



DECEMBER
1999

Final Research & Development Appropriations

On November 30, 1999, President Clinton signed into law the final omnibus appropriations bill (H.R. 3914), wrapping up five of the remaining 13 annual appropriations bills for fiscal year (FY) 2000. The final budget agreement includes billions of dollars in emergency spending, advance appropriations of FY 2001 funds, delayed obligations, “directed scorekeeping,” and a 0.38 percent across-the-board cut in appropriations in order to keep spending technically under the statutory caps while appearing to preserve a projected Social Security surplus for FY 2000. Discretionary budget authority was capped in FY 2000 at \$538 billion, far less than FY 1999, but final FY 2000 discretionary budget authority (including new advanced FY 2001 funding) now is expected to exceed \$580 billion.

As a result of these budgetary techniques, Congress and the President are able to award large increases for federal research and development (R&D). Total federal support for R&D in FY 2000 increases substantially to \$83.3 billion, \$4.0 billion or 5.0 percent more than FY 1999. This is primarily due to large increases for the Department of Defense (DOD), and the National Institutes of Health (NIH). There are increases in R&D funding for most agencies, but some receive increases less than the rate of inflation or even cuts in their R&D programs. NIH receives the largest dollar increase in history, a nearly \$2.2 billion or 14.4 percent increase in its R&D budget to \$17.1 billion. Unfortunately, \$3 billion of the NIH total budget is withheld until the end of September 2000. DOD R&D totals \$39.1 billion, an increase of \$1.1 billion or 3.0 percent, including an 11.0 percent increase to \$8.7 billion for DOD’s “S&T” programs (“6.1” through “6.3”). (Refer to the table on page 3.)

Nondefense R&D totals \$40.9 billion, an increase of 7.1 percent or \$2.7 billion over FY 1999, the first time the federal civilian investment exceeds \$40 billion. Nearly all of the substantial increase is due to the boost for NIH R&D. Excluding NIH, however, nondefense R&D rises only 2.4 percent or \$555 million to \$23.7 billion, barely ahead of the expected inflation rate of 2.0 percent. After a decade of cuts or only modest increases, total defense R&D increases \$1.3 billion or 3.1 percent to \$42.5 billion because of large increases in DOD and Department of Energy (DOE) defense spending.

Basic research is a high priority in FY 2000 appropriations and federal funding is expected to total \$19.1 billion in FY 2000, an increase of \$1.8 billion or 10.6 percent. The increases, however, go mostly to life sciences and medical research funded by NIH. Nevertheless, the National Science Foundation, the second-largest supporter of basic research and the largest supporter of most non-life science research, sees its basic research increase by 6.0 percent to \$2.5 billion. The National Aeronautics and Space Administration’s basic research increases by 18.0 percent to \$2.5 billion, mostly due to a reclassification of existing work from applied to basic research. DOD, the primary supporter of basic research in engineering, mathematics, and computer sciences, sees its basic research (“6.1”) rise by 5.4 percent to \$1.2 billion.

Information technology (IT) research was a high priority for the Clinton Administration in the FY 2000 request. The Administration proposed \$366 million for a new six-agency Information Technology for the 21st Century (IT²) initiative to support long-term fundamental research in IT. Though not labeled as IT², new fundamental IT research activities receive \$235 million, including \$126 million for NSF and \$60 million for DOD. DOE did not receive any funds for new IT activities, though it requested \$70 million.

Department of Defense (DOD). DOD R&D totals \$39.1 billion, \$4.0 billion more than the President’s request and \$1.1 billion or 3.0 percent more than FY 1999. Funding of basic and applied research is well above both the request and the FY 1999 funding level. DOD’s basic research (“6.1”) totals \$1.2 billion, 5.4 percent above FY 1999, while applied research (“6.2”) totals \$3.4 billion, 7.5 percent above FY 1999. DOD S&T programs increase by 11.0 percent to \$8.7 billion. The Defense Advanced Research Projects Agency (DARPA) budget declines by \$82 million or 4.2 percent to \$1.8 billion.

