FAILURE MODES EFFECTS ANALYSIS (FMEA) -- NON-CIL HARDWARE
NUMBER: 05-6-2230 -X

SUBSYSTEM NAME: ELECTRICAL POWER DISTRIBUTION & CONTROL
REVISION: 1 07/26/99

PART DATA

	PART NAME **VENDOR NAME**	**PART NUMBER** **VENDOR NUMBER**
LRU	: PANEL R1A1	V070-730275
SRU	: SWITCH, TOGGLE	ME452-0102-7102

EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:
SWITCH, TOGGLE, SPDT, "ON"/"OFF" (MOMENTARY) - CONTROL BUS POWER INPUT/ RESET

REFERENCE DESIGNATORS: 32V73A1A1S1
32V73A1A1S2
32V73A1A1S3

QUANTITY OF LIKE ITEMS: 3
THREE

FUNCTION:
PROVIDES MANUAL RESET CONTROL OF CONTROL BUS REMOTE POWER CONTROLLERS.

FAILURE MODES EFFECTS ANALYSIS FMEA – NON-CIL FAILURE MODE
NUMBER: 05-6-2230- 02

REVISION#: 1 07/26/99
SUBSYSTEM NAME: ELECTRICAL POWER DISTRIBUTION & CONTROL
LRU: PANEL R1A1 **CRITICALITY OF THIS**
ITEM NAME: SWITCH, TOGGLE **FAILURE MODE:** 1R3

FAILURE MODE:
FAILS CLOSED

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 ANOMALY

CRITICALITY 1/1 DURING INTACT ABORT ONLY? NO

REDUNDANCY SCREEN
A) PASS
B) N/A
C) PASS

PASS/FAIL RATIONALE:
A)

B)
"B" SCREEN IS "N/A" BECAUSE FAILURE OF AT LEAST TWO REMAINING PATHS IS READILY DETECTABLE IN FLIGHT.

C)

- FAILURE EFFECTS -

(A) SUBSYSTEM:
LOSS OF CAPABILITY TO RESET AN INADVERTENTLY TRIPPED RPC.

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(B) INTERFACING SUBSYSTEM(S):
NO EFFECT - FIRST FAILURE

(C) MISSION:
NO EFFECT - FIRST FAILURE

(D) CREW, VEHICLE, AND ELEMENT(S):
NO EFFECT - FIRST FAILURE

(E) FUNCTIONAL CRITICALITY EFFECTS:
POSSIBLE LOSS OF CREW/VEHICLE DUE TO THE FOLLOWING SCENARIO:

1. SWITCH FAILS CLOSED
2. INADVERTENT RPC TRIP - LOSS OF ONE OF THREE POWER SOURCES TO TWO CONTROL BUSES DUE TO THE INABILITY TO RESET.
3. REDUNDANT RPC FAILS "OFF" - LOSS OF SECOND POWER SOURCE TO TWO CONTROL BUSES.
4. FUSE IN REDUNDANT PATH FAILS OPEN - LOSS OF ONE CONTROL BUS.
5. LOSS OF A SECOND CONTROL BUS.

RESULTS IN LOSS OF CONTROL POWER REQUIRED FOR OPERATIONS OF CRITICAL FUNCTIONS.

- APPROVALS -

EDITORIALLY APPROVED	: BNA	: J. Kimura 7-26-99
TECHNICAL APPROVAL	: VIA APPROVAL FORM	: 96-CIL-025_05-6