AAAS

Advancing science • Serving society

August 19, 2003 -
August Status Report on R&D in FY 2004 Appropriations

Congress Proposes Increases for Defense and Homeland Security R&D, Flat Funding for Other Programs

Before leaving for a month-long summer recess, Congress made significant progress on FY 2004 appropriations and proposed substantial increases for the overall federal R&D portfolio. The House of Representatives, taking the lead, would provide nearly $126 billion for the federal investment in R&D, an increase of $8.4 billion over this year. But nearly all of the increase would go to defense and homeland security R&D; in fact, 99 percent of the House-proposed increase would go to R&D programs in just three agencies: the Department of Defense (DOD), the new Department of Homeland Security (DHS), and the National Institutes of Health (NIH). All the other R&D funding agencies collectively would see their R&D funding remain flat next year, with modest increases for some agencies offset by cuts in others.

Congress returns next month to face the daunting task of completing the FY 2004 appropriations process with just four weeks before the start of the new fiscal year. Before leaving Washington, the House drafted all 13 appropriations bills, and approved 11 of them. The Senate managed to draft 9 out of 13, but found time to debate and approve only 4 of them. None of the appropriations bills has been signed into law. Although the House, the Senate, and President Bush have agreed on an overall spending total for appropriations of $785 billion, the total is divided among the 13 bills in differing ways and there are thousands of program-level funding differences to resolve next month.

FY 2004 R&D in House and Senate Appropriations

The House has drafted all 13 appropriations bills, and has thus acted on the entire federal R&D portfolio. The Senate has acted on the largest R&D funding agencies but not on key agencies such as NASA, the National Science Foundation, and Commerce. Thus, this analysis focuses mostly on House action on R&D appropriations, and Tables 1, 2, and 3 provide details of House R&D appropriations. Table 4 provides partial details of Senate R&D appropriations.

- The House would provide a substantial increase for the overall federal R&D portfolio well in excess of the President's request, but nearly all of the increase would go to defense and homeland security R&D. In the House plan, the federal R&D portfolio would reach another all-time high of $125.9 billion in FY 2004 (see Table 1), representing an $8.4 billion or 7.2 percent increase over this year's funding level (see Figure 1). The House would provide $3.6 billion more than the Bush Administration's request of $122.4 billion, also the largest R&D budget in history.

- The Department of Defense (DOD), the Department of Homeland Security (DHS), and the National Institutes of Health (NIH) would get 99 percent of the $8.4 billion increase, leaving all other R&D funding agencies collectively with flat funding. The House would boost Department of Defense (DOD) R&D by $7.2 billion or 12.3 percent for a total of $66.0 billion, bringing DOD R&D to another all-time high. DOD weapons systems development would account for nearly all of the increase (up $6.1 billion to $53.6 billion), but the House would also reward DOD's "S&T" activities with a 9.7 percent increase to $12.3 billion. The newly created DHS would see its R&D portfolio surge by 57.5 percent or $385 million to $1.1 billion as DHS ramps up its S&T capabilities.

- **After five years of annual 15 percent increases, NIH budget growth would slow down considerably in FY 2004**. The House would match the President's request exactly with a 2.7 percent increase for NIH's

R&D portfolio. NIH R&D would rise modestly in percentage terms, but the sheer size of the NIH portfolio means the House proposal would add $702 million to NIH R&D for a total of $26.9 billion.

- **NIH and homeland security R&D would be the primary growth areas in nondefense R&D, leaving all other domestic R&D priorities with flat funding overall**. Nondefense R&D would increase $1.0 billion or 1.8 percent to $55.4 billion in the House plan, falling behind expected inflation, but taking out the NIH increase would leave a far smaller $298 million or 1.1 percent increase to $28.5 billion (see Table 1). Nearly all of that increase would go to nondefense R&D in DHS. While some of the other R&D funding agencies would enjoy increases in the House plan, they would be offset by cuts in other agencies.

- **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**. The House would provide $4.2 billion for NSF's R&D activities (excluding education, training, and overhead programs), an increase of 6.2 percent. The total NSF budget of $5.6 billion would be nearly $1 billion short of the $6.6 billion authorized for FY 2004 by an NSF authorization bill signed into law last December that would put the NSF budget on track to double between FY 2002 and FY 2007.