National Institutes of Health (NIH). NIH is once again the beneficiary of strong support for biomedical research. The NIH budget of \$17.8 billion represents a \$2.2 billion or 14.3 percent increase over FY 1999, keeping NIH on the second year of a course toward doubling its budget in five

R&D, continued page 2



years. However, \$3 billion of the budget is withheld until September 29, 2000, a day before the end of FY 2000, in order to shift spending to FY 2001. For all practical purposes, then, NIH will have to operate for nearly all of FY 2000 on less than its FY 1999 budget. Every institute receives an increase greater than 12 percent, and five receive increases greater than 20 percent. In addition to the regular NIH budget, there is an additional \$20 million from Health and Human Services to fund cooperative R&D between NIH and the biotechnology, pharmaceutical, and medical device industries.

National Aeronautics and Space Administration (NASA). NASA's total budget is \$13.6 billion in FY 2000, 0.5 percent less than FY 1999. Total NASA R&D, which excludes the Space Shuttle and its mission support costs, increases slightly by 0.6 percent to \$9.8 billion. The Science, Aeronautics, and Technology account receives \$5.6 billion, a reduction of 1.2 percent from FY 1999 but \$161 million more than the request. Space Science has 2.7 percent more than FY 1999 for a total of \$2.2 billion. However, it provides less funding for future Discovery and Explorer missions, which could result in fewer spacecraft launches over the next few years than NASA had planned. Life and Microgravity Sciences and Applications receives \$275 million, an increase of 4.3 percent. Much of this increase is for a dedicated shuttle science mission by 2001. NASA also receives \$2.3 billion for continued development and construction of the International Space Station, \$70 million or 3.1 percent more than FY 1999 but \$161 million less than the request.

Department of Energy (DOE). In the wake of congressional anger over allegations of security breaches and mismanagement at DOE laboratories, Congress recently moved the weapons-related activities to a new semi-autonomous agency within DOE called the National Nuclear Security Administration. DOE has an R&D budget of \$7.2 billion for FY 2000, \$258 million or 3.7 percent more than FY 1999. The Science account totals \$2.6 billion for R&D, a slight decline of 0.3 percent. Fusion Energy Sciences receives a boost of 11.2 percent to \$246 million, while Nuclear Physics increases 3.9 percent to \$347 million. The final budget denies funding for the proposed Scientific Simulation Initiative, part of the proposed IT² initiative. Congress reduces funding for the Spallation Neutron Source to \$117 million, down from a requested \$214 million. DOE's investments in energy R&D all receive substantial increases; nuclear energy R&D (\$91 million, up 19.3 percent), fossil energy R&D (\$330 million, up 11.9 percent), and energy conservation R&D (\$440 mil-

lion, up 10.0 percent). In defense R&D, the Stockpile Stewardship program is funded at \$2.2 billion, \$126 million or 5.9 percent more than last year.

National Science Foundation (NSF). NSF receives \$3.9 billion for its total budget in FY 2000, an increase of 5.0 percent. NSF's R&D funding, which excludes its education and training activities and overhead costs, totals \$2.9 billion (up 5.2 percent). NSF receives \$126 million out of a requested \$146 million for new fundamental information technology (IT) research activities in FY 2000, most of which comes from the \$390 million budget for the Directorate of Computer and Information Science and Engineering (up 30.6 percent).

Department of Commerce. Commerce R&D programs increases slightly in FY 2000. The National Institute of Standards and Technology (NIST) sees its R&D budget rise modestly by 1.0 percent or \$5 million to \$473 million. Within NIST, the Advanced Technology Program (ATP) receives \$130 million for R&D activities, a cut of 27.0 percent, but this is balanced by a near doubling to \$108 million for the mostly intramural Construction of Research Facilities program. The National Oceanic and Atmospheric Administration's (NOAA) programs for natural resources and environment R&D increase by \$17 million or 2.8 percent to \$617 million. Total Commerce R&D is \$1.1 billion (up 2.0 percent).

R&D, continued back page

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

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. Comments and suggestions on the bulletin and information on upcoming congressional science and technology activities are welcome. This bulletin has not been reviewed or endorsed by the AAAS Board or Council.

