

TRR MoM	Date:	14/1/05	NUMBER	SPIRE-RAL-MoM- 002306
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<b>Spacecraft / Project</b>	Herschel / SPIRE
<b>Instrument / Model</b>	<i>PFM 1</i>
<b>Sub System/ Serial No.</b>	NA

<b>Type of Test</b>	<i>Cold functional and performance test</i>
<b>AIV Facility Test No.</b>	NA
<b>Location &amp; Date(s) of Testing</b>	<i>From 14/1/05</i>
<b>Applicable Test Specification</b> <i>(Document No. &amp; Issue)</i>	<i>Test Plan SPIRE-RAL-DOC-2055 issue 1</i>
<b>Applicable Test Procedure</b> <i>(Document No. &amp; Issue)</i>	<i>SPIRE-RAL-PRC-02223 issue 0.2</i>
<b>AIV Facility Test Plan</b> <i>(if applicable?)</i>	NA

<b>Documentation / Inspection Status</b>	
• <b>As Built Status?</b> <i>List of all items /Parts</i>	To be completed
• <b>Special Instructions</b>	
<b>Inspection Status and Records:</b>	
• Hazards Identified	<b>Ref SPIRE risk assessment ESD precautions to be observed.</b>
• Cleanliness	Inspected in G56 Test facility to be class 6 (old 1000) to be tested before FPU integration
• Unit/Item Bagged	NA
• Screws Locked	NA
• Connector Savers	To be agreed
• Other	

<b>Assignment of Personnel</b>		
<b>Function</b>	<b>Name</b>	<b>Contact number</b>
Test Director	Dave Smith	
Project Manager	Eric Sawyer	
AIV Facility Manager	Dave Smith	
Safety Officer	Dave Smith	
Product Assurance	Eric Clark	

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**CONTINUATION SHEET**

<b>As Built Status</b> (Will the following have an impact on the test performance / results?)	
Review of all "NCR's"	
Review of all "Waiver's"	
"Open Work"	Facility: Electrical safety checks Fit mass spec External heaters Issue performance test procedure and master procedure Harness integration procedure to be updated QLA update See FPU status
Other	
MIP's or KIP's	KIP final inspection of FPU, 17/1/05 MIP before closing tank, final TRR 27/1/05

**ACTIONS / COMMENTS / OBSERVATIONS:**

**Facility**

NCRs  
 0084, heaters failed, now repaired.  
 0085, turbo pump failure, use as is. Monitor during test  
 0086, cryostat thermometers failure, repaired wires.  
 Helium leak, mass will be fitted to monitor helium.

**FPU status**

**Open work.**

JFETS, test and fit.  
 Fit Detector harness  
 Fit PTC  
 Fit BSM  
 Remove mirror covers  
 Final inspection  
 Fit instrument covers  
 Fit to HOB  
 Connect JFETS  
 Electrical check  
 Fit thermal straps  
 Alignment cubes  
 Hob frame  
 MGSE. Bag and move to cryolab  
**Bruce to check the LASER**

**MCU and mechanism status**

Test status, the following tests have been completed.  
 Interface check  
 Inrush current  
 No telemetry due to EGSE problem  
 Command to 060 (PFM now FS)  
 Motor coil parameter -1 or +1 is causing some confusion.  
 Software change (MCU) may be required.

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Sensor on redundant Jiggle has low sensitivity.  
 Now repeat tests on 070  
 Test with cryostat harness.  
 Tests with DPU outstanding, these need to be done at latest during warm functional test.  
 Warm testing can be done open loop if software update is required and not available.  
 EIDP required for 070.  
**Calibration data to be sent from ATC.**  
 Didier to return to RAL for further tests.  
 Non linear control system will not be implemented.  
 SMEC commanding scenario to be discussed.

**Warm units and OBS status.**

MCU is now separate.  
 All warm units to be grounded.  
 More earth straps required.  
 Test on MCU, DCU, DPU to be powered up from Power Bench.  
 Updated OBS received, and some tests completed.  
 Essential to do WFT using FPU simulator.  
 QLA update complete, testing required.  
 HCSS acceptance tests outstanding.  
 To be done before WFT.

**NOTE**

**Launch latch not to be operated cold**  
**BSM not to be used in closed loop before software update**  
**These features to be included in the main test procedure.**

All test procedures to be signed off by interested parties.

Flash, chop and jiggle map command lists have been written.  
 SCAL control, outstanding. Two PIDs parameter required after tests.  
 PTC, PID parameters and procedure needed by Ken. Doug has written a note on this.  
 Temperature data should be copied across to the HK. This needs to be checked.

Cooler recycle to be written as command script.  
 Cooler procedure to be checked.

**Mode switching.**

CUS scripts are available.

Master test procedure, Dave needs comments back.  
 Cold functional test to follow Samuels test plan  
 Mechanism test to be done before detectors tests, mechanisms need to be in home positions.  
 Detailed mechanism detailed test plan is still required. Bruce will discuss with Didier.  
 SCAL, PCAL. Pete required.

**Action on Pete to review the test procedure for PCAL and SCAL, warm functional test.**

Alignment procedure. Yes existing

Cold test procedures. Needs updating, all inputs received, some SMEC input needs refining.  
 No redundancy testing, warm electronics will not support this  
 Observation test not yet defined. Needs discussion between Ken and Dave Clements.

Scripts status

BDA's done, SCAL almost done. PCAL almost done. BSM and SMEC still need some work.

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Basic operating procedures to be tidied up.  
 Hard copies to be provided, Dave to do.

Phase two of TRR to be held on 27/1/05

<b>Decision for test continuation:</b>		<b>YES / NO / REVIEW</b>	<b>Review Date :</b>
			27/1/05
<b>Company</b>	<b>Name</b>		
<b>ESTEC</b>	<b>Carsten Scharmberg Phone</b>		
<b>LAM</b>	<b>Dominique Pouliquen Phone Didier Ferrand</b>		
<b>RAL</b>	<b>Eric Sawyer Dave Smith Ken King Bruce Swinyard</b>	<b>Tanya Lim Doug Griffin Samuel Sunil Sider</b>	
<b>Cardiff</b>	<b>Tim Waskett Pete hargrave</b>		
<b>IC</b>	<b>Davide Rizzo</b>		
<b>ATC</b>	<b>Phil Parr-Burnham Brian Stobie</b>		