

important since the accident because it allows the flight program to maintain flexibility in manning the uprated Saturn I and Saturn V and in the transfer of testing between the two series. In addition, this concept allows rapid response to flight failures and to changes in the expected availability of the flight hardware. The preplanned mission types have remained fixed, but the assignment of particular pieces of hardware to missions has been changed following the accident.

The basic flight program remains the same as before and the flight missions are adjusted only in the point of transfer to the Saturn V series of launch vehicles. This transfer now will occur after the Command-Service Module operations phase using the Saturn V.

The mission types and launch schedules appear on figures 1 and 2. The first manned flight is scheduled to take place in the first quarter of 1968. This means that there has been approximately a year's delay in the schedule of the first manned Apollo flight. The first rendezvous and docking mission with a complete Lunar Module and Command-Service Module will be delayed about 9 months. The first complete manned space vehicle with lunar configured hardware will also be delayed about 9 months. These delays have reduced the flexibility in achieving the Apollo goal—that of landing men on the moon and returning them safely to the earth before 1970—but it still remains within reach.

It has been the plan for some time to perform unmanned missions this year using the first two Saturn V launch vehicles and an uprated Saturn I. In addition to flight testing the launch vehicles, these flights can evaluate the performance of the spacecraft heat shield at lunar return reentry velocities and other subsystems of the spacecraft in orbital flight. It is also planned to use these vehicles to begin testing the changes in procedures and hardware that are a result of the accident investigation.

The next uprated Saturn I launch will be a Lunar Module development flight. This launch is scheduled for the second half of calendar year 1967, which is a delay from previous schedules. The cause of this delay is not the result of the accident, but rather the result of the problems associated with moving the first Lunar Module article through manufacturing and checkout. Further, we have found it desirable to change the uprated Saturn I launch vehicle for this mission from SA-206 to SA-204. The basis for this decision was:

1. The SA-204 launch vehicle suffered no damage as a result of the 204 accident.
2. The SA-204 is a more highly instrumented launch vehicle than SA-206. Its utilization at this time will enhance the confidence in launch vehicle reliability for later manned flights.
3. The use of SA-204 avoids the necessity for refurbishment of the launch vehicle after a period of extended storage.

The first Saturn V launch in the Apollo program is the Apollo/Saturn V AS-501. The purpose of this mission is the development of the Saturn V launch vehicle, evaluation of the performance of the spacecraft heat shield at lunar return velocities, and verification of other spacecraft subsystems in flight. This mission is now scheduled for the third quarter of calendar year 1967. This is a delay of several months from what we had planned previously. The cause of this delay is the review of the AS-501 Block I spacecraft (CSM 017) with respect to those things learned as a result of the AS-204 accident.

The third launch will be the second unmanned Apollo/Saturn V, AS-502, scheduled late this year. This will be a repeat of the AS-501 mission and will complete the launch vehicle qualification. We are also considering the modification of the CSM 020 Block I spacecraft assigned to this mission to include a test of the new unified hatch.

As mentioned earlier, the first manned Apollo flight is scheduled for early calendar year 1968. This flight will use an uprated Saturn I and a Block II spacecraft to check out the command-service module and the crew in space flight. This spacecraft will be modified to incorporate all changes that have been defined as a result of our work following the AS-204 accident.

In summary then, the plan for the immediate future is an unmanned lunar module flight with an uprated Saturn I; two unmanned launches of the Saturn