transformation of science into national benefits
  - Achieve excellence in science and technology education and in workforce development



Role of Government in Meeting the Challenge

- Assist in the identification of priority cross-community needs
- Invest in cutting-edge basic research that produces new discoveries that can result in significant advancements and technologies for the future
- Describe government needs in as specific terms as possible so that industry and academia can devote resources to solving real problems
- Where appropriate, provide resources and/or guidance to overcome those obstacles that the community is unable to provide on its own

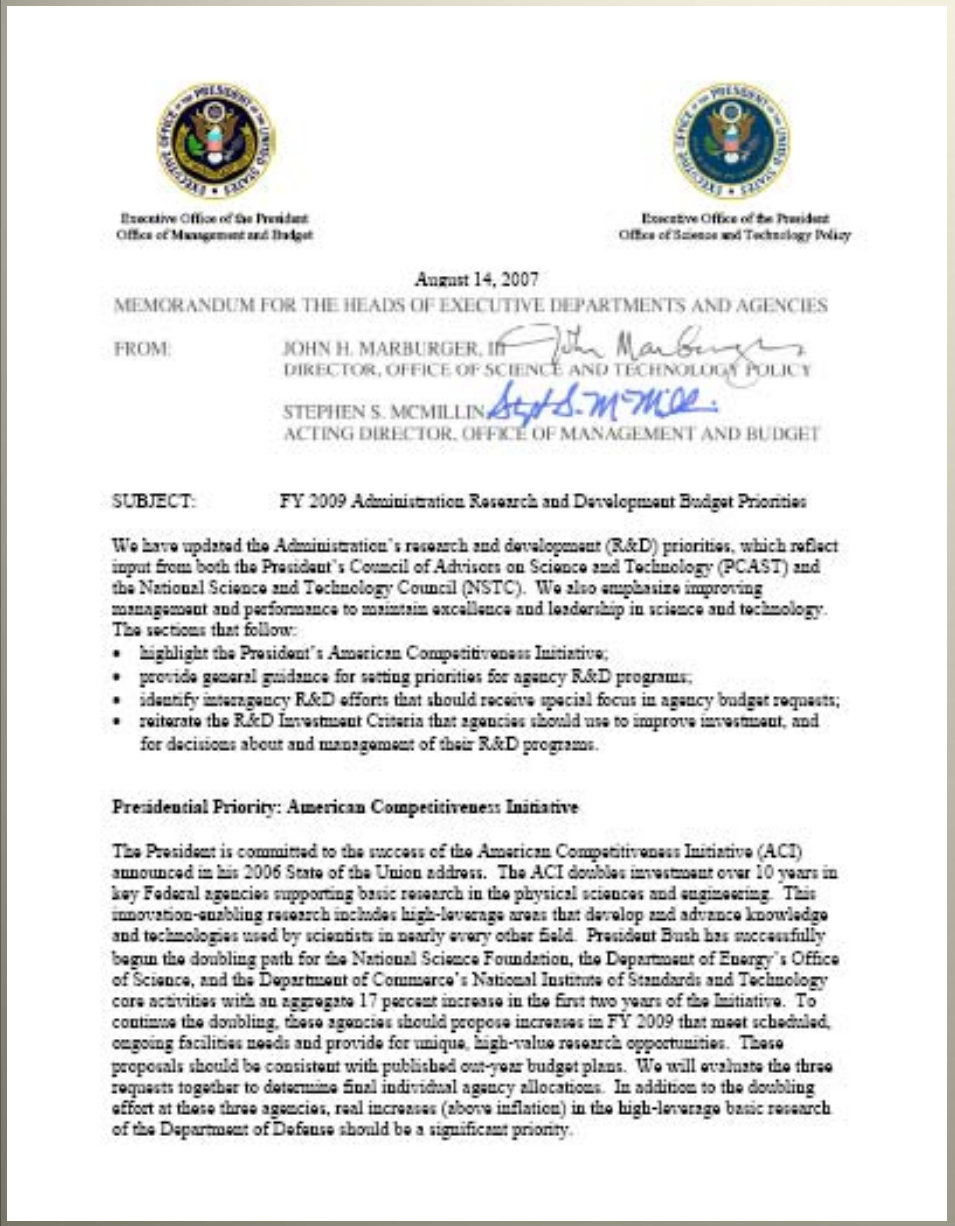
Federal Role continued…

- Maximize efficiency and effectiveness of the federal research, development, testing and evaluation enterprise by:
  - Planning activities across the federal government to meet interagency needs
  - Selecting activities through competitive, peer-reviewed award and review processes
  - Ensuring activities meet scientific and privacy-rights standards
- Where necessary, participate in standards development, standards adoption, conformance test tool development, and conformity assessment system development

