

HERSCHEL / Planck Project

date	13-14.4.2004	reference	SCI-PT/26396	page	1/1
meeting date	13-14.4.2004	meeting place	RAL		
chairman	P. Olivier				
participants	P. Olivier, ESA J. Rautakoski, ESA E. Clark, RAL K. King, RAL E. Sawyer, RAL B. Swinyard, RAL		copy	Participants	

Subject **SPIRE PA PM**

Description	action	due date
Overview of the manufacturing and integration processes for the flight hardware related to critical items processing and their taking into account in the manufacturing and integration flow <ul style="list-style-type: none"> <input type="checkbox"/> The calibration of the PFM is not done with the real flight warm electronics, however it is flight representative, and thus not fully representative at system level. This approach is taken due to schedule constraints and is not one that SPIRE is completely comfortable with, but it is currently the only realistic approach <input type="checkbox"/> Any failures that can propagate to the S/C or other instruments (identified for example by the FMECA) needs to be controlled and evidence of those controls are required and needs to be brought up to higher level. These controls can be inspections, analysis, KIPs/MIPs, tests, procedures, etc. 		
Detailed flow of AIV <ul style="list-style-type: none"> <input type="checkbox"/> Flowcharts for integration and tests for the FM will be finalised within the coming two months. <input type="checkbox"/> ESA requests that the flowcharts are delivered for commenting before they are finalised, in order to agree on the MIPs that ESA will attend. 	AI-1 SPIRE	May 2004
Detailed integration procedures		

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<input type="checkbox"/> Formal quality inspections to be performed during the integration phase needs to be planned and inserted into the procedures at appropriate points, as after performing critical steps or when the next step would render further inspections impossible		
<p>Critical items – Critical Items List – CIL</p> <input type="checkbox"/> Critical items needs to be highlighted, particularly those that will require follow up and actions on other levels after delivery of the instrument		
<input type="checkbox"/> It is suggested that the status of critical items is reviewed at the I/F meetings		
<input type="checkbox"/> All SPFs are critical by definition and needs to be included in the CIL		
<input type="checkbox"/> Other critical items are long lead items, new technologies, non-qualified / non standard processes, limited life items, etc.		
<input type="checkbox"/> The Id. numbering of a critical item shall not change, once given. It needs to be unambiguous to allow for a continuous systematic follow-up of the critical items. Once the actions of a critical item have been performed and the actions are closed it shall be noted as closed, with the appropriate reference. The number of the closed item shall not be given to a new item later, but remain with the original item with the status closed.		
<p>FDIR</p> <input type="checkbox"/> The document submitted for the IHDR is the FDIR philosophy, which has not changed, and not the actual FDIR. An HSIA was submitted for the IHDR and the HSIA is used as input for the FDIR SPIRE-RAL-PRJ-001978 (not yet released).		
<p>RFW review</p> <input type="checkbox"/> HR-SP-CEA-RFW-001 is accepted (SCI-PT-20112)		
<input type="checkbox"/> HR-SP-CEA-RFW -002 needs more explanation. Will be updated.		
<input type="checkbox"/> HR-SP-JPL-RFW-001 is an internal waiver – closed		
<input type="checkbox"/> HR-SP-JPL-RFW-002 under internal investigation – most likely it is an internal waiver		
<input type="checkbox"/> HR-SP-JPL-RFW-003 under internal investigation		
<input type="checkbox"/> HR-SP-JPL-RFW-004 under internal investigation		
<input type="checkbox"/> CEA-RFD-009 under internal investigation. It needs to be processed rapidly since it has impacts on interfaces.	AI-2 SPIRE	April 2004
<input type="checkbox"/> CEA-RFD-010 needs to be formally processed rapidly to		

