

1. SPIRE PROJECT**SPIRE-RAL-REP-000874****1.1 General**

- This report covers July and August 2001. Individual monthly reports shall be produced in the future.
- Project team has focussed on
 - Support and assistance of subsystem DDRs
 - Cryo-harness definition
 - IID-B update for SRR
 - Thermal modelling and analysis
 - Follow-up of high priority items identified at IIDR

1.2 Instrument performance

- Optimisation of the photometer and FTS bands was discussed at the July 4-6 Consortium meeting.
- Photometer bands have been modified very slightly to provide complementarity with Planck HFI.
- FTS bands being studied and will be frozen for NASA CDR in September
- Instrument sensitivity models updated (minor changes)

1.3 Problem Areas

- Vibration levels at detector level. Following extensive analysis and discussions with ESTEC and JPL, a solution is almost agreed.
- Late definition of cryo harness connectors.
- We need to procure our cold test harness now to keep to CQM schedule.
- Requested CQM delivery date is not compatible with the SPIRE schedule. The payload-level EQM test programme must be discussed with ESA and Alcatel

1.4 Meetings

- Consortium meeting Cardiff 4 and 5 July.
- Optics DDR, LAM, 10 July.
- OBS meeting, IFSI, 10 and 11 July
- Meeting with ESTEC PA, RAL, 12 July.
- Shutter PDR; ComDev, 17 July
- Project team meeting, RAL, 20 July.
- BSM DDR, ATC, 30 July
- Detector Peer Review, JPL, 30 and 31 July.
- Project team, RAL, 7 August.
- Vibration testing, ESTEC, 17 August.
- Project team, RAL, 20 August.
- BSM delta review, ATC, 23 August.
- Structure mini review, MSSL, 29 August
- EMC Working Group meeting, Cannes, 29 August

1.5 Documents Issued

- Documentation set for Optics Detailed Design Review
- Documentation set for BSM Detailed Design Review
- Documentation set for Shutter Preliminary Design Review
- Documentation set for AIV Facility Detailed Design Review
- Viewgraph pack from detector Peer Review
- Cooler DDR report and RIDs
- Optics DDR report and RIDs
- Inputs to IID-B
- Wiring harness Definition Document

2. INSTRUMENT MANAGEMENT**2.1 Personnel**

- Eric Sawyer joined the Project at the start of July as Instrument Development Manager (in charge of hardware programme).
- Trevor Dimbylow stood down as ICC Development Manager due to pressure of other projects.
- Ken King remains as overall Project Manager and has taken over as ICC Development Manager.
- Maintenance of instrument budgets has transferred from ATC (Colin Cunningham) to RAL (Doug Griffin).

2.2 Workpackages

The agreement with NASA over the deliveries and workpackages for the JPL group has been updated and revised and will be formally signed in early September, prior to the NASA CDR.

2.3 Schedule

No changes to major milestone list since April 2001

2.4 Funding

The UK funding envelope is still inadequate fore the hardware plus ICC development programme. Pressure still exists to descope hardware (BSM or Flight Spare).

3. INSTRUMENT ENGINEERING**3.1 Instrument Design Changes**

- Minor changes to wavelength bands as noted above.
- Spectrometer calibrator design has been improved for better spectral nulling and redundancy.

3.2 PA/QA

- Documentation control system has been implemented.
- Cleanliness

3.3 Budgets

- Nothing to report

4. INSTRUMENT SUBSYSTEMS

Subsystem	Responsible	Status	Schedule status
BSM	ATC	DDR held on 30/7/01. Some outstanding issues, especially selection/cost of flex pivots. Procurement plan has been formulated with two main options.	OK
Calibrators	Cardiff	Design and prototype testing continuing. DDR will be on Sept. 18	OK
Cooler	SBT	DDR completed – RIDS not yet closed	OK
Detectors, JFETS and RF Filters	JPL	JPL peer review held on 30/7/01 NASA CDR scheduled for 11-12/9/01. Vibration levels problem near solution	OK

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		DDR close out will follow within ~ 3 weeks.	
DPU and OBS	IFSI	OBS meeting held	OK
DRCU and WIH	SAP	DRCU specification v8 issued FMECA carried out on DRCU – no major problems.	OK
DRCU simulator Inst simulator	Stockholm	OBS meeting supported	OK
Filters, Dichroics	Cardiff	Filtering scheme being finalised following small modifications to bands; prototyping in progress DDR will be on Sept. 18	OK
Mirrors	LAM	DDR complete RIDS not yet closed Some final iterations before manufacture	OK
Shutter	USK	PDR complete SPIRE has proposed possibility of common shutter for all instruments. Early decision needed on this.	OK
Spectrometer Mechanism	LAM	Study done by BE systems on selection of flex pivots. Pivot type selected. Request for increased maximum thermal dissipation studied and report issued (SPIRE-RAL-NOT-000771)	OK
Structure	MSSL	FPU mechanical model enhanced to allow more accurate analysis/prediction of subsystem vibration levels. 2-K photometer box will need to be redesigned to minimise vibration levels at detectors. 300mK strap design has been delayed due to this activity. Structure DDR delayed (now expected November 2001)	To be reviewed
Thermal straps	Cardiff	Testing of prototype straps about to start	OK
AIV/Calibration facility	RAL	DDR planned for 6/9/01, this will release the cryostat for manufacture	OK

5. INSTRUMENT AIV

A review of the AIV and calibration facility is scheduled for 6/9/01

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6. ACTION ITEM LIST

Note, These actions mostly appear to be old and are probably obsolete and able to be closed. We can discuss them at the next ESA/SPIRE meeting.

Action Number	Description	Due Date	Responsible	Status	Disposition	Reference
AI-ESA-0354-01	Modes of observations: instrument teams to provide typical observation profiles for the different observation modes	15/09/00	MJG	Open		
AI-ESA-0394-03	ESA to provide thermal model of cryostat OB	10/05/00	ESA	Open		
AI-ESA-0394-06	SPIRE to re-send comments on FIRST Alignment Plan	19/04/00	MJG, KJK, BMS, Winter	Open		
AI-ESA-0366-01	Instrument teams to complete questionnaire and return to Bernard Jackson and Antonio Ciccolella	14/04/00	All, CRC	Closed		SPIRE-ATNOT-000482
AI-ESA-0428-03	To request mass, thermal and power dissipation to be put in the Subsystem Specification Documents		KJK	Open		
AI-ESA-0428-04	To clarify information in the Cryoharness Tables		CRC	Closed		
AI-ESA-0428-05	To confirm pointing requirement in section 5.12..2		MJG	Open		
AI-ESA-0428-06	To provide the maximum shock level (plus time duration) allowed on the instrument during transport.		Winter	Open		
AI-ESA-0428-07	To confirm maximum level of microvibrations that we can accept at the optical bench interface		CRC	Open		
AI-ESA-0428-08	To send Delta PDR agenda to ESA		KJK	Open		
AI-ESA-0428-09	To send Word macro to CRC		KJK	Open		
AI-ESA-0483-01	Instrument groups to comment/approve 5.11.1 of IID-A "Instruments, which are not the prime instrument for a certain observation, shall not exceed a TM rate of 2 kbps each"		MJG, KJK	Open		

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