

**Minutes of SPIRE Project Team Meeting 20**  
**SPIRE-RAL-MOM-001062**  
**RAL 19 December 2001**

Present: Matt Griffin, Eric Sawyer, Bruce Swinyard, Ken King, Berend Winter, John Delderfield (part time)

**Topics.**

IBDR preparations  
 JPL activities  
 ICC meeting

**1 Review of outstanding actions from previous meetings**

No. PT-04-0570	Actionee	Description	Priority	Deadline	Status
01	KJK	Write WE integration and test plan	High	Oct. 2001	<b>Still Open. Needed for IBDR. In progress</b>

No. PT-10-0682	Actionee	Description	Priority	Deadline	Status
04	MJG	Arrange for QMW to evaluate filter suppression.	Medium	May 31	<b>Closed, Matt to send Bruce correct version of note</b>

No. PT-12-0726	Actionee	Description	Priority	Deadline	Status
02	EC KJK	Update the document management plan to reflect the new scheme for interaction of institute PMs with the documentation configuration control system.		June 29	Still open, action being taken This is an action on Ken

No. PT-13-0772	Actionee	Description	Priority	Deadline	Status
04	BMS DKG	Bruce and Doug to talk to John and distribute a draft list of documents showing approval status.		3/8/01	closed
06	MJG	Matt to meet with Ken to discuss the outstanding MOUs		3/8/01	Open. JPL, in progress Canada, draft proposed Others, no progress
11	ECS	Outline new document scheme to the consortium			Closed

No. PT-15-0824	Actionee	Description	Priority	Deadline	Status
02	ECS	Review product tree		12/9/01	Open

No. PT-16-0862	Actionee	Description	Priority	Deadline	Status
01	DG	Doug to inform consortium that 1030 Cernox is the baseline temperature sensor		20/9/01	Closed
02	BMS	RAL (Bruce) to write a DRCU reliability spec at the channel level which also defines a failure.		20/9/01	Closed
04	ECS	Send costs of cold vibration tests to LAM and CEA. +JPL		30/9/01	Open
08	CEA/ SAP	CEA to check when harness information is required.		30/9/01	Closed
10	RAL	Warm interconnect harness. (DRCU to DPU) One delivered with QM1, is another harness required for QM2? RAL to clarify		30/9/01	Closed, Two required
11	BMS	Put on Livelink The version of the BDA SSSD, taken by Matt from JPL		30/9/01	Open
15	SAP	Provide provisional mass breakdown for the meeting on 25/9/01		24/9/01	Open
16	MJG	Clarify with KJK when the ICC workpackages will be defined		30/9/01	Open, will be available end Jan
17	JD	Check general robustness of P/LW photometer array and take this into account in harness partitioning			Closed, Included in latest interface definition doc.

No. PT-19-1060	Actionee	Description	Priority	Deadline	Status
1	ECS	Define the build standard of all STM subsystems.			Open

## 2 Project Management Issues

### 2.1 IBDR preparations

Preparation workshop planned for Friday 4 Jan at RAL.

#### DOCUMENT STATUS

No. and Priority	Document	Responsible	Current Status	Plan
<b>Top-level requirements documents</b>				
1 P3	Science requirements document	Matt	No significant update planned.	
2 P2	Instrument Requirements Document	Bruce + Matt	Needs various updates. To be done by ECRs.	ECRs issued, doc not updated yet Finalise by: Jan 18 Matt and Ken to sign. All subsystem managers must also sign.
3 P1	Calibration Requirements Document	Bruce + Matt	Being written.	Part complete, Draft by 20 Dec Finalise by: Jan. 18
<b>Instrument Design Description and Development Plan</b>				
4 P2	SPIRE Design Description Document	Doug (+ Bruce and Matt)	To be updated following DDRs (just basic updates)	Send Sap a word version to update. Matt to update over Christmas. Doug to send Matt a word version. DDR docs to be put on CDs Finalise by: Jan. 18
5 P1	Instrument Development Plan	Ken/Eric	To be updated. Will be in the same format as for the IIDR.	Review by: Jan. 18
6 P2	EMC control plan.	Doug	Draft exists. Being reviewed by ESA. Frequency plan needs to be incorporated.	Frequency plan now available from SAP. Finalise by: Jan. 18