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close out the matter	AI-3 SPIRE	April 2004
NCR review – NCR status list in Annex 1		
<input type="checkbox"/> HR-SP-RAL-NCR-034 “DPU Power interface discrepancy” dated 29.4.2003, affects the I/F and shall be re-classified as major. To be formally sent to ESA.	AI-4 SPIRE	Week 16 2004
<input type="checkbox"/> HR-SP-RAL-NCR-046. ESA requests a copy of this NCR	AI-5 SPIRE	Week 16 2004
RIDs from IHDR		
<input type="checkbox"/> SPIRE-IHDR-003 DML/DPL – Additional column(s) shall be added as needed to each individual list to indicate SPIRE and ESA approval for each individual material. The objective is to approve the individual materials from each subsystem and eventually the full list. The subsystem lists can be sent individually for approval.		



List of RAL Non-Conformances

PRODUCT ASSURANCE
SPACE SCIENCE DEPARTMENT
Rutherford Appleton Laboratory

Spacecraft/Project: Herschel	Originator: RAL/SSTD/PA
Instrument: SPIRE	Document No t requested 13/14 Apr 04
Model: All	Issue : As dated
Subsystems:	Date: 14-Apr-04

NCR Serial No.	Level	Subsystem Assembly/ Part	Model	NCR Title	Issue Date	Disposition/Corrective Actions	References	Close Out Date
HR-SP-AS-NCR-1	Minor	AS Cryostat	GSE	Flange Change	13-Dec-02	Adaptor Flange made and fitted Abingdon Scientific Cryostat Manufacturer		13-Dec-02
HR-SP-IFSI-NCR-1	Minor	IFSI DPU	AVM	RANDOM ERRORS IN FAST SERIAL DATA LINKS RECEPTION	12-Nov-03	See NCR Introduction of integrating capacitances on the READ pins of the receiving FIFOs has highly mitigated the error rate, but still not completely removed the source of		
HR-SP-JPL-NCR-5	Minor	JFET's	CQM	JFET Incoming inspection	08-Oct-03	See NCR JPL to complet cause of NCR section ref SPIRE-RAL-REP-001829 incoming inspection report.		
HR-SP-JPL-NCR-1	Minor	JPL RF Filter Mod	CQM	RF Filters over Max Mass Limit	14-Aug-03	See NCR Action 1 JPL Note Should be added to the EIDP Regarding the increased Mass allowance as of 3/2/2003 Possible raise a change request to correct drawing if		
HR-SP-JPL-NCR-2	Minor	JPL PLWBDA PLW Filter	CQM	PLW FILTER BOWING	03-Sep-03	Awaiting completion UWC to comment and complete Cause & Action sections of NCR form		
HR-SP-JPL-NCR-3	Minor	JPL PLW BD. SL	CQM	Chlorine contamination	06-Oct-03	See NCR		
HR-SP-JPL-NCR-4	Minor	JPL	CQM	Performance criteria not met		Awaiting completion		

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HR-SP-MSSL-NCR-1	Minor	Structure	GSE	Gold Plating	25-Mar-03	see NCR Closed at NCR MRB Number SPIRE-RAL-MoM-001717		17-Jun-03
HR-SP-RAL-NCR-1	Minor	EGSE	GSE	Double Click Error	27-Sep-01	Complete the removal. Whole packets are now displayed via the log file display. Awaiting Acceptance test before closing		14-Feb-03
HR-SP-RAL-NCR-2	Minor	EGSE	GSE	Astrium Buslist Error	27-Sep-01	Corrected during Acceptance Test. Circulate correction sheet for users to amend their software release 0.6 installation.		14-Feb-03
HR-SP-RAL-NCR-3	Minor	EGSE	GSE	Master Time error	27-Sep-01	Corrected during Acceptance Test. AAdd brackets to software text. Corrected during acceptance test Correct in version 0.7. See DDC.CPP Change Record Attached. (October 1st) Awaiting next		14-Feb-03
HR-SP-RAL-NCR-4	Minor	EGSE	GSE	DDC Bus Message log	27-Sep-01	Use Programme MTZDISK.EXE instead of ACE windows Menue. Check test plan instruction changed to reflect above instruction.		14-Feb-03
HR-SP-RAL-NCR-5	Minor	EGSE	GSE	TMRReq message timing	27-Sep-01	See DDC.CPP Change Record attached (October 10th Fix) Awaiting acceptance test results before closing NCR		14-Feb-03
HR-SP-RAL-NCR-6	Minor	EGSE	GSE	RT implementation of Flow Control flags	27-Sep-01	The Instrument Simulator has been modified to set the FLOW CONTROL bits to indicate whether or not there is a telemetry packet awaiting transfer. Awaiting acceptance		14-Feb-03
HR-SP-RAL-NCR-7	Minor	OGSE for Telescope Si Mirror M2, Telescope	GSE	Focal length out-of-spec	30-Nov-01	see NCR Assess impact on M2 imaging performances / Marc Ferlet 30/11/2001		17-Dec-01

