NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
		113CFM02		
SHUTOFF VALVE, ITEM 113C ---------- SV778873-15 (1)	2/1R	Fails closed. Contamination causing the ball return plunger or actuator plunger to jam.	END ITEM: Unable to supply adequate primary tank oxygen to primary regulators. GFE INTERFACE: Unable to maintain suit and water reservoir pressure. MISSION: Terminate EVA. Loss of use of one EMU. CREW/VEHICLE: None for single failure. Possible loss of crewman with loss of SOP. TIME TO EFFECT /ACTIONS: Minutes. TIME AVAILABLE: Minutes. TIME REQUIRED: Immediate. REDUNDANCY SCREENS: A-PASS B-PASS C-PASS	A. Design - Valve is protected by a 25 micron filter upstream and downstream. Stem clearances are 0.001 min. (greater than 25 micron). B. Test - Vendor Component Acceptance Test - The manufacturer, CTI, cycles the on/off valve 10 times during Acceptance Test. All performances and stability tests require oxygen flow through the on/off valve. This verifies that the on/off valve has not failed closed. PDA Test - The 02 shutoff valve undergoes cycling tests per SEMU-60-010. With the oxygen bottles pressurized to 950-1050 psia, the 02 actuator is placed in the "PRESS" position, opening the shutoff valve. Shutoff Valve flow for 2 minutes minimum and then the actuator is returned to the "OFF" position, closing the shutoff valve. This is repeated for a total of 10 open-close cycles. All rig lines and test fixtures used for high pressure oxygen are cleaned to HS3150 EM50A to preclude contaminating the item. Certification Test - Certified for a useful life of 20 years (Ref. EMUM-0083). C. Inspection - Details are 100% inspected per drawing dimensions and surface finish characteristics. Details are manufactured from material with certified physical and chemical properties. All details, gases and test facilities are cleaned and inspected to HS3150 EM50A to preclude contamination clogging. The running and final torque of the threaded connector is verified by Vendor And DCAS inspection. A trial assembly is run on all details and then they are visually inspected. The actuator is manually depressed to assure freedom of motion. D. Failure History - None. E. Ground Turnaround - Tested for non-EET processing per FEMU-R-001, V1103 Performance Data and Item 113 Regulator Check. FEMU-R-001 Para 8.2 EMU Preflight KSC Checkout for EET processing. F. Operational Use - Crew Response - PreEVA: Trouble shoot problem, if no success, consider EMU 3 if available. EMU no go for EVA. EVA: When CWS data confirms a loss of suit and feedwater pressure regulation, terminate EVA. Training - Standard EMU training covers this mode. Operational Considerations - Flight rules define go/no go criteria related to EMU suit pressure regulation. Flight rules require termination of EVA if SOP activated.

NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
		113CFM02		EVA checklist procedures verify hardware 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-113 PRIMARY PRESSURE CONTROL MODULE

CRITICAL ITEM LIST (CIL)

EMU CONTRACT NO. NAS 9-97150

Prepared by: _____ 3/27/02
HS - Project Engineering

_____
HS - Reliability

_____
HS - Engineering Manager

Approved by: _____ 6/25/02
NASA - ~~SSA~~/SSM
CSS

_____
NASA - EMU SSM

_____ 6/26/02
NASA - S & MA

_____ 6/27/02
NASA - MOD

_____ 7/1/02
NASA - Crew

_____ 7-1-02
NASA - Program Manager