

CRITICAL ITEMS LIST (CIL)

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

FAILURE MODE: Loss of SOFI Material

FAILURE EFFECT: b) Loss of mission and vehicle/crew due to early engine shutdown or fire/explosion caused by loss of propellant quality.
 c) Loss of life caused by ET impacting outside the footprint due to early breakup during reentry.
 Loss due to debris impacting Orbiter in critical areas during TAL abort.

TIME TO EFFECT: Seconds

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

REDUNDANCY SCREENS: Not Applicable

FUNCTIONAL DESCRIPTION: This foam provides insulation and thermal protection for the LH2 Aft Dome from prelaunch, ascent and reentry environments.

<u>FMEA ITEM CODE(S)</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY</u>	<u>EFFECTIVITY</u>
5.1.1.1	80976048410	LH2 Aft Dome Foam Application	1	LWT-54 & Up
	80971029440	TPS Closeout Offsite (Views J & AR)	1	LWT-54 thru 63
	80971029440	TPS Closeout Offsite (View BJ & BX)	1	LWT 64 & Up

REMARKS: Failure effect for P/N 80971029440 is limited to footprint violation from early breakup during reentry.

CRITICAL ITEMS LIST (CIL)
CONTINUATION SHEET

SYSTEM: Thermal Protection System
SUBSYSTEM: LH2 Aft Dome
FMEA ITEM CODE(S): S.1.1.1

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

RATIONALE FOR RETENTION

STP1503, 1518, 1523, 1532, 1533, 1536, 3004, 5009, 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 LH2 Aft Dome Foam Application is certified. Reference MCS's MNC-EI-TM08-L-1001, T502, T503, T504 and T507. Refer to the MCS(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.