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HR-SP-RAL-NCR-8	Minor	Calibration Cryoharness Connectors	GSE	Crimp contacts with tails in wrong end	21-Jun-02	Glenair to provide replacement MIL Spec contacts Glenair to provide replacement contacts with solder leads crimped in correct end.		21-Jun-02
HR-SP-RAL-NCR-9	Minor	JFET 6 JFET assy	SM	Out of tolerance thermal straps (6 JFET assy)	30-Sep-02	Use as is (see NCR) Closed at NCR MRB Number SPIRE-RAL-MoM-001863; IF extra such items are ordered for STM, consider swapping to keep best ones for flight.		14-Nov-03
HR-SP-RAL-NCR-10	Minor	MGSE Rear Frame a	GSE	Spire MGSE rear frame assy	26-Sep-02	Return to manufacturer for re-work Manufacturer corrected problem but other holes found missing corrected in house		07-May-03
HR-SP-RAL-NCR-10.1	Minor	MGSE Rear Frame a	GSE	Spire MGSE rear frame assy	26-Sep-02	Return to manufacturer for re-work Reworked by manufacturer when returned holes were found to be missing corrected in house Use as is		09-May-03
HR-SP-RAL-NCR-11	Minor	MGSE Support Fram Frame Parts	GSE	Aluchrome Finish on support rails	23-Sep-02	Components to be cleaned to remove bead blasting r Components to be cleaned to remove bead blasting residue and re-aluchromed to DEF 1200 Reworked finish still poor USE As IS.		09-May-03
HR-SP-RAL-NCR-12	Minor	MGSE Trolley Bridge rails	GSE	Mismatch on Rail Cross Section	23-Sep-02	TBD Closed at NCR MRB Number SPIRE-RAL-MoM-001863;		14-Nov-03
HR-SP-RAL-NCR-13	Minor	HDPE Windo	GSE	Surface finish	30-Sep-02			
HR-SP-RAL-NCR-14	Minor	MGSE	GSE	Hob Plate material to soft	09-Oct-02	Have new plate made from harder material Use exist Existing plate will be used for the Cryostat cold tests and MGSE fit checks		23-Oct-02

