FAILURE MODES EFFECTS ANALYSIS (FMEA) -- NONCRITICAL HARDWARE
NUMBER: 05-6WA-2086HC-X

SUBSYSTEM NAME: EPD&C-WATER SPRAY BOILER
REVISION: 0 07/26/94

		PART NAME VENDOR NAME	PART NUMBER VENDOR NUMBER
LRU	:	PANEL R2	V070-730277
SRU	:	RESISTOR	RWR80S1211FR

PART DATA

EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:
RESISTOR IS 1.2K OHMS, 2 W, BETWEEN LOGIC POWER BUS AND PANEL TOGGLE SWITCH FOR "A" OR "B" GN2 BOILER SUPPLY.

REFERENCE DESIGNATORS: 32V73A2A23R1
32V73A2A23R2
32V73A2A24R1
32V73A2A24R2
32V73A2A13R1
32V73A2A13R2

QUANTITY OF LIKE ITEMS: 6
SIX, TWO PER WATER SPRAY BOILER SYSTEM

FUNCTION:
LIMITS LOGIC CIRCUIT CURRENT FOR THE REMOTE POWER CONTROLLER'S (RPC) POWERING GN2 SHUT OFF VALVE "CLOSED" IN CONTROLLER "A" OR "B" OF WATER SPRAY BOILER SYSTEMS 1, 2 AND 3.

FAILURE MODES EFFECTS ANALYSIS (FMEA) – NONCRITICAL FAILURE MODE
NUMBER: 05-6WA-2086HC-01

REVISION# 0 07/26/94

SUBSYSTEM NAME: EPD&C-WATER SPRAY BOILER
LRU: PANEL R2 CRITICALITY OF THIS
ITEM NAME: RESISTOR FAILURE MODE: 1R3

FAILURE MODE:
OPEN

MISSION PHASE:
LO LIFT-OFF
DO DE-ORBIT

VEHICLE/PAYLOAD/KIT EFFECTIVITY: 102 COLUMBIA
103 DISCOVERY
104 ATLANTIS
105 ENDEAVOUR
EFFECTIVE FOR WSB INLET LINE ELECTRICAL HEATER MOD ONLY

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) PASS
C) PASS

PASS/FAIL RATIONALE:
A)

B)

C)

- FAILURE EFFECTS -

(A) SUBSYSTEM:
LOSS OF POWER TO GN2 SHUT OFF VALVE CIRCUIT IN WSB CONTROLLER "A" OR "B".

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

(C) MISSION:
NO EFFECT - FIRST FAILURE.

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

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(E) FUNCTIONAL CRITICALITY EFFECTS:
FIRST FAILURE: LOSS OF POWER TO GN2 SHUT OFF VALVE "A" OR "B". SECOND FAILURE: LOSS OF POWER TO GN2 SHUT OFF VALVE IN REDUNDANT CONTROLLER OF SAME WSB. THIS WILL PREVENT GN2 VALVE TO OPEN AND TO EXPEL WATER FROM THE STORAGE TANK INTO THE WSB. INABILITY TO EXPEL WATER WILL PREVENT THERMAL CONTROL IN ONE APU LUBE OIL/HYD SYSTEM. THIRD FAILURE: LOSS OF SECOND APU/HYD SYSTEM.

- APPROVALS -

PRODUCT ASSURANCE ENGR : C. RESSIA
DESIGN ENGINEERING : G. SCHWARTZ.