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SPIRE

SUBJECT: SPIRE SAFETY SUBMISSION

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Distribution

Live Link

Change Record

ISSUE	DATE	
1.0	22 Mar 02	1 st Issue of Hazard check list
2.0	10 Jul 02	Combine Safety checklist & Submission into one document.

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1 INTRODUCTION

This document details the analysis of the SPIRE safety submission

2 SCOPE

To investigate and identify any Safety hazards, with respect to ground and launch operations, for the SPIRE instrument.

3 DOCUMENTS

3.1 Applicable Documents

- AD1 SPIRE Product Assurance Plan (SPIRE-PROJECT-PRJ-000017)
- AD2 Spire IBDR 5th & 6th March 2002.

3.2 Reference Documents

- RD1 PT-RQ-04410 PA requirements for FIRST/PLANCK
- RD2 CSG-RS-10A-CN Safety Regulations General Rules V1
- RD3 CSG-RS-21A-CN Safety Regulations Specific Rules Ground installations V2/P1
- RD4 CSG-RS-22A-CN Safety Regulations Specific Rules Spacecraft V2/P2
- RD5 HSO-SBT-SP-001 Sorption Cooler Specification
- RD6 HSO-SBT-PI-013 Sorption Cooler AIV Plan

4 SAFETY ASSESSMENT

The SPIRE Instrument is completely integrated into the satellite prior to launch site operations, and is not accessible. When cold there are no safety hazards the only potential problem at normal temperature is the Sorption Cooler but the design is such that no hazard is envisaged, however a report on the testing of the Sorption Cooler is expected shortly.

Note: - The Sorption Cooler is identical to the PACS device.

A description of the SPIRE instrument can be found on LiveLink IBDR 5th & 6th March 02. (AD2)

All materials and parts currently used on SPIRE are detailed on the relevant declared lists, and have no known hazards other than has already been indicated in this document.

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5 HAZARD SOURCE CHECK LIST

Hazard Source (Potential)	Applicable To Payload Element (S) (E.G. Sensor, Boom, Electronics Box)	GES
Hazardous Electrical Systems (E.G. High Voltage)	NONE	NONE
Electroexplosive Devices (Pyrotechnics)	NONE	NONE
Propellants, Solid, Liquid	NONE	NONE
Pressurised Items	Sorption Cooler 80 Bar at room Temperature None when Cold	Sorption Cooler 80 Bar at room Temperature None when Cold
Chemical Products - Corrosive (E.G. Battery) - Toxic Or Asphyxiating - Explosive (Also Pyros) - With Biological Effect	NONE	NONE
Radiation - Non-Ionising - Ionising - Visible, Ir, Uv - Acoustic / Vibration Emission	NONE	NONE
High / Low Temperature (E.G. Cryogenic)	Yes. Not controlled by SPIRE	Yes. Not controlled by SPIRE
Deploying Mechanism	NONE	NONE
Other Hazard Sources	NONE	NONE