

FAILURE MODES EFFECTS ANALYSIS (FMEA) -- NON-CIL HARDWARE
NUMBER:05-6QA-BSW4 -X

SUBSYSTEM NAME: EPD&C - MEDS

REVISION: 1 12/08/97

PART DATA

	PART NAME	PART NUMBER
	VENDOR NAME	VENDOR NUMBER
LRU	: PANEL C2A2	VO70-730280
LRU	: PANEL R12A2	VO70-730335
SRU	: SWITCH, TOGGLE	ME452-0102-7201
SRU	: SWITCH, TOGGLE	ME452-0102-7701
SRU	: SWITCH, TOGGLE	ME452-0102-8201

EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:
 SWITCH, TOGGLE, "CRT" POWER, 2P2P, "OFF-ON "

REFERENCE DESIGNATORS: 35V73A2A2S1
 35V73A2A2S3
 35V73A2A2S5
 32V73A12A2S1

QUANTITY OF LIKE ITEMS: 4
 FOUR

FUNCTION:
 PROVIDES CONTROL FOR POWER APPLICATION TO THE INTEGRATED DISPLAY
 PROCESSOR (IDP) AND MULTIFUNCTION DISPLAY UNIT (MDU).

REFERENCE DOCUMENTS: VS70-730182D
 SSD90D0009B, CP#1
 MC409-0185D, AMENOMENT E01
 SSD92D0643D, CP#2

FAILURE MODES EFFECTS ANALYSIS FMEA – NON-CIL FAILURE MODE

NUMBER: 05-6QA-BSW4-01

REVISION#: 2 04/26/98

SUBSYSTEM NAME: EPD&C - MEDS

LRU: PANEL C2A2, R12A2

ITEM NAME: SWITCH, TOGGLE

CRITICALITY OF THIS

FAILURE MODE: 1R3

FUNCTIONAL CRITICALITY/**REQUIRED FAULT TOLERANCE/ACHIEVED FAULT TOLERANCE:1R/2/2****FAILURE MODE:**

FAILS OPEN, PREMATURE OPEN OR SHORTS TO CASE (GROUND)

MISSION PHASE:

PL	PRE-LAUNCH
LO	LIFT-OFF
OO	ON-ORBIT
DO	DE-ORBIT
LS	LANDING/SAFING

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

CAUSE:

PIECE-PART STRUCTURAL FAILURE, CONTAMINATION, VIBRATION, MECHANICAL SHOCK, PROCESSING ANOMALY

CRITICALITY 1/1 DURING INTACT ABORT ONLY? NO**CRITICALITY 1R2 DURING INTACT ABORT ONLY (AVIONICS ONLY)? NO**

REDUNDANCY SCREEN	A) PASS
	B) PASS
	C) PASS

PASS/FAIL RATIONALE:

A)

B)

C)

**FAILURE MODES EFFECTS ANALYSIS (FMEA) – NON-CIL FAILURE MODE
NUMBER: 05-6QA-BSW4-01**

METHOD OF FAULT DETECTION:

VISUAL; LOSS OF DISPLAY; APPLICABLE SWITCH SCAN WILL HAVE NO READING.
ASSOCIATED GPC WILL ANNUNCIATE ERROR MESSAGE IF COMMUNICATION BETWEEN
IDP AND GPC IS LOST.

MASTER MEAS. LIST NUMBERS: V73S2001E
V73S2011E
V73S2021E
V73S2051E

CORRECTING ACTION: MANUAL

CORRECTING ACTION DESCRIPTION:
CREW CAN UTILIZE THE REMAINING IDP'S AND MDU'S.

REMARKS/RECOMMENDATIONS:
NONE

- FAILURE EFFECTS -

(A) SUBSYSTEM:

LOSS OF POWER TO THE ASSOCIATED REMOTE POWER CONTROLLER'S (RPC'S)
RESULTING IN LOSS OF ASSOCIATED DISPLAYS AND IDP.

(B) INTERFACING SUBSYSTEM(S):

NO EFFECT FIRST FAILURE

(C) MISSION:

NO EFFECT FIRST FAILURE

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

NO EFFECT FIRST FAILURE

(E) FUNCTIONAL CRITICALITY EFFECTS:

POSSIBLE LOSS OF CREW/VEHICLE AFTER THREE FAILURES (LOSS OF ALL THREE
FORWARD "CRT" POWER SWITCHES) DUE TO LOSS OF ALL DISPLAY CAPABILITY CAUSES

FAILURE MODES EFFECTS ANALYSIS (FMEA) -- NON-CIL FAILURE MODE
NUMBER: 05-6QA-BSW4-01

INABILITY TO MONITOR OR RESPOND TO SYSTEM FAILURES AND/OR LAND VEHICLE SAFELY.

NOTE: HEAD UP DISPLAY IS NOT A USABLE SOURCE OF INFORMATION PRIOR TO MAJOR MODE 305

- TIME FRAME -

TIME FROM FAILURE TO CRITICAL EFFECT: MINUTES

TIME FROM FAILURE OCCURRENCE TO DETECTION: SECONDS

TIME FROM DETECTION TO COMPLETED CORRECTING ACTION: SECONDS

IS TIME REQUIRED TO IMPLEMENT CORRECTING ACTION LESS THAN TIME TO EFFECT?
YES

RATIONALE FOR TIME TO CORRECTING ACTION VS TIME TO EFFECT:
N/A (CORRECTIVE ACTION CAN BE COMPLETED BEFORE CRITICAL EFFECT)

HAZARD REPORT NUMBER(S):

HAZARD(S) DESCRIPTION:

- APPROVALS -

SS&PAE ENGR
MEDS SYSTEM
MEDS HARDWARE

: N. D. NGUYEN
: M. B. WARNER
: R. M. SITAPARA

R. D. Nguyen
M. B. Warner
Ramon M. Sitapara 4/23/98