

R&D in Selected Agencies

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HIGHLIGHTS

- **Department of Commerce** R&D would fall 11.9 percent to \$1.1 billion in FY 2004 (see Table II-14). National Institute of Standards and Technology (NIST) R&D would decrease 22.1 percent to \$410 million. The Advanced Technology Program (ATP) is again proposed for elimination; funding is requested only for administrative and closeout costs. National Oceanic and Atmospheric Administration (NOAA) R&D would decrease by 1.4 percent to \$675 million.
- R&D in the **Department of the Interior** would inch up a modest 1.0 percent to \$633 million. However, R&D in Interior's lead science agency, the U.S. Geological Survey (USGS), would fall 4.2 percent to \$545 million, with cuts to all four USGS divisions (see Table II-16).
- The **Department of Transportation's** (DOT) R&D funding would drop 1.2 percent to \$693 million. However, R&D funding for the Federal Highway Administration would climb \$72 million (24.8 percent) to \$363 million. With the advent of the Department of Homeland Security (DHS), both Transportation Security Administration and Coast Guard R&D programs depart from the DOT R&D portfolio (see Table II-15).
- The **Environmental Protection Agency's** (EPA) R&D budget would shrink by 5.7 percent to \$607 million, mostly due to a decrease in Superfund R&D (see Table II-17). Overall, EPA's budget would fall by 5.5 percent to \$7.6 billion in comparison with the recently finalized FY 2003 level of \$8.1 billion, which included numerous congressionally designated projects.

DEPARTMENT OF COMMERCE

The **National Institute of Standards and Technology (NIST)** would see its R&D funding level fall to \$410 million, a sizable 22.1 percent decrease from FY 2003 (see Table II-14). This overall decrease is due exclusively to the Bush Administration's proposal to eliminate the Advanced Technology Program (ATP), drastically curtailing the extramural Industrial Technology Services (ITS) account. Only \$10 million is requested for ATP administrative and closeout costs in FY 2004. The Administration would eliminate the ATP based upon its beliefs that other federally funded research programs are more effective, that ATP funds have gone to major corporations that do not need subsidies, and that ATP-funded projects are often similar to those initiated by firms not receiving ATP support. Given that the ATP has faced elimination several times before, however, it is much too early to write its obituary; last year's request proposed a similar close-out of ATP, but Congress restored funding.

By contrast, Science and Technology Research and Services (STRS), which provides funding for NIST's laboratories in Maryland and Colorado, enjoys a 7.3 percent boost to \$330 million in R&D. Included in this amount is a \$10.3 million increase for homeland security R&D. Of this amount \$5.3 million would be used for the development of measurement infrastructure needed to detect nuclear and radiological threats; \$4.0 million would go to research into lessons learned from the NIST-led investigation of the World Trade Center collapse in order to make buildings, occupants and first responders safer from future attacks on buildings and other building disasters; and \$1.0 million would be used to develop standards and methods for biometric identification systems to identify non-citizens who enter the United States or apply for visas. This last task would enable NIST to carry out its mandate under the USA PATRIOT Act, which requires NIST to develop technology standards for biometric identification.

Improved facilities and equipment play an instrumental role in acquiring the most accurate measurements available to the scientific community. Consequently, a large goal of NIST is to refurbish and improve its laboratories. In FY 2004, \$69.6 million would be set aside in the Construction of Research Facilities R&D account, an increase of \$4 million, or 6 percent above the FY 2003 level. This would include \$7 million to equip and operate the new Advanced Measurement Laboratory

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in Maryland, and \$21 million for renovations of NIST's Boulder, CO facilities. The budget also provides an additional \$11 million for safety, maintenance, and major repairs at the Boulder and Gaithersburg, MD sites.

The **National Oceanic and Atmospheric Administration (NOAA)** is another research subsidiary of the Department of Commerce whose mission areas include the coastal and marine environments and the atmosphere. In FY 2004, NOAA would see a 1.4 percent cut from FY 2003 to \$675 million in its R&D spending (see Table II-14).