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TOTAL R&D BY AGENCY
CONGRESSIONAL ACTION ON R&D IN THE FY 2000 BUDGET
 (BUDGET AUTHORITY IN MILLIONS OF DOLLARS)

Agency	FY99 Estimate	FY00 Request	FY00 FINAL	Change from Request Amount	Change from Request Percent	Change from FY99 Amount	Change from FY99 Percent
Defense (military)	37,975	35,065	39,109	4,044	11.5%	1,134	3.0%
("S&T" 6.1, 6.2, 6.3 + Medical)	7,791	7,386	8,652	1,265	17.1%	861	11.0%
(All Other DOD R&D)	30,184	27,679	30,457	2,778	10.0%	274	0.9%
Nat'l Aeronautics & Space Adm.	9,715	9,770	9,778	8	0.1%	63	0.6%
Energy	6,974	7,467	7,232	-235	-3.1%	258	3.7%
Health and Human Services	15,750	16,047	18,094	2,047	12.8%	2,344	14.9%
(National Institutes of Health)	14,971	15,289	17,125	1,835	12.0%	2,153	14.4%
National Science Foundation	2,714	2,890	2,854	-36	-1.2%	140	5.2%
Agriculture	1,638	1,850	1,693	-156	-8.5%	56	3.4%
Interior	567	584	562	-22	-3.8%	-5	-0.9%
Transportation	603	836	643	-193	-23.1%	40	6.7%
Environmental Protection Agency	669	645	645	1	0.1%	-23	-3.5%
Commerce	1,075	1,172	1,096	-76	-6.5%	21	2.0%
(NOAA)	600	600	617	17	2.8%	17	2.8%
(NIST)	468	565	473	-92	-16.3%	5	1.0%
Education	224	276	246	-30	-10.7%	22	10.0%
Agency for Int'l Development	143	94	143	49	51.9%	0	-0.1%
Department of Veterans Affairs	674	663	665	2	0.4%	-9	-1.3%
Nuclear Regulatory Commission	49	47	47	0	-0.5%	-2	-4.5%
Smithsonian	138	146	143	-3	-2.2%	5	3.5%
All Other	443	353	395	42	11.9%	-48	-10.8%
Total R&D	79,350	77,904	83,346	5,442	7.0%	3,996	5.0%
Defense R&D	41,208	38,483	42,497	4,014	10.4%	1,288	3.1%
Nondefense R&D	38,142	39,422	40,850	1,428	3.6%	2,708	7.1%
Nondefense R&D minus NIH	23,171	24,133	23,725	-407	-1.7%	555	2.4%
Basic Research	17,276	18,101	19,112	1,011	5.6%	1,836	10.6%
Applied Research	16,640	16,642	17,534	892	5.4%	894	5.4%

AAAS estimates. Includes conduct of R&D and R&D facilities. Includes rescissions and emergency appropriations. All figures are rounded to the nearest million. Changes calculated from unrounded figures.

FY 2000 FINAL figures are AAAS estimates of R&D funding contained in FY 2000 appropriations bills conference reports. These figures are reduced to reflect a 0.38 percent cut to all discretionary programs.



R&D, from page 2

U.S. Department of Agriculture (USDA). USDA has an R&D budget of \$1.7 billion in FY 1999, an increase of \$56 million (up 3.4 percent). This amount, though an increase, is still far below the request of \$1.85 billion because the final bill blocks a non-appropriated competitive agricultural research grants program from spending a planned \$120 million in FY 2000. The existing competitive grants program, the National Research Initiative, receives \$119 million, the same as last year but far less than the request of \$200 million. Special Research Grants receives \$63 million, \$58 million more than the request. The Agricultural Research Service receives \$903 million in FY 2000, an increase of \$36 million or 4.2 percent.

Department of the Interior. Interior's R&D budget declines by 0.9 percent in FY 2000 to \$562 million. The U.S. Geological Survey receives \$496 million for its R&D, 0.2 percent less than FY 1999, partially because of a major restructuring of USGS activities.

Environmental Protection Agency (EPA). EPA has an FY 2000 R&D budget of \$645 million, \$23

million or 3.5 percent less than FY 1999 but the same funding level as the request. In order to make room for congressionally designated projects, Congress trimmed the request for R&D related to the Climate Change Technology Initiative and other R&D programs.

Department of Transportation (DOT). DOT has an R&D budget of \$643 million, up 6.7 percent or \$40 million. Because of a multi-year reauthorization of transportation programs in May 1998 that significantly boosted funding for highways, the total DOT budget climbs \$2.1 billion to \$50.1 billion; DOT R&D shares in these gains. ■

Kei Koizumi, of the AAAS R&D Budget and Policy Project, contributed to this article. For continually updated information on the R&D budget, visit <http://www.aaas.org/spp/dspp/rd/rdwwwpg.htm>.



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