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HR-SP-RAL-NCR-15	Minor	MGSE Support Fram	GSE	MGSE Support Frame Dimension incorrect	10-Oct-02	Dimensions were checked against the drawings and w Dimensions were checked against the drawings and were found to be correct. Therefore there is no problem NCR can be closed without further action		23-Oct-02
HR-SP-RAL-NCR-16	Minor	MGSE Trolley	GSE	MGSE Trolley Tolerance stack up	10-Oct-02	see NCR		23-Oct-02
HR-SP-RAL-NCR-17	Minor	MGSE Hob Plate	GSE	HOB Plate	10-Oct-02	MSSL to Advise THIS NCR IS CLOSED and superceded by updated version 017v1 below		18-Mar-03
HR-SP-RAL-NCR-17.1	Minor	MGSE Hob Plate HOB-SIM_Ch	GSE	HOB Plate	18-Mar-03	MSSL to Advise Use as is Closed at NCR MRB Number SPIRE-RAL-MoM-001717 USE As Is		17-Jun-03
HR-SP-RAL-NCR-18	Minor	MGSE Hob Plate HOB-SIM_Ch	GSE	HOB Plate	07-Jan-03	Drawings to be ammended before ordering 2nd Hob PI Drawings to be ammended before ordering 2nd Hob Plate		09-May-03
HR-SP-RAL-NCR-19	Minor	JFET racks	SM	Feet Don't seat down properly	10-Jan-03	see NCR Closed at NCR MRB Number SPIRE-RAL-MoM-001863 with Manufacturer (SENAR) REPLY attached to NCR		14-Nov-03
HR-SP-RAL-NCR-20	Minor	MGSE Cryostat Chamber	GSE	Initial pump-down test failure.	14-Jan-03	see NCR		09-May-03
HR-SP-RAL-NCR-21	Minor	GSE Cryostat Cold Harness	GSE	SPIRE TF Cryoharness Labelling	25-Feb-03	See NCR Defines the Harness connector labeling without ambiguities. Superceded by v.1		07-May-03

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HR-SP-RAL-NCR-21.1	Minor	GSE Cryostat Cold Harness	GSE	SPIRE TF Cryoharness Labelling	25-Feb-03	See NCR Superseded by v2connector designator coloums corrected		14-Nov-03
HR-SP-RAL-NCR-21.2	Minor	GSE Cryostat Cold Harness	GSE	SPIRE TF Cryoharness Labelling	25-Feb-03	See NCR Closed at NCR MRB Number SPIRE-RAL-MoM-001863; connector designator coloums corrected		14-Nov-03
HR-SP-RAL-NCR-22	Minor	MGSE Cryostat HOB_SIM HA	GSE	HOB Simulator-B Hole Dimensions	05-Mar-03	MSSL to Advize Use as is Closed at NCR MRB Number SPIRE-RAL-MoM-001717		17-Jun-03
HR-SP-RAL-NCR-23	Minor	MGSE Cryostat Foot Rail	GSE	Cryostat Rail Dimension incorrect	18-Mar-03	See NCR Closed at NCR MRB Number SPIRE-RAL-MoM-001863; Rail should have been 1,000mm long instead was 970mm datum hole therefore incorrectly positioned		14-Nov-03
HR-SP-RAL-NCR-24	Minor	MGSE Test Cryostat Main burst dis	GSE	Leak in Cryostat Drop Plate	28-Mar-03	See NCR 1. Inspect flange for flatness. If flange is not flat then plate cannot be used as it is. 2. Remount plate and carefully tighten bolts ensuring		10-Jun-03
HR-SP-RAL-NCR-25	Minor	MGSE HOB Simulato	GSE	Surface Damage to HOB simulator	28-Mar-03	Assess level of damage when removed from bake-out. If possible make minor repairs and measure flatness of damaged/repared area If possible make minor repairs and measure flatness of		10-Jun-03
HR-SP-RAL-NCR-26	Minor	J-FET Rack fe	All	Not Thermally Isolated enough.	11-Apr-03	See NCR		
HR-SP-RAL-NCR-27	Minor	FPU Spectrometer	SM	SM11b interferes with the optics bench	30-Apr-03	See NCR Closed at NCR MRB Number SPIRE-RAL-MoM-001717- On the STM the rib was modified by hand. The PFM rib to be modified. It is suggested that a 45degree chamfer		17-Jun-03

