

FEDERAL R&D FUNDING REQUESTS FOR FY 2005

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This *InfoBrief* covers Federal research and development (R&D) funding for FY 2003-05. For FY 2005, the administration proposed a total budget authority of \$127.1 billion for federally supported R&D, 4.1 percent (2.8 percent in constant dollars) more than the preliminary FY 2004 R&D total of \$122.0 billion (table 1). Defense R&D is slated to increase 6.2 percent (4.9 percent in constant dollars) in FY 2005 and nondefense R&D to increase 1.4 percent (0.2 percent in constant dollars).

Pending congressional action will determine the final budget authority for R&D in FY 2005. As of this writing, 1 of the 13 FY 2005 appropriations bills has passed the House and the Senate. Details on the President's requested Federal funding of the R&D components of agency programs for FY 2003-05 are in the forthcoming annual report *Federal R&D Funding by Budget Function: Fiscal Years 2003-05*.

Proposed Defense R&D Funding

The share of the Federal R&D budget authority for national defense is expected to be \$74.2 billion, an increase of \$4.3 billion from FY 2004. This growth continues the recent trend of a gradual increase in the defense share of Federal R&D budget authority, that is, from 52.7 percent in FY 2001 to 58.4 percent in FY 2005. The proposed defense R&D budget represents the largest share of the Federal R&D total since 1993, when defense accounted for 59 percent of the Federal R&D total.

About 93 percent (\$68.9 billion) of the requested FY 2005 defense R&D dollars are slated for the Depart-

ment of Defense's (DoD's) military research, development, test, and evaluation (RDT&E) programs (table 2). The Army, Navy, Air Force, and two defense agencies (Missile Defense Agency and Defense Advanced Research Projects Agency) will account for 87.2 percent (\$60.1 billion) of the RDT&E account. In FY 2005, R&D growth is expected in the Department of Energy's (DOE's) atomic energy defense activities, up by 6.2 percent to \$3.9 billion, mainly in support of weapons activities (\$3.0 billion). Proposed defense R&D at the Department of Homeland Security (DHS) is about \$0.4 billion in FY 2005, an increase of 52.2 percent over the preliminary FY 2004 funding level (see below).

Proposed R&D in the Department of Homeland Security

R&D funding in DHS is divided among three budget-function categories: national defense, administration of justice, and transportation. While showing signs of growth since the department's creation in 2002, DHS R&D funding would account for less than 1 percent of the total Federal R&D budget authority in FY 2005.¹ Total DHS R&D funding is proposed to increase by 22 percent, from \$965 million in FY 2004 to \$1.2 billion in FY 2005. About 67 percent of DHS' R&D funds are slated for nondefense functional categories (table 3).

Proposed Nondefense R&D Funding

Total nondefense R&D budget authority is expected to increase by \$0.7 billion, to \$52.9 billion in FY 2005. The

¹ All of the fiscal years reflect the FY 2004 DHS reclassification of its R&D portfolio, where DHS's R&D funding previously classified as general science and agriculture is now classified as administration of justice.



TABLE 1. Federal R&D budget authority, by budget function: FY 2000–05

Funding category	FY 2000 actual	FY 2001 actual	FY 2002 actual	FY 2003 actual	FY 2004 preliminary	FY 2005 proposed	Percent change FY 2004–05
Billions of current dollars							
Total	78.664	86.756	97.624	112.544	122.045	127.088	4.1
National defense	42.580	45.713	53.016	63.048	69.852	74.159	6.2
Nondefense	36.084	41.043	44.608	49.495	52.193	52.929	1.4
Health	17.869	20.758	23.560	26.517	28.188	28.991	2.8
Space research and technology	5.363	6.126	6.270	7.355	7.597	7.773	2.3
General science	4.977	5.468	5.753	6.129	6.388	6.468	1.3
Natural resources and environment	1.999	2.096	2.160	2.151	2.220	2.151	-3.1
Transportation	1.636	1.640	1.838	1.869	1.908	1.883	-1.3
Agriculture	1.426	1.657	1.606	1.708	1.747	1.570	-10.1
Other functions ¹	2.814	3.298	3.421	3.767	4.145	4.093	-1.3
Billions of constant FY 2000 dollars							
Total	78.664	84.772	93.734	106.324	113.805	117.045	2.8
National defense	42.580	44.668	50.904	59.564	65.136	68.299	4.9
Nondefense	36.084	40.105	42.831	46.760	48.669	48.747	0.2
Health	17.869	20.283	22.621	25.051	26.285	26.700	1.6
Space research and technology	5.363	5.986	6.020	6.949	7.084	7.159	1.1
General science	4.977	5.343	5.524	5.790	5.957	5.957	0.0
Natural resources and environment	1.999	2.048	2.074	2.032	2.070	1.981	-4.3
Transportation	1.636	1.603	1.765	1.766	1.779	1.734	-2.5
Agriculture	1.426	1.619	1.542	1.614	1.629	1.446	-11.2
Other functions ¹	2.814	3.223	3.285	3.559	3.865	3.770	-2.5

