

## PRESIDENT'S FY 2008 BUDGET REQUESTS 1% INCREASE IN R&D FUNDING

by Richard J. Bennof

The Bush administration has proposed a total budget authority of \$138 billion for federally supported research and development (R&D) in FY 2008, an increase of 1.0% in current dollars over the preliminary FY 2007 figure of \$137 billion (table 1). Defense R&D is slated to rise by nearly 1% and nondefense R&D by 1.1%. In constant FY 2000 dollars, federally supported R&D is expected to decrease 1.4% in FY 2008, with drops in both defense and nondefense R&D.

Unless otherwise indicated, all references to dollar amounts or percentages for the remainder of this *InfoBrief* are in current dollars.

### Proposed Defense R&D Funding

The defense component of the federal R&D budget authority is expected to be \$82.4 billion, an increase of \$0.7 billion over FY 2007 amounts. This relatively small growth represents a change in the recent trend of annual increases in the defense share of federal R&D budget authority: from 56% in FY 2003 to 60% in FY 2007. The proposed defense R&D budget would keep the defense share of total federal R&D level with the FY 2007 share. According to the American Association for the Advancement of Science (AAAS), the great majority of federal defense R&D (89% in FY 2008) is allocated for development, whereas the nondefense portion of the federal R&D budget is directed mostly toward funding research (79% in FY 2008).<sup>1</sup>

About 95% (\$78.0 billion) of FY 2008 defense dollars will be funded from Department of Defense (DOD) military research, development, test, and evaluation (RDT&E) programs (table 2). The Air Force, Army, Navy, and two defense agencies, the Missile Defense Agency and the Defense Advanced Research Projects Agency (DARPA), will account for nearly 88% (\$68.4 billion) of the RDT&E account.

The Air Force is slated to get the largest portion of defense R&D funding (\$28 billion), up \$3.6 billion, or 14.6%, over the FY 2007 level. According to the AAAS (AAAS 2007, p. 63), the Air Force increases are for "various space and classified weapons development programs, including war-related supplemental requests."

Decreases in R&D funding levels are expected for each of the other DOD departments, ranging from 1.0% to 7.6% (table 2).

A 6.2% increase in R&D funding, to \$3.4 billion in FY 2008, is slated for Department of Energy (DOE) atomic energy defense activities, mainly for support of weapons activities (table 2). Proposed defense R&D at the Department of Homeland Security is \$175 million in FY 2008, a decrease of 40.9% from FY 2007 funding and only about half of its FY 2005 funding level.

### Proposed Nondefense R&D Funding

Total nondefense R&D budget authority is expected to increase by \$0.6 billion, to \$55.9 billion in FY 2008. The nondefense share of federal R&D budget authority has decreased from 44% in FY 2003 to 40% in FY 2007 and remains at that level for FY 2008. The six

<sup>1</sup> AAAS, Intersociety Working Group. 2007. *AAAS Report XXXII: Research and Development FY 2008*. AAAS Publication Number 07-1A. Washington, DC. Available at <http://www.aaas.org/spp/rd/rd08main.htm>.



