

# Science Budget for '77: Boost for Research

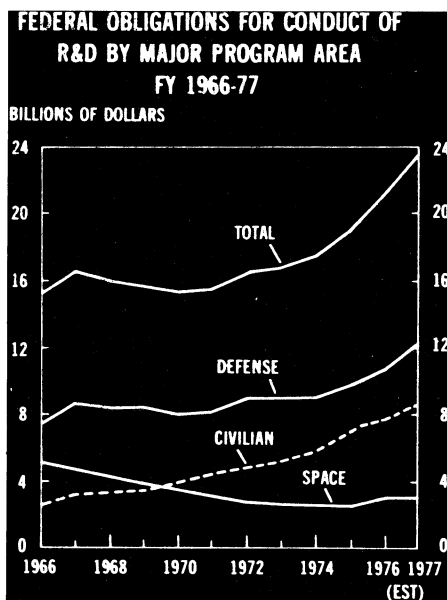
Science fares far better than most activities in the fiscal year 1977 Federal budget issued this week. In an overall Federal budget designated to grow 5.5 percent, proposed Federal obligations for research and development total \$24.7 billion, an 11 percent increase over 1976. The 1977 fiscal year starts Oct. 1, 1976.

"I believe the administration has clearly placed a high priority on science and technology," H. Guyford Stever, President Ford's science adviser, said in announcing the R&D budget.

The \$24.7 billion figure is composed of \$23.5 billion for the conduct of R&D and \$1.2 billion for new R&D facilities. Within R&D, basic research gets \$2.6 billion (up 11 percent), applied research gets \$5.2 billion (up 7 percent) and development gets \$15.7 billion (up 11 percent).

Stever pointed out that this is the second consecutive year that the proposed Federal R&D budget will show positive real growth, thus keeping the research dollar ahead of the inflation rate (estimated at 6 percent this year). He expressed pleasure at being back in that situation after several years of shrinking R&D budgets in terms of constant dollars.

The new R&D budget reflects an increased emphasis on energy, defense and basic research, in that order. Energy R&D is slated for a 38 percent increase (see next story), defense R&D, a 13 percent increase and basic research, an 11 percent increase. Basic research obligations are to increase 20 percent at the National Science Foundation, 16 percent at the Defense Department and 12 percent at the Department of Health, Education and Welfare.



Among the major new facilities to receive initial funding in the new budget is a \$78 million positron-electron colliding beam unit for basic investigations in high energy physics at the Stanford Linear Accelerator Center. Stever last year had expressed disappointment at the failure to get that facility funded then. The project is scheduled for completion in 1981. Other new facilities are an Aeropropulsion System Test Facility (an aircraft engine test complex) to be built at the Arnold Engineering Development Center in Tullahoma, Tenn., a new transonic wind tunnel at the NASA Langley Research Center and three commercial-scale plants to demonstrate the conversion of coal to gas and liquid fuel.

Federal R&D obligations to colleges and universities are scheduled to rise 9

percent to \$2.635 billion, compared with a subinflation rise of only 5 percent in last year's budget.

The top-ranking agency in support of basic research, NSF, is scheduled for a record-high budget of \$812 million, 11 percent above the current year. Stever, also director of NSF, said the program "represents a major effort on behalf of the administration to bolster science." One specific aim, he said, is "to counteract the gradual decrease of Federal support for basic research, which has declined about 23 percent in terms of constant dollars since 1968." At NSF, funds for its three main science components (mathematical, physical sciences and engineering; astronomical, atmospheric, earth and ocean sciences; and biological, behavioral and social sciences) are up an aggregate of 18 percent. Included are such increases as 43 percent for astronomy project support, 25 percent for computer sciences and 38 percent for earth sciences project support. Funds for NSF's climate dynamics program are more than doubling, a consequence, as Stever puts it, of "the tremendous amount" of pressure and interest in this field of research.

An \$8.7 million drop is suffered by NSF's once-much-ballyhooed RANN (Research Applied to National Needs) program, partly due to a further phase down and shift of responsibility for energy and some environmental research to ERDA.

Defense R&D, the biggest slice of the R&D pie (51 percent), will direct major funding to the start of advanced development of both the air-launched and sea-launched low-flying cruise missiles. It also includes continuation of a number of major programs for the improvement of ballistic missile warheads and systems. □

CONDUCT OF R&D (MILLIONS)		
DEPARTMENT OR AGENCY	OBLIGATIONS	
	1976 estimate	1977 estimate
Defense—Military functions .....	9,879	11,198
National Aeronautics and Space Administration .....	3,473	3,573
Energy Research and Development Administration .....	2,812	3,282
Health, Education and Welfare .....	2,369	2,570
National Science Foundation .....	628	726
Agriculture .....	483	507
Transportation .....	340	319
Interior .....	332	316
Environmental Protection Agency .....	305	241
Commerce .....	247	243
Veterans Administration .....	108	106
Nuclear Regulatory Commission .....	97	109
Housing and Urban Development .....	62	70
Justice .....	65	41
All other .....	138	164
<b>Total .....</b>	<b>21,338</b>	<b>23,465</b>
<b>Total, conduct of research ...</b>	<b>7,150</b>	<b>7,782</b>
<b>Total, conduct of development</b>	<b>14,188</b>	<b>15,683</b>

## Energy: Receiving the lion's share

Among the major civilian research and development programs, the highest priority in next year's budget will be energy—rising a whopping 38 percent in direct funding authority, from \$1.9 billion in fiscal year 1976 to \$2.6 billion in 1977. Following more than a year of program shifting among Government agencies, 90 percent of the total energy budget authority now resides in the Energy Research and Development Administration (ERDA).

The Government's proposed priorities are clear: By far the largest item in the energy R&D budget is fission power, with \$1.25 billion. Of this, fully \$655 million will go to the breeder reactor, an increase of some 35 percent. This increase reflects, in part, the escalating costs of the demonstration breeder to be built at Clinch

FEDERAL DIRECT ENERGY R&D ACTIVITIES FOR 1977 (MILLIONS)		
	BUDGET AUTHORITY	
	1976	1977
<b>Direct Energy R&amp;D:</b>	<b>1897</b>	<b>2610</b>
<b>Non-Nuclear R&amp;D:</b>	<b>791</b>	<b>968</b>
Fossil .....	468	542
Solar .....	120	160
Geothermal .....	34	50
Conservation .....	82	120
Environmental control .....	87	96
<b>Nuclear R&amp;D:</b>	<b>1106</b>	<b>1642</b>
Fission .....	856	1250
Fusion .....	250	392
<b>Supporting R&amp;D:</b>	<b>584</b>	<b>624</b>
Environmental effects .....	250	257
Basic research .....	334	367

River, Tenn. (SN: 1/17/76, p. 44). ERDA officials told a press briefing this week that