¹ Other functions include energy; veterans benefits and services; education, training, employment, and social services; commerce and housing credit; international affairs; administration of justice; community and regional development; income security; and general government.

NOTES: Data reflect budget information collected through April 2004. Percent change is derived from unrounded data. Data for FY 2000-03 reflect final budget authorization. Preliminary budget authority for FY 2004 reflects all past congressional actions but may be revised, since at the time of table preparation, FY 2004 had not yet been completed. Proposed budget authority for FY 2005 from the Bush administration will be revised to reflect congressional appropriation and actual program-funding decisions.

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

nondefense share of Federal R&D budget authority has been decreasing annually, from 47.3 percent in FY 2001 to 41.6 percent in FY 2005. The six functions accounting for most (92 percent) of the nondefense-related R&D activities are discussed below (table 1).

Health. Federal R&D funding for health is expected to increase \$0.8 billion from the FY 2004 level, considerably less than the multibillion dollar annual increases provided health R&D from FY 1999 to FY 2004. R&D budget authority for health, which primarily includes programs of the National Institutes of Health (NIH), is proposed to increase by 2.8 percent, to \$29.0 billion, giving health R&D programs 22.8 percent of the total Federal R&D budget authority.

Space. The Bush administration has proposed a 2.3 percent increase in R&D budget authority, to \$7.8 billion, for space research and technology, an increase of \$176 million from FY 2004. National Aeronautics and Space Administration (NASA) programs account for the entire space research and technology budget. In all, space research and technology accounts for 6.1 percent of the proposed total Federal R&D budget authority.

Science. Research funding for general science is proposed to increase 1.3 percent (0 percent in constant dollars), or by \$80 million in FY 2005, to a total of \$6.5 billion. The National Science Foundation (NSF) accounts for 59.4 percent (\$3.8 billion) of these general-

TABLE 2. Federal research and development budget authority for national defense: FY 2003-05

Funding category and agency	FY 2003	FY 2004	FY 2005	Percent change FY 2004-05
	actual	preliminary	proposed	
Millions of current dollars				
Total	63,048	69,852	74,159	6.2
Department of Defense (DoD)	59,251	65,918	69,863	6.0
Research, development, test, and evaluation (RDT&E)	58,103	64,665	68,942	6.6
Department of the Army	7,572	10,198	10,436	2.3
Department of the Navy	13,666	14,969	16,346	9.2
Department of the Air Force	18,825	20,294	21,115	4.0
Defense agencies	17,801	18,902	20,740	9.7
Missile Defense Agency ¹	6,687	7,625	9,147	19.9
Defense Advanced Research Projects Agency	2,655	2,831	3,090	9.1
Other defense agencies	8,459	8,445	8,503	0.7
Operational test and evaluation	239	302	305	1.0
Other military funding ²	1,148	1,253	921	-26.5
Department of Energy, atomic energy defense activities	3,467	3,676	3,903	6.2
Weapons activities	2,562	2,757	2,969	7.7
Naval reactors development	628	671	705	5.1
Environmental restoration and waste management	70	60	56	-6.7
Nonproliferation	181	161	145	-9.9
Other defense activities	26	27	28	3.7
Department of Homeland Security ³	331	258	393	52.2
Millions of constant FY 2000 dollars				
Total	59,564	65,136	68,299	4.9
Department of Defense (DoD)	55,976	61,468	64,343	4.7
Research, development, test, and evaluation (RDT&E)	54,892	60,299	63,494	5.3
Department of the Army	7,154	9,510	9,611	1.1
Department of the Navy	12,911	13,958	15,054	7.9
Department of the Air Force	17,785	18,924	19,446	2.8
Defense agencies	16,817	17,626	19,101	8.4
Missile Defense Agency ¹	6,317	7,111	8,424	18.5
Defense Advanced Research Projects Agency	2,508	2,640	2,846	7.8
Other defense agencies	7,992	7,875	7,831	-0.6
Operational test and evaluation	226	282	281	-0.3
Other military funding ²	1,084	1,169	849	-27.4
Department of Energy, atomic energy defense activities	3,275	3,428	3,595	4.9
Weapons activities	2,420	2,571	2,734	6.4
Naval reactors development	593	626	649	3.8
Environmental restoration and waste management	66	56	52	-7.8
Nonproliferation	171	150	134	-11.0
Other defense activities	25	25	26	2.4
Department of Homeland Security ³ (DHS)	313	241	362	50.3

¹Beginning in FY 2002, DoD redesignated the Ballistic Missile Defense Organization as the Missile Defense Agency.

