

Science budget for '76: Largest yet

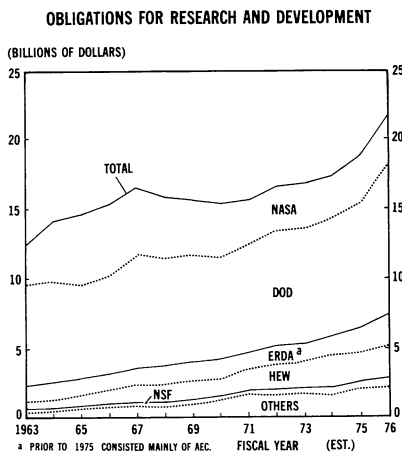
"Some people have said research and development in the United States is drifting. If it is, it is good that it is drifting upward." So said H. Guyford Stever, director of the National Science Foundation and science adviser to President Ford, in announcing a proposed \$21.6 billion budget for Federal research and development for fiscal year 1976, starting July 1, 1975.

The figure is a 15 percent increase over funds authorized for 1975. It is divided into \$8.3 billion for research and \$13.3 billion for development. An additional \$1 billion is provided for new R&D facilities.

The figures need to be read with considerable caution, however. First, the \$21.6-billion figure, a record, is indeed 15 percent higher than 1975 obligations, but it is only 10 percent above the \$19.6 billion requested at this time last year (SN: 2/9/74, p. 84). In other words, Congress can, and usually does, trim the proposal. Second, inflation will cut heavily into the purchasing power. The total R&D budget is intended to keep ahead of inflation, but not by much. Third, the Department of Defense is designated to receive a whopping 20 percent increase in R&D funds. And since the DOD takes up half the total R&D budget, its expanded slice will diminish the increases in the science pie for the civilian agencies. And fourth, as Ford has made clear, the only new starts are in the energy area, meaning no new programs throughout the rest of science.

Another area of concern is academia. R&D in colleges and universities would receive \$2.254 billion. This is up less than 5 percent from this year, obviously not enough to keep pace with inflation, and actually down \$8 million from the amount requested last year.

The increase in energy R&D (see next story) is enough to have the new



Energy Research and Development Administration supplant HEW as the third leading spender of R&D money, behind the Defense Department and NASA. The National Science Foundation, fifth-ranking among R&D agencies but the one most closely involved with basic science, is scheduled to receive \$775.4 million, including \$755.4 million in new funds and \$20 million in FY 1975 deferrals. This is an increase of \$78.3 million. About 83 percent of the NSF budget dealing with R&D is for basic research. NSF's funds for scientific research project support are up 12 percent, with physics, chemistry and cellular biology the largest gainers. A 34 percent increase in its budget for national and special research programs includes a new \$4 million project in climate dynamics.

The proposed increase of \$1.78 billion in defense R&D, bringing the total to \$10.6 billion, is necessary, the Administration argues, to offset the effects of inflation on development costs of major weapons systems and to permit real growth of R&D on new strategic and tactical weapons programs. Major increases are provided for continued



Stever: Upward drift, still strong.

development of the Trident long-range submarine and missile system and the B-1 strategic bomber. A major increase is planned for development of an advanced air combat fighter for the Navy and Air Force. Lasers, electron-device technology, and night vision technology are areas of advanced research being given increased emphasis.

Stever, in his dual role as science adviser and NSF director, seemed moderately pleased with the R&D budget. There are disappointments, he acknowledged. He regrets, for instance, the inability to fund a proposed positron-electron accelerator at the Stanford Linear Accelerator Center.

But most of the totals are up, he noted, and "We are still the strongest nation in basic and applied sciences and technology." He says he has had personal conversations with President Ford and Vice President Rockefeller about science in their administration, and he has "recommended that they strengthen it." □

CONDUCT OF R&D (MILLIONS)		
DEPARTMENT OR AGENCY	OBLIGATIONS	
	1975 estimate	1976 estimate
Defense—Military functions	8,833	10,608
National Aeronautics and Space Administration	3,327	3,526
Energy Research and Development Administration	1,893	2,346
Health, Education, and Welfare	2,092	2,285
National Science Foundation	619	680
Agriculture	428	468
Transportation	368	402
Interior	303	315
Environmental Protection Agency	287	300
Commerce	211	230
Veterans Administration	102	102
Nuclear Regulatory Commission	59	96
Housing and Urban Development	58	65
Justice	67	45
All other	135	134
Total	18,780	21,602
Total, conduct of research	7,545	8,256
Total, conduct of development	11,235	13,346

Energy: Fueling the research fires

The Administration is requesting \$1.84 billion in total direct energy research and development funds for fiscal 1976—some 10 percent above the fiscal 1975 authorization but almost exactly the same figure that was originally requested in last year's big "Project Independence" thrust. In his budget message, President Ford spoke of a 36 percent increase—the discrepancy arises because he was referring to actual outlays for the coming year, not new "obligations" being requested from the Congress. "Outlays" can include money authorized in the previous fiscal year.

As in previous years, nuclear energy

takes the lion's share—some 60 percent of the total—with major increases this year going to the liquid metal fast breeder reactor program and to nuclear fusion. The new Energy Research and Development Administration (ERDA) proposes increasing fusion power funding by 41 percent, from \$85 million to \$120 million.

Among non-nuclear sources, solar energy would increase six-fold, from an estimated 1975 level of \$9 million to a 1976 level of \$57 million. Coal utilization R&D would remain the largest non-nuclear project, rising from \$188 million to \$289 million.

Research on conservation is scheduled to rise fractionally, from \$86 million to \$88 million, but efforts to develop environmental controls would fall substantially, from \$103 million to \$83 million. This figure does not include the study of environmental effects of energy generation, which would rise from \$264 million to \$273 million. A support program of so-called "basic research" will increase from \$233 million to \$250 million.

