



Science + Technology

IN CONGRESS

December
2003

SPECIAL UPDATE

Omnibus Provides Big Boost for R&D at DOD, DHS

In late November, President Bush and the 108th Congress reached agreement on the final outline of the fiscal year (FY) 2004 appropriations. The FY 2004 omnibus appropriations bill (HR 2673) bundles together the 7 unfinished bills, bringing the total federal investment in research and development (R&D) to a new record of \$127.0 billion in FY 2004, a \$9.5 billion or 8.1 percent increase over FY 2003 and \$4.6 billion more than the Bush Administration request.

The 1185-page omnibus bill provides funding for 8 of the 12 largest R&D funding agencies, but also includes a 0.59 percent across-the-board cut for all non-DOD appropriations, even for agencies whose budgets have already been signed into law.

The Department of Defense (DOD), the Department of Homeland Security (DHS), and the National Institutes of Health (NIH) would get 93 percent of the \$9.5 billion increase, leaving all other R&D funding agencies collectively with only a modest increase. DOD's R&D alone would receive 80 percent of the increase reaching another all-time high of \$66.3 billion, a boost of 13.0 percent or \$7.6 billion. The new DHS would see its R&D portfolio surge by 56.0 percent or \$375 million to \$1.0 billion.

On the other hand, after five years of annual 15 percent increases, NIH budget

growth would slow down considerably in FY 2004. Most NIH institutes would receive increases of about 3 percent. After adjusting for an across-the-board cut, the NIH R&D portfolio would increase by 3.2 percent, a modest increase in percentage terms. The omnibus bill would add \$847 million to NIH R&D for a total of \$27.1 billion.

Although the President and Congress have agreed to record increases for defense and international discretionary spending related to U.S. activities in Iraq and Afghanistan, they have also agreed to restrain domestic spending. So even as the FY 2004 budget contains record-breaking investments in defense and homeland security R&D, there will be only modest increases for nondefense R&D programs, with increases in some R&D funding agencies offset by flat funding or cuts in others.

For example, the National Science Foundation (NSF) would enjoy a budget increase, but would fall well short of a five-year doubling plan signed into law last December. Congress would provide \$4.1 billion for NSF's R&D activities (excluding education, training, and overhead programs), an increase of 4.7 percent.

The remaining agencies in the federal R&D portfolio would receive some modest increases offset by cuts or flat funding in

other areas. The Department of Energy's Office of Science would receive a slight boost to \$3.2 billion for its R&D programs, an increase of 3.8 percent. R&D in the U.S. Geological Survey would fail to keep pace with inflation with a 1.7 percent increase to \$579 million. Within the Department of Commerce, Congress would reject the Administration's proposal to eliminate the Advanced Technology Program, but R&D in the National Institute of Standards and Technology would still decline 3.9 percent.

There would be cuts in the R&D portfolios of other agencies: R&D in the U.S. Department of Agriculture (down 4.9 percent), the Department of Transportation (down 8.2 percent), and NASA (down 0.4 percent) would all fall in the FY 2004 omnibus bill.

The House approved the omnibus bill on December 8, but procedural disputes delayed final Senate approval until the end of January. Although it will be weeks before the FY 2004 budget is enacted, the funding levels outlined in the FY 2004 omnibus appropriations bill appear to be final and are unlikely to change in any further congressional action. ●●●

—Kei Koizumi
Director, AAAS R&D Budget
and Policy Program

FEATURES

Special R&D Budget Update

- | | |
|--------------------------------------------------------------------------|----------------------------------------------------------------|
| <p>1 Omnibus Overview</p> <p>2, 3 Key R&D Agencies</p> | <p>3 R&D Table</p> <p>4 R&D Earmarks</p> |
|--------------------------------------------------------------------------|----------------------------------------------------------------|

See the AAAS R&D Web site for more analysis of congressional action on R&D in the FY 2004 budget:
www.aaas.org/spp/rd

R&D Appropriations for Key Agencies

Department of Defense • DOD has received a record-breaking \$66.3 billion for its R&D programs in FY 2004, a jump of 13.0 percent or \$7.6 billion over FY 2003. Funding for missile defense development will jump 19 percent to \$8.2 billion in FY 2004, mostly in the Missile Defense Agency; funding for other big development projects will also climb, particularly a \$4.3 billion appropriation for the Joint Strike Fighter (up 27 percent). Basic research ("6.1") will decline \$13 million (0.9 percent) to \$1.4 billion, while applied research ("6.2") will increase 3.6 percent to \$4.4 billion, in contrast to requested cuts of 8 percent and 14 percent, respectively. DOD "Science and Technology" (S&T) programs, which include research, medical research, and early technology development, will receive a record \$12.6 billion in FY 2004, an increase of 12.0 percent, primarily because of large increases for technology development ("6.3") programs. Congress agreed to DOD's proposal to reorganize its basic research portfolio in FY 2004 by transferring many programs funded by the Office of the Secretary of Defense to the three services.