After a proposed transfer to the National Science Foundation (NSF) in the FY 2003 request which was rejected by Congress, NOAA's National Sea Grants College Program would remain in NOAA under the FY 2004 budget. Begun in 1966, the National Sea Grants College Program incorporates more than 200 universities into its 30 programs which are located in coastal and Great Lakes states, Hawaii, and Puerto Rico. The goal of the National Sea Grants College Program is to gain a better understanding for marine life and its resources through research, education, outreach, and technology transfer. Apparently satisfied that NOAA has reformed the program in the direction of a greater emphasis on merit-based funding of research, the Administration proposes to keep the program within the NOAA structure and would provide \$57 million in FY 2004 spending in Oceanic and Atmospheric Research (OAR).

NOAA would continue participation in the multi-agency Climate Change Research Initiative (CCRI), acquiring \$17 million in R&D for FY 2004. The funding is specifically designed to advance climate-modeling capabilities and to develop a climate observing system. The goals of the CCRI are to reduce uncertainties in climate science, improve global climate observing systems, and develop resources to support policymaking and resource management. (For more information on CCRI and its parent program, the Climate Change Science Program, please see Chapter 16. For more on the NOAA budget, please see Chapter 17.)

DEPARTMENT OF THE INTERIOR

The Department of the Interior's R&D would rise 1.0 percent to \$633 million in FY 2004 (see Table II-16). Interior's main science agency, the U.S. Geological Survey (USGS), would see its R&D budget fall by 4.2

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percent (\$24 million) to \$545 million.

The total USGS budget of \$896 million would represent a \$29 million or 3.2 percent cut. R&D makes up roughly three-fifths of the USGS budget, and would decline by an even steeper 4.2 percent. R&D in all four USGS divisions would decline, with percentage decreases ranging from 0.2 percent to 10.7 percent. Specific research priorities within USGS divisions, however, would receive slight increases. These include an additional \$3.0 million to expand invasive species research to develop a national early warning detection network that would help land-management agencies determine appropriate strategies for controlling or eradicating invasive plants and animals, and an additional \$1.0 million for research on chronic wasting disease, a degenerative and ultimately fatal disease that has plagued deer and elk populations on federal lands. The Toxic Substances Hydrology Program, slated for transfer to the National Science Foundation (NSF) in the FY 2003 request but kept in USGS by Congress, is retained in the USGS in the FY 2004 request and funded at \$11.1 million. (For more on USGS activities, please see Chapters 18 and 19.)

Among Interior's other bureaus, there would be a mix of increases and decreases. R&D in the Bureau of Reclamation would drop from \$11 million to \$9 million, while Minerals Management Service R&D would see a slight rise from \$27 to \$28 million and Bureau of Land Management R&D would enjoy a sharp rise (up \$31 million to \$51 million).

DEPARTMENT OF TRANSPORTATION (DOT)

More than half of the DOT budget would go toward the Federal Highway Administration (FHWA), mostly for spending out of the highway trust funds for road projects. R&D is a relatively small part of the DOT budget and would total only \$693 million in FY 2004, a decrease of \$9 million, or 1.2 percent (see Table II-15).

Transportation funding increased dramatically beginning in FY 1999 as a result of the six-year (FY 1998-2003) reauthorization of transportation programs known as the Transportation Equity Act for the 21st Century (TEA-21), which was signed into law in June 1998. The law, due to expire in September 2003 unless reauthorized, specifies that transportation tax revenues will be devoted exclusively to transportation

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and specifies formulas for allocating these funds. In the past, a portion of these revenues was used to finance other federal programs. As a result, DOT's budget climbed from \$44 billion in FY 1998 all the way to \$67 billion in FY 2001 as a result of burgeoning revenues from transportation taxes. However, because these revenues have dropped off significantly in recent years as a result of a stagnant economy, total DOT funding has leveled off. FY 2004 funding would be \$54.2 billion.

FHWA funding for FY 2004 would be \$30.4 billion, down slightly from the \$31.8 billion in final FY 2003 appropriations. However, FHWA R&D would jump 24.8 percent to \$363 million. This increase is divided in roughly equal portions to safety research, environmental planning and right-of-way research, and highway operations research. Nearly all other DOT agencies would suffer declines in R&D, ranging from 54 percent (Federal Transit Administration) down to 1 percent (National Highway Traffic and Safety Administration). The Research and Special Programs Administration's R&D remains level, though, as its responsibilities for pipeline safety have become more salient since September 11. Additionally, R&D for the Federal Motor Carrier Safety Administration is up slightly as its responsibility for hazardous materials safety on the nation's highway has also become of greater interest.

