

## **FY 2000 Interagency Research and Development Priorities**

**FROM: KERRI-ANN JONES AND JACOB J. LEW**

**SUBJECT: FY 2000 Interagency Research and Development Priorities**

Through the National Science and Technology Council (NSTC), Federal agencies and departments have identified a set of research and development (R&D) areas that are important national efforts requiring coordinated investments across several agencies. As with all R&D investments, these interagency priority areas should reflect our objectives of maintaining excellence, maximizing effectiveness, and minimizing costs. This memorandum, rather than providing an exhaustive list of all Administration R&D priorities, focuses on those activities that require a significant level of interagency coordination.

### **Investment Principles**

The Administration's approach to science and technology investments is guided by several fundamental principles. In general, Federal R&D investments should: a) Sustain and nurture America's world-leading science and technology enterprise, through pursuit of specific agency missions and through stewardship of critical research fields and scientific facilities; b) Strengthen science, math, and engineering education, ensure their broad availability, and contribute to preparing the next generation of scientists and engineers; c) Focus on activities that require a Federal presence to attain national goals, including national security, environmental quality, economic growth and prosperity, and human health and well being; and/or d) Promote international cooperation in science and technology.

More specifically, in making investment decisions on Federal R&D, the Administration will:

- Favor investments that focus on long-term, potentially high-payoff activities and outcomes that would not occur in the absence of a Federal presence, such as activities in the 21st Century Research Fund.
- Favor activities that employ competitive, peer-reviewed processes.
- Encourage collaborative arrangements with other agencies, industry, academia, the States, and appropriate overseas/foreign counterparts.
- Encourage agencies to fund program proposals within FY 2000 budget guidance, rather than requesting additional funding, in keeping with our continuing effort to maintain a balanced Federal budget. The Administration encourages agencies to fund new, high-priority activities by substituting them for lower-priority or recently-completed activities.

## **R&D Performance Measures**

We encourage agencies to include the following R&D goals and measures in their agency performance plans. The Government Wide Performance Plan that accompanied the President's FY 1999 budget included similar measures for Function 250 activities.

- **Federally funded research will be of high quality**
  - We encourage each agency to establish a goal for the percent (by amount of funds) of its research project portfolio that will be allocated on the basis of a merit-based competitive process. (In the President's FY 1999 budget, the goal is 80 percent or greater for Function 250 activities.)
  - We encourage agencies to ensure that independent assessments of their research programs evaluate both the quality and the progress of the agencies' research toward stated goals. The goal will be to achieve a "satisfactory" rating from such assessments, consistent with the format provided in the Government Performance and Results Act. Existing advisory committees, groups within the National Academy of Sciences, or other outside groups could conduct the assessment.
- **Major scientific facilities will be built and operated efficiently**
  - As established by law in the Federal Acquisition Streamlining Act, agencies will keep the development and upgrade of facilities on schedule and within budget, not to exceed 110 percent of estimates. In operating R&D user facilities, agencies will establish a goal for unscheduled down time as a percent of total scheduled possible operating time. (In the President's FY 1999 budget, the goal is less than 10 percent unscheduled down time.)

## **Research and Development Budgets for Interagency Priorities**

NSTC coordinates selected interagency science and technology investment priorities. Interagency priorities that require high-level attention in the President's budget submission to Congress are managed as interagency crosscuts. The NSTC has also identified a number of special emphasis areas that require budget oversight within the Executive branch but that do not require formal budget crosscuts. These special emphasis areas do not constitute a comprehensive list of all NSTC priorities. The NSTC is actively involved in a number of interagency R&D issues that, unlike the issues outlined below, do not require near-term Administration policy or budget decisions, but are nevertheless important, ongoing activities.

## **NSTC Crosscuts**

The FY 2000 budget will include four interagency R&D crosscuts. Agencies and departments should be prepared to demonstrate their commitment to these priorities, if relevant to their missions, as part of their budget discussions with, and FY 2000 budget requests to, the Office of Management and Budget (OMB), as well as in their responses

to the Government Performance and Results Act (GPRA). OMB's Circular A-11, a revised version of which will be available in the early summer, outlines the definitions of these crosscuts and how agencies must submit data to OMB. The four cross-cutting R&D areas are:

1. Climate Change Technology Initiative
2. U.S. Global Change Research Program
3. Partnership for a New Generation of Vehicles
4. High Performance Computing and Communications (including Next Generation Internet)
  - The President has called for a significant funding increase in long-term information and communications R&D within agency budget allocations. Agency budget submissions should reflect the President's directive by including proposals for new and expanded activities within the High Performance Computing and Communications crosscut.

