Eyles

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
CHARLES STARK DRAPER LABORATORY
68 ALBANY STREET,
CAMBRIDGE, MASSACHUSETTS 02139

C. L. MILLER
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C. S. DRAPER
VICE DIRECTOR

TO: Distribution

FROM: K. W. Greene

DATE: 18 May 1970

SUBJECT: Notes on the Mainline Apollo SCB Meeting #38 held at MSC on 14 May 1970

COLOSSUS

PCR 308 - Improved Short Burn Logic

Status: Approved for a detail evaluation by MIT/CSDL for possible inclusion in Colossus 3.

PCN 1041 - Add check of AVEGFLAG to the Implementation of PCR 984.

Status: Approved for implementation into Colossus 2E.

PCR 954 - Revised Manual Booster Backup Guidance

A presentation of the design and the testing conducted at MIT for this change was presented by MIT.

Action Item - FSB (J. Williams) is to review testing conducted on this change and testing planned by other NASA branches and agencies to assure adequate testing is to be conducted.

PCR 316 - Change in Upcontrol Gains (P65)

Status: Withdrawn by Originator. NASA and MIT are to study the possibility of submitting an alternate PCR for entry.

LUMINARY

PCR 311 - Rendezvous and Prethrust Downlink Change 1E

Status: Disapproved; additional investigation into the changes to the AGS is to be conducted at MSC. FSB is to setup an interface meeting between TRW, MSC and MIT to define PGNCS changes. These changes are to be submitted as a new PCR at the next SCB.

PCR 1030 - Replacement of LOGSUB 1E

Status: Disapproved. It was felt that word savings accomplished by this change was unnecessary at this time. It was also reported by R. Nobles that this change results in about 8 ft/sec difference during ascent. It was stressed that this difference was evidenced only after preliminary investigation of this proposed change and that the cause had not been determined.

PCN 1031 - Sect. 3 Rev. 4 Editorial Changes 1C.

Status: Aproved.

PCN 1033 - Section 5 Luminary 1C GSOP Changes

Status: Approved.

PCN 1035 - V68 and P66 Terminate the Terrain Model 1D.

Status: Approved. Some confusion existed as to the implementation of this change. It was questioned as to what exactly happens if V68 is exercised during P64 etc? W. Tindall suggested that a careful review be made of the usage of this verb and that any restraints or cautions be advertised. These should be taken under consideration during preparation of landing procedures.

PCN 1036 - PCR 966 (Liftoff Check in P07) Improvements 1D

Status: Approved

PCN 1037 - P66 Corrections 1D

Status: Approved

PCR 1038 - Keep 526 Alarm in P20 (PCR 287) 1D

Status: Approved

PCN 1039 - Terrain Model Improvements 1D

Status: Approved. Some confusion as to the implementation of this change existed at the meeting. Questions as to whether this was a really good thing to do, accuracy gained, and the effect on T-loss were raised. A report of the effects of the implementation of this change should be given at the next SCB.

PCN 1040 - Only P41 has Early TFI Countdown 1D

Status: Approved

PCN 1043 - Remove zeroing of Bit 4 of Channel 14 on Restart or V37 1D

Status: Approved

PCR 1044 - Redesign of R53-R57 1E

Status: Approved for a detail evaluation by MIT. C. Hackler and R. Savely expressed a desire to get copies of flowcharts and coding of this change so that an evaluation can be conducted at MSC. The question of accuracy was

raised, and should be investigated by MIT and reported on as part of the detail evaluation.

General

W. Tindall expressed concern over the implementation of PCN's at MIT without proper review at MSC prior to rope release. He asked that his office be informed by telephone of PCN changes before implementation at MIT.

Status of Action Items from Previous Meetings

a. COLOSSUS 3 - MIT/SDL was to supply to Flight Support Branch (FSB) a list of all telemetry changes between COLOSSUS 2E and COLOSSUS 3 so that FSB can determine impact of this change on the RTCC. This is still in work.

b. PCR 1027, A-priori terrain models - MIT/SDL was to investigate how close to the landing site use of the a-priori terrain model should be implemented, and FSB was to investigate possible use of an extended verb to disable the terrain model. MIT/SDL has concluded that the use of the model should be terminated upon entry into P66, and FSB and MIT/SDL agreed that there should be a verb (V68) to disable the model. (Flagword 1 bit 11 will reflect whether the terrain model is in use or not). MIT/SDL is to write a PCN for submittal to the next SCB to authorize the new verb. Closed.

c. Variable Servicer

FSD	Determine effect of implementing variable servicer upon the ground flight control complex. This effort is continuing.

d. Crosspointers

MIT/SDL	Investigate to determine whether or not there is a problem with the crosspointers in AUTO P66. This is to be coordinated with G&CD (Clarke Hackler). (Reference SDR No. LM-LUM-94.) W. Tindall expressed a desire for a resolution of this problem as soon as possible.

e. Bit failure protection

FSB (J. Williams)

Determine which flagword and channel bits are such that we should protect ourselves against that bit failing. This is to be coordinated with GAC, NAR, MIT/SDL, TRW, FCSD, G&CD, and Flight Control Division.
This effort is continuing and should be reported on at the next SCB.

f. Throttle Oscillations

MIT/SDL Analyze the throttle oscillations reported in GAC SDR No. LM-LUM-92.
Analysis is continuing at MIT/SDL.

Schedules

Do to the complexity and testing required for the Saturn DAP change and the desire to have two versions of the Colossue 2E program available, the following schedules were agreed on at the SCB:

a. Colossus 2E (Comanche without Saturn) will be available and tested thru Level 5 on 5/26/70.

b. Colossus 2E (Satanche with Saturn) will be available and tested thru Level Level 5 on 6/9/70.

c. The Artemis (2E equivalent) version should have the Saturn DAP changes by 7/21/70.

K. W. Greene

KWG:hpo's

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