APOLLO SPACECRAFT SOFTWARE CONFIGURATION CONTROL BOARD PROGRAM CHANGE REQUEST

NUMBER (Completed by FSD): 848

1.0 COMPLETED BY ORIGINATOR

1.1 ORIGINATOR	DATE	1.2 ORGANIZATION	APPROVAL	DATE
D. EYLES	7/22/69	MIT/IL	George W. Cherry	7-23-69

1.3 EFFECTIVITY: LUMINARY 1B

1.4 TITLE OF CHANGE: Prevent RR ECDUs from Stealing LGC Memory Cycles

1.5 REASON(S) FOR CHANGE: See attached Data Amplification Sheet.

1.6 DESCRIPTION OF CHANGE: See attached Data Amplification Sheet.

2.0 SOFTWARE CONTROL BOARD OR FLIGHT SOFTWARE BRANCH DECISION FOR VISIBILITY IMPACT ESTIMATE BY MIT

2.1 ☐ APPROVED ☐ DISAPPROVED

2.2 REMARKS:

2.3 SOFTWARE CONTROL BOARD OR FLIGHT SOFTWARE BRANCH SIGN OFF

DATE

3.0 MIT VISIBILITY IMPACT EVALUATION:

3.1 SCHEDULE IMPACT: 0

3.2 IMPACT OF PROVIDING DETAILED EVALUATION

3.3 STORAGE IMPACT: $\approx$ 8 words

3.4 REMARKS: Approved by T. Price and T. Gibson on 7-22-69

3.5 MIT COORDINATOR: George W. Cherry

DATE

4.0 SOFTWARE CONTROL BOARD ACTION

4.1 ☐ IMPLEMENT AND PROVIDE DETAILED CHANGE EVAL. ☐ PROVIDE DETAILED CHANGE EVALUATION ☐ DISAPPROVED

4.2 REMARKS

4.3 SOFTWARE CONTROL BOARD SIGN OFF

DATE

5.0 MIT DETAILED PROGRAM CHANGE EVALUATION

5.1 MIT COORDINATOR

DATE

5.2 MIT EVALUATION

6.0 SOFTWARE CONTROL BOARD DECISION ON MIT DETAILED PROGRAM CHANGE EVALUATION

6.1 ☐ START OR CONTINUE IMPLEMENTATION ☐ DISAPPROVED OR STOP IMPLEMENTATION

6.2 REMARKS:

6.3 SOFTWARE CONTROL BOARD SIGN OFF

DATE

APOLLO SPACECRAFT SOFTWARE CONFIGURATION CONTROL BOARD

-DATA AMPLIFICATION SHEET -

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PROGRAM CHANGE REQUEST NO. 848	PREPARED BY: D. EYLES DATE: 7/22/69	ORGANIZATION: MIT/IL

CONTINUATION SECTION (REFER TO BLOCK NUMBER AND TITLE ON PROGRAM CHANGE REQUEST FORM)

1.5 Reason(s) for Change

Because when the Rendezvous Radar Select Switch is not in the LGC position, the RR resolvers are being excited by an 800 cps signal which is not necessarily in phase with the 800 cps reference of the RR CDUs, these CDUs are likely to go to their maximum rate mode (6400 pps each). This behavior snatches a total of 12800 memory cycles every second, or 15% of LGC time, and can result in 1201 and 1202 software restarts.

1.6 Description of Change

Monitor the RR Power On/Auto bit (bit 2 of Channel 33) and set the Zero RR CDU bit (bit 1 of Channel 12) when this bit shows that either the RR circuit breakers are pulled or the RR switch is in AUTO TRACK or SLEW.

REMARKS

It was the misbehavior in question that jeopardized the lunar landing of July 20, 1969.

TP#21812