To promote more uniform management and accounting, each interagency program must include the following:

1. Concise program performance goals and measures, finalized in time to be sent to OMB as part of the FY 2000 Budget submission. Goals and measures should be quantitative if possible, but may be qualitative where appropriate.
2. A program implementation plan for the FY 2000 budget outlining specific agency activities and budgets, and the linkages between them. Agency activities contributing to the crosscut should be tied clearly to overall crosscut goals and performance measures. Agency budget information should include estimates for FY 1999-2004. Funding for the crosscut activities should be within OMB budget guidance. Activities whose funding cannot be accommodated with the budget guidance should be clearly delineated. Agencies should provide such information in a timely fashion if they plan to participate in the interagency program; late submittals may not be accepted. Implementation plans should be finalized no later than September, 1998.
3. Written assurance, incorporated in the crosscut implementation plan, by each participating agency that all agencies involved in the crosscut have reviewed each other's projects, and that these projects directly contribute to the goals and objectives of the crosscut and are well coordinated.
4. Budget hearing with OSTP and OMB staff in September, 1998.
5. Supplement to the President's budget, to be released to the public no later than end of March, 1999.

This schedule emphasizes the requirement for agencies to coordinate and share information on development of the FY 2000 budget as part of each interagency program.

We will work with you in the coming months through the NSTC to ensure that each interagency program achieves these results.

### **Areas of Special Emphasis**

In addition to the crosscutting programs listed above, the NSTC is also coordinating activities in a variety of other fields. In the following areas of special emphasis, the NSTC will be working to understand and compare ongoing programs across agencies and to identify gaps and overlap in these programs. Departments and agencies participating in NSTC activities in these special emphasis areas will be asked to report on their participation in the NSTC working group during their budget hearings this fall. OMB and OSTP staff who have also participated in the working groups will attend these hearings and engage the presenters in a dialogue on how the department or agency is supporting the President's policies in these areas. In the coming months, the Administration may make significant policy and budget decisions in the following areas of special emphasis:

1. Learning and Teaching: Support research to better understand the learning process and to apply that understanding to the development and evaluation -- particularly through large scale, long-term, and experimental studies -- of educational systems, technologies, and other approaches aimed at improving educational and training outcomes. Upcoming FY 2000 budget decisions will be based on a coordinated interagency plan that addresses priorities identified by an NSTC Interagency Working Group on the Education Research Initiative. The plan should reflect recommendations contained in the report from the President's Committee of Advisors on Science and Technology on the *Use of Technology to Strengthen K-12 Education in the United States*.
2. Critical Infrastructure Protection: Promote and coordinate research to reduce vulnerabilities in our Nation's critical infrastructures; promote the research and development of technologies that will detect, contain, and mitigate attacks against or other failures in these infrastructures. Upcoming decisions will focus on assessment of progress and responsiveness to a forthcoming Presidential Decision Directive, and on whether to transition this effort into a formal crosscut.
3. Aviation Safety and Security: Support research and development aimed at: (a) Reducing the aviation fatal accident rate by a factor of five within ten years; (b) Modernizing our aging air traffic control system using advanced information, communication, and navigation technologies; and (c) Enhancing the security of air travel. These activities are in response to the recommendations of the White House Commission on Aviation Safety and Security. Upcoming decisions include whether to adjust investments and responsibilities based on issues raised in the interagency coordination plan, and whether to transition this effort into a formal crosscut.
4. Emerging Infectious Diseases: Continue to implement the activities called for in the President's policy - Presidential Decision Directive NSTC-7. Upcoming decisions will focus on assessment of agency investments in priority activities and whether to develop this effort into a formal crosscut that captures the breadth of the policy for Emerging Infectious Diseases - technologies and methodologies for surveillance and response, research, and training.

5. Science for Sustainable Ecosystems: Develop the knowledge base, information infrastructure, and modeling framework to help resource managers predict/assess environmental and economic impacts of stress on vulnerable ecosystems, with particular focus on invasive species, water and air pollution, changes in weather and climate, and land and resource use. Upcoming FY 2000 budget decisions will be based on analysis of the existing research portfolio and coordinated interagency plans reflecting priorities recommended by the President's Committee of Advisors on Science and Technology and the National Research Council.

6. Plant Genome: Promote the coordinated development of plant genomic information, new technologies, and resources that will improve our understanding of plant biology and be applied to the enhancement of economically important plants. Upcoming FY 2000 budget decisions will be based on coordinated interagency plans that address the program priorities contained in the 1998 NSTC report *National Plant Genome Initiative*. In addition, agencies will be expected to provide plans on engaging the private sector and international partners.

7. Food Safety: Promote food safety research that provides a scientific foundation for sound food safety policy, innovations in food production to increase safety, consumer education to improve food safety practices, and global monitoring (surveillance) and response to outbreaks of food-borne illnesses. Upcoming FY 2000 budget decisions will be based on coordinated interagency plans that address the program priorities established by NSTC Interagency Working Group on Food Safety Research. Specifically, priorities must reflect the President's Food Safety Initiative and be based on an assessment of the existing research portfolio.

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