

CRITICAL ITEMS LIST (CIL)

SYSTEM:	Thermal Protection System	FUNCTIONAL CRIT:	1
SUBSYSTEM:	LH2 Forward Dome	PHASE(S):	a, b
REV & DATE:	J, 12-19-97	HAZARD REF:	T.02
DCN & DATE:			
ANALYSTS:	B. Burkes/R. Lauto		

FAILURE MODE: Loss of SDF: Material

FAILURE EFFECT: a) Loss of mission and vehicle/crew. Debris blockage of Intertank venting system causes excessive delta pressure across Forward LH2 Dome resulting in fire/explosion.
 b) Loss of mission and vehicle/crew. Debris blockage of Intertank venting system causes overpressure resulting in structural failure of Intertank.

TIME TO EFFECT: Seconds

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

REDUNDANCY SCREENS: Not Applicable

FUNCTIONAL DESCRIPTION: This foam provides insulation of the GH2 vent line.

<u>FMEA ITEM CODE(S)</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY</u>	<u>EFFECTIVITY</u>
5.3.2.1	80971028406	GH2 Vent Line, TPS Application	1	LWT-54 & Up

REMARKS:

CRITICAL ITEMS LIST (CIL)
CONTINUATION SHEET

SYSTEM: Thermal Protection System
SUBSYSTEM: LX2 Forward Dome
FMEA ITEM CODE(S): 5.3.2.1

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

RATIONALE FOR RETENTION

STP1513, 1518, 1532, 1536, 3004, 3008, 5013 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 GN2 Vent Line TPS Application is certified. Reference HCS's MMC-ET-TMC8-L-T003, T503, T504 and T507. Refer to the HCS(s) for effectivity data applicable to specific part numbers and material type.

A, B: Foam material on the vent line experiences lower stresses than those encountered by the test articles. Use of the materials are based on performances under similar conditions. EX-250 was verified thru use on the Main Propulsion Test Article (MPTA) vent line.

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.