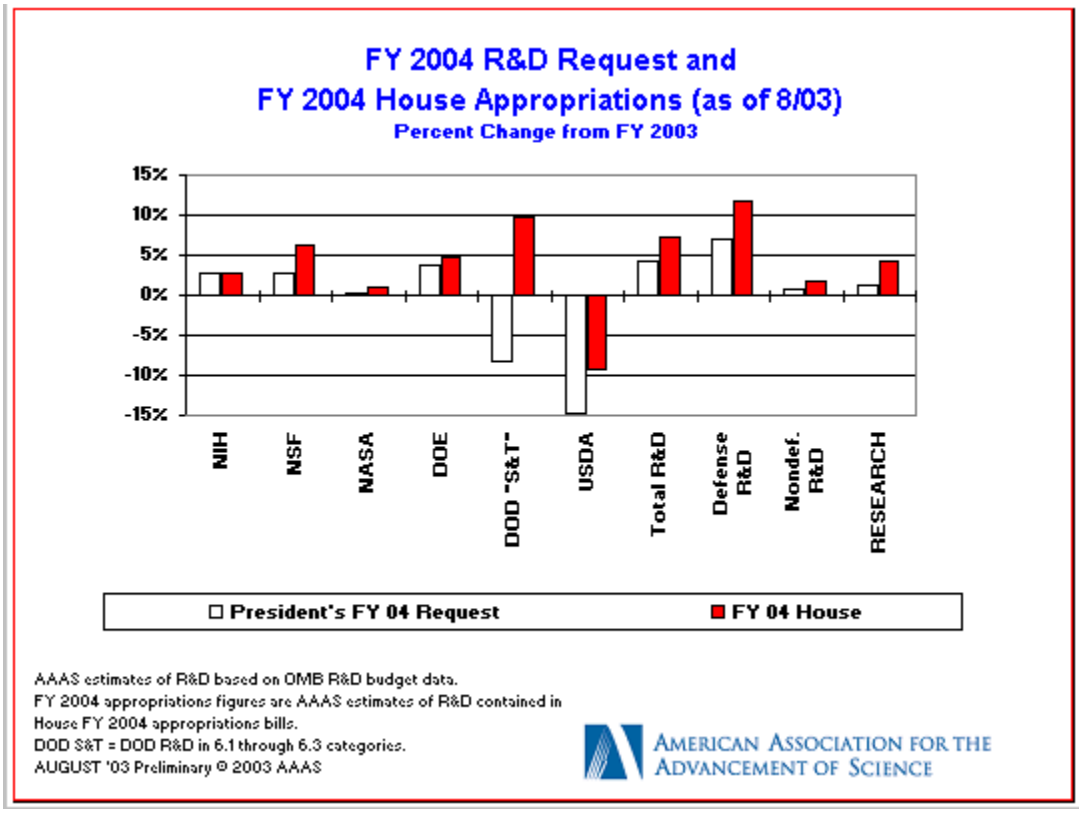

Figure 1. (click on the image to view or download a color full-page PDF version of the chart)

- **The remaining agencies in the federal R&D portfolio would receive some modest increases offset by steep cuts in other areas.** The Department of Energy's (DOE) Office of Science would receive a modest boost to $3.2 billion for its R&D programs in the House, an increase of 4.3 percent; NASA's R&D portfolio would edge up 0.9 percent to $11.1 billion, but the House plan would mostly be a placeholder until the investigation of the Columbia shuttle disaster and subsequent restructuring of the NASA budget is complete. There would be steep cuts in the R&D portfolios of other agencies: R&D in the U.S. Department of Agriculture (USDA, down 9.8 percent), the Department of Transportation (DOT, down 15.0 percent), and the Department of Commerce (down 21.5 percent) would all fall sharply in the House appropriations bills. Commerce's Advanced Technology Program (ATP) would be eliminated by the House.

- **The federal basic and applied research portfolio would increase 4.2 percent in FY 2004.** The federal research portfolio (basic and applied research, including defense research) would total $55.2 billion in FY 2004 under the House plan, an increase of 4.2 percent or $2.2 billion (see Table 2). Many agencies' research portfolios would fare better than their overall R&D portfolios because R&D facilities funding would fall sharply in agencies such as USDA, DOE, and NIH, allowing for larger increases in research. NIH's research portfolio would increase 7.0 percent or $1.7 billion to $26.9 billion, as one-time biodefense research facilities construction funding in FY 2003 would be replaced by biodefense research grants in FY 2004; similarly, DOE research funding would jump 7.2 percent to $5.5 billion as facilities construction costs for the Spallation Neutron Source and the National Ignition Facility would wane in FY 2004, allowing for research increases. But some agencies would still see research funding cuts, including USDA (down 1.6 percent), the Environmental Protection Agency (EPA; down 1.5 percent), Commerce (down 16.3 percent), and DOT (down 14.2 percent).

