

being used to launch the initial defense communications satellite, Vela, tactical communications satellite, and multiple engineering payloads.

The funds requested for "Agena D" will continue work being initiated this year to increase the capability of the standard Agena D for the heavier satellite payloads now projected.

The funds requested for "Spacecraft technology and advanced reentry tests (START)" will complete the present phase of this program.

The funds requested for "Advanced space guidance" will support an ongoing program of studies, experiments and equipment development in such areas as long-term accuracy and reliability of inertial guidance components, horizon sensors and star and landmark trackers, and on-board determination of astronomical data for autonomous navigation. The fiscal year 1968 program includes procurement of an inertial reference unit (which will serve as an instrumentation standard for the sensors) and other navigation components, which will then be flight tested.

The "large solid propellant motor" project was undertaken to create the technology base required for the development of missile or launch vehicle engines up to 156 inches in diameter. Funds already provided will be sufficient to complete the remaining tasks, i.e., demonstrations of a low cost nozzle, an advanced thrust vector control system, and a self-eject launch concept.

The next item, "Advanced liquid rocket technology" comprises three projects: advanced storable liquid rocket technology; high performance, cryogenic liquid rocket technology; and maneuverable space rocket technology.

Other Defense activities supporting the space program

The ground support category shown on the classified table supplied the committee is that portion of the costs of the missile range, test instrumentation, and satellite detection and tracking systems which is charged to space activities. The largest item in this category is the \$132 million for the Eastern Test Range.

The fiscal year 1968 request includes \$34 million for support of Spacetrack and \$5 million more for SPASUR, for a total of \$39 million.

The \$57 million requested for the "satellite control facility" is for operation, maintenance, and modification of the military space vehicle support network which provides satellite tracking, command and data handling, as required by the major Defense space programs.

The last two categories on the table, "Supporting research and development" and "General support," constitute the overhead of the military space program and consist of prorated portions of the costs of a wide range of space-related activities.

RESEARCH

Last year I discussed in considerable detail the problems involved in organizing and managing a research program consisting of literally thousands of individual tasks and projects, most of which require relatively small amounts of money for their support. I pointed out that because of the large number and relatively small dollar value of these projects, we had to manage the program from my office on a