FAILURE MODES EFFECTS ANALYSIS (FMEA) – NON-CIL HARDWARE
NUMBER:05-6O-200201 -X

SUBSYSTEM NAME: EPD&C-GUIDANCE, NAVIGATION, & CONTROL (05-1)
REVISION: 1   01/22/96

PART DATA

PART NAME	PART NUMBER
VENDOR NAME	VENDOR NUMBER
LRU :FWD PCA 1	V070-763320
LRU :FWD PCA 2	V070-763340
LRU :FWD PCA 3	V070-763360
SRU :DIODE	JANTX1N1188R

EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:
DIODE 35 AMPS

REFERENCE DESIGNATORS: 81V76A22CR28
                          81V76A22CR27
                          82V76A23CR20
                          82V76A23CR21
                          83V76A24CR11
                          83V76A24CR12

QUANTITY OF LIKE ITEMS: 6
SIX, TWO PER FORWARD PCA

FUNCTION:
PERMITS CONDUCTION OF ELECTRICAL CURRENT AND PROVIDES MAIN BUS
ISOLATION FROM MAIN BUS A, B AND C TO IMU'S NO. 1, 2 AND 3 INPUT POWER
SUPPLIES.

FAILURE MODES EFFECTS ANALYSIS FMEA – NON-CIL FAILURE MODE
                            NUMBER: 05-6O-200201-02

                                REVISION#:   1   01/22/96
SUBSYSTEM NAME: EPD&C-GUIDANCE, NAVIGATION, & CONTROL (05-1)
LRU: FWD PCA 1, 2, 3   **CRITICALITY OF THIS**
ITEM NAME: DIODE   **FAILURE MODE: 1R3**

FAILURE MODE:
SHORT (END TO END).

MISSION PHASE: LO   LIFT-OFF
                        OO   ON-ORBIT
                        DO   DE-ORBIT

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

CAUSE:
THERMAL STRESS, VIBRATION, PROCESSING ANOMALY, ELECTRICAL STRESS,
MECHANICAL STRESS, CONTAMINATION.

CRITICALITY 1/1 DURING INTACT ABORT ONLY? NO

REDUNDANCY SCREEN   A) PASS
                        B) N/A
                        C) PASS

PASS/FAIL RATIONALE:
A)

B)
B SCREEN NOT APPLICABLE DUE TO POWER REDUNDANCY TO THE IMU'S. LOSS OF
ANY OF THE THREE IMU'S IS READILY APPARENT DURING FLIGHT USE.

C)

CORRECTING ACTION: NONE

CORRECTING ACTION DESCRIPTION:

- FAILURE EFFECTS -

FAILURE MODES EFFECTS ANALYSIS (FMEA) – NON-CIL FAILURE MODE
NUMBER: 05-6O-200201-02

(A) SUBSYSTEM:
LOSS OF MAIN BUS ISOLATION.

(B) INTERFACING SUBSYSTEM(S):
NO EFFECT - FIRST FAILURE. POWER IS STILL AVAILABLE TO IMU.

(C) MISSION:
NO EFFECT FIRST FAILURE - SECOND FAILURE MAY RESULT IN EARLY FLIGHT
TERMINATION.

(D) CREW, VEHICLE, AND ELEMENT(S):
POSSIBLE LOSS OF CREW/VEHICLE DUE TO LOSS OF ATTITUDE AND VELOCITY INPUTS
TO NAVIGATION SOFTWARE. REQUIRES THREE OTHER FAILURES (LOSS OF
ASSOCIATED MAIN BUS WHICH CAUSES REDUNDANT RPC TO TRIP, TWO REMAINING
IMU'S FAIL) BEFORE EFFECT IS MANIFESTED.

(E) FUNCTIONAL CRITICALITY EFFECTS:
CRITICALITY 1R BECAUSE LOSS OF ATTITUDE AND VELOCITY INPUTS TO NAVIGATION
SOFTWARE MAY RESULT IN LOSS OF VEHICLE CONTROL.

- APPROVALS -

EDITORIALLY APPROVED	: RI	: _Jim R_ 1/31/96
EDITORIALLY APPROVED	: JSC	: _Ahm Linny_ 2-12-96
TECHNICAL APPROVAL	: APPROVAL FORM	: 95-CIL-004-RI