TABLE 1. Federal R&amp;D budget authority, by budget function: FY 2003–08

Funding category	FY 2003 actual	FY 2004 actual	FY 2005 actual	FY 2006 actual	FY 2007 preliminary	FY 2008 proposed	% change FY 2007–08
Current \$millions							
All categories conducting R&D	112,544	121,867	126,601	131,624	137,026	138,332	1.0
National defense	63,048	69,593	74,047	78,037	81,667	82,383	0.9
Nondefense	49,495	52,274	52,554	53,586	55,359	55,949	1.1
Health	26,517	28,251	28,824	28,797	29,481	29,242	-0.8
Space research and technology	7,355	7,612	7,300	8,204	8,933	9,506	6.4
General science	6,129	6,466	6,570	6,691	7,185	7,752	7.9
Natural resources and environment	2,151	2,168	2,168	2,120	1,932	1,944	0.6
Agriculture	1,708	1,750	1,820	1,869	1,824	1,629	-10.7
Energy	1,403	1,343	1,296	1,195	1,581	1,468	-7.1
Other functions <sup>a</sup>	4,232	4,684	4,576	4,710	4,422	4,408	-0.3
FY 2000 constant \$millions							
All categories conducting R&D	106,294	112,309	113,158	114,128	115,878	114,220	-1.4
National defense	59,547	64,135	66,184	67,664	69,063	68,024	-1.5
Nondefense	46,746	48,174	46,974	46,464	46,815	46,197	-1.3
Health	25,044	26,035	25,763	24,969	24,931	24,145	-3.2
Space research and technology	6,947	7,015	6,525	7,114	7,555	7,849	3.9
General science	5,789	5,959	5,872	5,802	6,076	6,401	5.3
Natural resources and environment	2,032	1,998	1,938	1,838	1,634	1,605	-1.8
Agriculture	1,613	1,613	1,627	1,621	1,543	1,345	-12.8
Energy	1,325	1,238	1,158	1,036	1,337	1,212	-9.3
Other functions <sup>a</sup>	3,997	4,317	4,090	4,084	3,740	3,640	-2.7

<sup>a</sup> Other functions include transportation; veterans benefits and services; education, training, employment, and social services; income security; commerce and housing credit; international affairs; administration of justice; and community and regional development.

NOTES: Data reflect budget information collected through April 2007. Data for FY 2003–06 reflect final budget authorization. Preliminary budget authority for FY 2007 reflects all past congressional actions as of preparation of this table. Proposed budget authority for FY 2008 from the Bush administration will be revised to reflect congressional appropriation and actual program-funding decisions. Detail may not add to total because of rounding. Percent change derived from unrounded data.

SOURCES: Agencies' submissions to the Office of Management and Budget, agencies' budget documents, and supplemental data obtained from agencies' budget offices.

functions accounting for most (92%) of the federal budget proposed for nondefense-related R&D activities are discussed below and are shown in table 1.

### Health

R&D funding for health primarily includes programs of the National Institutes of Health and is scheduled to decrease by \$0.2 billion from the FY 2007 level. This will be the second time in the past 3 years that R&D funding for health has fallen from one year to the next. Health, projected to be \$29.2 billion in FY 2008, is the second largest budget function after national defense.

The health share of total federal R&D budget authority reached 24% in FY 2003 and has dropped each year since. Its share in FY 2008 is expected to be 21%.

### Space

The Bush administration has proposed a 6.4% increase in R&D budget authority, to \$9.5 billion, for space research and technology, an increase of almost \$0.6 billion from FY 2007. National Aeronautics and Space Administration programs account for the entire space research and technology budget. The share of R&D funding for space research and technology fell from

TABLE 2. Federal research and development budget authority for national defense: FY 2005–08  
(Millions of dollars)

Funding category and agency	FY 2005 actual	FY 2006 actual	FY 2007 preliminary	FY 2008 proposed	% change FY 2007–08
Total	74,047	78,037	81,667	82,383	0.9
Department of Defense-military (DOD)	70,134	74,125	78,154	78,792	0.8
Research, development, test, and evaluation (RDT&E)	68,826	72,855	76,782	77,975	1.6
Defense agencies	20,608	19,803	21,899	21,287	-2.8
Defense Advanced Research Projects Agency	2,947	2,871	3,115	3,086	-1.0
Missile Defense Agency	8,827	7,682	9,381	8,796	-6.2
Other defense agencies	8,834	9,250	9,402	9,406	0.0
Department of the Air Force	20,550	22,220	24,514	28,082	14.6
Department of the Army	10,456	11,693	11,042	10,732	-2.8
Department of the Navy	16,901	18,973	19,143	17,694	-7.6
Operational test and evaluation	311	166	184	180	-2.2
Other military funding <sup>a</sup>	1,308	1,270	1,372	817	-40.4
Department of Energy-atomic energy defense activities (DOE)	3,561	3,536	3,217	3,416	6.2
Environmental restoration and waste management	53	34	21	21	0.0
Naval reactors development <sup>b</sup>	700	692	690	705	2.2
Nonproliferation <sup>b</sup>	146	244	128	155	20.7
Weapons activities <sup>b</sup>	2,660	2,562	2,375	2,532	6.6
Other defense activities	2	4	3	3	0.0
Department of Homeland Security	352	376	296	175	-40.9