Federal Role continued…

- Assist in the promotion of a scientifically literate population and a supply of qualified technical personnel commensurate with national needs
- Strengthen international partnerships in order to foster the advancement and standardization of technologies

R&D Budget Guidance Memo



Executive Office of the President
Office of Management and Budget

Executive Office of the President
Office of Science and Technology Policy

August 14, 2007

MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

FROM: JOHN H. MARBURGER, III
DIRECTOR, OFFICE OF SCIENCE AND TECHNOLOGY POLICY

STEPHEN S. MCMILLIN
ACTING DIRECTOR, OFFICE OF MANAGEMENT AND BUDGET

SUBJECT: FY 2009 Administration Research and Development Budget Priorities

We have updated the Administration's research and development (R&D) priorities, which reflect input from both the President's Council of Advisors on Science and Technology (PCAST) and the National Science and Technology Council (NSTC). We also emphasize improving management and performance to maintain excellence and leadership in science and technology. The sections that follow:

- highlight the President's American Competitiveness Initiative;
- provide general guidance for setting priorities for agency R&D programs;
- identify interagency R&D efforts that should receive special focus in agency budget requests;
- reiterate the R&D Investment Criteria that agencies should use to improve investment, and for decisions about and management of their R&D programs.

Presidential Priority: American Competitiveness Initiative

The President is committed to the success of the American Competitiveness Initiative (ACI) announced in his 2006 State of the Union address. The ACI doubles investment over 10 years in key Federal agencies supporting basic research in the physical sciences and engineering. This innovation-enabling research includes high-leverage areas that develop and advance knowledge and technologies used by scientists in nearly every other field. President Bush has successfully begun the doubling path for the National Science Foundation, the Department of Energy's Office of Science, and the Department of Commerce's National Institute of Standards and Technology core activities with an aggregate 17 percent increase in the first two years of the Initiative. To continue the doubling, these agencies should propose increases in FY 2009 that meet scheduled, ongoing facilities needs and provide for unique, high-value research opportunities. These proposals should be consistent with published out-year budget plans. We will evaluate the three requests together to determine final individual agency allocations. In addition to the doubling effort at these three agencies, real increases (above inflation) in the high-leverage basic research of the Department of Defense should be a significant priority.

Issued each year by the Directors of OMB and OSTP

- Memo issued August 2007 was for FY09 Budget
  - Discusses key administration priorities
  - Names technology areas for agencies to emphasize in their budget planning
  - 2007 memo (FY09): "Defense against the threat of a domestic nuclear event: Development of transformational capabilities for the stand-off detection of nuclear materials must proceed as rapidly as possible. Emphasis is needed on R&D to better understand and mitigate the social and economic effects of a domestic nuclear explosion, including better tools to treat the injured and means for rapidly assessing damage to critical infrastructure and developing recovery options."

S&T Budgeting at Macro Level

1. OSTP & OMB issue guidance memorandum on R&D priorities

2. Agencies prepare and submit proposed budgets to OMB

3. Passback, negotiations, & appeals between agencies and EOP

4. President makes final decisions and sends Budget Request to Congress

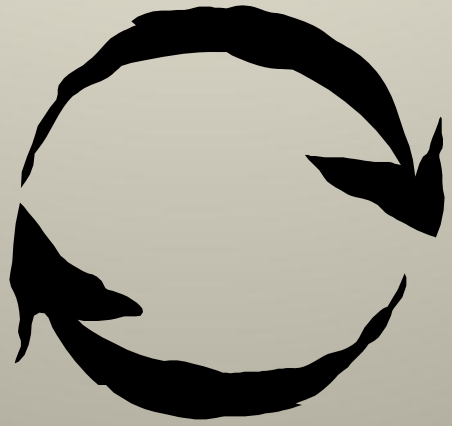
5. Congress reviews, considers, & approves *overall* Budget Request

6. Appropriations hearings with agencies & EOP on individual programs

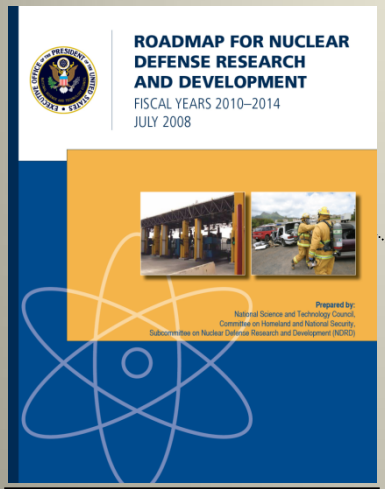
7. Congress marks up & passes agency appropriations bills

