

(b) It should be noted that ground observations and commands and electromechanical acquisition and pointing systems do not provide the most suitable arrangement to acquire solar activities in a timely manner. Accordingly, such interesting solar events as flare buildup patterns (rise time), are not obtained due to the time required for instrument pointing and acquisition by those other means.

(c) The concept of repair and maintenance of the scientific instrumentation is being investigated in the development program. It is considered, however, that this concept can be pursued to only a limited degree without overburdening our capabilities in both extra-vehicular activity (EVA) and instrument complexity. This feature is one of desire but not necessarily required in obtaining success in our early manned observatory missions.

(d) Operational time-lines are currently being investigated to determine the best and most feasible operational arrangement for acquiring data and optimumly using the astronauts capabilities. One example of such an arrangement could be the operation of the ATM instrumentation during four orbit shifts, approximately three times a day. Each orbit would consist of approximately 50 minutes; 10 for orientation and 40 for data acquisition. With three astronauts to conduct this effort, no undue hardship appears to be imposed. Approximately 300 hours of experiment operation time could be achieved in such a manner.

*Question 3. Please distinguish between AAP studies and Advanced Mission studies—where is the dividing line? For example, during Dr. Mueller's AAP discussion on March 16, 1967, he referred to one chart which was entitled "Extended Lunar Exploration." The question is where does extended lunar exploration leave off, and where does advanced lunar mission studies begin?*

*(a) Is it fair to say that unlike when everything other than the Apollo program was automatically considered Advanced Missions, today there is no real difference between AAP studies and Advanced Mission studies; and that for all practical purposes, Advanced Missions should be a line item under AAP and refer to all studies and concepts other than those programs which are being actively pursued in the fiscal year for which the funds are requested?*

Answer 3. The Apollo Applications program (AAP) is distinguished from Advanced Manned Missions by the approval status of the projects being considered. AAP engineering and planning is limited to that family of missions which utilize modified Apollo systems and which have been approved for detailed planning by the Deputy Administrator. Advanced Manned Missions studies include overall systems engineering, planning and definition of manned mission studies and projects, until these projects are approved for inclusion in the NASA program. However, Advanced Manned Missions studies do include consideration of major alternatives or additions to approved projects.