²This 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.

³The Homeland Security Act of 2002 established DHS. Previously existing defense R&D programs transferred from other agencies are included in DHS for all years.

NOTES: Details may not add to totals because of rounding. Percent change derived from unrounded data. Data for FY 2003 reflect final budget authorization. Preliminary budget authority for FY 2004 reflects all past congressional actions but may be revised, since at the time of table preparation, FY 2004 had not yet been completed. Proposed budget authority for FY 2005 from the Bush administration will be revised to reflect congressional appropriation and actual program-funding decisions.

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).

TABLE 3. Federal R&D budget authority for the Department of Homeland Security, by budget function: FY 2003–05

Funding category	FY 2003	FY 2004	FY 2005	Percent change FY 2004-05
	actual	preliminary	proposed	
Billions of current dollars				
Total	0.688	0.965	1.181	22.4
National defense	0.331	0.258	0.393	52.3
Nondefense	0.357	0.707	0.788	11.5
Administration of justice	0.173	0.523	0.559	6.9
Transportation	0.184	0.184	0.229	24.5
Billions of constant FY 2000 dollars				
Total	0.596	0.798	0.949	19.0
National defense	0.313	0.241	0.362	50.4
Nondefense	0.319	0.615	0.668	8.7
Administration of justice	0.163	0.488	0.515	5.6
Transportation	0.174	0.172	0.211	22.9

NOTES: Data reflect budget information collected through April 2004. Data for FY 2003 reflect final budget authorization. Preliminary budget authority for FY 2004 reflect all past congressional actions but may be revised, since at the time of table preparation, FY 2004 had not yet been completed. Proposed budget authority for FY 2005 from the Bush administration will be revised to reflect congressional appropriation and actual program-funding decisions. The Homeland Security Act of 2002 established the Department of Homeland Security. Details may not add to totals 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.

science funds. DOE accounts for the remaining portion (\$2.6 billion) of the general-science R&D funds. Under the proposed budget, general science would account for 5.1 percent of the total Federal R&D budget authority.

Environment. Natural resources and environment R&D is budgeted at \$2.2 billion in FY 2005, down 3.1 percent from the FY 2004 level. Six agencies provide support for R&D activities in this category: Department of the Interior (30.0 percent), Department of Commerce (28.4 percent), Environmental Protection Agency (26.6 percent), Department of Agriculture (USDA) (13.9 percent), DoD's Army Corps of Engineers (1.0 percent), and Marine Mammal Commission (0.1 percent). Natural resources and environment R&D would account for 1.7 percent of the total Federal R&D budget authority under the proposed budget.

Transportation. Expected funding in FY 2005 for transportation R&D is \$1.9 billion, down by \$25 million

from FY 2004. NASA, at nearly \$1 billion, accounts for 48.8 percent of these funds with its aeronautics program. The Department of Transportation accounts for 39.0 percent (\$735 million) of the transportation R&D, mainly for ground and air transportation projects. DHS makes up the remaining 12.2 percent at \$229 million. Under the proposed budget, transportation R&D would account for 1.5 percent of the total Federal R&D budget authority.

Agriculture. Agriculture R&D is expected to be \$1.6 billion in FY 2005, down by 10.1 percent from the FY 2004 funding level. USDA would receive all of these funds. Under the proposed budget, agriculture R&D would account for 1.2 percent of the total Federal R&D budget authority.

Data Collection Notes

Data in the forthcoming report, *Federal R&D Funding by Budget Function: Fiscal Years 2003-05*, represent agencies' best estimates of actual and proposed Federal funding for R&D as reported during the period February through April 2004. These data are primarily based on information that agencies provide to the Office of Management and Budget and account for nearly all federally sponsored R&D. 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 2004. Budget numbers for individual activities, programs, or agencies may therefore differ from those published in the President's budget or agency budget documents.

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NSF 04-337