

FAILURE MODES EFFECTS ANALYSIS (FMEA) - CIL HARDWARE
NUMBER: 05-65-BRES1 -X

SUBSYSTEM NAME: EPD&C - DPS&C

REVISION: 0 04/11/96

PART DATA

	PART NAME	PART NUMBER
	VENDOR NAME	VENDOR NUMBER
LRU	: PANEL A16	
SRU	: RESISTOR	RWR80S1211FR

EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:

RESISTOR, POWER, WIREWOUND, 1.2K OHMS +/- 2%, 2 WATTS, ENGINE INTERFACE UNIT (EIU)

REFERENCE DESIGNATORS: 33V73A17A5R1
 33V73A17A5R2
 33V73A17A4R3
 33V73A17A5R3
 33V73A17A3R1
 33V73A17A3R2

QUANTITY OF LIKE ITEMS: 6
 SIX ON PANEL A16

FUNCTION:

PROVIDES OVERLOAD PROTECTION FOR CONTROL BUSES POWERING THE EIU REMOTE POWER CONTROLLERS.

FAILURE MODES EFFECTS ANALYSIS FMEA - CIL FAILURE MODE

NUMBER: 05-6S-BRES1-01

REVISION#: 0 04/16/96

SUBSYSTEM NAME: EPD&C - DPS&C
 LRU: PANEL A16
 ITEM NAME: RESISTOR

CRITICALITY OF THIS
 FAILURE MODE: 1R2

FAILURE MODE:
 OPEN

MISSION PHASE: PL PRE-LAUNCH
 LO LIFT-OFF

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

CAUSE:

STRUCTURAL FAILURE (MECHANICAL STRESS, VIBRATION), ELECTRICAL STRESS,
 THERMAL STRESS, PROCESSING ANOMALY.

CRITICALITY 1/1 DURING INTACT ABORT ONLY? NO

REDUNDANCY SCREEN A) PASS
 B) FAIL
 C) PASS

PASS/FAIL RATIONALE:

A)

B)

FAILS SCREEN "B" BECAUSE ONLY ONE OF TWO REDUNDANT ELEMENTS IS
 INSTRUMENTED

C)

- FAILURE EFFECTS -

(A) SUBSYSTEM:

LOSS OF ONE OF TWO REDUNDANT PATHS TO CONTROL EIU POWER. LOSS OF THE 2
 RESISTORS TO THE SAME EIU CAUSE LOSS OF THAT EIU.

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(B) INTERFACING SUBSYSTEM(S):

NO EFFECT FIRST FAILURE. SECOND RELATED FAILURE - LOSS OF AN EIU CAUSES LOSS OF COMMAND CAPABILITY TO ITS ASSOCIATED MAIN ENGINE.

(C) MISSION:

NO EFFECT FIRST FAILURE. SECOND RELATED FAILURE - POSSIBLE ABORT FOR LOSS OF A SINGLE EIU WHILE IN THE THRUST BUCKET.

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

NO EFFECT FIRST FAILURE.

(E) FUNCTIONAL CRITICALITY EFFECTS:

CRITICALITY 1R2 BECAUSE LOSS OF A SINGLE EIU IN BETWEEN FINE COUNT AND COMMAND SHUTDOWN (MAIN ENGINE CUTOFF) MAY CAUSE LOSS OF CREW/VEHICLE. MULTIPLE LOSS OF EIUS MAY CAUSE LOSS OF CREW AND VEHICLE DURING ASCENT.

-DISPOSITION RATIONALE-

(A) DESIGN:

FOR DISPOSITION AND RATIONALE, REFER TO APPENDIX E, ITEM NO. 3 - RESISTOR.

(B) TEST:

FOR DISPOSITION AND RATIONALE, REFER TO APPENDIX E, ITEM NO. 3 - RESISTOR.

GROUND TURNAROUND TEST: ALL TURNAROUND CHECKOUT TESTING IS ACCOMPLISHED IN ACCORDANCE WITH OMRSD.

(C) INSPECTION:

FOR DISPOSITION AND RATIONALE, REFER TO APPENDIX E, ITEM NO. 3 - RESISTOR.

(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:

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MANUAL ENGINE SHUTDOWN WILL ALLOW FOR A SAFE ENGINE SHUTDOWN IF THE LOSS OF OUTPUT FROM THE EIU CAN BE DETECTED IN TIME.

- APPROVALS -

EDITORIALLY APPROVED : RI
EDITORIALLY APPROVED : JSC
TECHNICAL APPROVED : VIA APPROVAL FORM

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: 05-CIL-01305-8S