Reagan's last budget: Modest R&D hikes

President Reagan submitted his ninth and final budget plan to Congress this week, just 11 days before leaving office. His proposal is considered less a blueprint for action than a guideline for his successor. And while George Bush has vowed he will make some "amendments" to it, in general he has rated the outline "excellent."

Overall, Reagan proposes increasing research and development (R&D) spending in the coming fiscal year by 6.8 percent – to $67.3 billion. Basic research, which accounts for about 16.3 percent of federal R&D spending, would increase roughly 6 percent. After accounting for inflation, the 6.8 percent hike would represent a 3 percent real increase for fiscal year 1990 defense R&D, and almost a 4 percent increase for all other R&D spending. Within both military programs – which account for about 65 percent of federal R&D spending – and civilian R&D efforts, these increases would be allocated quite variably.

Big winners: Funding of the Strategic Defense Initiative would climb almost 55 percent – to $5.59 billion. NASA's space-station budget would more than double – increasing to $2.05 billion. Spending on the joint NASA-Department of Defense aerospace plane would reach $426.7 million, a climb of 42 percent. At $921 million, the proposed budget for programs to combat AIDS would climb 26.6 percent in the coming year. Reagan would boost spending 42.3 percent on the 22-month-old interagency Global Change Research Program, exploring climate and the processes that can affect it – to $190.5 million.

The Superconducting Super Collider (SN: 11/19/88, p. 325) is slated for a 2.5-fold increase – to $250 million. And the interagency human-genome project, which aims to identify all the genes in human cells (SN: 2/20/88, p.117), would almost triple – to $127.6 million.

While overall the National Science Foundation (NSF) would receive a 13 percent R&D increase, some of its individual programs would fare even better. Its global geosciences program studying Earth as a system of interrelated processes would escalate 36 percent – to $53.5 million. Its computer, information-science and information-engineering programs would climb 25.7 percent, and materials-science research would increase 17 percent.

The agency's program to clean up and manage its research wastes in Antarctica would more than double, to $10 million. (While NSF initially estimated that cleanup of its Antarctic field stations might cost more than $30 million over the next four years, the agency's director, Erich Bloch, told reporters this week that the agenda described in this year's budget documents now offers to commit more than $70 million for NSF's Antarctic cleanup through fiscal year 1992.) Department of Energy spending to clean up and revitalize its aging and controversial defense-reactor complex (SN: 8/27/88, p.133) would also increase substantially – 28 percent, to $3.3 billion – far less than the $48 million to $85 million the agency estimates this effort will total.

Big losers: To pay for big increases in the above programs, Reagan would cut back dramatically a number of others. For example, the National Oceanic and Atmospheric Administration's budget for R&D and facilities is scheduled to fall 24.4 percent in fiscal year 1990, to $887 million. Even though the National Institute of Standards and Technology, or NIST (formerly the National Bureau of Standards), has taken on new responsibilities (SN: 8/13/88, p.101), after accounting for inflation, its research budget would fall roughly 5 percent. One of its excisions would eliminate the $7.5-million-per-year Manufacturing Technology Transfer Centers program, whose establishment had been a key component of the NIST's recent reorganization. The Reagan plan would also cut by 44 percent funding of NIST's congressionally popular fire- and building-research programs.

One agency slated for a number of especially big cuts is the Department of Energy. Advanced reactor R&D would fall 57 percent, fossil-energy and energy-conservation programs by about 50 percent, and renewable-energy programs by 21 to 36 percent. At the Environmental Protection Agency, acid rain and energy programs would fall more than 30 percent. The Reagan administration justifies the cut by saying much of the research in this area was recently completed.

One agency that initially appears to be a big loser – the National Institutes of Health (NIH) – really isn't. Because of a new accounting scheme that isolates all federal AIDS R&D and program costs this year, NIH's research budget appears to fall 5.1 percent. However, when its projected spending on AIDS-related programs is put back in, its budget shows a 6.6 percent increase for next year. Another important budgetary change is not visible on the agency's projected balance sheet. While its funding for outside research would increase 5.7 percent next year, the number of grants it plans to offer will be cut almost 20 percent – increasing the size of each.

New initiatives: The Reagan budget plan also proposes launching several new programs in the coming year. They include:

- $50.5 million to begin building an Advanced Photon Source at Argonne (Ill.) National Laboratory, an X-ray source 10,000 times more intense than any in existence
- $5.5 million to initiate construction of a $455 million fusion reactor – a Compact Ignition Tokamak at the Energy Department's Princeton (N.J.) Plasma Physics Laboratory
- $11 million to launch an NSF program studying biological diversity at the genetic, species and ecological levels
- $30 million to start two Mariner Mark II spacecraft missions – the Comet Rendezvous/Asteroid Flyby program to make *in situ* measurements of Comet Kopff, and the Cassini program to make the first long-term orbital study of Saturn and its moons
- $8 million to begin a three-year state-grant program for indoor radon abatement
- $25 million to begin a high-speed aeronautics program within NASA to study potential problems – like noise and ozone depletion – that could be fostered by commercial supersonic transport.

– J. Raloff

R&D SPENDING BY MAJOR AGENCIES (in millions of dollars)

Agency	Budget obligation 1988 actual	1989 estimate	1990 estimate	% change from '89
Defense – Military functions	37,063	38,879	41,518	+ 6.8
Health and Human Services	7,161	7,892	8,375	+ 6.1
(National Institutes of Health)	(6,289)	(6,791)	(6,443)	– 5.1
(National HIV Program)	–	–	921	
NASA	4,330	5,688	6,870	+20.8
Energy	5,081	5,307	5,378	+ 1.3
National Science Foundation	1,533	1,664	1,881	+13.0
Agriculture	1,014	1,048	1,044	– 0.4
Interior	415	432	387	–10.4
Environmental Protection Agency	347	386	421	+ 9.1
All others	1,829	1,755	1,471	–16.2
Total	58,773	63,051	67,345	+ 6.8

Adapted from OMB data in Special Analysis J.