Department of Homeland Security • DHS will be one of the major funding sources of R&D in FY 2004. Its R&D portfolio totals \$1.04 billion, up 56 percent from FY 2003 (after adjusting for the across-the-board cut). Congress has decided to fund the non-R&D Project Bioshield to procure biodefense countermeasures. The final DHS budget contains \$5.6 billion over 10 years for biodefense countermeasures, of which \$890 million will be available in FY 2004, and which should provide incentives for private-sector R&D investments. The new S&T Directorate in the DHS will have \$869 million for R&D activities, 67 percent more than the current funding level, including \$70 million for university programs and \$60 million for R&D on antimissile devices for commercial aircraft.

National Institutes of Health • After a doubling campaign including 15 percent increases for each of the past five years, growth in the NIH budget would slow sharply in FY 2004, leaving nearly all the NIH institutes with increases of about 3 percent. Congress would add to the administration's request slightly for a total budget (including non-R&D items and af-

ter adjusting for the across-the-board cut) of \$28.0 billion, just 3.2 percent above last year. Biodefense research would continue to be a high priority in the FY 2004 omnibus bill, which would provide \$4.3 billion for the National Institute of Allergy and Infectious Diseases, the lead NIH institute for biodefense research, a boost of 16.3 percent over FY 2003. NIH research (basic and applied) would increase 7 percent to \$26.9 billion, greater than the increases for the overall NIH budget because Congress would go along with NIH's plan to discontinue most of its FY 2003 facilities funding and shift the money to biodefense research.

National Science Foundation • Congress would provide \$5.6 billion for NSF in FY 2004, \$268 million or 5.0 percent more than FY 2003. NSF's R&D activities would receive \$4.1 billion, an increase of 4.7 percent. The research directorates would receive increases of between 3 and 7 percent. The final appropriation falls nearly \$1 billion short of the authorized funding level contained in the NSF authorization bill signed into law last December, which envisions doubling NSF's budget between FY 2002 and FY 2007.

Department of Energy • DOE has an R&D budget of \$8.7 billion in FY 2004, an increase of \$506 million or 6.1 percent, although the omnibus bill would apply across-the-board cuts to its already-enacted budget. DOE's Office of Science would receive \$3.2 billion for R&D after the cut, a boost of 3.8 percent or \$116 million in contrast to a requested cut. Congress added funds for high-performance computing research, domestic fusion research, and for more than 90 congressionally-designated projects. Congress trimmed slightly the request for DOE's defense R&D activities, but still provided a \$257 million or 6.7 percent increase for a total of \$4.1 billion, including research funds for a new generation of nuclear "bunker buster" weapons. Energy R&D programs would get a larger, 10.4 percent increase for a total of \$1.4 billion. The final DOE budget boosts funding for R&D on hydrogen, nuclear energy and coal, but cuts spending on other energy areas. The additions and cuts mirror the priorities outlined in the stalled FY 2004 energy policy bill, which fell just short of final Senate approval in late November. (An analysis of the R&D implications of the energy policy bill

is available on the AAAS R&D Web site.)

National Aeronautics and Space Administration • NASA will be preoccupied in FY 2004 with getting the Space Shuttle and International Space Station back on track after the Columbia Shuttle disaster. Congress would provide \$15.4 billion for the NASA budget in FY 2004, even with FY 2003. NASA's R&D funding would decline 0.4 percent to \$11.0 billion, primarily because construction funding for the Space Station would fall 19 percent to \$1.5 billion while the project awaits the return to flight of the Shuttle. There would also be increased attention to future alternatives to the Shuttle such as the Orbital Space Plane. NASA's non-human space flight R&D programs in Science, Aeronautics and Exploration would receive 5.9 percent more in FY 2004 for a total of \$7.9 billion, including a 12 percent boost for Space Science programs to \$4.0 billion and a 6 percent boost to Biological and Physical Research to \$990 million.