<b>IID-B and related documents</b>				
7 P3	IID-B	John D.	Under Alcatel control - we'll provide status report and list of important items/issues from our point of view.	Maintain document through normal work with ESA/Alcatel ECS contact ESA to clarify position.
8 P2	Thermal Model	Sam	To be updated based on latest available information at end of November.	No cryostat model available yet Thermal model will not be updated for the IBDR documentation.
9 P1	FPU Mechanical Model	Berend	To be produced	Will be produced by MSSL 18 Jan
10 P3	Harness Definition Document	John D.	Exists. Minor revisions possible.	Keep updated and present the latest version. JD to confirm JPL interface, this is ongoing. Confirmation from SAP

				required. Layout required from MSSL, target 8/1/02. Check status of RAL supplied harness. Temperature sensor location to be defined.
11 P2	Stray light model	Tony R.	To be updated. Inputs expected from ASEF. Input needed from ASSED (but not expected).	Use existing model/report do not wait for updates from ASEF and ASSED.
12 P1	Budgets spreadsheets	Doug	To be updated after DRCU review.	Info from DRCU is now available. Keep updated (JD) and present the latest version as of info from Dec. 20.
13 P2	Optical error budget	Kjetil	New version exists	To be reviewed by Bruce. Finalise by Jan 18.
<b>On-Board Software</b>				
14 P1	OBS URD	Anna	Exists. Won't be updated.	There will be unclosed change requests.
15 P1	OBS Architectural Design	Riccardo	In progress. IFSI need to produce some additional technical notes. Ken to liase with Riccardo.	To be finalised at OBS DDR (Dec. 6, 7) A note has been written, but needs refining into a proper document. Comments to DDR presentation to be sent to IFSI by Ken. Matt to contact Renato and Paulo expressing our concern about progress of docs. Still open needs progressing, Ken to draft.
16 P2	Operating Modes Document	Bruce, Matt, Sunil	To be updated. Needs a 1-day meeting between Matt, Bruce, Sunil.	Meeting: Dec. 3 held. Draft. By Dec. 20 Finalise by: Jan. 15 Note on parallel mode to be written by Matt Target after Christmas, a further review will be required.
17 P3	Operating the Instrument Document	Sunil	In progress. Needs DRCU ICD. Not high priority for IBDR.	Draft: Dec. 10 Finalise by: Jan. 18 Use whatever is available at the time of the IBDR
18 P1	SPIRE Data ICD	Ken	To be written. Needs DRCU ICD for completion.	Draft: Dec. 20 Finalise by: Jan. 18 Info from SAP received, iterations required. Draft version partly completed, only a draft will be available for the IBDR
<b>AIV Plan</b>				
19 P1	Warm Electronics integration plan	Ken and Eric	Scope to be discussed by Eric and Ken. Document to be written by Eric.	Finalise by: Jan. 18
20 P1	FPU integration plan	Berend	To be written	New version dated

				21/12/01 available, some extra info required, but its almost good enough.
21 P2	Alignment Plan and Alignment Procedures	Kjetil	Docs. being reviewed.	Alignment plan complete to be checked by Bruce. Alignment procedure, use what exists at the time of the review.
22 P1	Instrument-Level Test Plan	Dave Smith	Being written.	Finalise by: Jan. 18 ECS to chase Dave.
23 P3	Manufacturing Flow Chart	Dave Smith	We assume that this is at instrument level. May be incorporated in AIV Plan.	Finalise by Dec. 10
<b>GSE</b>				
24 P1	GSE Overview	Ken/Bruce	Brief overview with pointers to DDR data packs for the details. May be incorporated into the AIV plan.	Draft: Dec. 20 Finalise: Jan 15

