MEMO

TO: Distribution

FROM: K. W. Greene

DATE: 14, January 1971

SUBJECT: Notes on SCB Meeting #43 held at MSC on 13 January 1971.

I Review of Action Items

a. Permanent fixed memory constants for Apollo 15. - MIT
   Status: Open
   The memos listing the constants prepared at MIT/DL have been circulated at MSC for review and comments. This item is to be further discussed at the next Development Plan Meeting (1/21/71). At that time it is hopeful that the next step to be taken in this constant review can be agreed upon.

b. Submit a PCR giving all SKYLAB fixed ephemerides constants. - MIT
   Status: Partially closed by the submission of PCR SL408 which gave the necessary star data. Still to be submitted by MIT/DL is a PCR containing the LOSSEMM data for SKYLAB.

c. Verify AGS RR Filter changes - MPAD
   Status: Open
   Still in process. MPAD and FSB are to develop a schedule for the completion of this review.

d. Deliver a SKYLAB Development Plan to FCSD - MIT
   Status: Closed
A SKYLAB Development Plan was given to MSC at the Development Plan Meeting held in mid-November.

e. Hold a SKYLAB RCS DAP Design Review - GCD
   Status: Closed
   The DAP review was held at MSC last week. Present plans are to have a preliminary Section 3 out in Mid-February. And a DAP review is to be held in late February or early March.

f. Submit a PCN to show the correct PINBALL nautical mile/revolution scale factor in the GSOP. - MIT
   Status: Closed by submission of PCN 1136.

g. Report on Detail design of LGC bit protection PCR's - MIT
   Status: Closed. An explanation of the implementation of these PCR's was given at the meeting. MIT is to prepare a memo describing the implementation of the LGC Bit Protection.

h. Review implementation method of PCR 1111. - MIT
   Status: Closed along with item g above.

II The status of the remaining outstanding problems for Apollo 14 were discussed. The decision was made not to fix the DOWNRUPT problem in Colossus until SKYLAB unless MSC can come up with a real time necessity for this data lost during SPS powered flight. MIT should continue to develop the erasable program and procedure that could be utilized as a work around if MSC should later find this necessary.

III SKYLAB
   SL 020 Program 33 Deletion
       Status: Disapproved
   SL 028 Docked Alignment Capability
       Status: Disapproved
   SL 029 Rendezvous Display Logic
       Status: Disapproved
SL 030 Addition of NCC Maneuvers Computation Capability
Status: Approved

SL 031 Addition of NCI Maneuver Computation Capability
Status: Disapproved (Replaced by PCR SL 042)

SL 032 VHF Range Rate Computation and Display
Status: Approved

SL 041 Use Full Lift in Splash Error Computation (N50)
Status: Pending MIT/DL analysis.
A suggestion was made that a similar change (PCR) was
prepared in the early days of Colossus and that the review
conducted at that time might assist in the analysis of this
change.

SL 042 Skylab 4DKI Sequence
Status: Approved

SL 403 Extended Alignment Capability
Status: Pending (See Comments Below)

SL 405 Transform Optics angles to Tracking Angles.
Status: Approved

SL 406 Noun 67 Sign Reversal of RTGO
Status: Disapproved

SL 407 Incorporate P51, P53 and P54 into P52
Status: Pending (See Comments Below)

SL 408 FK1 Navigation Stars at 1973.0 in 1950.0 Coordinates
Status: Pending, MSC to review star data.

**Skylab Comments:**

H. Tindall re-emphasized at the meeting that an objective of the
SKYLAB program was to utilize all possible Mainline Apollo parts which
also includes software. And that changes to existing hardware/software
are to be held to a minimum. Changes will only be allowed when they are
absolutely necessary for SKYLAB. In other words no major R & D or
program renovation are going to be allowed unless absolutely necessary.
MIT presented the proposed new alignment technique for SKYLAB to MSC personnel in morning of the SCB. Unfortunately, through a misunderstanding of what the meeting was about, principals that should have been at the meeting were not. As a result no decision could be reached at the SCB on this item. To provide proper review of this proposed change a separate meeting was scheduled for Thursday AM to brief and receive comments from a member of Astronaut Office. A portion of the Data Priority Meeting to be held Thursday afternoon was set aside to discuss the proposed alignment changes. (As you can see R. White/D. Millard have organized a traveling road show).

Many PCR's have been submitted over the past year to define or modify the planned Rendezvous scheme for Skylab. The number and scope of these PCR's have raised some confusion over the actual definition of the SKYLAB Rendezvous Scheme. To illuminate this problem MIT (S. Copps) proposed that MIT/DL prepare a prel-GSOP for Rendezvous which would contain MIT's current understanding of the desired Rendezvous scheme. This GSOP would then become the baseline design to which additional changes could be proposed via PCR's to this document. This sounded like a good idea but no formal decisions were made. From the authors point of view I think MIT should take the bull-by-the-horns and proceed with this plan, if not just more confusion and mis-understanding is bound to result.

IV. Colossus 2E (Apollo 14)

<table>
<thead>
<tr>
<th>PCN</th>
<th>Change GSOP Sect.</th>
<th>Status</th>
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<tr>
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"A NOTE OF CAUTION"
PCRs/PCN describing editorial changes or containing mark-ups of actual GSOP pages need to be prepared more carefully and reviewed more thoroughly at MIT before submission to MSC. Many omissions and errors have been noted by MSC personnel thus providing confusion and a feeling of sloppyness in GSOP preparation.

V. **Colossus 3 (Apollo 15)**
- **PCN 1123**  
  Put H for P31 into Erasable
  Status: Approved
- **PCN 1125**  
  Change R31 to Use Precision Integration
  Status: Approved
- **PCN 1123**  
  Remove Restart Requirement for IMUPULSE
  Status: Approved
- **PCN 1135**  
  Change GSOP Sect. 2 Description of REINTFLG
  Status: Approved
- **PCN 1136**  
  PINBALL Scale Factor Note for GSOP
  Status: Approved

VI. **Luminary 1D (Apollo 14)**
- **PCN 1009**  
  Editorial Changes to Sect. 4
  Status: Approved
- **PCN 1037**  
  GSOP Section 2 Rev 10 Editorial Changes
  Status: Approved

VII. **Luminary 1E (Apollo 15)**
- **PCR 347**  
  Modification to Code Word Configuration for PGNCS/AGS Data Transfer
  Status: Approved
- **PCR 343**  
  New TargetAV Program for LGC
  Status: Approved
- **PCN 1124**  
  Flag Resetting in P00D00 Abort
  Status: Approved
PCN 1126  Set NOTHROTL for DPS Impulse Burns
Status: Approved.
Note this PCN also requires a change to Section 4 as well.

PCN 1127  Change to Downlink List
Status: Approved

PCN 1132  Corrections to PCR 1117.2
Status: Approved
Note this PCN was amended slightly at the SCB meeting.

PCN 1133  Revision to Descent Mass Limits
Status: Approved as modified at SCB Meeting

PCR 1134  Revision of PCR 1111
Status: Approved

PCR 1129  Update Mass - Dependant Calculation in 1/ACCS.
Status: Approved

PCN 1137  Correct Constant for Ascent Guidance
Status: Approved

Action Item
MIT/DL should prepare a PCN which describes how PCR 334 Rev 1
was modified during implementation into Luminary 1E.

KWG: ejt
DISTRIBUTION:
D. Hoag  P. Volante  D. Fraser  E. Olsson
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