- **The House's focus on defense and homeland security would result in large increases for defense and general science R&D, and modest increases or cuts for most of the other national missions** (see Table 3). Defense R&D (including DOD, the Department of Energy's defense activities, and a large part of the DHS R&D portfolio) would rise $7.4 billion or 11.8 percent to $70.5 billion for a record total driven largely by substantial boosts to defense-related development activities in DOD and DHS. After several years of near-parity between defense and nondefense R&D around the turn of the century, defense R&D would pull ahead decisively to 56.0 percent of total federal R&D. General science R&D would jump 10.3 percent to $7.7 billion partially because of increases for NSF and DOE Office of Science R&D, but primarily because of an enormous increase in DHS R&D; nearly all of the DHS R&D portfolio is divided between defense and general science missions. Health R&D, mostly in NIH and its sister agencies in the Department of Health and Human Services (HHS), would edge up 2.3 percent but the enormous size of the health portfolio would translate to a $641 million increase to make up nearly a quarter (23.0 percent) of the federal R&D portfolio. Because of the tremendous growth in defense and health R&D over the past few years, R&D for all other national missions has steadily shrunk to less than a quarter of the federal R&D portfolio and would total just 21 percent in the House plan. **R&D funding would decline for nearly all of the other national missions, such as agriculture, transportation, commerce, and the environment**.

- **The Senate would follow the House closely in providing large increases for defense and homeland security, modest increases for health, and flat funding overall for all other R&D programs in the appropriations it has drafted so far**. The Senate has not yet acted on key R&D funding agencies such as NASA, NSF, EPA, and Commerce, but would stick closely to House action on the agencies it has completed (see Table 4). The Senate would provide $11.8 billion for DOD "S&T", a 4.7 percent increase that would be more modest than the House plan but in sharp contrast to the Administration's request for steep cuts. The Senate would provide a modest 1.2 percent increase to R&D in DOE's Office of Science, again less than the House but in contrast to a requested cut in the Bush Administration budget. The Senate would provide slightly more than the House and the Administration request for NIH R&D for a $1.0 billion or 3.8 percent increase to $27.3 billion. The Senate would provide slightly smaller but still substantial increases than the House for DOD and DHS R&D, offset by larger increases than the House for the DOE's energy and defense R&D programs and more modest cuts in USDA R&D.

Agency Highlights in FY 2004 House and Senate R&D Appropriations So Far

(For details on individual agency appropriations, please see the agency R&D Funding Updates on the AAAS R&D Web site. (The on-line version of this document contains links.) Updates are available for all 11 major R&D funding agencies for the House, and for DOD, NIH, DHS, DOE, USDA, and Interior for the Senate. Some figures in these earlier analyses may differ from the figures presented in this document because of supplementals or floor amendments.)

- **After a completed five-year doubling campaign involving 15 percent increases for each of the past five years, growth in the National Institutes of Health (NIH) budget would slow sharply in the House, Senate, and Bush Administration plans**. The House would follow the Administration's request exactly with a total NIH budget (including non-R&D items) of $27.9 billion, just 2.7 percent above this year. The

Senate would provide $28.2 billion, an increase of 3.8 percent or $1.0 billion. Biodefense research would continue to be a high priority in FY 2004. The House, Senate, and the Administration would all provide $4.3 billion for the National Institute of Allergy and Infectious Diseases (NIAID), the lead NIH institute for biodefense research, a boost of 17.0 percent over FY 2003 after a 47 percent boost last year. NIH research (basic and applied) would increase 7.8 percent to $27.0 billion in the Senate plan and 7.0 percent in the House, greater than the increases for the overall NIH budget because the House and Senate would go along with NIH's plan to discontinue most of its FY 2003 facilities funding and shift the money to research in FY 2004 (see Table 2). Most NIH institutes would receive increases between 2 and 4 percent in both the House and the Senate.

- **The Department of Defense (DOD) would receive a record-breaking $66.0 billion for its R&D programs in FY 2004 under the latest House plan, a jump of 12.3 percent or $7.2 billion over FY 2003 (see Table 1).** The big winners in DOD would be the missile defense program and other development programs. Funding for missile defense development would jump 18 percent to $8.1 billion in FY 2004, mostly in the Missile Defense Agency. The House would reverse the Pentagon's planned cuts to basic and applied research programs and provide modest increases. Basic research ("6.1") would increase $14 million (1.0 percent) to $1.4 billion (see Table 2), while applied research ("6.2") would increase 2.2 percent to $4.4 billion, in contrast to requested cuts of 8 percent and 14 percent, respectively. DOD "Science and Technology" (S&T), which includes research, medical research, and early technology development, would climb 9.7 percent or $1.1 billion to $12.3 billion, primarily because of large increases for technology development ("6.3") programs. By contrast, the Administration had proposed a nearly $1 billion cut. The Senate would provide slightly less than the House for both DOD R&D and DOD "S&T". Both the House and Senate would go along with DOD's proposal to reorganize its basic research portfolio in FY 2004 by transferring many basic research programs funded in the Office of the Secretary of Defense (OSD) to the three services (Army, Navy, and Air Force).

