

Federal R&D spared from a general axing

The budget request that President Reagan sent to Congress this week attempts to freeze this coming year's federal nondefense spending at fiscal year (FY) 1985 levels. But the key adjective is "nondefense." Since two thirds of the \$52.6 billion in outlays being proposed for support of research and development (R&D) would go toward defense-related programs, the federal R&D budget would actually be allowed to climb 14.7 percent in this austere budget — a real gain of 10 percent when inflation is taken into account. (Outlays are actual sums that would be spent, as opposed to obligations, which are commitments to spend money in the current or future fiscal years.)

Overall funding outlays for basic research would increase by 5 percent in this budget; obligations for engineering and physical science components would climb 7 percent, the same increase slated for the National Science Foundation (NSF). In explaining how the administration targeted its few increases, Presidential Science Adviser George A. Keyworth II says programs were generally judged on their potential for making U.S. products more competitive in international markets, for reducing the deficit and for aiding national defense — specifically, reducing the presence and threat of nuclear weapons.

Keyworth cites the latter, for example, in justifying the administration's \$3.7 billion appropriations request for the Defense Department's Strategic Defense Initiative (or "Star Wars" program) — a figure 2½ times its current FY '85 budget allotment. Similarly, he says, increases in biotechnology and in earth sciences and oceanographic studies were motivated by their potential payoff in terms of the nation's economic competitiveness. At NSF, biotechnology programs benefit with a proposed increase of \$9.3 million, up 13.3 percent. NSF research on the earth's continental lithosphere (crust) — owing to its relevance to energy and minerals exploration — has been targeted for a 62.7 percent increase, to \$11.4 million.

To free up some money for research, Keyworth says that the design and construction of many large research projects would be slowed or deferred at least a year. Unable to name those affected, he does say they would *not* include the Cold Neutron Research Facility for materials-science studies at the National Bureau of Standards (NBS), the Superconducting Super Collider (SN: 9/22/84, p. 181) or the Continuous Electron Beam Accelerator Facility (SN: 9/17/83, p. 190).

Offsetting some of the big increases are a few proposed program terminations. Included among them are:

Department or agency	Proposed R&D Outlays (\$ millions)			
	1984 actual	1985 estimate	1986 estimate	% change from '85
Defense-Military functions	23,583	28,539	34,860	+22.1
Health and Human Services	4,449	4,995	5,239	+ 4.9
Energy	4,702	4,826	4,714	- 2.3
National Aeronautics and Space Administration	3,539	3,260	3,564	+ 9.3
National Science Foundation	1,108	1,313	1,403	+ 6.9
Agriculture	867	901	882	- 2.1
Interior	393	371	339	- 8.6
Environmental Protection Agency	266	282	317	+12.4
Nuclear Regulatory Commission	196	152	141	- 7.2
All other agencies	1,013	1,213	1,124	- 7.3
Total	40,116	45,852	52,583	+ 14.7

Adapted from OMB data (= funding increase)

- The \$31 million magnetohydrodynamics program in the Energy Department's fossil fuels technology program.

- The \$19.5 million Sea Grant program at the National Oceanic and Atmospheric Administration (NOAA). In fact, the Reagan administration has asked that even this year's FY '85 budget for the program be rescinded.

- The Center for Fire Research at NBS. Funding of the type of work conducted there was deemed "more properly the role of the private sector and state and local governments." Like Sea Grant, this program was proposed for termination by the

Biomedicine

Ups and downs for health research

The administration's fiscal year 1986 budget proposes continued health for some biomedical research activities and amputation for others. While promising the maintenance of "a strong national health research capability," the budget calls for a \$290 million cut in the National Institutes of Health's (NIH) budget, a net gain of \$4 million for the Food and Drug Administration (FDA) and a \$16 million drop for the Centers for Disease Control (CDC), which includes an \$8 million loss for occupational safety and health.

The NIH budget proposal presumes that a novel bit of bookkeeping the administration has planned will be allowed to stand — allocating approved FY 1985 dollars for expenditure in 1986 and 1987 by funding some grants for three years. Pushing "hard" money appropriated in one year into the future is apparently a funding first. Says one staffer on the Senate Health and Human Services subcommittee, "If it isn't illegal it's on the cusp of being illegal." Rep. Henry A. Waxman (D.-Calif.) has introduced a House resolution that directs NIH to use its FY '85 money as initially intended.

