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PRINT DATE: 06/13/94

FAILURE MODES EFFECTS ANALYSIS (FMEA) -- CRITICAL HARDWARE

NUMBER: 05-6PB-22107 -X

SUBSYSTEM NAME: EPD&C - C&T: ULTRA HIGH FREQ COMM (05-2B)

REVISION: 1 5/31/94

	PART NAME VENDOR NAME	PART NUMBER VENDOR NUMBER
LRU	: PANEL R15	V070-730328
SRU	: CIRCUIT BREAKER	MC454-0026-2075

PART DATA

EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:

CIRCUIT BREAKER, UHF (7.5 AMP)

REFERENCE DESIGNATORS: 32V73A15CB13

QUANTITY OF LIKE ITEMS: 1

ONE

FUNCTION:

PROVIDES +28 VDC POWER TO UHF XCVR. MAIN A POWERS ALL UHF FUNCTIONS INCLUDING UHF POWER AMP.

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SUBSYSTEM NAME: EPD&C - C&T: ULTRA HIGH FREQ COMM (05-2B)

LRU: D&C PANEL R15

CRITICALITY OF THIS

ITEM NAME: CIRCUIT BREAKER

FAILURE MODE: 1R3

FAILURE MODE:

CB13 (MAIN A) FAILS OPEN

MISSION PHASE:

PL	PRELAUNCH
LO	LIFT-OFF
OO	ON-ORBIT
DO	DE-ORBIT
LS	LANDING SAFING

VEHICLE/PAYLOAD/KIT EFFECTIVITY:

102	COLUMBIA
103	DISCOVERY
104	ATLANTIS
105	ENCEAVALOUR

CAUSE:

VIBRATION, TEMPERATURE, MECHANICAL SHOCK, CONTAMINATION, MISHANDLING,
 PIECE-PART STRUCTURAL FAILURE.

CRITICALITY 1/1 DURING INTACT ABORT ONLY? NO

REDUNDANCY SCREEN

A) PASS
B) PASS
C) PASS

PASS/FAIL RATIONALE:

A)

B)

C)

- FAILURE EFFECTS -

(A) SUBSYSTEM:

(1) 2R/3 EVA - NO EFFECT.

(2) 1R/3 OTHER MISSION PHASES - NO EFFECT ON EPDC.

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(B) INTERFACING SUBSYSTEM(S):

(1) 2R/3 EVA - LOSS OF ONE OF TWO POWER INPUTS. NO EFFECT ON EPDC.

(C) MISSION:

(1) 2R/3 EVA - NO EFFECT, LOSS OF EVA COMM AFTER SECOND FAILURE, TERMINATE EVA.

(2) 1R/3 OTHER MISSION PHASES - AIR/GROUND: RANGE TO GROUND STATION LIMITED.

(D) CREW, VEHICLE, AND ELEMENT(S):

(1) 2R/3 EVA - NO EFFECT.

(E) FUNCTIONAL CRITICALITY EFFECTS:

AFTER 3 FAILURES (CIRCUIT BREAKER CB13 AND 2 S-BAND) POSSIBLE LOSS OF CREW/VEHICLE DUE TO LOSS OF STATE VECTOR UPDATE.

-DISPOSITION RATIONALE-

(A) DESIGN:

REFER TO APPENDIX D, ITEM #1, CIRCUIT BREAKER.

(B) TEST:

REFER TO APPENDIX D, ITEM #1, CIRCUIT BREAKER.

GROUND TURNAROUND TEST

ANY TURNAROUND CHECKOUT TESTING IS ACCOMPLISHED IN ACCORDANCE WITH OMRSD.

(C) INSPECTION:

REFER TO APPENDIX D, ITEM #1, CIRCUIT BREAKER.

(D) FAILURE HISTORY:

CURRENT DATA ON TEST FAILURES, FLIGHT FAILURES, UNEXPLAINED ANOMALIES, AND OTHER FAILURES EXPERIENCED DURING GROUND PROCESSING ACTIVITY CAN BE FOUND IN THE PRACA DATABASE.

(E) OPERATIONAL USE:

LOW POWER RECEPTION MAY BE POSSIBLE BY VEHICLE ORIENTATION.

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- APPROVALS -

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