Department of Commerce • Commerce avoided steep cuts proposed for its R&D programs. Although the Bush Administration and the House sought to eliminate the Advanced Technology Program at the National Institute of Standards and Technology (NIST), the FY 2004 omnibus bill sides with the Senate in keeping the program alive at last year's funding level. NIST's intramural R&D programs, however, would decline 5.7 percent to \$291 million despite a requested increase. And Congress essentially agreed to the administration's proposal to phase out the federal role in the non-R&D Manufacturing Extension Partnership (MEP), slashing funds by 63 percent down to \$39 million. Total NIST R&D would fall 3.9 percent to \$506 million. For the National Oceanic and Atmospheric Administration's (NOAA) R&D programs in ocean research, fisheries research, atmospheric science, and climate change science, Senate proposals for increases prevailed against House and administration proposals for steep cuts. Total NOAA R&D would rise 5.8 percent to \$724 million. NOAA's core R&D programs in Oceanic and Atmospheric Research gain 6.1 percent for a total of \$361 million.

Department of Agriculture • USDA R&D would fall 4.9 percent or \$111 million in the FY 2004 omnibus bill to \$2.2 billion, primarily because of steep cuts to research

facilities funding. The FY 2003 USDA budget included one-time emergency funds for construction and security upgrades related to biodefense concerns at USDA laboratories. Without the facilities funds, USDA R&D would actually increase slightly by 1.8 percent. Although USDA requested \$200 million for the National Research Initiative of competitively awarded extramural research grants, Congress would provide only \$164 million, \$2 million less than FY 2003. Congress would instead provide \$111 million for the congressionally earmarked Special Research Grants, as well as \$131 million in other earmarks.

Environmental Protection Agency • The EPA budget in FY 2004 would rise slightly, as would its R&D funding. The total budget would be \$8.4 billion in the omnibus bill, \$287 million more (3.5 percent) than FY 2003. EPA's R&D funding would rise 1.6 percent to \$634 million, primarily because one-time emergency funding for building decontamination research in FY 2003 would be replaced by \$56 million in earmarked R&D projects. Most of EPA's core R&D programs would receive increased funding compared to FY 2003.

Department of the Interior • In an already-enacted spending bill, the U.S. Geological Survey (USGS), Interior's lead science agency, received \$579 million for its R&D programs, \$10 million or 1.7 percent above the FY 2003 funding level (after adjusting for the across-the-board cut). Congress reversed the Bush Administration's proposed cuts to many of USGS' earth science and water resources research programs. Total Interior R&D climbs \$49 million (7.9 percent) to \$676 million because of a requested boost to the Bureau of Land Management's R&D activities.

FOR MORE INFORMATION:

AAAS R&D Web site: www.aaas.org/spp/rd

Congressional Action on R&D in the FY 2004 Budget
(Budget authority in millions of dollars; December 2, 2003)

	FY 2003 Estimate	FY 2004 Request	FY 2004 Congress	Chg. from FY 2003 Amount	Percent
Dept. of Defense (military)	58,696	62,821	66,323	7,627	13.0%
<i>SetT (6.1,6.2,6.3 + Medical)</i>	11,232	10,297	12,581	1,349	12.0%
<i>All Other DOD R&D</i>	47,465	52,524	53,742	6,277	13.2%
NASA	10,999	11,025	10,958	-42	-0.4%
Dept. of Energy	8,225	8,535	8,731	506	6.1%
<i>Office of Science</i>	3,075	3,066	3,190	116	3.8%
<i>Energy R&D</i>	1,281	1,289	1,414	133	10.4%
<i>Atomic Energy Defense R&D</i>	3,869	4,180	4,127	257	6.7%
Health and Human Services	27,566	28,203	28,473	907	3.3%
<i>National Institutes of Health</i>	26,245	26,946	27,093	847	3.2%
National Science Foundation	3,927	4,035	4,113	186	4.7%
Dept. of Agriculture	2,276	1,943	2,166	-111	-4.9%
Dept. of Homeland Security	669	907	1,044	375	56.0%
Dept. of the Interior	627	633	676	49	7.9%
<i>U.S. Geological Survey</i>	569	545	579	10	1.7%
Dept. of Transportation	702	693	644	-58	-8.2%
Environmental Protection Agency	643	607	654	11	1.6%
Dept. of Commerce	1,248	1,100	1,260	11	0.9%
<i>NOAA</i>	684	675	724	40	5.8%
<i>NIST</i>	527	410	506	-21	-3.9%
Dept. of Education	315	275	310	-5	-1.6%
Agency for Int'l Development	267	275	285	18	6.9%
Dept. of Veterans Affairs	800	822	820	20	2.5%
Nuclear Regulatory Commission	59	60	60	1	1.1%
Smithsonian Institution	128	127	126	-2	-1.7%
All Other	340	330	327	-13	-3.9%
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TOTAL R&D	117,489	122,391	126,968	9,480	8.1%
Defense R&D	63,056	67,518	70,938	7,882	12.5%
Nondefense R&D	54,433	54,873	56,030	1,597	2.9%
<i>Nondefense R&D minus NIH</i>	28,188	27,927	28,938	750	2.7%