The total proposed reduction in NIH's budget is from a \$5.14 billion obligation to \$4.85 billion; research activities would drop from \$2.79 billion to \$2.61 billion. Re-

administration last year too.

- Small NSF programs titled Ethics and Values in Science and Technology, Productivity Improvement Research, Intergovernmental Science and Technology, Science and Innovation Policy, Policy Sciences, and Regulation and Policy Analyses. These programs were considered too low in priority for funding during a period of constrained budgets.

- NOAA's \$5.6 million aquaculture program, \$1.4 million agricultural weather and fruit frost program, and \$400,000 ocean thermal energy conversion licensing program. —J. Raloff

search trainees would be spared the ax, their numbers holding steady at 9,900.

Usually a new one-year grant carries the promise of funding for the next two years anyway, so a three-year commitment wouldn't change much for the recipients. Congress okayed 6,500 first-year grants for FY '85, a jump from the level of around 5,000 that has been maintained since 1980. NIH has thus far funded about 2,000 grants in FY '85; the President hopes to move \$203 million from the remaining pool (and \$35 million from research centers) into 1986 and 1987, dropping the grant number back down.

Reaction from the research community has been, not unexpectedly, negative. What Congress will do with the FY '86 budget depends on whether it lets stand the FY '85 change.

FDA's \$4 million gain from its \$410 million ceiling in 1985 won't cost the taxpayers if plans to initiate users' fees go through. Under the President's plan pharmaceutical companies will have to pay to apply for new drug approvals. CDC's budget also calls for users' fees, with the anticipated generation of \$1 million collected for laboratory certification.

AIDS research fares well in the proposed budget, with plans for an \$86 million expenditure in 1986. —J. Silberman

NASA: Fine tuning of momentum

The National Aeronautics and Space Administration's requested budget for fiscal year 1986, about \$7.89 billion, represents a roughly 5 percent increase over the one within which it is now working. Agency administrator James M. Beggs calls it "modest, though forward looking," but within the generalizations and overall figures are some surprising, though small, changes of momentum, both up and down.

Included, for example, would be a second year (insofar as formal listing in the budget is concerned) of studies to define plans for a U.S. space station, a multibillion-dollar project on whose behalf Beggs and other officials have been speechifying, lobbying and globe-trotting in search of support and collaboration from other countries as well as from various factions within the United States. For FY '85, the administration sought, and got, \$150 million to get those studies under way, and projected a \$250 million sum for the following year. (Thereafter, when construction begins, the numbers are to get bigger in a hurry, with \$1.2 billion projected for FY '87.) But with budget deficits still looming before the administration, the proposed plan seeks only \$230 million—a \$20 million difference that NASA says would lead to slowing down the "phase B definition studies" of the station from 18 to 21 months.

This does not mean that the administration is tempering its commitment to the project, however. Last week, in fact, U.S. space station advocates received a boost when the first ministerial-level gathering in eight years of officials from the member countries of the European Space Agency (ESA) voted to accept President Reagan's invitation for the Europeans to take part. ESA's major contribution would be a laboratory module called Columbus, which would be attached to the station but which could also be detached as the basis for an independent European station. An indication of the worth of ESA's support of the U.S. station was provided by G.M.V. Van Aardenne of the Netherlands, chairman of the ministerial conference, who is reported to have said that the ESA member countries would be increasing their contributions to ESA by 70 percent by 1990.

A subtler item in NASA's newly requested budget is \$62.9 million for research and analysis (R&A) of planetary data, which embodies a \$1.4 million increase over FY '85. Many U.S. planetary scientists regard R&A as the measure of the administration's (including NASA's own) commitment to getting the most out of planetary spacecraft missions, which have often had considerably higher price tags in the first place.