- **The Department of Homeland Security (DHS) would become one of the major funding sources of R&D in FY 2004.** The DHS R&D portfolio would total $1.1 billion in the House-approved appropriation, up nearly 60 percent from the $669 million for comparable programs in FY 2003 and nearly quadruple the FY 2002 funding level. The House would provide $148 million more than the request. The House would provide $890 million in FY 2004 and $5.6 billion over 10 years for the non-R&D Project Bioshield to procure biodefense countermeasures, a program first proposed in the President's State of the Union address this year. The new S&T Directorate in the DHS would receive $900 million for R&D activities, nearly double the current funding level. In the Senate, meanwhile, the DHS R&D portfolio would total $1.0 billion in the latest Senate plan, up nearly 50 percent. The Senate would not fund Project Bioshield. Both the House and Senate would add funds for DHS university programs, and also for R&D on antiaircraft missile defenses for commercial airliners.

- **The House would provide $5.6 billion for the budget of the National Science Foundation (NSF) in FY 2004, $329 million or 6.2 percent more than FY 2003**. NSF's R&D activities would receive $4.2 billion, also an increase of 6.2 percent. The House would add to the R&D request by $136 million and would allow each of the research directorates to receive an increase of at least 2.7 percent. The House appropriation and the request would fall nearly $1 billion short of the authorized funding level contained in the NSF authorization bill signed into law last December, which envisions a possible doubling of the NSF budget between FY 2002 and FY 2007.

- **The House would provide $8.6 billion for R&D in the Department of Energy in FY 2004, an increase of $381 million or 4.6 percent**. DOE's Office of Science would receive $3.2 billion for R&D in the House plan, a boost of 4.3 percent or $133 million in contrast to a requested cut. The House would add funds for high-performance computing research, for domestic fusion research, and for increased extramural user time at DOE's large-scale scientific facilities. The House would trim the request for DOE's defense R&D activities, but would still provide a $176 million or 4.6 percent increase for a total of $4.0 billion. In the Senate, meanwhile, DOE's Office of Science would receive $3.1 billion for R&D, a boost of just $36 million or 1.2 percent, though a slight improvement over a requested cut. The Senate would be generous

with DOE's energy-related R&D, providing $1.4 billion for a 9.0 percent increase, and with defense-related R&D, providing $4.3 billion for a 10.1 percent increase (see Table 4).

- **NASA's budget is on hold until at least September because of the continuing investigation into the Columbia shuttle disaster.** The House would provide $15.5 billion for the NASA budget in FY 2004, an increase of 1.3 percent or $205 million, but the House plan will change after NASA completes its review of the Columbia shuttle disaster. NASA's R&D activities would receive $11.1 billion in this initial House plan, an increase of just $97 million or 0.9 percent over FY 2003. The House would provide the requested amounts for the International Space Station, the Space Shuttle, and associated space flight programs just as a placeholder until the Columbia Accident Investigation Board's work is complete and NASA reacts to the Board's recommendations.

- **The Department of Commerce is in for steep cuts to its R&D programs.** The House would cut Commerce R&D by $268 million or 21.5 percent to $980 million in FY 2004, allocating cuts to nearly every Commerce R&D program. The House would eliminate the Advanced Technology Program, going even further than the Bush Administration which proposed to phase out the program. The House would also cut funding across the board for the National Oceanic and Atmospheric Administration's (NOAA) R&D programs in ocean research, fisheries research, atmospheric science, and climate change science. Total NOAA R&D would fall 14.9 percent to $582 million.

- **The U.S. Department of Agriculture's (USDA) R&D would fall 9.3 percent or $212 million in the House Agriculture bill to $2.1 billion in FY 2004, primarily because of steep cuts to research facilities funding.** This year's USDA budget includes one-time emergency funds to for construction and security upgrades at USDA laboratory facilities related to biodefense concerns that would not be renewed in FY 2004. In the Senate, USDA R&D would fall 7.5 percent, but without facilities USDA R&D would increase slightly. Although USDA requested $200 million for the National Research Initiative of competitively awarded extramural research grants, the House would provide only $149 million, $51 million less than the request and $17 million less than FY 2003; the Senate would give $180 million. The House would provide $101 million and the Senate $102 million for the congressionally earmarked Special Research Grants.

