

FAILURE MODES EFFECTS ANALYSIS (FMEA) - NON-CIL HARDWARE  
 NUMBER:05-60-200708 -X

SUBSYSTEM NAME: EPD&amp;C - GN&amp;C

REVISION: 1

01/22/96

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 PART DATA
 

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	PART NAME VENDOR NAME	PART NUMBER VENDOR NUMBER
LRU	:PANEL 016	V070-730396
SRU	:RESISTOR	RLR42C122GR

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EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:  
 RESISTOR, LIMITING ASA (1.2K, 2W)

REFERENCE DESIGNATORS: 33V73A16A4R1

QUANTITY OF LIKE ITEMS: 1  
 ONE

FUNCTION:  
 PROVIDES CURRENT LIMITING AND CONTROL BUS OVERLOAD PROTECT FOR ASA #4  
 ISOLATION VALVE DRIVER CIRCUIT.

## FAILURE MODES EFFECTS ANALYSIS FMEA - NON-CIL FAILURE MODE

NUMBER: 05-60-200708-01

REVISION#: 1 01/22/96

SUBSYSTEM NAME: EPD&amp;C-GUIDANCE, NAVIGATION, &amp; CONTROL (05-1)

LRU: PANEL 016

CRITICALITY OF THIS

ITEM NAME: RESISTOR

FAILURE MODE: 1R3

## FAILURE MODE:

OPENS.

## MISSION PHASE:

LO LIFT-OFF  
DO DE-ORBIT

## VEHICLE/PAYLOAD/KIT EFFECTIVITY:

102 COLUMBIA  
103 DISCOVERY  
104 ATLANTIS  
105 ENDEAVOUR

## CAUSE:

MECHANICAL STRESS, VIBRATION, THERMAL STRESS, ELECTRICAL STRESS,  
PROCESSING ANOMALY.

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 FUNCTIONAL REDUNDANCY OF THE ASA'S. LOSS  
OF ANY OF THE FOUR ASA'S IS READILY APPARENT DURING FLIGHT.

C)

CORRECTING ACTION: NONE

CORRECTING ACTION DESCRIPTION:

- FAILURE EFFECTS -

**FAILURE MODES EFFECTS ANALYSIS (FMEA) -- NON-CIL FAILURE MODE  
NUMBER: 05-60-200708-01**

**(A) SUBSYSTEM:**

LOSS OF CONTROL POWER TO ISOLATION VALVE DRIVER OF ASA #4.

**(B) INTERFACING SUBSYSTEM(S):**

LOSS OF CAPABILITY TO ISOLATE FLIGHT CONTROL HYDRAULIC CHANNEL #4 IN THE EVENT OF SECOND FAILURE.

**(C) MISSION:**

NO EFFECT

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

NO EFFECT FIRST FAILURE. SECOND FAILURE (FAILURE OF ASA #4 ASSOCIATED WITH FAILED ISOLATION VALVE DRIVER) RESULTS IN THREE AGAINST ONE ACTUATOR FORCE FIGHT CONDITION WHICH IS TOLERABLE BY THE FLIGHT CONTROL SUBSYSTEM. THIRD FAILURE (LOSS OF ADDITIONAL ASA AND VALVE DRIVER RESULTING FROM LOSS OF SWITCH) RESULTS IN A TWO ON TWO FORCE FIGHT CONDITION WHICH COULD RESULT IN LOSS OF CREW/VEHICLE.

**(E) FUNCTIONAL CRITICALITY EFFECTS:**

CRITICALITY 1R BECAUSE LOSS OF AEROSURFACE CONTROL DURING ATMOSPHERIC FLIGHT MAY CAUSE LOSS OF CREW/VEHICLE.

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- APPROVALS -

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EDITORIALLY APPROVED  
EDITORIALLY APPROVED  
TECHNICAL APPROVAL

: RI  
: JSC  
: APPROVAL FORM

: *Quinn 4/31/96*  
: *John Deane 2-12-96*  
: 95-CIL-004-R1