The proposed increase is small, but it also marks the first time in four annual budget cycles that NASA has not requested less money for planetary R&A

than it received the previous year. And the numbers might have been smaller still were it not for the restoration of funds by congressional committees responding to concerns voiced by the scientific community. In FY '83, the administration requested \$35.5 million; Congress raised the amount to \$50.3 million. The next year, the request was for \$45.5 million, a \$4.8 million reduction — which was restored on Capitol Hill to \$59.5 million. The year after that, NASA again sought a lower amount, \$54.5 million, which Congress "re-upped"

Earth Sciences

Weathering the budget storm

Embodied in the \$407 million request (down by \$2 million from fiscal year 1985) for the U.S. Geological Survey (USGS) are shifts away from geological hazards surveys, landslide research and side-looking airborne radar. The FY '86 focus shifts to mineral resources, which would receive a \$1 million boost, and the mapping of the Exclusive Economic Zone, for which a \$3.2 million increase would be earmarked. USGS is also requesting \$2 million for the Deep Continental Drilling Project.

Among the programs that would not survive the 20 percent proposed reduction of the National Oceanic and Atmospheric Administration (NOAA) budget are the \$6.5 million Undersea Research Program and the \$3.8 million federal research program at Great Lakes Environmental Research Laboratory. Other oceanic research would be cut by \$2 million, and \$12 million would be taken from atmospheric and hydrological studies. Funds for hardware are up in the proposed \$931 million NOAA budget, including a \$3 million increase for the development of an upper atmosphere wind profiler and \$2.5 million more to modernize weather technology. NOAA has decided to fund only one polar satellite instead of two, saving \$11 million. But the agency is also asking for \$18 million toward two additional geostationary weather satellites, bringing the number in development to five, in case a satellite should fail, as one did last summer.

Most of the \$4.4 million increase in the National Science Foundation's (NSF) earth sciences budget goes for studies of the continental lithosphere. The NSF budget calls for 4 percent increases in both oceanic and atmospheric studies. The U.S. Antarctic Research Program funds would rise by \$9 million to \$120 million.

All earth-related research at the National Aeronautics and Space Administration is slated for modest increases. The largest jump is \$78 million toward the construction of the upper atmosphere satellite scheduled for launch in October 1989.

—S. Weisburd

to \$61.5 million. But for FY '86, NASA is going after a slight increase on its own, to \$62.9 million.

No new planetary spacecraft are to be initiated in the budget proposal, however (a comet rendezvous/asteroid flyby mission may be sought next year). The only spacecraft "new start" is an Orbiting Maneuvering Vehicle, a remotely piloted vehicle planned to extend the operational range of the space shuttle. Also included in the proposal are funds to further the administration's efforts to encourage the commercial use of space, which Reagan has deemed a "vital national priority."

—J. Eberhart

Environment

More for cleanups, acid rain studies

The Environmental Protection Agency (EPA) intends to pour significantly more money into garbage disposal — cleaning up abandoned toxic waste dumps and enforcing new regulations that govern the way small businesses and industries handle hazardous wastes (SN: 8/4/84, p. 71). EPA's proposed fiscal year 1986 budget also expands its acid rain research program by about 60 percent.

"The increases, of necessity, focus on the problem of hazardous waste disposal," says Lee M. Thomas, EPA acting administrator. "These levels also... accelerate the quest for knowledge essential to the prudent, effective management of environmental risks."

Funding for the "Superfund" program would grow to \$900 million, double the figure for FY '84. Although the current law, under which EPA collects taxes levied on the oil and chemical industries to fund the cleanup of abandoned waste dumps, expires in September, the agency expects the statute to be reauthorized for another five years at an increased funding level.

A large part of the proposed \$23 million increase in EPA's acid rain research budget would be devoted to accelerated studies of the effects of acid rain on forests. Funds would also go into completing a national survey to determine which lakes and streams may be vulnerable to acid rain and into improved monitoring of dry deposition of acids.

In general, most other EPA programs would stay at FY '85 funding levels or show modest increases. Included is an expanded research program to devise better techniques for identifying and determining the risks posed by pollutants and the effects of toxic substances and pesticides on human reproductive processes.

This overall increase, however, doesn't satisfy groups like Environmental Safety (SN: 7/21/84, p. 36), which say that EPA still wouldn't have the resources to implement adequately the laws that govern toxic substances and wastes.

—I. Peterson

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