

NIH Partly Restores Cuts in Grants

The National Institutes of Health (NIH) last week relaxed somewhat its squeeze on research grants when it reduced a 20-percent "temporary" cut in research grants to cuts in the 5- to 10-percent range. The revision was announced last Friday by Health, Education, and Welfare Department (HEW) assistant secretary for health and scientific affairs Roger O. Egeberg. Egeberg said that restoration of funds was made on the assumption that the NIH budget, which is still being considered by Congress, will be funded at the level requested by President Nixon. Should Congress reduce funds or impose spending limits as it did last year, NIH might have to apply the economy knife again.

Officials say HEW was able to bolster grant funds because the Administration decided to treat the fast growing Medicare and Medicaid programs separately. The big health-service programs which cannot be budgeted exactly were putting pressure on research and other programs.

Tight finances earlier last week led NIH to announce that it might have to stop funding 19 clinical research centers throughout the nation. The fate of the centers seems not to have been affected by the change in the budget picture at the end of the week.

NIH officials attribute the need to draw up contingency plans for phasing out 19 of the 93 clinical research centers to rising medical costs. "Inflation has eaten us up," an official said. NIH administrators say it is no longer possible for NIH to whittle down each of the 93 clinical centers without endangering the quality of the overall program.

The 19 centers selected for possible phaseout are described as "low priority." The research centers are hospitals in miniature—small clinics that utilize new drugs, equipment, and medical techniques to improve patient care; most of these research centers are affiliated with medical schools and research and training-oriented hospitals.

companies in Yugoslavia, he told *Science*, choose foreign scientific institutions to do their research for them, rather than calling on Pupin. "Because our borders are open," he said, "we must compete with foreign institutes." Such competition forces Pupin to complete each project quickly and successfully, but it also makes it difficult for a domestic institute to win contracts.

To obtain financing, Petrovic's lab often undertakes projects funded by foreign companies. Such projects, however, including a marketing study on computer applications in Yugoslavia, now being conducted in cooperation with an American computer firm, are often of more interest to the foreign firm than to Yugoslav industry. Indeed, such cooperation may lead some of Pupin's scientists to forget about the problems of their country's development. "Mihailo Pupin is better known abroad than in Yugoslavia," Petrovic said recently. And obviously it is tempting to make use of the strong foreign interest for purposes that have little relevance to Yugoslavia's development. The hope, of course, is that cooperation with foreign companies will benefit both

countries, and examples of such benefit exist. Work in Petrovic's laboratory on automatically controlled prosthetic arms and legs, for example, conducted under the guidance of Rajko Tomovic (a world leader in the field, who developed the "Belgrade hand") is financed by the Social and Rehabilitation Service of the U.S. Department of Health, Education, and Welfare. Such work is obviously of benefit to both countries, as well as to the world.

Relevance to Economy

Despite the problems, many projects are carried out in the automation lab that have direct relevance to the Yugoslav economy. One group of scientists here, for example, is working on computer software for the Iron Gates (or Djerdap) dam and hydroelectric power plant being built on the Danube about 100 miles from Belgrade, in a cooperative program undertaken by Yugoslavia and Rumania. The computers themselves are being supplied by American firms, but the Pupin researchers, who outbid several foreign firms for the contract, are developing the equipment necessary to make the computers applicable to this particular

project. Other scientists here are supplying computer systems and remote-control equipment to other parts of the economy, including water-supply stations and railway-transformer stations.

Another group in the automation lab is making an analysis of the operation of an industrial enterprise, "14 October"—a factory in nearby Krusevac that manufactures heavy machinery. The group is part of a small division in operations research that is one of the newest at Pupin, less than 2 years old. "For the time being, I am satisfied with the number and size of the projects we have," the division's chief told *Science* recently. "And as industry develops, we hope that there will be more demand for our work." At present, though, much of the group's research is funded by foreign firms or by the Yugoslav government. The "14 October" project, for example, is financed partly by the Chamber of the Economy, partly by the Federal Council for the Coordination of Scientific Activities, partly by "14 October" (for the work that is actually being done by people there), and partly by Mihailo Pupin, since the institute is interested in developing the operations research group.

The financing of projects by several sources is encouraged by the government here. "We want to see another dinar for every dinar we provide," Zvanomir Damjanovic, the vice minister of the Federal Council, said recently. In basic science, the other dinars can come from the funds of an individual republic, but money from the economy is preferred. The main idea is to indicate to the federal authorities that there is interest, from some other source, in the particular research that is being undertaken.

In a broad sense, this is the main role the government would like to play in developing science in Yugoslavia. "We are interested in participation," Damjanovic said. "We want to stimulate institutes to find partners, to interact with the economy wherever possible." At this point in time the government is actually playing a larger role than it would like to. "What we put into science amounts to more than 25 percent of all the money given for research and development, and over 50 percent of the money given for research alone," Damjanovic said. "That shows the stage where the society is at present. Our contribution, ideally, should be less than 20 percent of the money for research, and nothing for development. There are nice tendencies