

SCIENCE NEWS OF THE WEEK

Reagan Budget: The Slicing of Science

On an appropriately gloomy and rainy day last week, almost 100 leaders of science in the U. S. met in Washington, D. C., to discuss with administration officials the impact of proposed budget reductions. The scientists agreed, in a statement released at the conclusion of the discussions, that the proposed 12 percent, across-the-board budget cuts "will do irreversible damage unless longer-term research, in contrast to development and demonstration, is protected."

The participants, who attended at the invitation of National Academy of Sciences President Frank Press, included university presidents, national laboratory directors, industrial research executives and other prominent scientists and engineers. The purpose of the gathering was to provide information to the science and technology community, now in a state of considerable uncertainty, about the budgetary process, Press said, and to inform government people about the scientists' concerns. It was not to be a confrontation or a lobbying effort, he said.

In their recommendations, the scientists urged:

- That the administration and Congress maintain the strength of current science budget allocations in each agency.
- A reallocation of research and development funds to ensure adequate support for the basic sciences.
- That a large part of the increase in the national security budget be focused on basic research that is essential to the maintenance of security.

Numerous scientists expressed alarm at the budget proposals. The theme of current and future manpower shortages recurred throughout the discussions, reflecting the close relationship between the performance of basic research and the training of scientists and engineers. "In the physical sciences, the manpower numbers will decline to those of the pre-Sputnik era," said Herman Feshbach of the Massachusetts Institute of Technology. "This is a new window of vulnerability on the national scene. If we go back to that kind of manpower situation, the shortage of scientific personnel will make us vulnerable."

Hans Mark, deputy administrator at the National Aeronautics and Space Administration, said NASA was already in trouble even before the budget cuts because of the escalating costs of materials and parts. He blamed much of this increase on the shortage of adequately trained technicians, scientists and craftsmen and the decline of U.S. industrial productivity.

"If the final outcome of the budget process is one that will tend to destroy our future sources of scientific and engineering manpower, then I think we are in big

trouble," said Keith McHenry of the Amoco Oil Co.

George A. Keyworth II, science adviser to the President, and Fred Khedouri, associate director for natural resources, energy and science in the Office of Management and Budget, tried to reassure the scientists earlier in the meeting that science was still a top priority with the administration, and it was in good health. But several later speakers commented on the apparent lack of understanding of their problems among administration officials. Paul Gray, president of MIT, commented that the discussions between scientists and the officials weren't "coupled," but

These are part of a series of stories SCIENCE NEWS will run periodically on the impact of actual or proposed budget cuts on various areas of science.

appeared to be on "nonintersecting planes." He added that some of the government assumptions were not valid.

Most of the speakers appeared to accept the necessity for restraint, but disagreed strongly with the manner in which it was being imposed. "There are ways of allocating the cuts to minimize the harm, but if they're applied across the board, that's the worst way to do it," said Press.

"Somewhere in the government, the budget should be examined not agency by agency but across the whole government,"

Press said. "The appropriate place to do that would be in the White House, within the OMB and in the Office of Science and Technology Policy, and that would also be an appropriate place to examine the overall structure to see whether or not institutional changes might be necessary to make more effective and productive use of the research dollar."

The closing statement also noted the need for a much strengthened mechanism through which the scientific and engineering communities could advise on resource allocations and analyze the impacts and benefits of various budget strategies.

In the short term, however, several government officials indicated that there was little room for flexibility in the current proposals. "The only realistic prospect, not a cheerful one, is to assume the worst-case scenario," said Alvin Trivelpiece, energy research office director at the Department of Energy. "At the same time, you should also have a plan in mind if things should improve so you're in a position to go ahead rapidly and effectively." They were also pessimistic about future budgets because of projected severe problems in budget deficits.

"We view the budgetary process as a dynamic process," said Press. "There is now a dialogue between the White House and Congress on the budgetary situation, and we hope that a meeting such as ours, where we communicated to both the executive and Congress the results of our meeting, is the kind of input that will somehow affect the outcome of the political process." □

Slashes in high-energy physics

The people at the Fermi National Accelerator Laboratory have not yet used up all the stationery that identifies the laboratory as related to the Energy Research and Development Agency. They have been scratching out ERDA and typing in "Department of Energy." Now they will have a new agency to type in, and they may well wonder — in fact they are wondering — what will happen to the major physics programs funded by DOE.

According to a spokesperson, Fermilab did not fare badly in the first round of Reagan budget cuts, getting most of what it asked for. That prompted some nervous talk (was it whistling in the cemetery?) to the effect that "these people understand the high-energy physics, not like that Georgia crowd." But the second round of Reagan cuts has bit — by 12 percent.

All this has to be taken in the context of a science that was underfunded to start with. All of the nation's high-energy

physics laboratories have had recurrent stretches of idleness in recent years for lack of funds. Even before the Reaganists took power the situation brought about the protest resignation of Fermilab's first director, Robert R. Wilson.

In a speech delivered at the celebration of the 50th anniversary of the Lawrence Berkeley Laboratory, George A. Keyworth II, the President's science adviser, spoke assuring "American preeminence in this promising and creative area of science while operating in concert with a strong European effort at CERN." In the past, American physicists have generally wished to equal and even surpass CERN (while cooperating with CERN, of course).

The other large physics area funded by DOE is controlled thermonuclear fusion. This is divided into two areas: magnetic-confinement fusion and inertial-confinement fusion. There have been rumors that the inertial confinement pro-