



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
MANNED SPACECRAFT CENTER
HOUSTON, TEXAS 77058

Sherton

REPLY TO
ATTN OF:

CB

DEC 13 1972

MEMORANDUM

TO: FA/Director of Flight Operations

FROM: CA/Director of Flight Crew Operations

SUBJECT: Lack of Scheduled Skylab Rescue Integrated Mission Simulations Prior to the Launch of the SL-2 Mission

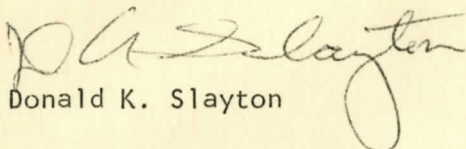
There are presently no integrated mission simulations directed at verifying rescue mission procedures prior to the first Skylab mission because of packed scheduling of the Flight Operations Directorate computer complex. Conversation with Flight Operations Directorate personnel indicates that addition of any rescue sim would necessitate an equal reduction in some other presently planned sim. As presently conceived, integrated simulations will be scheduled only after a real rescue situation is called. These simulations would be primarily crew training in nature and would take place in the intervening 10 to 48 days between the recognition of a rescue mission situation and the actual Rescue Command Service Module lift-off.

Although this philosophy appears adequate in terms of individual rescue crew and controller training, it does not provide for unhurried correction of significant inherent deficiencies in the presently proposed rescue scheme if, in fact, any exist. Obviously, none are known at this time, but historically much that has not been anticipated has been uncovered where the crew and the flight control teams work together particularly in the case of first of a kind flights. Integrated sims were not only useful in this way but served as a driving force for the timely completion of all the homework needed to support a flight. These minute details many times revealed unexpected consideration that had also to be reckoned with.

Conversely, because of the apparent similarity on the rescue mission and the nominal Skylab mission, there has been a feeling that any demonstration of the rescue rendezvous or of closeout and undocking was superfluous. It was generally felt that although it is a good idea to always try a thing on the ground prior to flight in this specific case the disadvantage more than offsets any advantages.

As the difference between the nominal Skylab and Skylab rescue missions have become more defined, there is a feeling that the differences are indeed insignificant and that any surprises not yet uncovered would not be crucial; but to launch the SL-2 crew without demonstrating the rescue capability would be a departure from our previous thinking. Exactly what would constitute a conceptual demonstration is not fully understood at this moment, but one approach might be to begin at rendezvous station-keeping and continue through docking and power down and then pick up the sim again at undocking minus 3 hours and continue through the shaping burn.

It is recommended that a meeting be held soon to discuss the adequacy of the present sim plan; the desirability of replacing a nominal Skylab sim with a rescue demonstration, and the possibility of adding a rescue demonstration to the present tight schedule.



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CB/ALBean/sh/11/28/72