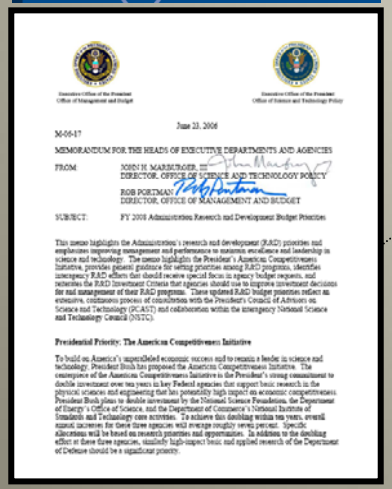
8. President signs or vetoes appropriations bills

9. Agencies make decisions on allocation of resources consistent with enacted appropriations and program plans



What about Roadmaps or Challenge Documents?



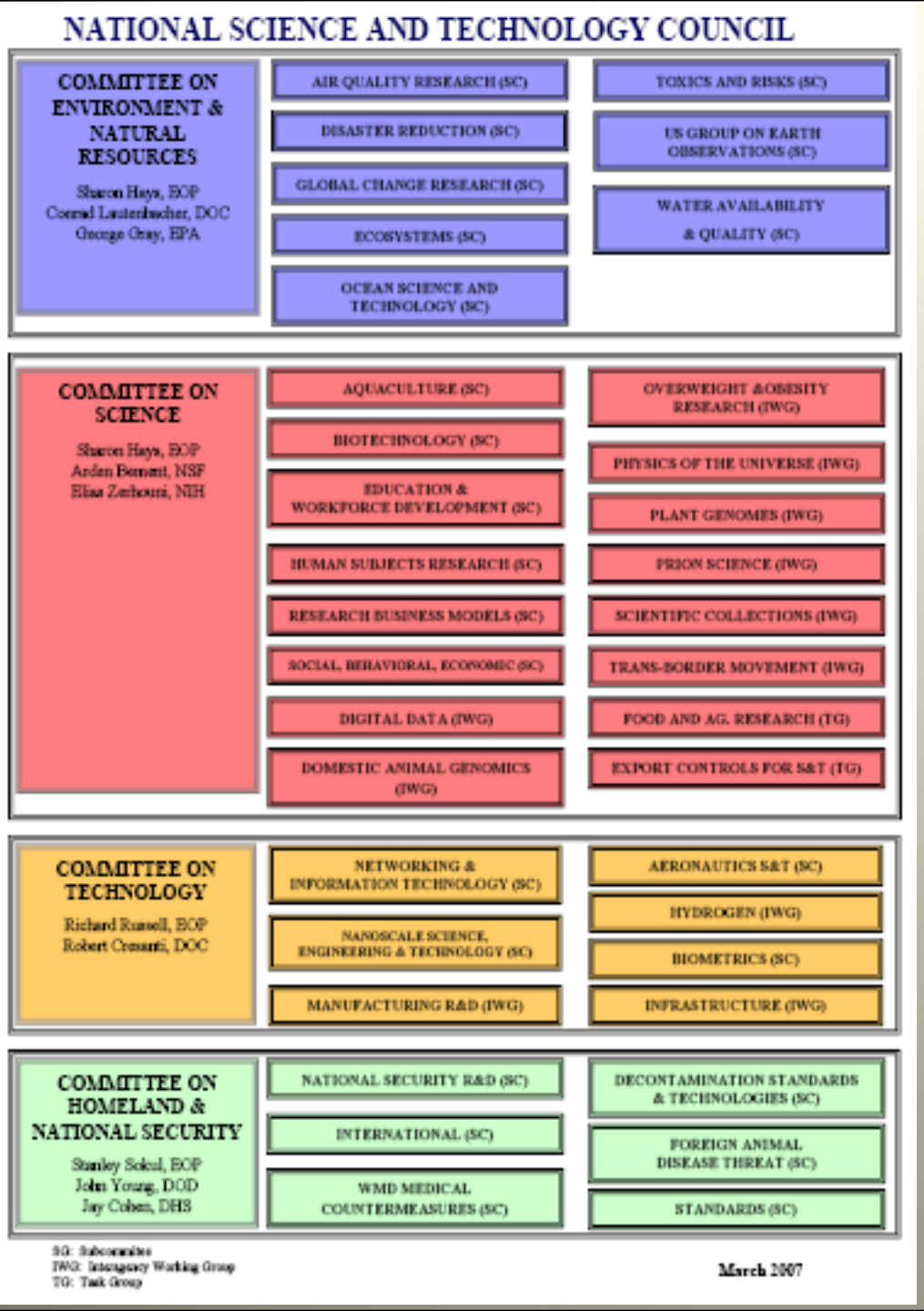


- Interagency Policy (NSTC)
- Competing Priorities
  - Ops vs R&D?
  - Priority A or B?
- Administration Priorities
- OMB instructions

