NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
		132AFM03		
PRESSURE TRANSDUCER FEEDWATER SUPPLY, ITEM 132A ----------------- SV767793-7 (1) ----------------- SV767793-8 (1)	2/2	Loss of output, zero gas pressure indication. Electrical open in the resistive coil, electrical leads, or the connector. Contamination entrained between the wiper and coil. A loosening of the linkage due to wearout or shock loading which prevents the wiper from contacting coil.	END ITEM: Continuous zero water tank pressure readings. GFE INTERFACE: Sensor 132B provides comparative reading. Loss of consumables management. MISSION: Terminate EVA. Loss of use of one EMU. CREW/VEHICLE: None. TIME TO EFFECT /ACTIONS: Seconds. TIME AVAILABLE: N/A TIME REQUIRED: N/A REDUNDANCY SCREENS: A-N/A B-N/A C-N/A	A. Design - -5 Conrac and -7 Gulton: All electrical joints are coated with epoxy and insulated leadwires are used to provide wire strain relief and prevent an open circuit. All linkage/resistive element attaching screws are potted in place to prevent shifting. The vacuum reference cavity is hermetically sealed in an all metal/glass, welded/brazed case. B. Test - Component Acceptance Test - The sensor is subjected to random vibration (6.1 grms) testing to insure there are no workmanship or material problems that would cause an open circuit. The sensor is subjected to calibration testing at high and low temperature (30 to 120 deg F) to insure there are no defects that thermal expansion/ contraction would uncover. The sensor circuit continuity is measured to insure there are no open circuits. PDA Test - The sensor is calibration checked as assembled on the shear plate to insure the output voltage is within spec limits per SEMU-60-010, Test 27. Certification Test - Certified for a useful life of 20 years (ref. EMUM1-0084). C. Inspection - The sensor is visually inspected prior to assembly to insure there are no workmanship problems which could cause a short circuit, and that the unit is clean. D. Failure History - H-EMU-132-A003 (8/16/89) The feedwater supply pressure sensor displayed a continuous zero water tank pressure reading during calibration test. Disassembly revealed a weld fracture in the bellows assembly and the presence of sand (aluminum oxide). The failure was caused by bellows overpressurization and bellows fracture when the sensor inlet was not properly plugged during a sandblasting operation to remove the epon coating from the base of the sensor. Product Improvement Recommendation 14320 recommends generating standard sandblasting operation sheets for EMU hardware. New sensors are manufactured with no coatings. E. Ground Turnaround - Tested for non-EET processing per FEMU-R-001, Transducer and DCM Gage Calibration Check. FEMU-R-001 Para 8.2 EMU Preflight KSC Checkout for EET processing. F. Operational Use - Crew Response - PreEVA: If failure can be determined to be sensor, continue EVA prep. EVA: When CWS data confirms loss of feedwater gas pressure trouble shoot problem. If failure can be determined to be sensor, continue EVA. Training - Standard EMU training covers this mode. Operational Considerations -

NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
		132AFM03		No constraints for single failure. Flight rules define go/no go criteria related to EMU suit thermal control. EVA checklist procedures verify hardware integrity and systems operational status prior to EVA. Real Time Data System allows ground monitoring of EMU systems.

EXTRAVEHICULAR MOBILITY UNIT

SYSTEMS SAFETY REVIEW PANEL REVIEW

FOR THE

I-132 FEEDWATER SUPPLY PRESSURE SENSOR

CRITICAL ITEM LIST (CIL)

EMU CONTRACT NO. NAS 9-97150

Prepared by: _____ 3/27/02   Approved by: _____ 3/30/02
HS - Project Engineering   NASA - SSA/SSM
                                                     LSS

_____   _____
HS - Reliability   NASA - EVA/SSM

_____   _____
HS - Engineering Manager   NASA - S&MA

                                          _____
                                          NASA - MOD

                                          _____
                                          NASA - Crew

                                          _____
                                          NASA - Program Manager