

THE CHARLES STARK DRAPER LABORATORY
A DIVISION OF MASSACHUSETTS INSTITUTE OF TECHNOLOGY
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MEMO

TO: Distribution
FROM: K. W. Greene
DATE: 9 November 1970
SUBJECT: Notes on SCB Meeting #42 held at MSC on 11/5/70

I ACTION ITEMS

- a. Bit Failure Protection for Luminary - MIT/SDL
Status: Closed by submission of PCR's 1107 thru 1112 and STG
Memo #1563 and 1564.
- b. Permanent Fixed Memory Constants for Apollo 15 - MIT/SDL
Status: Open Expected completion is the first full week in December.
- c. Supply GAC with PGNCs tape containing LGC RR data transfer capability - MIT/SDL.
Status: Closed - Tape delivered 11/2/70.
- d. Send LM and CSM vehicle properties (including Rover and SIM) to MIT for Simulation - FSB.
Status: Closed-except Mass and Inertia data for the experiment boom has not been supplied. FSB into investigate the status of this data and supply MIT with the required data as soon as possible.
- e. Review PCR's 334, 336 and 337 and resubmit - MIT/FSB/FCSD
Status: Closed by submission of PCR's 334 Rev1 336 Rev1 and 337 Rev 1.
- f. Review PCR's 325-328 to determine LM applicability - FCSD

Status: Closed. FCSD is still considering the possibility of requesting the new ΔV Program for Luminary.

- g. Evaluate PCN 1059 as a method of fixing anomaly L-1D-10-GCD.
Status: Closed.
- h. Response to disapproval of PCR's 1074 and 1075 (bit protection)-FC/CSM Systems.
Status: Closed FC concurred with the disapproval.
- i. Amend PCR SL026 so as to specify RCS DAP requirements with respect to present RCS DAP - GCD.
Status: Closed by submission of PCR SL040.
- j. Fixed co-ordinate system for SKYLAB - MIT/MPAD.
Status: Closed by submission of a PCR.
- k. Submit PCR to remove TEPHEM scaling restriction in Luminary - MIT.
Status: Closed by submission of PCR 1093.
- l. Submit PCN to update fixed ephemerides constants in Luminary - MIT.
Status: Closed by submission of the detailed evaluation for PCR 1082.2.
- m. Verify constants in PCR 1082.1 - MPAD.
Status: Closed, the constants have been verified by MPAD.
- n. Submit a SKYLAB PCR giving implementation scheme for putting the LOSSEM constants into SKYLAB.
Status: Closed by submission of PCR SL404.
- o. Submit a PCR giving all SKYLAB fixed ephemerides constants-MIT.
Status: Open.

II SKYLAB

SL023 Fixed Memory Ephemerides Routine for SKYLAB.
Status: Disapproved.

SL401 Lunar-Solar Ephemerides Routine
Status: Disapproved.

SL033 Fixed Coordinate System for SKYLAB.
Status: Approved.

SL034 Improvements to Ephemerides.
Status: Approved.

SL402 Eliminate 481 day TEPHEM Limitation.
Status: Approved.

SL404 Lunar-Solar Ephemerides Routines.
Status: Approved.

SL026 RCS DAP.
Status: Disapproved.

SL040 SKYLAB DAP
Status: Approved.

III COLOSSUS 3 (Apollo 15)

PCR 332 MINKEY Fixed Constants to E-Memory.
Status: Approved (This PCR was amended to include 6 constants instead of the original 4).

PCR 342 Entry Gain and Constant Changes.
Status: Approved.

PCR 346	Erasable Load Change. Status: Disapproved.
PCR 1045	Delete SIVB Capability during P22. Status: Disapproved (This PCR was initially approved because of an erasable conflict with the SATURN DAP. Since the SATURN DAP was not implemented this conflict was eliminated thus the program restriction outlined in PCR 1045 was eliminated.)
PCN 1085	Show Existing Options in P37. Status: Approved.
PCR 1089	NEEDLER Initialization After Coarse Align. Status: Approved.
PCR 1090 Rev 1	3AXISFLG Resetting. Status: Approved.
PCN 1094	Flag Resetting in POODOO Abort. Status: Approved.
PCR 1097.1 Rev 1	Provide V30 V31 Operator Error Lockout. Status: Approved.
PCN 1099	Make N59 On Call in P34/74 and P35/75. Status: Approved.
PCR 1105	LEWD Iterator. Status: Disapproved.
PCR 1114	PINBALL Scale Factor: Nautical Mile. Status: Disapproved (MIT should prepare a PCN to correct the GSOP in this area.

