FAILURE MODES EFFECTS ANALYSIS (FMEA) -- NON-CIL HARDWARE
NUMBER:05-6PK-20300B -X

SUBSYSTEM NAME: EPD&C-COMMUNICATION & TRACKING:CLOSED CIRCUIT TV
REVISION: 0 05/31/00

PART DATA

	PART NAME **VENDOR NAME**	**PART NUMBER** **VENDOR NUMBER**
LRU	:PANEL A7A1	V070-730356
SRU	:SWITCH,TOGGLE	ME452-0102-7601

EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:
SWITCH TOGGLE S58 TO CONTROL POWER TO TRANSCEIVER

REFERENCE DESIGNATORS: 36V73A71-S58

QUANTITY OF LIKE ITEMS: 1

FUNCTION:
CONTROLS POWER TO RPC 35 IN MPCA3 WHICH POWERS THE WIRELESS VIDEO SYSTEM TRANSCEIVERS

REFERENCE DOCUMENTS: ECN 105-25016B DATED 3/25/99

FAILURE MODES EFFECTS ANALYSIS FMEA -- NON-CIL FAILURE MODE
NUMBER: 05-6PK-20300B-02

REVISION#: 0 05/31/00
SUBSYSTEM NAME: EPD&C-COMMUNICATION & TRACKING:CLOSED CIRCUIT TV
LRU: PANEL A7A1 **CRITICALITY OF THIS**
ITEM NAME: SWITCH,TOGGLE **FAILURE MODE:** 1R3

FAILURE MODE:
SHORT-TO-CASE(GROUND)

MISSION PHASE:
LO LIFT-OFF
OO ON-ORBIT
DO DE-ORBIT
LS LANDING/SAFING

VEHICLE/PAYLOAD/KIT EFFECTIVITY:
102 COLUMBIA
103 DISCOVERY
104 ATLANTIS
105 ENDEAVOUR

CAUSE:
PIECE PART STRUCTURAL FAILURE, CONTAMINATION, VIBRATION, MECHANICAL SHOCK,PROCESSING ANAMOLY

CRITICALITY 1/1 DURING INTACT ABORT ONLY? NO

REDUNDANCY SCREEN
A) PASS
B) PASS
C) PASS

PASS/FAIL RATIONALE:
A)
FAILURE MODE DETECTABLE BY TOGGLING THE SWITCH TO DETERMINE IF TRANSCEIVER IS POWERED OFF/ON

B)
OCCURRENCE OF THIS FAILURE MODE IS DETECTABLE IN A FLIGHT SINCE THE SHORT WOULD RESULT IN LOSS OF CONTROL BUS BC1.

C)

- FAILURE EFFECTS -

(A) SUBSYSTEM:
LOSS OF TRANSCEIVER POWER AND POSSIBLE LOSS OF CONTROL BUS BC1.

(B) INTERFACING SUBSYSTEM(S):
POSSIBLE LOSS OF CONTROL SIGNALS TO ANY SUBSYSTEMS USING BUS BC1.

FAILURE MODES EFFECTS ANALYSIS (FMEA) -- NON-CIL **FAILURE MODE NUMBER: 05-6PK-20300B-02**

(C) MISSION:
POSSIBLE LOSS OF MISSION AFTER THREE FAILURES SEE (D) FOR SCENARIO.

(D) CREW, VEHICLE, AND ELEMENT(S):
POSSIBLE LOSS OF CREW/VEHICLE AFTER THREE FAILURES:
(1) TOGGLE SWITCH S58 SHORTS-TO-CASE (GROUND)
(2) CURRENT LIMITING RESISTOR R2 SHORTS END-TO-END RESULTING IN POSSIBLE DAMAGE TO CONTROL BUS BC1. ALL CRITICAL FUNCTIONS ON BUS BC1 HAVE BACKUP.
(3) LOSS OF NEXT CONTROL BUS MAY CAUSE LOSS OF CREW/VEHICLE.

(E) FUNCTIONAL CRITICALITY EFFECTS:
TOGGLE SWITCH S58 SHORTING TO GROUND MAY CAUSE LOSS OF CREW/VEHICLE.

- APPROVALS -

S & R ENGINEERING	:K.E. RYAN/C.S. PUTCHA	: K.E. Ryan Chandra Putcha
DESIGN ENGINEERING	:G.J. SCHWARTZ	: 6-6-00