ATM design definition to date indicates that the LM ascent stage should be assigned to AAP approximately 9 months prior to launch in order to make the necessary modifications and to conduct tests.

*Question 8. What is the orbital lifetime for the CSM on AAP–1?*

*Question 8(a). If for some reason the AAP–2 orbital workshop cannot be launched as expected, can the L.M. & S.S. be left in orbit for later use?*

*Question 8(b). Why isn't the launch of the unmanned orbital work-shop the first mission in the Apollo Applications program since it can remain in orbit and is not dependent upon an immediate second launch?*

Answer 8. The orbital lifetime of the CSM on AAP Mission 1 at a nominal altitude of 120 miles is governed by the electrical power capabilities of the CSM. Depending upon the exact power profile to be used during the mapping and survey system test, the total lifetime may run from 8 to 12 days.

Answer 8(a). The L.M. & S.S. cannot be resumed in its present configuration.

Answer 8(b). The orbital workshop is established by a series of venting and passivation actions accomplished partly by automatic sequencing and partly by the crew on the spent S–IVB stage. These take place during the first few days after launch and while the assembled vehicle is under the control of the CSM. For this reason it is important that the CSM be in orbit and ready to rendezvous at the time of the orbital workshop launch. We also plan to have several days of low Earth orbit qualification with the L.M. & S.S. prior to initiation of the orbital workshop mission.

*Question 9. The established production capability for the Apollo program is six uprated Saturns and six Saturn V's per year. In the Apollo Applications program, it is expected to launch four Saturn IB's and four Saturn V's per year. What effect will this reduction have upon your organization?*

*Question 9(a). Since such items as facility overhead remain relatively constant, what effect will this reduction have on the cost per vehicle?*

*Question 9(b). What is the current cost of an uprated Saturn and a Saturn V?*

*Question 9(c). What is the estimated cost per vehicle for those being funded in fiscal year 1968?*

Answer 9. There will be no substantive effect on the total organization, only a possible shifting of some personnel away from the hardware production area to the experiments area.

Answer 9(a). The Apollo schedule requires a maximum delivery rate of four uprated Saturn I's and six Saturn V's per year although a production capability of six of each vehicle has been established. The average cost of the initial Saturn V's procured for AAP will increase significantly in the transition to a four a year rate. The affect on uprated Saturn I unit costs is minimized by the continuation of essentially the same production rate as Apollo and the recognition of cost savings introduced in this more mature project.