CRITICAL ITEMS LIST

ASSY NOMENCLATURE O_2 COMMUNICATION HOSE ASSY. SYSTEM CONTAMINATION, EMERG. BREATHING SUPP REVISION

ASSY P/N: SID11100270-303 SUBSYSTEM COMM/O_2 SUPPLY UMBILICAL PAGE 4.0- 39

FMEA REF	FMEA REV	NAME, QTY & DRAWING REF DESIGNATION	CRIT'Y	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	RATIONALE FOR ACCEPTANCE
4.1.1		OXYGEN (O_2) COMMUNICATION HOSE ASSEMBLY, (1) SID11100270-303	2/1R	4.1.1 Mode: Leakage Cause: • Defective material • Defective connector	Inadequate O_2 supply during launch/entry mission phases	1. DESIGN FEATURES a. The hoses are designed and fabricated in accordance with applicable portions of MIL-H-81587D b. The material is Hose - flame resistant Silicone with wire wrap reinforcement Cover - flame resistant braid PBI Molded ends - flame resistant Silicone c. Hoses were designed and are burst pressure tested to 450 psig d. A safety factor of 4.5. e. Wall thickness of .125 inches f. Proof pressure is 150 psig. 2. TEST OR ANALYSIS TO DETECT FAILURE MODE a. The Silicone material is certified by the supplier, the PBI material is Government furnished equipment to the vendor. b. All hoses are proof tested by the vendor to 150 psi c. All hoses are leak tested at 1.5 times the normal operating pressure of 100 psia to 150 psia

SUPERSEDE PROCESSING

PREPARED BY R. L. Allison/B. W. Sauser SUPERSEDING DATE APPROV CEE/EOS-1 DATE 10/24/89

CRITICAL ITEMS LIST

ASSY NOMENCLATURE O_2 COMMUNICATION HOSE ASSY. SYSTEM: CONTAMINATION, EMERG BREATHING SUPP REVISION

ASSY P/N: SJD11180270-303 SUBSYSTEM: COMM/O_2 SUPPLY UMBILICAL PAGE 5OF 19

FMEA REF	FMEA REV	NAME, QTY & DRAWING REF DESIGNATION	CRIT'Y	FAILURE MODE AND CAUSE	FAILURE EFFECT on Indenture	RATIONALE FOR ACCEPTANCE
4 1 1		OXYGEN (O_2)/ COMMUNICATION HOSE ASSEMBLY, (1) SJD11180270-303	2/1R	4.1.1 Mode: Leakage Cause: • Defective material • Defective connector	Insufficient O_2 supply during launch/entry mission phases	2. TEST OR ANALYSIS TO DETECT FAILURE MODE. Certification Hoses are certified by similarity. Hoses or like hoses have flown on space flights since Gemini Program and have utilized crew oxygen hoses on all STS flights. Turnaround Testing (In accordance with PIA 23038) a Hoses are leakage tested to 150 psi prior to each flight. b Hoses are proof pressure tested to 150 psi prior to each flight. 3. INSPECTION a DCAS and company inspection prior to delivery. b DCAS verify marking, cleanliness and packaging. Turnaround Inspection (In accordance with PIA 23038) a Visually inspected for damage. b Verify O_2 hose is internally cleaned to level 100A. 4. FAILURE HISTORY No failure recorded. This hose has flown on previous STS flights.

PREPARED BY R. J. Allmond/ W Sauser SUPERSEDING DATE APPROVED BY J. D. Schlosser DATE 10/24/88

CRE/EOS-2

CRITICAL ITEMS LIST

ASSY NOMENCLATURE O_2 COMMUNICATION HOSE ASSY. SYSTEM: CONTAMINATION, EMERG., BREATHING SUPP REVISION

ASSY P/N: SJD11100270-303 SUBSYSTEM: COMM/O_2 SUPPLY UMBILICAL PAGE 6 OF 39

FMEA REF	FMEA REV	NAME, QTY & DRAWING REF DESIGNATION	CRIT'Y	FAILURE MODE AND CAUSE	FAILURE EFFECT ON: END ITEM	RATIONALE FOR ACCEPTANCE
4.1.1		OXYGEN (O_2) COMMUNICATION HOSE ASSEMBLY, (1) SJD11100270-303	2/1R	4.1.1 Mode: Leakage Cause: • Defective material • Defective connector	Insufficient O_2 supply during launch/entry mission phases	5. OPERATIONAL USE. a. Operational effect of failure: Loss of crewmember under the worst-case conditions (contaminated atmosphere) b. Crew action: None c. Crew training: The crew is trained to make the proper connections between the Orbiter O_2 supply, O_2 communication assembly and the launch/entry suit d. Mission constraints: Mission would be terminated under worst-case condition e. In-flight checkout: The crew could inspect the hoses during flight, but are not trained or equipped to repair defective hoses

EXPEDITE PROCESSING

PREPARED BY: R. E. Allsopp/R. W. Sauter SUPERSEDING DATE APPROVED BY: L. O. Schlosser DATE: 10/24/88

CEI/EOS-3