

CRITICAL ITEMS LIST (CIL)

SYSTEM:	Thermal Protection System	FUNCTIONAL CRIT:	1
SUBSYSTEM:	Components	PHASE(S):	a, b
REV & DATE:	J, 12-19-97	HAZARD REF:	P.02, T.02
DCN & DATE:			
ANALYSTS:	G. Burkes/R. Lauto		

FAILURE MODE: Loss of SOFI Material

FAILURE EFFECT: a) Loss of mission and vehicle/crew due to fire/explosion caused by ruptured feedline and spilled LO2.  
 b) Loss of mission and vehicle/crew due to debris impacting Orbiter in critical areas.

TIME TO EFFECT: Seconds

FAILURE CAUSE(S): A: Material Deficiency  
 B: Process Deficiency

REDUNDANCY SCREENS: Not Applicable

FUNCTIONAL DESCRIPTION: This foam provides thermal protection for the LO2 feedline from prelaunch and reentry environments.

<u>FMEA ITEM CODE(S)</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY</u>	<u>EFFECTIVITY</u>
5.B.1.1	80971028405	Feedline, LO2, TPS Appl	5	LWT-54 thru 67
	80971028425	Feedline, LO2, TPS Appl	5	LWT-68 & Up
	80971028465	Feedline, LO2, Flex, TPS Appl	2	LWT-54 & Up
	80971008442	TPS C/O Instl, SLA & Foam (Views A & C)	1	LWT-54 & Up
	80971068433	TPS C/O, He Inj Box - Bldg 420 (View V)	1	LWT-54 & Up

REMARKS: The LO2 feedline SOFI applications are grouped as the failure mode, causes and effects are the same.

CRITICAL ITEMS LIST (CIL)  
CONTINUATION SHEET

SYSTEM: Thermal Protection System  
SUBSYSTEM: Components  
FMEA ITEM CODE(S): 5.8.1.1

REV & DATE: J, 12-19-97  
DCN & DATE:

---

RATIONALE FOR RETENTION

---

STP1503, 1513, 1518, 1532, 1536, 3004, 3008, 5006, 5013, 6005-111 and 6014 are applicable to this FMEA Item Code. See Page 1 for Retention Rationale specified by these STP's. The following additional Retention Rationale is also applicable to this FMEA Item Code:

DESIGN:

No additional Rationale for Retention is applicable.

TEST:

The LO2 Feedline SOFI Applications are certified. Reference NCS's MMC-ET-TM08-L-T008, T019, T503, T504 and T507. Refer to the NCS(s) for effectivity data applicable to specific part numbers and material type.

INSPECTION:

No additional Rationale for Retention is applicable.

FAILURE HISTORY:

Current data on test failures, unexplained anomalies and other failures experienced during ground processing activity can be found in the PRACA data base.