

RDT&E will generally hold steady, with about \$1.5 billion going for research and about \$6 billion going for development, test and evaluation. Basic research, however, which totaled \$369 million in the 1970 budget, is slipping. If it continues the same trend as seen in the 1969 and 1970 budgets, then it can expect a 10 to 15 percent cut in this budget.

**The criterion** for cutting basic research projects—in fact, all research—is the Mansfield amendment (Sen. Mike Mansfield, D-Mont.), which decreed that all DOD research projects must show a direct and apparent relationship to military applications. The amendment pertained to the 1970 budget, “but the wording will carry over and all future programs will be judged by that,” says one official. “We take it as a signal that that’s what Congress intends DOD to do.”

One research program that apparently meets the Mansfield criterion, but which has disappeared as a line item in Defense’s 1971 budget anyway, is Project Themis. This was an attempt to create new “centers of excellence” in universities by financing 118 defense-related projects.

“Project Themis efforts will be incorporated in the three service’s regular research programs,” points out one spokesman. “We hesitate to say Themis is dead altogether.”

**But the Nixon budget** has energized another program: Safeguard. After narrowly escaping death in the Senate (SN: 8/16, p. 127), Mr. Nixon’s anti-ballistic missile system is alive and well in the 1971 budget, with \$1.5 billion, an increase of \$598 million over 1970.

In fact, President Nixon wants to expand it beyond the original schedule. As originally outlined, the Safeguard plan called for initial deployment at two sites, in Montana and North Dakota, by 1974. Ten others would be completed by the late 70’s. Now Mr. Nixon wants to use the additional funds to start deployment at some of the other sites.

Joining Safeguard on the upswing are such projects as the AWACS (Airborne Warning Alert Command System), a flying radar station to warn of a missile attack, and the F-14 fighter-bomber.

But apparently a trend has been established, for as Presidential Science Adviser Dr. Lee A. DuBridge speculated, “I think there will be possibly further declines in DOD.”

## SPACE

### Down in the valley

Last summer the Environmental Science Services Administration, unused to the huge, monolithic projects that

typify the National Aeronautics and Space Administration’s activities, had to turn to the space agency for help in processing the data from the Barbados Oceanographic and Meteorological Experiment (SN: 4/26, p. 411). To do the job, ESSA borrowed the elaborate computer complex at NASA’s Mississippi Test Facility.

At the time, it was a simple case of Government agencies working together on a big research project. Now, however, NASA is finding the existence of such outside efforts to be a potentially life-or-death matter for some of its major field centers, whose developmental roles in the Apollo program are largely behind them.

**One such center** is the very MTF that has already helped with BOMEX. Another is the nearby Michoud Assembly Facility in New Orleans. The Electronics Research Center in Cambridge, Mass., is to be closed down by this summer, and NASA is frantically looking for outside users in search of big facilities to keep the critical list from becoming a body count.

The disease, of course, is financial malnutrition. With Apollo over the hill and national space goals denounced in favor of broader programs, the fiscal 1971 budget is a downbeat introduction to the new decade.

**For every dollar** given to NASA by Congress in fiscal 1970, the administration is asking less than 88 cents in the new budget. In working out his budget proposal with the space agency, President Nixon first asked that expenses be kept to a minimum, then emphasized the demand more strongly, and at last, only a week before the budget was submitted to Congress, added a “final turn of the screw.” The result, even before cost-cutters on Capitol Hill get a crack at it, is the lowest NASA budget since fiscal 1962, with a requested total of \$3.33 billion.

The major cut comes from the diminishing Apollo program, dropping from \$2.03 billion to \$1.69 billion to less than \$960 million in two years. A wide range of smaller savings result from postponing a variety of smaller, upcoming programs for a year or so beyond their previous target dates. A pair of Interplanetary Monitoring Probes, for example, scheduled for launch in 1971 and 1972, have been moved to 1972 and 1973. Similar slow-downs have been applied to the Applications Technology Satellites, the International (with Canada) Satellites for Ionospheric Studies and others. In general, the budget follows, though at a slightly slower pace, the middle option of the three offered by the administration’s Space Task Group, which was headed by Vice President Agnew.

Even the agency’s biggest new pro-

grams, however, are getting off at a restrained pace. For the planned large, orbiting space station and the shuttle vehicle that will service it, the budget asks \$110 million. To achieve NASA’s goal of having both operational by 1977, says administrator Dr. Thomas Paine, would have required \$250 million or more in fiscal 1971.

**The Apollo Applications Program** has also been delayed from three to six months past its former target date of July 1971, though at \$364 million it is still the largest single item in the NASA request except for the Apollo spacecraft bill itself.

Manpower cuts will be severe, with California by far the hardest-hit state with 16,000 NASA and contractor jobs to be eliminated there in the next 18 months. In addition, the agency’s Sustaining University Program of research support, trimmed in past years from \$30 million to \$7 million, is finally being dumped completely, although NASA officials point out that about \$90 million of NASA money will still go into university work.

As the cutting goes on, NASA officials hope that new programs can be fired up soon enough to keep large chunks of the agency from going into what Assistant Administrator for Administration William Lilly calls “the mothball mode.” □

## MARINE SCIENCES

### More research, few ships

The budget includes \$537.2 million to support Federal activities in marine science and technology. This is an increase of \$22.9 million over the current fiscal year. The funds are contained in the budgets of 11 different departments and independent agencies.

Civilian programs constitute \$293 million of the new budget. This is the first year since 1966, when the marine sciences program was defined in its present form, that the military’s share of the total wasn’t more than half.

**Of the total**, \$337.5 million is for research and development. An additional \$46.5 million is for investment in ships, major equipment and shore facilities, and \$153.2 million is for operations. The totals reflect a shift toward more expenditures for R&D and less for ships and facilities.

Most of the new money is to implement the Administration’s five-point interim marine sciences program announced in October 1969 (SN: 10/25, p. 372), pending more complete governmental review of the recommendations of the Stratton commission (SN: 2/1/69, p. 111).

Funds were requested for the International Decade of Ocean Exploration,