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HR-SP-RAL-NCR-28	Minor	Structure RF Filter box	SM	Mechanical interference of the FR filter box	30-Apr-03	See NCR		03-Jul-03
HR-SP-RAL-NCR-28.2	Minor	Structure RF Filter box	SM	Mechanical interference of the FR filter box	30-Apr-03	See NCR Closed at NCR MRB Number SPIRE-RAL-MoM-001863;		
HR-SP-RAL-NCR-29	Minor	alignment cub	SM	STM Alignment cube	30-Apr-03	The cubes fit the HOB simulator but not the SOB NCR Closed Ref HR-SP-RAL-NCR-035		09-Jun-03
HR-SP-RAL-NCR-30	Minor	CM3	AM	CM3 interferes with the sub optics bench at its lower edge.	30-Apr-03	Investigate cause. STM mirror may need to be removed and the mount modified accordingly		
HR-SP-RAL-NCR-31	Minor	Detector FPU	SM	Screw Sheared off in Detector Housing	05-Jun-03	See NCR Closed at NCR MRB Number SPIRE-RAL-MoM-001863; MSSL to investigate and report back, MSSL corrected problem see NCR fo details.		14-Nov-03
HR-SP-RAL-NCR-32	Minor	JFET racks	SM	Backharness 37way backshells do not fit 6 module rack metalwork	06-Jun-03	See NCR Closed at NCR MRB Number SPIRE-RAL-MoM-001863; Parts corrected Dwg upissued		14-Nov-03
HR-SP-RAL-NCR-33	Minor	DPU HSDPU	AM	Not possible to load OBS via telecommands	29-Apr-03	See NCR Reset CPU Before booting with new Image. IFSI To implement Firmware Change on future models to allow software to reset CPU, thus allowing it to operate		14-Nov-03
HR-SP-RAL-NCR-34	Minor	DPU HSDPU	AM	DPU Power interface discrepancy	29-Apr-03	NRB MoM's No SPIRE-RAL-MoM-001616 Reclassified as Major at in depth PA meeting 13/14th April 2004 at Ral		14-Apr-04

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HR-SP-RAL-NCR-34.1	Major	DPU HSDPU	AM	DPU Power interface discrepancy	14-Apr-04	NRB MoM's No SPIRE-RAL-MoM-001616		
HR-SP-RAL-NCR-35	Major	Structure & Alignment Cu	SM	Non compliant interface (mounting holes pattern) between SOB and alignment cube	30-Apr-03	See NCR Closed at NCR MRB Number SPIRE-RAL-MoM-001863; NCR 029 closed ref this NCR		14-Nov-03
HR-SP-RAL-NCR-36	Major	Structure	SM	SPIRE Optical Bench BSM I/F Location	02-May-03	See NCR Can be Closed ref NCR MRB Number SPIRE-RAL-MoM-001863; When ATC ICD is reissued.		
HR-SP-RAL-NCR-37	Major	MGSE Flexible Pipe Co-Axial heat	Cryostat	Solder on co-axial heater melted	02-May-03	See NCR Closed at NCR MRB Number SPIRE-RAL-MoM-001863; NCR copied to AS for comment		14-Nov-03
HR-SP-RAL-NCR-38	Minor	Structure 300mK Strap Photometer S	SM	300-mK Thermal Short during STM Programme	06-May-03	See NCR Superseded by 038v2		21-May-03
HR-SP-RAL-NCR-38.2	Minor	Structure 300mK Strap Photometer S	SM	300-mK Thermal Short during STM Programme	21-May-03	See NCR See note in blue on NCR		
HR-SP-RAL-NCR-39	Minor	BSM position senso		BSM Jiggle Frame Clipping	29-May-03	Design change by ATC NCR closed Optical study by RAL not required as ATC implemented a design change		04-Jun-03
HR-SP-RAL-NCR-40	Minor	FPU Spectrometer	SM STM	SM11a interferes with the optics bench.	17-Jun-03	See NCR Closed at NCR MRB Number SPIRE-RAL-MoM-001717		17-Apr-03

