

tended flight capability, the conduct of manned astronomical and Earth observations from space, and the continued exploration of the Moon.

Specific program elements have been selected for initiation in fiscal year 1967 and 1968 that, in combination, provide the greatest contribution to the Nation's space objectives at the lowest cost.

I go further and say in my judgment they represent an absolute minimum funding for the program in terms of meeting these objectives.

Mr. FULTON. Can you divide those figures between Venus and Mars?

Dr. MUELLER. As a matter of fact none of these are devoted to either Venus or Mars. They are devoted to developing the basic capability for long-duration space flight and the utilization of those for astronomical observations and for extended lunar exploration.

Mr. TEAGUE. I would hope on Apollo Applications you would spell out in much more detail for our hearings than what we have in our backup books, for the ordinary layman to know what the vehicles are you are using and what the experiments mean and that type of explanation.

Dr. MUELLER. I will try.

Mr. TEAGUE. Not now but for the record.

Dr. MUELLER. Yes, sir.

(The material referred to follows:)

APOLLO APPLICATIONS

The following is a description of the Apollo Applications planned missions, equipment, experiments and funding requirements. This description supplements and further defines the material contained in the FY 1968 Budget back-up books submitted to the Congress and reflects the status of program planning.

FIRST APOLLO APPLICATIONS MISSION—AAP-1 AND AAP-2

The end objective of the AAP-1 and AAP-2 flights is to establish in orbit the Orbital Workshop. The Orbital Workshop is an important new concept for an embryonic space station. It is economical because it involves minimum new hardware development and is reusable, thus allowing basic exploration of space station requirements with a reasonable funding level.

For the short term, the Orbital Workshop provides an *early* capability for a large, controlled environment to evaluate human performance and secure engineering data for future subsystem design for both manned and unmanned spacecraft.

Ultimately in the workshop or any successor space station where man will be assembling apparatus, antennae, structures, etc. as well as operating instruments, cameras, electronic equipment and other devices he will need to know the most efficient and effective means of operating and living.

The first two Apollo Applications missions will provide for further economies in space flight by developing techniques for the resupply and reuse of hardware that is left in orbit. The Orbital Workshop concept will also provide for the early development of a long duration flight capability, which is a key requirement for most of the possible significant advances in manned space flight.

The experimental payloads included in the AAP-1 and AAP-2 flights are designed to provide significant data on the capabilities of man and equipment, and on their potential ability, as promptly and as economically as possible. In addition, there are included scientific and applications experiments.

MISSION MODE AND RELATED EQUIPMENT

The initial AAP mission, which could be as early as 1968, consists of 2 launches, AAP-1 and AAP-2. The following equipment will be required for these launches: