PRINT DATE: 07/26/99

FAILURE MODES EFFECTS ANALYSIS (FMEA) - CIL HARDWARE

NUMBER: 05-6-2294 -X

SUBSYSTEM NAME: ELECTRICAL POWER DISTRIBUTION & CONTROL

05/03/88

PART DATA		
	PART NAME VENDOR NAME	PART NUMBER VENDOR NUMBER
LRU	: FWD PCA 1	V070-763320
LRU	: FWD PCA 2	V070-763340
LRU	: FWD PCA 3	V070-763360
SRU	: FUSE, HIGH CURRENT	ME451-0016-2035

EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:

FUSE, 35 AMP, HIGH CURRENT - MAIN DC BUS A (B, C), FORWARD PCA 1 (2, 3) TO FORWARD LCA 1 (2, 3)

REFERENCE DESIGNATORS:

81V76A22F5 82V76A23F4 83V76A24F4

QUANTITY OF LIKE ITEMS: 3

THREE - ONE PER EACH FWD PCA 1, 2, AND 3

FUNCTION:

PAGE: 1

CONDUCTS CIRCUIT CURRENT AND PROVIDES OVERLOAD PROTECTION FOR MAIN DC BUS A (B, C) BETWEEN THE FORWARD POWER CONTROLLER ASSEMBLY NO. 1 (2, 3). AND FORWARD LOAD CONTROLLER ASSEMBLY NO. 1 (2, 3).

PAGE 2 PRINT DATE: 07/26/99

FAILURE MODES EFFECTS ANALYSIS FMEA -- CIL FAILURE MODE

NUMBER: 05-6-2294-01

REVISION#:

1

07/26/99

SUBSYSTEM NAME: ELECTRICAL POWER DISTRIBUTION & CONTROL

LRU: FWD PGA 1, 2, 3

CRITICALITY OF THIS

ITEM NAME: FUSE, HIGH CURRENT

FAILURE MODE: 1R2

FAILURE MODE:

FAILS OPEN

MISSION PHASE:

LO LIFT-OFF

OO ON-ORBIT

DO DE-ORBIT

VEHICLE/PAYLOAD/KIT EFFECTIVITY:

102 COLUMBIA

103 DISCOVERY

104 ATLANTIS

105 ENDEAVOUR

CAUSE:

STRUCTURAL FAILURE, CONTAMINATION, THERMAL STRESS, MECHANICAL SHOCK,

VIBRATION, 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 MAIN DC BUS POWER TO ASSOCIATED FORWARD LCA

(B) INTERFACING SUBSYSTEM(S):

PAGE: 3 PRINT DATE: 07/26/99

FAILURE MODES EFFECTS ANALYSIS (FMEA) -- CIL FAILURE MODE NUMBER: 05-6-2294- 01

LOSS OF INTERFACE REDUNDANCY - LOSS OF LOADS SUPPLIED BY THE MAIN DC BUS IN THE ASSOCIATED FORWARD LCA

(C) MISSION:

POSSIBLE EARLY MISSION TERMINATION

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

NO EFFECT - FIRST FAILURE

(E) FUNCTIONAL CRITICALITY EFFECTS:

POSSIBLE LOSS OF CREW OR VEHICLE DURING ASCENT OR ENTRY DUE TO LOSS OF ABILITY TO EXTINGUISH A FIRE IN ONE OF THREE AVIONICS BAYS. A FAILURE CAUSING THE FIRE MUST OCCUR BEFORE THE USE OF THE EMERGENCY FIRE SUPPRESSION SYSTEM IS REQUIRED.

-DISPOSITION RATIONALE-

(A) DESIGN:

REFER TO APPENDIX D. ITEM NO. 3 - FUSE, HIGH CURRENT

(B) TEST:

REFER TO APPENDIX D, ITEM NO. 3 - FUSE, HIGH CURRENT

GROUND TURNAROUND TEST

ANY TURNAROUND CHECKOUT TESTING IS ACCOMPLISHED IN ACCORDANCE WITH OMRSD.

(C) INSPECTION:

REFER TO APPENDIX D, ITEM NO. 3 - FUSE, HIGH CURRENT

(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 DATA BASE.

(E) OPERATIONAL USE:

USE HAND-HELD FIRE EXTINGUISHER ON ORBIT IF FIRE DETECTED. DISCHARGE HAND-HELD FIRE EXTINGUISHER IN AVIONICS BAY JUST PRIOR TO DEORBIT.

PAGE: 4 PRINT DATE: 07/26/99

FAILURE MODES EFFECTS ANALYSIS (FMEA) — CIL FAILURE MODE NUMBER: 05-6-2294- 01

- APPROVALS -

EDITORIALLY APPROVED TECHNICAL APPROVAL

: BNA

: VIA APPROVAL FORM

J. Kimum 7-26-99

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