ERDA will now take over about 84 percent of energy R&D—\$1.551 billion of the proposed \$1.837 total. The Nuclear Regulatory Commission (NRC) would get the second largest amount, \$104 million; the Environmental Protection Agency (EPA) would get \$75

million; the Department of Interior, \$57 million, and the National Science Foundation, \$27 million.

Several major projects are scheduled to swing into full gear with this budget. A schedule of sales for leasing oil and gas lands on the Outer Continental Shelf has been drawn up. ERDA announced proposed authorization of \$715 million for engineering design and procurement of long-lead materials for the first deuterium-tritium fusion device—the Tokamak Fusion Test Reactor scheduled for operation in 1980 at Princeton. Hoping that more reactors can be brought on line, the Administration is requesting nearly three-quarters of a billion dollars for uranium enrichment activities in 1976. □

Space: A slow upward swing

"Lean," says National Aeronautics and Space Administration head James Fletcher, "but manageable." The \$300-million increase in the Administration's budget request for the space agency—only about equal to the present inflation rate, Fletcher points out—is the second year in a row that the number of proposed space dollars has grown, following a nine-year slide from the fat Apollo years of the mid-1960's.

The two major space events of calendar 1975—the Apollo-Soyuz rendezvous and the launch of the Mars-bound Viking probes—will have their peak expenses behind them by the time the new budget takes effect. The space shuttle, however, which will not even reach orbit until 1979, is growing faster than other programs decline, with a proposed increase in funding of more than \$400 million.

Like the rest of the Government, NASA will start no new programs in FY 1976, but the Administration's request is nonetheless a relief to some space officials whose programs are still in such early stages that they might have been lopped off. The complicated 1978 Pioneer Venus flight (one spacecraft orbiting the planet, another dropping probes into the atmosphere) is still on the track, for example, as is the 1977 Mariner Jupiter-Saturn mission. Both of these projects were specifically endorsed in November by the National Academy of Sciences' Space Science Board, which suggests that the Administration may be listening to the board's recommendations on other projects as well. The Large Space Telescope, for example, has had an off-again-on-again prognosis since it first appeared in the FY 1975 budget, but the new budget asks an increase in its still-fledgling funding from \$3 million to \$5 million. Although the FY 1976 request includes estimates for the following year, it will be next year's actual Administration budget, when it appears, that may show where the influence in future space planning is really coming from.

Meanwhile, the space agency is emphasizing to Congressional budgeteers that it is also an "earth agency." Research into natural resources, weather, pollution, energy and similar areas is relations efforts. Nimbus-G, for example, an experimental weather-watcher planned for 1978, is now being referred to as a pollution-monitoring satellite, despite its oceanographic, meteorological and other roles. The approach may be a wise one, as the Administration is backing the proposed third earth resources satellite, known as Landsat-C. □

Biomedical: Health-research headaches

The proposed budget for fiscal year 1976 puts biomedical research in a holding pattern at best. But the specter of inflation and upcoming Congressional action on the current year's budget may make that holding pattern seem like a nose-dive.

The Department of Health, Education and Welfare devotes the largest share of its research funds to biomedical research and, the National Institutes of Health receive about 70 percent of HEW's research and development fund. President Ford is asking Congress for a total NIH research budget of \$1.753 billion. This is down \$32.7 million from Nixon's request one year ago.

A \$32.7-million drop might not appear to be a holding pattern, but Ford's request is actually about \$68.5 million more than the Administration wants to spend of the money budgeted for NIH research in fiscal year 1975. He has requested that about \$100 million be withheld in a process called rescission. This is a legal form of impoundment that Congress must approve. If the rescission proposal is approved, \$100 million will be withheld from the 1975 NIH research budget, and in comparison, the 1976 requests will allow for modest increases of about three percent in most programs.

For example, cancer research would receive in 1976 an additional \$36 million, about 6.4 percent more than the 1975 rescission levels. This is more than half of the total 1976 NIH budget increases. The heart, dental, arthritis, neurology, allergy, eye and child health research programs would all receive about two to four percent increases. Environmental health programs would receive the largest percentage increase, 11 percent over the 1975 revised budget.

Unless the inflation rate slows considerably, however, these two to four

percent increases would not allow for growth and would represent net decreases. Asked during a press conference whether he expected the modest increases would reflect a growth or decline in buying power in an inflation economy, HEW Secretary Caspar H. Weinberger said he "could not predict." But, he said, \$1.753 billion "seems to be a very substantial sum for health research and I hope it's spent wisely."

What seems at best a holding pattern becomes a nose-dive when Ford's 1976 budget request for biomedical R&D is compared with the higher amount Congress is willing to spend for it in 1975. Congress has appropriated about \$2.042 billion for NIH research in 1975, \$256 million more than Nixon requested. Some of that money is tied up pending action on the rescission request. If Congress refuses to impound part of it and NIH receives the full \$2.042 billion, the 1976 request of \$1.753 billion begins to look austere. Proposed 1976 funding levels would represent 10 to 35 percent decreases. The cancer program would receive \$86.6 million (12.5 percent) less than Congress appropriated in 1975. Allergy, heart, dental and arthritis research institutes would receive between 9 and 14 percent less, and neurology would drop 20 percent. NIH research training funds would be cut from \$131 million in 1975 to \$124 million. About \$111 million would go for noncompeting grants (those carried over from other years) and \$13 million would support 1,000 new trainees.

Ford would also decrease the amount available for health care delivery systems, requesting that state and local governments pick up 20 percent of the tab for community health, maternal and child health, migrant health care, alcoholism, family planning, drug abuse, immunization and venereal disease programs. □