<b>PA</b>				
25 P1	FMECA	Bruce	Subsystem DDRs include FMECAs. Instrument-level FMECA to be based on * key results of subsystem FMECAs * analysis of harness/end-to-end channel redundancy * scientific impact of failure modes	Draft by: Jan. 18 Finalise by: Jan. 28. Bruce to tackle top level analysis in Jan Clarification received from ESA <b>Top level only will be done for IBDR documentation, further progress before March, consider extra effort from outside the system team e.g. contractor.</b>
26 P3	Worst Case Analysis	Bruce/Matt	Warm Electronics DDRs should include this. DDRs to do it. Clarification has been requested on what is required at instrument level.	TBD. May have to wait until January. Matt to do top level analysis based on instrument sensitivity.
27 P3	HW/SW interaction analysis	Ken	To be written (control loops?). Clarification has been requested. on what is required at instrument level.	TBD. May have to wait until January.
28 P1	FDIR	Bruce	To be written. Clarification needed from ESA on what's required. Will be based on two levels of parameter anomaly: serious - switch off now and not-so-serious - raise an anomaly report.	Draft: Dec. 10 Finalise by: Jan. 18  Philosophy only for documentation pack.
29 P2	Cleanliness Control Plan	Bruce	Exists. To be updated.	Finalise: Dec. 20 Draft available, to be finalised by 18/1/02
30 P2	EEE Parts list	Eric Clark	To be collated from DDR data packs.	Finalise: Dec. 10
31 P1	Verification Matrices	Eric S.	Exist. To be collated.	Finalise: Dec. 20
32 P1	Configured Items Data List	Eric Clark	List of all configured documents.	Finalise: Dec. 10

33 P3	Critical Items List		Need clarification from ESA	Out put from FMECA
34 P3	Change Requests and Waivers List	Eric Clarke	Exists - just needs to be printed out.	Finalise: Jan. 15
<b>Additional Documentation to be available for the Panel</b>				
35 etc. P3	All DDR Document sets All DDR Review Board Reports All agreed Interface Control Documents Technical notes and papers as deemed appropriate by the Project Team		Some need to be updated and placed on Livelink.	To be placed on Livelink and on the CD.

## 2.2 Management Reporting and Control

## 2.3 Document change and configuration control

## 2.4 PA

## 2.5 Business Agreements

## 2.6 Schedule:

## 3 Instrument Issues

### 3.1 Structure

### 3.2 Mirrors

### 3.3 Detectors

Budget problems still exist.

Agreement on no delay of CQM programme.

Staggered delivery not desirable, but will be assessed by system team.

Can JFET be delivered with detectors rather than before? This prevents early testing of the cryo test harness.

JPL to propose changes to their programme, system team to assess impacts.

### 3.4 OBS and Instrument Control

### 3.5 DPU

### 3.6 DRCU and related issues (Sap)

## 4 ICC Issues

## 5 Meetings:

### 5.1 Detailed design Reviews

#### 5.1.1 DDR summary

- Mirrors: Complete
- FTS: 22/23 Nov 2001.
- DRCU/WIH 12/13 December.
- Structure/thermal straps 29/30 Nov 2001
- DPU: 6/7 Dec
- AIV 6/9/01, delta review required, to include egse.
- EGSE: TBD, see above
- BDAs:/JFETs Complete, ICD, FMECA and PA map outstanding
- Filters/calibs: 18/9/01, Complete
- BSM: 30/7/01 not all issues closed out, delta review on 23/8/01, complete
- OBS Requirements review required. Probably Nov
- Shutter PDR: July 17, Almost a DDR, some aspects still open.
- Cooler Complete, some RIDs to be signed off.
- DRCU simulator TBD, awaiting spec from Sap.

## 6 Progress on Open Issues

## 7 AIT

## 8 AOB

Next meeting