- **The Environmental Protection Agency (EPA) budget in FY 2004 would fall, as would its R&D funding**. The House would provide $8.0 billion for the total EPA budget, $74 million less (0.9 percent) than FY 2003. EPA's R&D funding would decline 1.5 percent to $634 million, primarily because one-time emergency funding for building decontamination research in FY 2003 would not be renewed. EPA's core R&D programs would increase 6.1 percent to $582 million.

- **The Senate would join the House in providing a modest increase to R&D in the U.S. Geological Survey (USGS),** Interior's lead science agency. The Senate appropriation of $573 million for USGS R&D would be a slight $4 million or 0.7 percent above the FY 2003 funding level. The House would provide $4 million more. Both the House and Senate would reverse the Bush Administration's proposed cuts to many of USGS' earth science and water resources research programs, but most programs would remain flat at FY 2003 funding levels. Total Interior R&D would climb $34 million or 5.4 percent to $661 million in the Senate plan because of a requested boost to the Bureau of Land Management's R&D activities.

- **The House would slash R&D in the Department of Transportation (DOT) by $105 million or 15.0 percent to $597 million in FY 2004**. The cuts would hit both of DOT's major R&D agencies, the Federal Aviation Administration (FAA) and the Federal Highway Administration (FHWA), both of which are primarily funded through trust funds.

Policy Context and Budget Outlook

When it returns to session in September, the House and Senate will try to wrap up action on the 13 appropriations bills, coming to compromises on each of the bills while keeping total spending in the 13 bills under an agreed-upon budget target. The budget targets of $785 billion in total discretionary spending in FY 2004 is a relatively modest 2.5 percent increase over the non-emergency total for FY 2003, with

nearly all of that increase earmarked for defense. As a result, overall federal funding for R&D is in the same boat as most other domestic programs in having to settle for only modest increases at best and flat funding on average.

Because of continuing sluggishness in the economy depressing tax revenues, a new package of tax cuts enacted in May, and billions of dollars in previously unbudgeted spending to pay for the Iraq war, the Bush Administration now estimates that this year's federal budget deficit will be a record-breaking $455 billion, rising to $475 billion in FY 2004. Just since the Administration's February forecast, the projected deficit for this year has deteriorated by $150 billion. Just two years ago, the budget was in surplus. Although the Administration's forecast sees the budget deficit declining (though not disappearing) in future years, the forecast is based on several questionable assumptions: that the U.S. economy will rebound strongly beginning this year after several years of sluggish growth, that tax cuts scheduled to expire in 2005 and 2006 will not be extended, that further supplemental spending for wars and homeland security will not be necessary, and that discretionary spending will be restrained in future years. The forecast also does not budget for continuing costs of occupying Iraq, recently estimated to be $5 billion a month.

Within such a fiscal environment, restraint on discretionary spending and thus federal R&D are likely to be the final result of the FY 2004 appropriations process. With same-party control of the three major players in the budget process for the first time in a decade, the FY 2004 appropriations process has so far proceeded with unusual speed and agreement, in a sharp contrast to FY 2003 when 11 of the 13 bills were delayed until February. With the House well along in the process and the Senate in broad agreement with the House on the bills it has drafted so far, the outlines of FY 2004 appropriations appear to be nearly set. There is little room now for last-minute boosts to agencies such as NIH or DOE in conference, and little likelihood that forthcoming Senate appropriations for NSF or NASA will be able to differ substantially from House-proposed levels.

The most likely scenario going into September is that Congress will wrestle with appropriations into October, with a few bills signed into law before FY 2004 and the remainder winning approval sometime in October. Other legislative issues could always throw chaos into this scenario by consuming large chunks of congressional attention and infighting, especially the complicated and contentious negotiations on a Medicare prescription drug bill and an energy authorization bill. But with the Republican Party in control and eager to prove itself capable of governing with a united front, the prospects are better than in recent memory for an orderly conclusion to the FY 2004, although the results may be disappointing to many in the science and engineering communities.

> (This analysis is a progress report on FY 2004 House and Senate appropriations so far in the budget process. The complete series of AAAS R&D Funding Updates, including continually updated analyses of R&D by agency in FY 2004 appropriations, is available on the AAAS R&D Web Site (http://www.aaas.org/spp/rd) in the "FY 2004 R&D" or the "What's New" sections. Further AAAS R&D Funding Updates will provide up-to-date information on R&D in FY 2004 appropriations. At the conclusion of FY 2004 appropriations, AAAS will publish an analysis of R&D in final FY 2004 appropriations in our publication *Congressional Action on R&D in the FY 2004 Budget*.)

