

search Organization (ESRO)—is still ailing, and the assessment at Belgrade was that there are no foreseeable signs of improvement. Britain is not disposed to throw itself into the space race, especially since the past decade is strewn with catastrophic examples of big technology projects that cost several

times the original estimates. France is embarked on a Franco-German communication satellite program that is politically inspired by a desire to be independent of U.S. dominance in this field. Italy is wondering whether ELDO and ESRO are worth the cost, and the West Germans are engaged in several

costly joint ventures with the United States.

As for the long-gestating European Molecular Biology Organization (EMBO), it shares many of the burdens of other faltering ventures, plus a new one: West Germany, which would be EMBO's largest single contributor,

Budget: Status Report on the Federal Cutbacks

Scientists who have been fearful that federal budget cuts will inflict disastrous wounds on the nation's research and development community may find some comfort—though not much—in the latest budget report released by the Johnson administration on 9 September. The forecast for science remains gloomy, but not so gloomy as some of the doomsayers have been predicting. The latest figures indicate that, when all the anticipated budget cuts have been made by Congress and by the executive branch, the federal government will end up spending about the same amount of dollars on research and development in fiscal year 1969 (the current fiscal year) as it did in the previous year. Support for academic research is also expected to remain about level. The result will be a cutback in actual research activity, for the same amount of dollars will have to absorb the ever-increasing costs of performing research.

All estimates of R&D spending must be treated cautiously at this point, for neither Congress nor the federal agencies have completed their budget-cutting operations. At this writing Congress has completed action on only 9 of 14 appropriations bills, even though the fiscal year is already more than 2 months old. And to confuse the picture even further, Congress has taken the highly unusual step of ordering the executive branch to make further cuts beyond those imposed by Congress—a situation which leaves the executive branch trying to guess what Congress will do in order to plan the further cuts necessary.

The economy squeeze was ordered by Congress earlier this summer as the price for approving an increase in income taxes sought by the Johnson administration. Congress ordered a \$6 billion spending reduction from the President's proposed fiscal 1969 budget, but the latest figures indicate the cut will actually have to be closer to \$7 billion because of unforeseen increases in such "uncontrollable" programs as farm price supports and public assistance. Congress is expected to impose somewhat less than half the required cuts through the usual appropriations process, with the Johnson administration required to effect the remaining economies.

How much of the cut will be applied to R&D? The answer is "not completely clear," according to Charles J. Zwick, director of the budget bureau. The Johnson administration originally proposed to spend \$17.3 billion on R&D this year, up from \$16.5 billion in fiscal 1968. Zwick now predicts that "we'll come out pretty close to the fiscal 1968 level—maybe a little less, maybe a little more."

The budget bureau has assigned spending targets to each federal agency based on the anticipated cuts that

will be made by Congress and the additional cuts that will be necessary to meet the required reductions. Zwick said he expects a "small additional cut" will be made in the budget of the National Science Foundation beyond the drastic \$90- to \$100-million appropriations cut that will be imposed by Congress. The National Aeronautics and Space Administration would be cut some \$100 million below the estimated \$250 million expenditure cut by Congress. (This cut would not affect the manned lunar landing program.) Atomic Energy Commission expenditures would be cut \$29 million below estimated congressional reductions of \$95 million. And the Department of Health, Education, and Welfare expenditures would be cut \$380 million below congressional support levels. The Defense Department also faces a substantial cut, some of which may fall on R&D.

The agencies are by and large responsible for apportioning their cuts internally, and the amount of the cuts is currently going through an appeal and negotiation process within the administration. At this point no firm figures are available on the precise programs that agencies will cut back. Equipment and construction funds are said to be prime targets of the economy drive.

It seems clear that the budget cuts will torpedo the efforts of federal science leaders to funnel more research money into the universities. The Johnson administration originally proposed to increase federal obligations (commitments to spend, though not necessarily within the budget year) for academic research by 13 percent from the fiscal 1968 level. The proposed boost was described as an effort to heal some of the wounds caused by previous budget stringencies. But now, according to the President's Office of Science and Technology, federal obligations for academic research are expected to fall within 1 or 2 percent of last year's level, which, considering inflation, will represent an actual decline in research activity.

For those in search of silver linings, there are a few. Some agencies which had imposed a freeze on new commitments while developing their plans for budget reductions have recently turned the spigot back on, thus easing the immediate problems faced by some researchers. Moreover, some budget specialists predict that while the cutbacks will have a sharp effect on the level of spending in fiscal year 1969, they will have much less impact on the level of obligations, or commitments to spend. And there is always the slim possibility of relief. Last week the President asked Congress to take action that would reduce the cuts from the \$7 billion level back to \$6 billion. But nobody is predicting that Congress will grant such relief.—PHILIP M. BOFFEY