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HR-SP-RAL-NCR-41	Minor	MGSE Pumping Syst	Cryostat	Cryostat Pumping system shutdown	07-Jul-03	Superceded By 41v1		07-Jul-03
HR-SP-RAL-NCR-41.1	Minor	MGSE Pumping Syst	Cryostat	Cryostat Pumping system shutdown	30-Sep-03	See NCR Under investigatiog Suspected Glitch on Mains supply Mains Filter will be used in future.		
HR-SP-RAL-NCR-42	Minor	FPU CM3	SM / CQM	CM3 Mirror Damage	30-Jul-03	See NCR USE AS IS. LAM comments and sign off of the NCR added to the NCR		08-Oct-03
HR-SP-RAL-NCR-43	Minor	MGSE Cold Blackbod	Cryostat	Cold-BlackBody Dimensions	02-Sep-03	See NCR Design of Cold Black Body does not match the cryostat ICD		
HR-SP-RAL-NCR-44	Minor	Test Harness	SM SM	Connector Plating Flaking Off	20-Oct-03	See NCR Superceded By 44v1		22-Oct-03
HR-SP-RAL-NCR-44.1	Minor	GSE Test Cryoham	SM	Connector Plating Flaking Off	20-Oct-03	See NCR Use as is but remove lose plating and vacuum connectors before Mating.MRB SPIRE-RAL-MoM-1846 referrers		05-Nov-03
HR-SP-RAL-NCR-45	Minor	Spectrometer SMEC Harness Clam	CQM	SMEC harness clamp interference with Structure webbing	28-Oct-03	Remove Lower Harness clamp back webbing Closed at NCR MRB Number SPIRE-RAL-MoM-001863;		14-Nov-03
HR-SP-RAL-NCR-46	Minor	DPU	AVM	JTAG fouls adjacent circuit board	12-Nov-03	See NCR Closed at NCR MRB Number SPIRE-RAL-MoM-001863; JTAG connectors will not be implemented on any other models of the DPU so the problem will not be		14-Nov-03

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HR-SP-RAL-NCR-47	Minor	2K Photomete PFIL 3 & cold	CQM	2K Photometer box filter dowel pin fouling	04-Nov-03	Sort term remove dowel pin. Long term replace with Closed at NCR MRB Number SPIRE-RAL-MoM-001863; Ral Corrected item		14-Nov-03
HR-SP-RAL-NCR-48	Minor	S-Cal Connectors	CQM	CQM S-Cal Connector Orientation	20-Nov-03	See NCR		
HR-SP-RAL-NCR-49	Minor	Structure FPU Connector Jac	CQM	RF Filter Connector Jack post thread length	20-Nov-03	See NCR Half the Items returned to Taylor Embex for rework the remainder will be reworked at RAL		
HR-SP-RAL-NCR-50	Minor	Structure pectrometer C	All	Harnes slot missing on Spectrometer cover baffle.	05-Dec-03	See NCR		
HR-SP-RAL-NCR-51	Minor	GSE. Cold Harness	GSE	Pins Bent on GSE Harness	22-Dec-03	See NCR A pin straightening jig could be made. If the pin does not maintain the hermetic seal, the pins can be cut off or removed as they are both redundant ground pins. To be		
HR-SP-RAL-NCR-52	Minor	GSE Warm Test Ha		Grounding Problems Warm test Harness	22-Dec-03	Harness will need modification		
HR-SP-RAL-NCR-53	Minor	Calibration MGSE Support Fram	GSE	Brass Wheels Worn on MGSE Frame	07-Jan-04	Wheels changed to Delrin Brass wheels replaced with Delrin wheels. The frame now moves on the cryostat rails more freely.		15-Jan-04
HR-SP-RAL-NCR-54	Minor	Tekdata SLW PFM Incoming insp	PFM/FS	PFM SLW Harness different to FS on inspection Rep	07-Jan-04	See NCR SLW FS Harness correct but incoming inspection report indicates SLW PFM is incorrect		