- August 19, 2003
AAAS R&D Budget and Policy Program
1200 New York Ave, NW
Washington, DC 20005
(202) 326-6607; -6600
science_policy@aaas.org
http://www.aaas.org/spp/rd

Table 1. Total R&D by Agency
House Action on R&D in the FY 2004 Budget (as of August 19, 2003)
(budget authority in millions of dollars)

			Action by House				
	FY 2003	FY 2004	**FY 2004**	Chg. from Request		Chg. from FY 2003	
	Estimate	Request	**House**	Amount	Percent	Amount	Percent
Defense (military)	58,724	62,821	**65,953**	3,132	5.0%	7,228	12.3%
("S&T" 6.1,6.2,6.3 + Medical)	*11,232*	*10,297*	***12,316***	*2,019*	*19.6%*	*1,085*	*9.7%*
(All Other DOD R&D)	*47,493*	*52,524*	***53,636***	*1,112*	*2.1%*	*6,143*	*12.9%*
National Aeronautics & Space Admin.	10,999	11,025	**11,096**	71	0.6%	97	0.9%
Energy	8,225	8,535	**8,606**	72	0.8%	381	4.6%
(Office of Science)	*3,075*	*3,066*	***3,208***	*141*	*4.6%*	*133*	*4.3%*
(Energy R&D)	*1,281*	*1,289*	***1,353***	*64*	*5.0%*	*72*	*5.6%*
(Atomic Energy Defense R&D)	*3,869*	*4,180*	***4,045***	*-134*	*-3.2%*	*176*	*4.6%*
Health and Human Services	27,566	28,203	**28,204**	1	0.0%	638	2.3%
(National Institutes of Health)	*26,245*	*26,946*	***26,947***	*1*	*0.0%*	*702*	*2.7%*
National Science Foundation	3,927	4,035	**4,171**	136	3.4%	244	6.2%
Agriculture	2,276	1,943	**2,064**	121	6.2%	-212	-9.3%
Homeland Security	669	907	**1,054**	148	16.3%	385	57.5%
Interior	627	633	**666**	33	5.2%	39	6.2%
Transportation *	702	693	**597**	-96	-13.9%	-105	-15.0%
Environmental Protection Agency	643	607	**634**	27	4.5%	-9	-1.5%
Commerce	1,248	1,100	**980**	-120	-10.9%	-268	-21.5%
(NOAA)	*684*	*675*	***582***	*-92*	*-13.7%*	*-102*	*-14.9%*
(NIST)	*527*	*410*	***368***	*-43*	*-10.4%*	*-159*	*-30.2%*
Education	315	275	**327**	52	19.1%	12	3.9%
Agency for Int'l Development	267	275	**272**	-3	-1.2%	5	1.7%
Department of Veterans Affairs	800	822	**822**	0	0.0%	22	2.8%
Nuclear Regulatory Commission	59	60	**60**	0	0.0%	1	1.7%
Smithsonian	128	127	**127**	0	0.2%	-1	-0.6%
All Other	340	330	**314**	-16	-4.8%	-26	-7.6%
Total R&D	117,517	122,391	**125,948**	3,557	2.9%	8,431	7.2%
Defense R&D	63,084	67,518	**70,515**	2,998	4.4%	7,432	11.8%
Nondefense R&D	54,433	54,873	**55,432**	559	1.0%	999	1.8%
Nondefense R&D minus NIH	*28,188*	*27,927*	***28,485***	*558*	*2.0%*	*298*	*1.1%*
Basic Research	26,047	26,826	**26,980**	154	0.6%	933	3.6%
Applied Research	26,910	26,808	**28,222**	1,414	5.3%	1,312	4.9%
Total Research	52,957	53,634	**55,202**	1,568	2.9%	2,245	4.2%
"FS&T"	58,828	58,780	**60,113**	1,333	2.3%	1,286	2.2%

AAAS estimates of R&D in FY 2004 House appropriations bills. Includes conduct of R&D and R&D facilities.
All figures are rounded to the nearest million. Changes calculated from unrounded figures.
FY 2003 figures adjusted to reflect supplemental appropriations in the FY 2003 supplemental bill (Public Law 108-15)
and AAAS estimates of final FY 2003 appropriations in the FY 2003 omnibus bill (Public Law 108-7).
August 19, 2003 - House-approved funding levels.
These funding levels reflect amendments approved by the full House.
*** - House Appropriations Committee-approved funding levels; may be amended by the full House.**

Table 2. Estimated Research by Agency
House Action on R&D in the FY 2004 Budget (as of August 19, 2003)
(budget authority in millions of dollars)