<sup>a</sup> This item includes appropriate personnel costs in direct support of conduct of research and development, other appropriations funding certain DOD programs, and medical research funded outside RDT&E accounts.

<sup>b</sup> These accounts are now part of the National Nuclear Security Administration within DOE.

NOTES: Data reflect budget information collected through April 2007. Data for FY 2005–06 reflect final budget authorization. Preliminary budget authority for FY 2007 reflects all past congressional actions as of preparation of this table. Proposed budget authority for FY 2008 from the Bush administration will be revised to reflect congressional appropriation and actual program-funding decisions. Detail may not add to total because of rounding. Percent change derived from unrounded data.

SOURCES: DOD, DOE, and DHS submissions to Office of Management and Budget; supplemental data obtained from agencies' budget offices; and DOD, RDT&E Programs (R-1).

6.5% in FY 2003 to 5.8% in FY 2005 but has increased each year since and is expected to be 6.9% of the proposed total federal R&D budget authority in FY 2008.

### General Science

Research funding for general science is expected to increase 7.9% in FY 2008, or by nearly \$0.6 billion, to a total of \$7.8 billion. NSF accounts for 56% (\$4.4 billion) of these general-science funds and DOE accounts for the remaining portion (\$3.4 billion). Under the proposed budget, general science would account for 5.6% of the total federal R&D budget authority, up from 5.2% in FY 2007.

### Environment

Natural resources and environment R&D is budgeted at \$1.9 billion in FY 2008, up 0.6% (\$12 million) from the

FY 2007 level. Four agencies provide nearly all of the support for R&D in this area: Department of the Interior, Department of Commerce, Environmental Protection Agency, and Department of Agriculture (USDA).

### Agriculture

Agriculture R&D is slated to total \$1.6 billion in FY 2008, down by 10.7% from the FY 2007 funding level. USDA would receive all of these funds for its projects, with the bulk of the dollars going to the Agricultural Research Service and to the Cooperative State Research, Education, and Extension Service.

### Energy

Energy R&D is budgeted at \$1.5 billion in FY 2008, down 7.1% from the FY 2007 level. The Department of Energy accounted for nearly all of these funds.

**Data Notes**

Details on the President's requested federal funding of the R&D components of agency programs for FY 2006–08 will be available in the forthcoming report *Federal R&D Funding by Budget Function: Fiscal Years 2006–08* at <http://www.nsf.gov/statistics/fedbudget/>. These figures, reported by federal agencies between February and April 2007, represent agencies' best estimates of actual (FY 2006), preliminary (FY 2007), and proposed (FY 2008) federal funding for R&D. These data are based primarily on information that agencies provide to the Office of Management and Budget and account for nearly all federally sponsored R&D activities. The report also contains R&D information that became available from the individual agencies after the administration's budget was prepared and reported. Such information consists of agency budget-justification documents submitted to Congress and supplemental, program-specific information obtained from agency budget and program staff through April 2007. Budget

numbers for individual activities, programs, or agencies may therefore differ from those published in the President's budget or agency budget documents. Pending congressional action will determine the final budget authority for R&D in FY 2008.

A full set of detailed tables will be available in the forthcoming report, cited above. Individual detailed tables may be available in advance of the full report.

For more information, contact

Richard J. Bennof  
 Research and Development Statistics Program  
 Division of Science Resources Statistics  
 National Science Foundation  
 4201 Wilson Boulevard, Suite 965  
 Arlington, VA 22230  
 703-292-7783  
 rbennof@nsf.gov

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