

[Dollars in thousands]

Study area	Fiscal year 1967	Fiscal year 1968
Earth orbital.....	\$3,100	\$3,800
Lunar.....	450	1,400
Planetary.....	1,500	1,200
Launch vehicles and general program.....	1,150	1,600
Total.....	6,200	8,000

Question 11. What has contributed most significantly to delay in delivery of the lunar module? When will this delay adversely affect the flight schedules? To what extent have program costs been increased by the delayed deliveries?

Answer 11. Schedule delays which began in early manufacturing have continued through subsystem installations and integrated check-out. We experienced some development problems in such systems as the ascent engine, descent engine, abort guidance and rendezvous radar. Tooling, manufacturing problems, and late delivery of subsystem hardware by vendors have had their effect. No single factor can be pointed to as a predominant contributor to the delay, but rather it has been a combination of factors which are normal to first of a kind flight hardware at this stage of development.

It is possible that we will experience some impact in our lunar module development program as a result of the AS-204 accident. We have deferred detailed consideration of the lunar module until a basic understanding of the AS-204 accident could be developed. We will reevaluate the lunar module cost and schedule in the context of changes required in the command module and expect to complete this review in the next 6 weeks.

Question 12. Since only block II command modules will be used for manned flight, what is the disposition of block I command modules? How does this affect program schedule and costs?

Answer 12. The program plan provided for six block I command module flight articles. Two unmanned command modules (009 and 011) were flown as AS-201 and AS-202, respectively. An additional two unmanned command modules (017 and 020) are programmed for flight on AS-501 and AS-502, respectively. Command module 012 was destroyed in the AS-204 accident at KSC. Command module 014 was shipped to KSC to support the AS-204 Accident Review Board and was disassembled. Since the block II configuration spacecraft will be used for manned Apollo flights, the disposition of block I command modules will not directly affect the program schedule or costs. The flight schedule will depend on the availability of the block II spacecraft.

Question 13. What are the cost and manpower requirements in Apollo quality assurance and reliability in the fiscal year 1968 budget plan? How does this compare with fiscal year 1967? Has the Apollo 204 accident caused a shift of emphasis or modified operations of the Apollo quality assurance and reliability program?

Answer 13. Quality assurance and reliability has been an active and integral part of the Apollo program. Throughout the Manned Space