			Action by House				
	FY 2003	FY 2004	**FY 2004**	Chg. from Request		Chg. from FY 2003	
	Estimate	Request	**House**	Amount	Percent	Amount	Percent
Basic Research:							
Health and Human Services	14,092	14,804	**14,805**	1	0.0%	713	5.1%
National Institutes of Health	*14,088*	*14,801*	***14,801***	*0*	*0.0%*	*713*	*5.1%*
National Science Foundation	3,435	3,486	**3,618**	132	3.8%	183	5.3%
Department of Defense	1,417	1,309	**1,431**	122	9.3%	14	1.0%
Department of Energy	2,561	2,593	**2,729**	136	5.2%	168	6.5%
National Aeronautics & Space Admin.	2,356	2,535	**2,260**	-275	-10.9%	-96	-4.1%
Department of Agriculture	911	819	**871**	52	6.4%	-39	-4.3%
Department of the Interior	42	38	**40**	2	5.1%	-2	-5.4%
Smithsonian	115	121	**121**	0	0.2%	6	5.4%
Environmental Protection Agency	116	90	**114**	25	27.8%	-2	-1.5%
Department of Commerce (NIST)	325	391	**326**	-64	-16.5%	1	0.4%
All Other	677	641	**665**	24	3.7%	-12	-1.8%
Total Est. Basic Research	26,047	26,826	**26,980**	154	0.6%	933	3.6%
Basic research excluding NIH	*11,959*	*12,025*	***12,179***	*154*	*1.3%*	*220*	*1.8%*
RESEARCH (basic and applied):							
Health and Human Services	26,356	28,077	**28,092**	15	0.1%	1,736	6.6%
National Institutes of Health	*25,120*	*26,866*	***26,867***	*1*	*0.0%*	*1,747*	*7.0%*
National Science Foundation	3,648	3,690	**3,830**	140	3.8%	182	5.0%
Department of Defense	6,165	5,045	**6,224**	1,179	23.4%	59	1.0%
Department of Energy	5,175	5,480	**5,548**	68	1.2%	373	7.2%
National Aeronautics & Space Admin.	5,532	5,482	**5,533**	51	0.9%	1	0.0%
Department of Agriculture	1,798	1,666	**1,769**	103	6.2%	-28	-1.6%
Department of the Interior	566	575	**605**	30	5.2%	39	6.8%
Environmental Protection Agency	532	459	**524**	66	14.3%	-8	-1.5%
Department of Commerce	989	961	**827**	-133	-13.9%	-161	-16.3%
NOAA	*647*	*650*	***561***	-89	-13.7%	-87	-13.4%
NIST	*329*	*301*	***256***	-45	-14.9%	-73	-22.2%
Department of Transportation *	432	448	**371**	-77	-17.2%	-61	-14.2%
Department of Veterans Affairs	774	797	**797**	0	0.0%	23	3.0%
Department of Education	225	220	**262**	42	19.1%	36	16.2%
All Other	766	735	**819**	84	11.4%	53	7.0%
TOTAL EST. RESEARCH	52,957	53,634	**55,202**	1,568	2.9%	2,245	4.2%
Research excluding NIH	*27,837*	*26,768*	*28,335*	*1,567*	*5.9%*	*498*	*1.8%*

AAAS estimates of basic and applied research in FY 2004 House appropriations bills.

All figures are rounded to the nearest million. Changes calculated from unrounded figures.

FY 2003 figures adjusted to reflect supplemental appropriations in the FY 2003 supplemental bill (Public Law 108-15) and AAAS estimates of final FY 2003 appropriations in the FY 2003 omnibus bill (Public Law 108-7).

August 19, 2003 - House-approved funding levels.

These funding levels reflect amendments approved by the full House.

*** - House Appropriations Committee-approved funding levels; may be amended by the full House.**

Table 3. Major Functional Categories of R&D
House Action on R&D in the FY 2004 Budget (as of August 19, 2003)
(budget authority in millions of dollars)

