

**FAILURE MODES EFFECTS ANALYSIS (FMEA) -- NON-CIL HARDWARE**  
**NUMBER: 05-6Q-2203A -X**

SUBSYSTEM NAME: EPD&amp;C - DISPLAYS &amp; CONTROLS

REVISION: 2 01/06/98

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**PART DATA**


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	<b>PART NAME</b>	<b>PART NUMBER</b>
	<b>VENDOR NAME</b>	<b>VENDOR NUMBER</b>
LRJ	: PANEL F7A5 (PRE-MEDS)	V070-730261
LRJ	: PANEL F6A3 (MEDS)	ME452-0102-7352
SRU	: SWITCH, TOGGLE	ME452-0102-7352
SRU	: SWITCH, TOGGLE	ME452-0102-7852
SRU	: SWITCH, TOGGLE	ME452-0102-8352

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**EXTENDED DESCRIPTION OF PART UNDER ANALYSIS:**

SWITCH, TOGGLE, 3 POLE/2 POSITION - FLIGHT CONTROLLER POWER, COMMANDER'S STATION.

**REFERENCE DESIGNATORS:** 34V73A7A5S2 (PRE-MEDS)  
 34V73A6A3S2 (MEDS CONFIGURATION)

**QUANTITY OF LIKE ITEMS:** 1  
 ONE ON COMMANDER STATION PNL

**FUNCTION:**

ENABLES CREW TO TURN COMMANDER STATION DDU FLIGHT CONTROL POWER SUPPLIES A, B AND C "ON" OR "OFF" FOR RHC, THC, SBTC, RPTA, AND BFC.

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

NUMBER: 05-6Q-2203A-01

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SUBSYSTEM NAME: EPD&amp;C - DISPLAYS &amp; CONTROLS

LRU: PANEL F7A5 (PRE-MEDS), F6A3 (MEDS)

CRITICALITY OF THIS

ITEM NAME: SWITCH, TOGGLE

FAILURE MODE: 1R3

## FAILURE MODE:

FAILS CLOSED IN "OFF" POSITION, SHORT TO CASE AT "ON" POSITION CONTACTS, POLE TO POLE SHORT.

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:

CONTAMINATION, INTERNAL STRUCTURAL FAILURE, VIBRATION, SHOCK.

CRITICALITY 1/1 DURING INTACT ABORT ONLY? NO

REDUNDANCY SCREEN	A) PASS
	B) PASS
	C) PASS

## PASS/FAIL RATIONALE:

A)

B)

C)

CORRECTING ACTION: MANUAL

## CORRECTING ACTION DESCRIPTION:

AFTER TOTAL (EITHER TWO OR THREE CHANNEL FAILURES) FAILURE OF THE COMMANDERS'S FLIGHT CONTROLLER POWER SWITCH, THE FLIGHT CONTROL FUNCTION SHALL BE TRANSFERRED TO THE PILOT'S STATION.

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- FAILURE EFFECTS -

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**(A) SUBSYSTEM:**

LOSS OF ABILITY TO TURN ON AFFECTED FLIGHT CONTROL POWER SUPPLIES A, B, OR C.

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

LOSS OF POWER TO ONE CHANNEL ON EACH OF THE FOLLOWING: RHC, THC, SBTC, RPTA, AND BFC AT THE COMMANDER'S STATION.

**(C) MISSION:**

FIRST FAILURE - NO EFFECT.

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

POSSIBLE LOSS OF CREW/VEHICLE DUE TO LOSS OF ELECTRICAL POWER TO FLIGHT CONTROLLERS DURING CRITICAL FLIGHT PHASES.

**(E) FUNCTIONAL CRITICALITY EFFECTS:**

SUCCESS PATHS AFTER FIRST FAILURE - FLIGHT CONTROL CAN BE TRANSFERRED TO PILOT'S STATION. FAILURE OF THE PILOT'S STATION FLIGHT CONTROLLER POWER SWITCH WILL RESULT IN LOSS OF POWER TO PILOT'S RHC, SBTC, RPTA, BFC, AND NWS. SHOULD THIS OCCUR, ONLY AUTOMATIC FLIGHT CONTROL MODE REMAINS AVAILABLE TO THE CREW.

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- APPROVALS -

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SS&PAE MANAGER	: P. STENGER-NGUYEN	: <u>P. Stenger-Nguyen</u>
SS&PAE	: T. AI	: <u>T. Ai</u>
DESIGN ENGINEERING	: T. D. NGUYEN	: <u>T. D. Nguyen</u> 1-12-98
MEDS SYSTEM	: M. B. WARNER	: <u>M. B. Warner</u> 1-9-98
MEDS HARDWARE	: R. SITAPARA	: <u>Rammy Sitapara</u> 1-8-98
JSC MOD	:	: <u>Clarence</u> 4-10-98