PCR 1115 Change 21502/21206/21210 from POODOO's to BAILOUT's.
Status: Disapproved.

PCR 1117.1 Addition to POODOO Logic; Add GSOP Abort Description.
Status: Approved.

PCR 1118 Changes to Downlink Lists.
Status: Approved.

PCR 1119 Add VGDISP, +1 and VMAGI +1 to Powered List for P15.
Status: Disapproved.

PCR 1120 Clear SIVB TAKEOVER ENABLE in NEEDLER Subroutine.
Status: Disapproved.

IV LUMINARY 1E (Apollo 15)

PCR 334 Rev 1 Change DSKY Descent/Ascent Nouns.
Status: Approved.

PCR 336 Rev 1 Allow Extended Verbs During P20 Maneuvers.
Status: Approved.

PCR 337 Rev 1 Illuminate Unused DSKY Light for N49.
Status: Disapproved. (See PCR 1091).

PCR 341 Landing Radar Reasonability Test.
Status: Approved.

PCR 343	Disapproval of PCR 340 (LATVEL Polarity Change). Status: Approved.
PCR 344	Navigation Inputs Via DSKY. Status: Disapproved.
PCR 345	Change of Erasable Load. Status: Disapproved.
PCN 1059	Have Major Mode Changes Set Up a 1/ACCS Job. Status: Approved.
PCR 1082.2	Ephemerides Update. Status: Approved. (This was approval of the detail evaluation of how the PCR is to be implemented).
PCR 1088	Inhibit Program Change During Critical 10.56 seconds After IMU ZERO. Status: Approved.
PCR 1091	Priority Display Light on DSKY. Status: Approved.
PCR 1092	Increase Accuracy of Determination of Accelerometer Scale Factor. Status: Disapproved.

PCR 1093 Eliminate 481 day TEPHEM Limitation
in Lunar - Solar Ephemerides
Status: Approved.

PCN 1095 Avoid Incomplete Close-out of Manual
Rate Command Mode (L-1D-07)
Status: Approved.

PCR 1096 Erasable Memory De-orbit Program to
Fixed Memory
Status: Disapproved.

PCR 1097.2 Rev 1 Provide V30, V31 Operator Error Lockout
Status: Approved. (N26 is to be unshared).

PCR 1100 Delete Setting of NODO Flag in R47
Status: Approved.

PCR 1106 Trim Gimbal Control Mode Change
Status: Disapproved.

PCR 1107 Backup of Abort Bits: Channel 30 Bits 1
and 4.
Status: Approved.

PCR 1108 Backup Mark X, Y and MARK Reject;
Channel 16 Bits 3, 4, 5.
Status: Disapproved. (Withdrawn by MIT)

PCR 1109 Backup of Off (1) Failure of Auto Throttle;
Channel 30 Bit 5.
Status: Approved.

PCR 1110 Backup for Failures of the Display Inertial
Data Bit: Channel 30 Bit 6.
Status: Approved.

PCR 1111 Backup Failure of Auto Pilot Mode and AGS/PGNCS Select Switch Bits. Channel 30 Bit 10 and Channel 31 bits 13 and 14. Status: Approved, Note: The intent of this change was approved, but the method of implementation is to be coordinated with FSB. Concern was expressed over the apparent complexity of this change to the DAP.

PCR 1112 Backup for On Failures of Translation Commands Channel 31 bits 7-12. Status: Disapproved.

PCR 1116 Automatic RCS Steering Status: Disapproved.

PCR 1117Z Addition to POODOO Logic; Add Abort Description to GSOP. Status: Approved.

PCR 1121 Replace Acceleration Estimate with RCS Inhibit Flags on Non-Powered Downlists. Status: Approved.

PCR 1122 "No Control" DSKY Light Status: Disapproved.

V. NEW ACTION ITEMS

- a. Provide FSB with a mark-up of the SKYLAB Development Plan showing estimated dates of availability of preliminary GSOP's. Primary area of concern is the DAP and Rendezvous Areas.
- b. MIT should prepare and submit a PCN to correct the GSOP for the PINBALL Scale Factor for Nautical Miles now that PCR 1114 has been disapproved.

- c. MIT is to coordinate the method of implementation of PCR 1111 "Backup failure of Auto Pilot mode and AGS/PGNCS Select Switch Bits" with FSB.

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