Solar-B EIS

MULLARD SPACE SCIENCE LABORATORY
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Progress Meeting at RAL 01 – 5/6/01

MSSL/SLB-EIS/MN007.01

Attendees: Jim, Barry, Ady and Graham Toplis (AIV Facilities Manager at RAL)

1 Discussion

1.1 Bakeouts:

Initially it was felt that all the bakeouts would need to be performed in the thermal vacuum chamber. If contaminated this chamber would take at least 2 months to clean before it could be used again. This has severe schedule impacts for our second bakeout or the thermal vacuuum test itself. It was felt that the information from the outgassing tests may give us an indication of the scale of the problem here (A533).

This lead to two lines of discussion; Firstly, for the initial 2 bakeouts it should be possible to bag the instrument and have the open end of the bag looking at a cold plate. The difficulties here are allowing as much access to the cold plate whilst still providing an adequate bake of all the components. We would also need to insure that the bag could not collapse and trap any outgassed material.

The second suggestion was that the Blue calibration chamber may be usable for the first bakeout provided suitable IR heaters could be found (external heating fights with the air conditioning). Graham T agreed to look into the feasibility of this (A534). The same arguments about the cold plate conflicting with the need for a controlled bakeout apply here. The advantage of this approach is that the blue chamber can be cleaned easier. This is not suitable for the second bakeout which would require some sort of thermal stress relief cycling (TBD) which would require the structure to be driven below ambient.

1.2 Thermal Vacuum and Distortion tests:

Task 175 in the Birmingham plan needs to be detailed (A538). Graham T needs to know details of what is required for the distortion tests in terms of proposed schedule, what's involved in the tests, feedthrough requirements, any additional support equipment etc. Similarly a plan for the thermal vacuum part of this test needs to be drafted. Graham was also aked to confirm that the proposed thermal sensors could be monitored using the RAL EGSE (subsequent to the meeting this was found not to be the case, so the EIS team will need to provide an EGSE of their own). Consequently Graham T was asked for details of the thermal vacuum feedthroughs (A535), MSSL could then provide harnesses to match these and provide the harness definition to the J-side for their testing. In return MSSL should provide details of any other harness requirements for the chamber (A536). NB We will also need to think about manpower to help support this test at RAL.

1.3 MLI:

2 issues arose, firstly we need to provide time within the schedule / plan to do a fit check (A539), secondly RAL need a specification for the blankets so they can check they have the required materials to carry out the build (A537).

1.4 Clamshell:

At last months meeting there was some discussion on how we shut the inner clamshell after calibration without invalidating the environmental testing performed up to that point. I am suggesting that the environmental tests carried out on the spacecraft will be enough to insure the workmanship of the re-assembly after closing the lid. Clearly this would need to be agreed by the systems team so I have raised this issue again to keep it visible.

1.5 Clean facilities at RAL:

These were discussed and a basic plan agreed between the RAL team members. Jim was asked to check with Birmingham that the requirements for the handling equipment to be able to pass through a normal door had been met (A560). This is important for movement between the clean preparation area and the thermal vacuum chamber room.

2 Actions

No.	ACTION	By Whom	By When
533	Confirm delivery date of outgassing test results	AMJ	8 Jun 01
534	Confirm suitability of Blue chamber for first bakeout of EIS parts	GMT	27 Jun 01
535	Provide details of feedthroughs for thermal sensors in TV chamber	GMT	27 Jun 01
536	Provide details of other harness requirements for EIS	GW	27 Jun 01
537	Chase up progress of MLI specification from BU	AMJ	8 Jun 01
538	Detail the specification for task 175 in BU schedule (Thermal Vac)	CMC	27 Jun 01
539	Add MLI fit check to MTM/TTM test plan, schedules	AMJ/CMC	27 Jun 01
540	Check handling gear will go through door between rooms at RAL	JL	27 Jun 01

Next Meeting: 27th June 2001 Room 1.13, 11.00