AAAS estimates of R&D in FY 2004 appropriations bills. FY 2004 figures adjusted to reflect the FY 2004 supplemental bill (P.L. 108-106) and supplementals, rescissions and general reductions in the FY 2004 omnibus appropriations bill (H.R. 2673). Funding levels are final unless the FY 2004 omnibus bill conference report is rejected or vetoed.

Science and Technology in Congress (ISSN# 1096-0406) is published by the Center for Science, Technology, and Congress (CSTC) at the American Association for the Advancement of Science (AAAS). It is distributed 8 times per year: February through August and October. Issue Updates are published periodically to supplement the newsletter.

AAAS is a non-profit, non-partisan organization. Since it was founded in 1848, AAAS has been dedicated to the advancement of scientific knowledge for the good of society as a whole.

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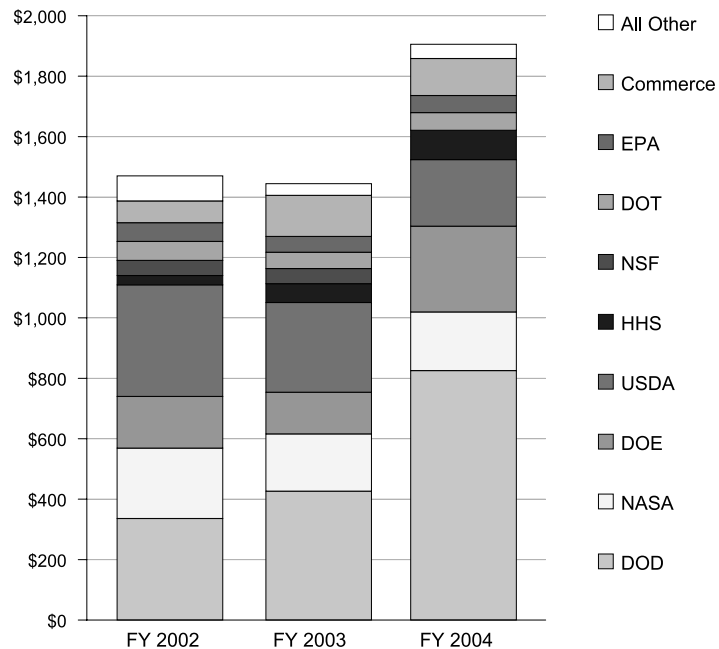
R&D Earmarks to Grow by 32 Percent

Hidden in the omnibus bill and already-enacted fiscal year (FY) 2004 appropriations bills are numerous congressionally-designated, performer-specific research and development (R&D) projects. These "earmarks" would total \$1.9 billion, a dramatic 32 percent increase over the \$1.4 billion in R&D earmarks enacted in FY 2003 (see chart).

Although these projects amount to only 1.5 percent of the total R&D budget, 80 percent of the total is concentrated in four agencies: the Department of Agriculture (\$220 million), National Aeronautics and Space Administration (\$194 million), Department of Energy (\$284 million), and Department of Defense (\$825 million).

Most of the increase is due to an explosion of R&D earmarks at DOD, which would see its earmarked projects nearly double from \$426 million last year to \$825 million in FY 2004. Earmarks in DOE R&D would also double, to \$284 million in FY 2004. ●●●

R&D Earmarks in FY 2002-04 Appropriations
(Budget authority in millions of dollars)



AAAS estimates of R&D earmarks based on FY 2002-04 appropriations bills. Nov. 2003 © 2003 AAAS

