APOLLO SPACECRAFT SOFTWARE CONFIGURATION CONTROL BOARD PROGRAM CHANGE REQUEST

NUMBER (Completed by FSB): 756

1.0 COMPLETED BY ORIGINATOR

1.1 ORIGINATOR	DATE	1.2 ORGANIZATION	APPROVAL	DATE
A. KLUMPP	3/24/69	MIT/IL		

1.3 EFFECTIVITY: LUMINARY 1A

1.4 TITLE OF CHANGE: Guidance Frame Erection Trajectory Shaping Factors

1.5 REASON(S) FOR CHANGE:
The targeting required for the approach phase for the new operational trajectory produces excessive sensitivity of the orientation of the guidance frame to lateral site redesignation. This sensitivity produces excessively curved trajectories to a redesignated site and also can lock out window pointing.

1.6 DESCRIPTION OF CHANGE:
See 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

3.2 IMPACT OF PROVIDING DETAILED EVALUATION

3.3 STORAGE IMPACT

3.4 REMARKS: coordinated with T. Price 3/25/69

3.5 MIT COORDINATOR: J. Kernan for G.W.C.

DATE: 3-24-69

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 -

PROGRAM CHANGE REQUEST NO. 756	PREPARED BY: A. KLUMPP DATE: 3/24/69	ORGANIZATION: MIT/IL

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

1.6 Description of Change:

Add a Trajectory Shaping gain factor in the target table for each phase (one for braking one for approach). The equation for $\underline{d}$ on page 5.3-112 of the November 1968 issue of the LUMINARY GSOP will read:

$$\underline{d} = 4\,(\underline{r}_P - \underline{r}_{SP}) + \text{GAIN} \quad \underline{V}_{MP}\ T_{GO}$$

where

GAIN =	GAINBRAK	Braking Phase
	GAINAPPR	Approach Phase

The gain factors can each be chosen between zero and unity, where unity yields the present sensitivity.

REMARKS

MIT/IL PROGRAM CHANGE ROUTING SLIP

PCR/PCN # 756

ANOMALY # _____

D. Eyles

☐ COLOSSUS 1A
☐ COLOSSUS 2
☐ COLOSSUS 2A
☐ COLOSSUS ____

☐ LUMINARY 1
☑ LUMINARY 1A
☐ LUMINARY ____

☐ MIT Approved PCN

☐ NASA Approved PCR
☐ NASA Approved PCN

☐ NASA Approved Software Anomaly
☐ MIT Approved Software Anomaly

A. Coding

☒ Begin coding immediately

ACTION: D. Eyles

Program Supervisor: G Shulenberg

◯ Do not code until new GSOP material has been approved by the MIT Mission Design Review Board (MDRB) and distributed.

B. GSOP Preparation

☒ Prepare GSOP revisions for MDRB consideration

ACTION: A. Klumpp

☐ Technical Committee Meeting not required.

☐ Technical Committee Meeting(s) held on _____
Attendees:

C. KSC Testing and Checkout

◯ Review for possible impact on KSC testing and checkout

ACTION: _____

D. Other Programs Affected

◯ Review for corresponding changes in _____

ACTION: _____

Special Instructions

① D. Moore, Pad Loads, Hybrid Decks, Inserts.

Project Manager J. Kernan / G.W.C.

Date 3-24-69

(Rev 1, 2/69)