

Department of Defense

	FY 2005 estimate	FY 2006 request	FY 2006 approved	Percent gain (loss)
	(millions of dollars)			
Total R&D	71 566	71 009	73 039	2.1
Total basic research (6.1)	1513	1319	1469	-2.9
Total applied research (6.2)	4852	4139	5165	6.5
Total Research, Development, Test, and Evaluation (RDT&E)	69 434	69 356	71 038	2.3
Army	10 565	9734	11 014	4.2
Navy	16 935	18 038	18 678	10.3
Air Force	20 896	22 612	21 625	3.5
Defense Agencies	20 728	18 803	19 555	-5.7
Defense Advanced Research Projects Agency (DARPA)	2977	3084	2978	0.1
Missile Defense Agency	8833	7775	7680	-13.1
Chemical and Biological Defense Program	715	898	1049	46.7
Defense Threat Reduction Agency	455	409	422	-7.3
Office of the Secretary of Defense	2412	1630	2149	-10.9
Other*	5335	5007	5277	-1.1
Director of operational test and evaluation	310	168	166	-46.5

*Includes classified programs.

by a 1% across-the-board cut to the entire federal budget, with the exception of veterans' programs. While the ramifications of the 1% cut are still being worked out, for overall federal science funding, the reduction means that already small increases just got smaller.

Within DOD, the overall spending for R&D saw a modest increase of 2.1% from FY 2005, to \$73 billion. The administration requested a significant cut in R&D funding, but Congress moved money around in the defense request to create the slight increase. Of the 2.1% increase, according to analysts with the American Association for the Advancement of Science (AAAS), 82% goes to development programs, the largest of which is the joint strike fighter, which receives \$4.6 billion. The Missile Defense Agency receives \$7.7 billion, a 13.1% cut from last fiscal year. The Defense Advanced Research Projects Agency receives \$3 billion, just \$2 million more than last year.

The basic research funding category, known as "6.1" in Defense parlance, decreases 2.9% to \$1.5 billion. The administration requested a 13% cut in 6.1 funding after last year's 11% increase. US Army, Navy, and Air Force basic research declines, while funding for the chemical and biological defense program nearly doubles, to \$94 million. University research program funding decreases 7.5% to \$272 million, while the defense research science program drops 5% to \$919 million.

Defense applied research funding, known as "6.2" money, increases 6.5% to \$5.2 billion, instead of being cut 15% as the administration proposed. Congressional appropriators lessened the significant cuts proposed for army,

navy, and air force applied research programs. Advanced technology funding, known as "6.3" money, decreased 1.9% to \$6.6 billion despite the administration's proposal to cut the funding by 16.8%.

Overall, these three main categories of defense spending make up most of the Defense Department's science and technology programs, and this year's S&T increase of 1.2% to \$13.6 billion, although slight, is significant given that DOD requested a 22% cut in S&T money.

Jim Dawson

'Gathering Storm' Gains Momentum

When Norman Augustine, the former chairman of Lockheed Martin Corp, oversaw the 10-week effort to put together the US National Academy of Sciences' "Gathering Storm" report, he was worried that the broad scope of the report's four recommendations and the high cost of implementing them could doom the study before it. The report, which calls for spending several billion dollars to rejuvenate US science and research, "is sailing into a headwind," Augustine said in October (see PHYSICS TODAY, December 2005, page 25).

But the report's warning that the US economy is at serious risk because the government has failed to properly fund and support science research and education has gotten the attention of legislators and members of the Bush administration. NAS staff members said the administration has been receptive to the report's recommendations.

The NAS report and an earlier US Council on Competitiveness report raised concerns within science and industry advocacy groups that the reports' recommendations would become mired in congressional infighting because they involved so many different committees. Based on the legislation introduced or anticipated in both the US Senate and the House, the science reform recommendations have avoided the "gathering dust" problem.

As of mid-December, the NAS and Council on Competitiveness reports had triggered the following actions:

► Senators John Ensign (R-NV), and Joseph Lieberman (D-CT) introduced the National Innovation Act, which would nearly double NSF's research budget by 2011 and would set up a grant program to encourage federal agencies to spend 3% of their R&D budgets on high-risk research. The legislation would also provide new money to support master's degree programs in science and engineering. The legislation was in the works before the NAS study was completed and is based on the Council on Competitiveness report.

► Senators Lamar Alexander (R-TN) and Jeff Bingaman (D-NM), both strong supporters of science, are developing legislation, based on the NAS report, that calls for increasing federal funding for basic research, recruiting 10 000 science and math teachers, and providing 25 000 new scholarships for undergraduates who study science or math.

► Representative Bart Gordon (D-TN), the ranking Democrat on the House Science Committee, introduced three bills based on the NAS recommendations. The first is called the "10,000 Teachers, 10 Million Minds Science and Math Scholarship Act" and is designed to improve K-12 science and math education. Another bill, the "Sowing the Seeds Through Science and Engineering Research Act," calls for increasing federal basic research funding by 10% each year over the next seven years. His third bill would create the Advanced Research Projects Agency-Energy, which is intended to speed the commercialization of energy technologies and reduce US dependence on foreign energy by 20% in 10 years.

Several other legislators, including Rep. Bob Goodlatte (R-VA), chairman of the House Republican high-tech task force, Rep. Rahm Emanuel (D-IL), and Sen. Edward Kennedy (D-MA), are developing legislation based on the NAS study. "We're obviously very happy," an NAS staff person said.

Jim Dawson