Also of interest is what is absent from the DOT FY 2004 request: the Transportation Security Administration (TSA) and the Coast Guard. Now housed within the Department of Homeland Security, the two agencies accounted for 15 percent of all DOT R&D in final FY 2003 appropriations. (For information on TSA and Coast Guard R&D, please see Chapter 12 and Table II-20).

ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA would see a 5.5 percent budget decrease down to \$7.6 billion in FY 2004; final FY 2003 appropriations were \$8.1 billion (see Table II-17). FY 2003 appropriations included \$53 million in research earmarks, or 8.2 percent of the \$643 million R&D budget. Only the Departments of Agriculture and Commerce had higher earmark rates among the larger federal R&D agencies. EPA has historically been a popular conduit for congressionally designated projects and this pattern is likely to continue in the FY 2004 appropriations process. (For a complete analysis of research earmarks in the FY 2003 budget, visit the AAAS R&D Budget and Policy Program Web site at: <http://www.aaas.org/spp/rd>).

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The FY 2004 R&D budget would contract by 5.7 percent to \$607 million, a drop of \$37 million. This stems from a proposed \$41 million decrease in Superfund R&D. Established in 1980, Superfund is a trust fund administered by EPA and other agencies to clean up hazardous waste sites in cooperation with state and tribal governments. Superfund R&D is carried out primarily through the Superfund Innovative Technology Evaluation (SITE) program, which works to develop innovative treatment technologies for hazardous waste site remediation as well as monitoring and measurement tools to aid in waste site cleanup. The proposed FY 2004 decrease in Superfund research is due to the discontinuation of one-time requests in the FY 2003 budget for research to develop technologies to clean up buildings contaminated by biological and chemical agents. Such research became necessary in the wake of the bioterror incidents and threats that emerged after the terrorist attacks of September 11.

R&D in the Science and Technology (S&T) account, however, would rise to \$561 million, a \$12 million or 2.1 percent increase. Research highlights in the S&T account include the development of a Computational Toxicology Research Strategy to increase understanding of the adverse effects arising from exposure to endocrine-disrupting chemicals so that more precise risk assessments might result. Increased attention is also proposed for research on sub-populations, such as children and the elderly, not normally considered in standard risk assessments. Thus, the EPA plans to issue an updated Child-Specific Exposure Factors Handbook in FY 2004 to address this concern. The Agency also plans to direct special grant solicitations to minority-serving institutions to establish and support research programs at these schools that would build local environmental research capacity. Lastly, greater emphasis would be placed on research to develop commercial-ready technologies to improve environmental quality through the EPA's Environmental Technology Verification program. Specific technology verifications in FY 2004 would target air pollution control, greenhouse gas abatement, and improved drinking water systems.

OTHER AGENCIES

R&D in the **Department of Education** would decrease by 12.8 percent to a level of \$275 million in FY 2004 (see Table II-18). Of this proposed \$40 million decrease, \$34 million would come from Education Sciences

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R&D and \$6 million from Vocational and Adult Education R&D, taking this program to zero. The Bush Administration has expressed dissatisfaction with the lack of tangible results from the entire Vocational and Adult Education program and is proposing that the program undergo a fundamental reorganization. (Please refer to Chapter 5 for more information on the Department of Education.)

The **Smithsonian Institution**, which conducts both scientific-based and collections-based research, would acquire \$127 million in R&D federal funds for FY 2004, down a slight \$1 million or 0.8 percent from FY 2003 (see Table II-1). Perhaps just as important as the dollar amount of FY 2004 Smithsonian R&D is the January 2003 release of *The Report of the Smithsonian Institution Science Commission*. The Commission, appointed in 2001, was charged with assessing the current status and future directions of Smithsonian research in the wake of several public battles between the Office of Management and Budget, the Smithsonian leadership, and the Smithsonian's science corps. The final report asserts that research at the Smithsonian in recent decades has been "unfocused and underfunded." Among many recommendations, the report counsels the Smithsonian to concentrate on four primary areas of scientific research (the origin and nature of the universe, the formation and evolution of the Earth and other planets, discovering and understanding life's diversity, and the study of human diversity and culture change) and to broaden its funding base by seeking more private funds and competing for more grants from the National Science Foundation (NSF).

(For information on R&D in the Department of Justice, please see Chapter 25. For information on R&D in the Department of Veterans Affairs, please see Chapter 8.)