



NASA

NERVA test engine, now with a brighter future, moves to its Nevada test stand.

House of Representatives. Last month, subcommittees that had chopped more than \$120 million from NASA requests for fiscal 1969 added almost a quarter of a billion dollars to similar items for fiscal 1970.

The biggest bonus came from the House Space Committee's Subcommittee on Manned Space Flight, which not only elected to leave the agency's manned flight request intact, but voted to add an additional \$230.45 million. Last year the same subcommittee trimmed the fiscal 1969 request by \$60.3 million.

Most of this year's addition—\$167.9 million of it—is for development of scientific experiments and equipment for an expanded number of manned Apollo landings (SN: 3/29, p. 303), as well as for Saturn 5 boosters to handle the flights. Another \$66 million was added for "space flight operations," including the Apollo Applications Program's orbiting workshops, along with planning and long-lead hardware development for large orbiting space stations and an earth-to-orbit shuttle craft. The only cut made by the manned space flight subcommittee was a \$3.45 million reduction, scarcely one percent of the requested amount, in funds for program management.

If approved, these changes would give the space agency more than \$2.44 billion for manned space flight, compared to about \$2.21 billion requested.

As the manned flight subcommittee was passing out potential dollars, similar activity was taking place on a smaller scale at the Subcommittee on Advanced Research and Technology. The biggest boost was a \$13.5 million addition to step up production of the NERVA nuclear rocket engine, seen by NASA as important to such missions as exploration of the outer planets in the solar system. Other small additions, plus minor cuts in tracking expendi-

tures and administration, yielded a total addition of \$11.8 million, for a total advanced research and technology allotment of \$830.6 million.

Last year, the ART subcommittee cut \$60.4 million from the NASA request, five-sixths of it from NERVA.

The subcommittee recommendations for fiscal 1970 were expected to be brought before the full House space committee last week, and in the past, the committee has generally accepted its subcommittees' budget markups almost without change.

This is an unusual budget, however, because the lunar landing that has motivated NASA almost since its inception will presumably have been an accomplished fact by the time 99 percent of the money is to be spent. The uncertainties in planning the agency's future course have made budgetary second-guessing difficult.

The committee's version of the bill may go before the full House as early as next week, upon the Representatives' return from their Easter recess. At the same time, the Senate space committee will be preparing to launch hearings of its own before marking up the space budget into a Senate version.

Just how well NASA will have fared after all that processing is an open question. The success of Apollo has had an obvious effect on legislators, who could quite reasonably be expected to be more willing to pour money into a program that has proven that it is now unlikely to burn up on the launch pad. However, this may be tempered by the desire for a balanced program that does not put all of its eggs in any one basket, as NASA has been doing with the manned lunar landing since 1961. This desire, at least according to Presidential Science Adviser Lee A. DuBridge, should be the space agency's guiding principle in planning for the coming decade.

## NUCLEAR EXCAVATION

### Australian plans gang agley

Cape Keraudren had all the requirements for a successful site for the world's first nuclear-blasted harbor. Only two studies stood between the dream and the official go-ahead for construction: one to determine the hazards to man and ecology in the remote corner of northwestern Australia, and another to work out the excavation details (SN: 2/15, p. 159).

But last week, the project was canceled, the U.S. and Australian Atomic Energy Commission jointly announced. A lack of profit reared its stubborn head.

The decision stemmed from a pull-out by the U.S.-owned Sentinel Mining Co., which had planned to use the harbor to export iron ore from newly discovered fields near the desert coastline.

Sentinel was hoping to sell Cape Keraudren's low-grade iron ore to Japan.

When Japanese buyers refused to pay Australia's price, Sentinel gave up the scheme, and there was no reason to devote funds from the American and Australian atomic budgets to the creation of the harbor.

However, the Australian Government is rising above its dismay and pushing for other possible sites for a nuclear project.

The Australian AEC has its eye on Cape Lambert, near Dampier on the west coast, where a shallow outlet hampers the shipment of iron ore from the nearby iron-containing mountains. Officials from Plowshare and the Lawrence Radiation Laboratory, Livermore, Calif., have already made preliminary studies of the possibilities of the Dampier site.

Another possibility is an Australian Gasbuggy operation, where a natural gas reservoir is created by an underground nuclear explosion. The best site is in oil fields located in central Australia. Geologists estimate 500 million barrels of oil and great quantities of gas which are locked up in rocks 3,000 feet down. The site is thought to be better than the U.S. Gasbuggy test site in New Mexico.

Other applications for nuclear engineering include underground water caverns for water storage in case of drought, dam construction and shaping a new inland sea.

David E. Fairbairn, minister for national development, says, "Both we and the U.S. AEC are still keenly interested in the use of atomic blasts for harbor projects. We will go on with a review of practical applications of other harbor sites in this region." ◇