- S&T PMs
- Policy & Budget
- Department Policy & Budget
- OMB Analysis & Budgeting
- EOP Review
- Agency Passback

Action

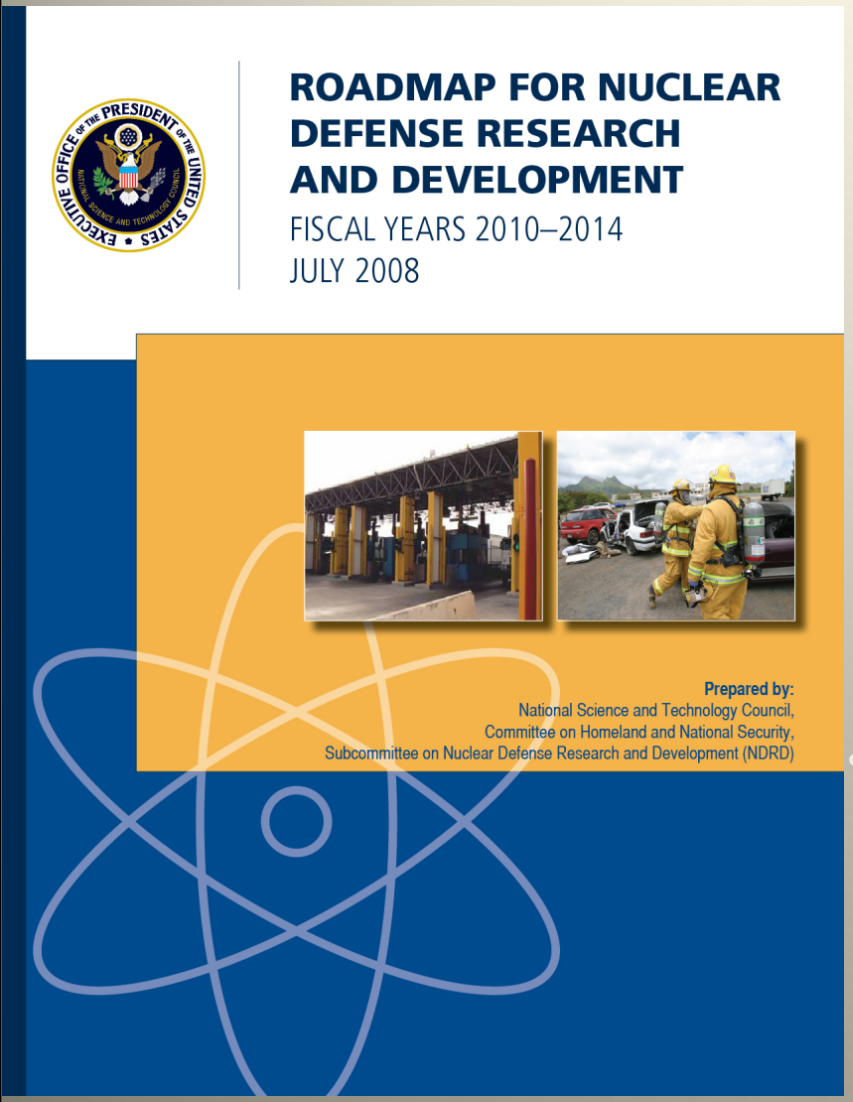
Influence



National Science and Technology Council (NSTC)

The NSTC was established by Executive Order in 1993. This Cabinet-level Council is the principal means within the executive branch to coordinate science and technology policy across the diverse entities that make up the Federal research and development enterprise.

Subcommittee on NDRD



Chair: OSTP

Membership:

- U.S. Department of Defense (DOD)
- Department of Energy (DOE)
- Department of Health and Human Services (HHS)
- Department of Homeland Security (DHS)
- Department of Justice (DOJ)
- Department of State (DOS)
- Director of National Intelligence (DNI)
- Environmental Protection Agency (EPA)
- Nuclear Regulatory Commission (NRC)
- National Science Foundation (NSF)

Representation from White House Staff

- Office of Science & Technology Policy (OSTP)
- Homeland Security Council (HSC)
- National Security Council (NSC)
- Office of Management and Budget (OMB)
- Office of the Vice President (OVP)

Subcommittee on NDRD

Charter (Highlights)

