NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
		137FM03		
WATER SHUTOFF VALVE, ITEM 137 ----------------- SV767660-10 (1)	2/2	Full solenoid winding (pull-in) current maintained continuously. Capacitor shorts or opens.	END ITEM: The valve solenoid will draw .5 amp current for an extended time period.	A. Design - If the failure occurs while in the "open" drive direction, the 0.5 amp coil power will be continually dissipated. In the power "close" drive direction, a 65 ohm limiting resistor is in series with the coil reducing continuous dissipation to 0.2 amps. The maximum current draw of 0.5 amps decreases a 7 hour mission by less than 1 hour.
			GFE INTERFACE: After a 5 to 15 minute time period, the valve coil will burn open and become nonoperational. The valve position will be the last position.	B. Test - Vendor Acceptance Test (Kaiser-Eckel Valve Co.) - Response time of item is tested with 30-33 psig to inlet and 17 +/- 1 VDC. The time for current to start to decay shall not exceed 200 milliseconds. PDA Test - None Certification Test - Certified for a useful life of 20 years (ref. EMUM-1030). C. Inspection - Capacitor shorts or opens. All external lead wires associated with the item are inspected during source inspection and again during PLSS assembly.
			MISSION: Loss of EMU.	D. Failure History - None.
			CREW/VEHICLE: None.	E. Ground Turnaround - Tested for non-EET processing per FEMU-R-001, Item 137 Feedwater Shutoff Valve Functional Verification. None for EET processing.
			TIME TO EFFECT /ACTIONS: Seconds. TIME AVAILABLE: N/A TIME REQUIRED: N/A REDUNDANCY SCREENS: A-N/A B-N/A C-N/A	F. Operational Use - Crew Response PreEVA: No response, single failure not detected. PostEVA: If water detected in airlock, perform dump of feedwater tanks, EMU go for SCU without fan for next EVA. EVA: when CWS data confirms minimum primary limiting consumable remaining, terminate EVA. Training - Standard EMU training covers this failure mode. Operational Considerations Flight rules require termination of EVA when minimum primary consumables remain. EVA checklist procedures verify hardware integrity and sysytems operational status prior to EVA. Real Time Data Systems allows ground monitoring of EMU systems.

EXTRAVEHICULAR MOBILITY UNIT

SYSTEMS SAFETY REVIEW PANEL REVIEW

FOR THE

I-137 FEEDWATER SHUTOFF VALVE

CRITICAL ITEM LIST (CIL)

EMU CONTRACT NO. NAS 9-97150

Prepared by: _____   Approved by: _____
HS - Project Engineering   NASA - S & SSM

_____   _____
HS - Reliability   NASA - EMU SSM

_____   _____
HS - Engineering Manager   NASA - S & A

                                                        _____
                                                        NASA - MOD

                                                        _____
                                                        NASA - Crew

                                                        _____
                                                        NASA - Program Manager