SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM :EPD&C/PAYLOAD INTERFACE FMEA NO 05-6X -2333A -1 REV:12,13 83

ASSEMBLY :PANEL R1A1
P/N RI :RWR80S1211FR
P/N VENDOR:
QUANTITY :2
:TWO, PAYLOAD AUXILIARY
:CONTROL CIRCUIT

CRIT.FUNC: 1R
CRIT. HDW: 2

VEHICLE	102	103	104
EFFECTIVITY:	X	X	X
PHASE(S): PL	LO	OO X OO	LS

REDUNDANCY SCREEN: A-PASS B-PASS C-PASS

PREPARED BY:
DES R PHILLIPS
REL T KIMURA
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APPROVED BY:
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SSM
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ITEM:
RESISTOR, CURRENT LIMITING, 1.2K, 2W - PAYLOAD AUXILIARY POWER CONTROL CIRCUIT

FUNCTION:
UPON MANUAL COMMAND FROM THE PAYLOAD AUXILIARY POWER SWITCH, LIMITS CURRENT TO THE RPC CONTROL CIRCUIT. J2V73A1A1A11R1, J2V73A1A2A11R1

FAILURE MODE:
OPEN

CAUSE(S):
STRUCTURAL FAILURE (MECHANICAL STRESS, VIBRATION), ELECTRICAL STRESS, THERMAL STRESS, PROCESSING ANOMALY

EFFECT(S) ON:
(A)SUBSYSTEM (B)INTERFACES (C)MISSION (D)CREW/VEHICLE (E)FUNCTIONAL CRITICALITY EFFECT:

(A) LOSS OF MAIN DC BUS A OR B POWER TO ITS ASSOCIATED PAYLOAD AUXILIARY BUS.

(B) LOSS OF REDUNDANCY. THE PAYLOAD REMAINS POWERED BY ITS REDUNDANT SOURCE.

(C) FIRST FAILURE - NO EFFECT.

(D,E) POSSIBLE LOSS OF CREW/VEHICLE WHEN SECOND FAILURE (LOSS OF SECOND SOURCE) OCCURS DURING HAZARDOUS PAYLOAD OPERATIONS.

NOTE: FAILURE EFFECTS AND CRITICALITY OF RESISTOR ARE USER DEPENDENT. EFFECTS AND CRITICALITY WILL CHANGE ON A FLIGHT-BY-FLIGHT BASIS AND ARE DEPENDENT UPON THE PAYLOAD AND THE METHOD IN WHICH THE PAYLOAD WILL BE DESIGNED TO TAKE ADVANTAGE OF THE REDUNDANCY OF PAYLOAD POWER CIRCUITS AVAILABLE ON THE ORBITER.

U.S. Gov't

SUBSYSTEM : EPD&C/PAYLOAD INTERFACE FMEA NO 05-6X -2303A -1 REV: 12 20 91

THE WORSE-CASE CRITICALITY WILL BE 1R/2 FOR HAZARDOUS AND/OR CLASSIFIED PAYLOADS WHICH MAY BE DOWNGRADED TO 1R/3 WITH THE APPROPRIATE PAYLOAD POWER UTILIZATION WIRING DESIGN.

DISPOSITION & RATIONALE:
(A) DESIGN (B) TEST (C) INSPECTION (D) FAILURE HISTORY (E) OPERATIONAL USE:

(A,B,C,D) DISPOSITION AND RATIONALE:
REFER TO APPENDIX E, ITEM NO. 3 - RESISTOR, WIRE WOUND

(B) GROUND TURNAROUND TEST
VERIFY MAIN DC BUS A AND B VOLTAGE AT PAYLOAD STATION DISTRIBUTION PANEL AND PAYLOAD INTERFACE. CYCLE PAYLOAD AUXILIARY ON/OFF SWITCH AND MONITOR STIMULI, COMMANDS, DISCRETE EVENTS, AND BUS VOLTAGE. APPLICABLE FOR ALL FLIGHTS CONTINGENT ON MISSION REQUIREMENTS.

(E) OPERATIONAL USE
FOR SOME PAYLOADS, CONTINGENCY IN-FLIGHT MAINTENANCE AND EXTRA-VEHICULAR ACTIVITY PROCEDURES HAVE BEEN DEVELOPED TO SUPPORT CRITICAL FUNCTIONS. e.g. PAYLOAD RE-STOW OR DEPLOY COMPLETION, IF SWITCH FAILS.