			Action by House					
	FY 2003 Estimate	FY 2004 Request	**FY 2004 House**	Chg. from Request Amount	Chg. from Request Percent	Chg. from FY 2003 Amount	Chg. from FY 2003 Percent	% of Total ('04 Hse.)
Defense [1]	63,084	67,518	**70,515**	2,998	4.4%	7,432	11.8%	56.0%
Nondefense [2]	54,433	54,873	**55,432**	559	1.0%	999	1.8%	44.0%
Space	9,923	10,032	**10,042**	10	0.1%	119	1.2%	8.0%
Health	28,331	28,971	**28,972**	1	0.0%	641	2.3%	23.0%
Energy	1,366	1,374	**1,438**	64	4.7%	72	5.3%	1.1%
General Science	7,025	7,375	**7,749**	374	5.1%	724	10.3%	6.2%
Natural Resources & Environ.	2,249	2,210	**2,193**	-17	-0.8%	-56	-2.5%	1.7%
Agriculture	2,034	1,693	**1,800**	107	6.3%	-234	-11.5%	1.4%
Transportation *	1,911	1,784	**1,800**	15	0.9%	-111	-5.8%	1.4%
Commerce	563	424	**397**	-27	-6.4%	-166	-29.5%	0.3%
International	297	306	**303**	-3	-1.1%	6	1.9%	0.2%
All Other	734	704	**739**	35	5.0%	6	0.8%	0.6%
Total R&D	117,517	122,391	**125,948**	3,557	2.9%	8,431	7.2%	100.0%

AAAS estimates of R&D in FY 2004 House appropriations bills. Includes conduct of R&D and R&D facilities.
All figures are rounded to the nearest million. Changes calculated from unrounded figures.
FY 2003 figures adjusted to reflect supplemental appropriations in the FY 2003 supplemental bill (Public Law 108-15)
and AAAS estimates of final FY 2003 appropriations in the FY 2003 omnibus bill (Public Law 108-7).

Classifications generally follow the government's budget function categories except health (which here includes health R&D in HHS and VA).

[1] Includes DOD R&D, atomic energy defense R&D in DOE, and defense-related R&D in DHS.

[2] Includes all R&D not in defense (domestic and international discretionary programs).

August 19, 2003 - House-approved funding levels.

These funding levels reflect amendments approved by the full House.

*** - House Appropriations Committee-approved funding levels; may be amended by the full House.**

Table 4. Total R&D by Agency
Senate Action on R&D in the FY 2004 Budget (as of August 19, 2003)
(budget authority in millions of dollars)

			Action by Senate				
	FY 2003	FY 2004	**FY 2004**	Chg. from Request		Chg. from FY 2003	
	Estimate	Request	**Senate**	Amount	Percent	Amount	Percent
Defense (military) *	58,724	62,821	**64,823**	2,002	3.2%	6,099	10.4%
*("S&T" 6.1,6.2,6.3 + Medical) **	*11,232*	*10,297*	***11,764***	*1,467*	*14.2%*	*532*	*4.7%*
*(All Other DOD R&D) **	*47,493*	*52,524*	***53,059***	*536*	*1.0%*	*5,567*	*11.7%*
National Aeronautics & Space Admin.							
Energy	8,225	8,535	**8,765**	230	2.7%	540	6.6%
(Office of Science)	*3,075*	*3,066*	***3,111***	*44*	*1.5%*	*36*	*1.2%*
(Energy R&D)	*1,281*	*1,289*	***1,396***	*107*	*8.3%*	*115*	*9.0%*
(Atomic Energy Defense R&D)	*3,869*	*4,180*	***4,258***	*79*	*1.9%*	*389*	*10.1%*
Health and Human Services	27,566	28,203	**28,575**	372	1.3%	1,009	3.7%
(National Institutes of Health)	*26,245*	*26,946*	***27,254***	*308*	*1.1%*	*1,008*	*3.8%*
National Science Foundation							
Agriculture	2,276	1,943	**2,105**	162	8.3%	-171	-7.5%
Homeland Security *	669	907	**1,001**	95	10.4%	332	49.6%
Interior	627	633	**668**	35	5.5%	41	6.5%
Transportation							
Environmental Protection Agency							
Commerce							
(NOAA)							
(NIST)							
Education	315	275	**295**	20	7.1%	-21	-6.5%
Agency for Int'l Development	267	275	**293**	18	6.6%	26	9.8%
Department of Veterans Affairs							
Nuclear Regulatory Commission	59	60	**60**	0	0.0%	1	1.7%
Smithsonian	128	127	**130**	3	2.3%	2	1.5%
All Other							
Total R&D							

AAAS estimates of R&D in FY 2004 Senate appropriations bills. Includes conduct of R&D and R&D facilities.
All figures are rounded to the nearest million. Changes calculated from unrounded figures.
FY 2003 figures adjusted to reflect supplemental appropriations in the FY 2003 supplemental bill (Public Law 108-15)
and AAAS estimates of final FY 2003 appropriations in the FY 2003 omnibus bill (Public Law 108-7).
August 19, 2003 - Senate Appropriations Committee-approved funding levels.
These funding levels may be amended on the Senate floor.
*** - Senate-approved funding levels. These funding levels reflect amendments on the Senate floor.**
The Senate has not yet drafted appropriations for agencies with blank lines.