- Catalog current and programmed RN countermeasure R&D activities
- Develop a mechanism and criteria for high-level prioritization of unique capability needs to reduce the major risks associated with a radiological or nuclear attack, including user requirements and threat characterization
- Perform and document a gap analysis of required capabilities addressed by technology against the list of ongoing and future programs
- Identify technology shortfalls, as well as redundancies and program activities
- Provide guidance on options and trade-offs to establish a robust R&D program for the USG
- Document the path forward for iteratively assessing and improving the capabilities in the future

NDRD Scope

- The scope of RDT&E activities addressed by the prioritization ranges from basic science to technology transition and operational evaluation
- Functional areas considered within individual working groups will be:
  - Non-proliferation in support of nuclear defense
  - Interdiction of nuclear and radiological materials
  - Render safe
  - Attribution
  - Incident response and recovery

Requirements

Domestic Nuclear Detection (HSPD-14, April 2005)

National Security Strategy of the United States of America, March 2006

National Strategy for Combating Terrorism, September 2006

Medical Countermeasures Against Weapons of Mass Destruction (HSPD-18), January 2007

FY 2009 Administration Research and Development Budget Priorities, OSTP/OMB joint memo, August 2007

Nonproliferation Working Group

Mission

- The Non-Proliferation Working Group (NPWG) focused on determining the unique capabilities and solutions necessary for effectively preventing the unauthorized spread of nuclear weapons related technologies based on the uranium and plutonium fuel cycles.
- NNSA Chair; NNSA, DOD, DNI members

Nonproliferation Working Group Priorities

- Develop remote sensing technologies for detecting and characterizing SNM production activities.
- Develop new remote sensing capabilities for detecting and characterizing other nonproliferation activities.
- Develop databases of signatures and observables for all SNM production processes.
- Develop advanced computational capabilities for detecting proliferation, production, diversion, transport, assembly, and use of nuclear weapons, using simulation, algorithm development, and modeling.
- Improve enabling, test and evaluation infrastructure (e.g., facilities, equipment, tools, and techniques). Assess analytical tools that support the broader mission of evaluating and validating nuclear nonproliferation.

Interdiction Working Group

Mission

- The Interdiction Working Group (IWG) focused on determining the unique capabilities and solutions necessary for the effective detection, disruption or prevention of the movement of any radiological or nuclear (RN) device or material.
- DOD, DHS, and DOE co-chairs; DOD, DHS, DOE and DNI members

Interdiction Working Group Priorities

- Develop active and passive systems for detection of shielded and unshielded RN materials
- Develop detector materials and systems to locate and identify nuclear materials for stand-off detection
- Adapt detection systems for use at sea
- Adapt detection systems for use in air travel
- Adapt detection systems for use in unattended regions and at borders

Render Safe Working Group

Mission

- The Render-Safe Working Group (RSWG) focused on determining the unique capabilities and solutions necessary to perform diagnostics and assessment of suspected nuclear and radiological devices, perform the technical operations in support of render safe procedures providing for the interruption of functions or separation of essential components to prevent a detonation or munition function, and safely package the device for transport to an appropriate facility for final disposition.
- DOD and DOE chairs; DOD, DOE, FBI members

Attribution Working Group

Mission

- The Attribution Working Group (AWG) focused on determining the unique capabilities and solutions necessary for the effective conducting of technical nuclear forensics for RN devices and materials.
- DHS/DNDO National Technical Nuclear Forensics Center (NTNFC) chair; DOD (DTRA and Air Force), DOE/NNSA, DHS/DNDO, DOJ (FBI), DOS, DNI, and EPA members

Attribution Working Group Priorities

- Laboratory analysis methods, screening tools, and increased throughput
- Ground collection
- Prompt collection and improved analysis of signals from nuclear phenomena
- Yield/mass determination and RDD total activity determination
- Knowledge management capabilities

Response and Recovery Working Group

Mission

- The Response and Recovery Working Group (RRWG) focused on determining the unique capabilities and solutions necessary for effective response and recovery from radiological or nuclear events resulting from an attack using a stolen weapon, IND, or an RDD.
- EPA and DHS co-chairs; EPA, DHS, HHS, DOD, and DOE members

Response and Recovery Working Group Priorities

- Develop increased local capability and improved citizen awareness to effectively execute shelter-in-place, evacuation, or other protective and response action decisions following an IND incident
- Develop and make available improved therapeutics and diagnostics for radiation injury
- Develop capability to decontaminate critical infrastructure (e.g., transportation, power, water/wastewater, communications, medical, and essential government services)
- Develop long-term medical care and management capabilities, including population monitoring
- Develop an empirically based risk communication program for key decision makers

The White House Complex