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HR-SP-RAL-NCR-55	Minor	CEA Sap DCU Connectors	QM1	Pins incorrectly inserted	08-Jan-04	TBD Awaiting completion of NCR		26-Jan-04
HR-SP-RAL-NCR-55.2	Minor	CEA Sap DCU Connectors	QM1	Pins incorrectly inserted	08-Jan-04	See NCR Corrective actions specified on NCR		
HR-SP-RAL-NCR-56	Minor		CQM	Detector Channels do not follow ICD	12-Jan-04	TBD Awaiting completion of NCR		
HR-SP-RAL-NCR-57	Minor		CQM	Anomalous warm behavior of Detector System	12-Jan-04	TBD Awaiting completion of NCR		
HR-SP-RAL-NCR-58	Major	DRCU	CQM	MCU switch on over current	16-Jan-04	See NCR LAM to investigate why 14 V is applied continuously to Launch Latch coils – there is a fault in the MCU QM0 unit. Use as is for CQM testing with harness connector		
HR-SP-RAL-NCR-59	Minor	Cryostat FPU DCU J28	GSE	Ground Short on DCU J28 LIA-5 connector	21-Jan-04	See NCR		
HR-SP-RAL-NCR-60	Minor	Cryoharnesses FPU Faraday socket S5	GSE	Open circuit on FPU Faraday Shield Link Jumper on S5	22-Jan-04	See NCR Further investigation when Cryostat is opened at end of CQM testing		
HR-SP-RAL-NCR-61	Minor	DRCU	CQM	DRCU accepting an unknown command	17-Feb-04	TBI		

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HR-SP-RAL-NCR-62.1	Minor	Cooler SCO Evaporator H	CQM	Response time of SPIRE CQM Evaporator Heat Switch	19-Feb-04	See NCR The NCR has been raised to report and track the issue. A slow switch would be troublesome in flight. The performance of the switch will be monitored during the		
HR-SP-RAL-NCR-63	Minor	Cooler, FPU DPU, DRCU,	CQM	Evaporator HS & Pump HS commands reversed.	19-Feb-04	See NCR When the instrument is removed from the cryostat after the end of the initial CQM cool down, the EGSE, DPU, SCU and cryoharness will be tested to see if there		
HR-SP-RAL-NCR-64	Minor	SCAL Prime 4% sou	CQM	Apparent failure of CQM S-Cal 4% source	19-Feb-04	TBD		
HR-SP-RAL-NCR-64.1	Minor	SCAL Prime 4% sou	CQM	Apparent failure of CQM S-Cal 4% source	09-Mar-04	See NCR Review instrument commanding and telemetry streams to check if there had been any commanding errors. (Completed – See Attachment One)		
HR-SP-RAL-NCR-65	Minor		GSE	FIR optical loading of detectors from room background	19-Feb-04	See NCR 1. Modify cold-bb feet to improve isolation from HOB simulator. 2. Reduce area of ND filters to cover only the SPIRE optical beam		
HR-SP-RAL-NCR-66	Minor	SCAL	CQM	SCAL Interface Mismatch	16-Mar-04	See NCR 1. For CQM only, use 0.5mm washers to space SCAL from box. 2. For PFM and FS chamfer mounting ring of SCAL box to ensure flush mounting		
HR-SP-RAL-NCR-67				Hole Miss-alignment	07-Apr-04	Awaiting more information		
HR-SP-RAL-NCR-68						Awaiting more information		

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HR-SP-UWC-NCR 1	Minor	FPU 300mk parts Cooler Spec b	CQM	Cooler to Spectrometer Bus-Bar incorrect	08-Aug-03	See NCR Closed at NCR MRB Number SPIRE-RAL-MoM-001863; Attempt to reform second Bus Bar supplied for correct functionality for CQM if OK reform CQM Bus-Bar		14-Nov-03
LAM.QUA.SPI.AN O. 20067	Minor	Mirrors CM5	STM	Undersize Mirror	25-Nov-02	Use as is Width of the Mirrors too short by 1mm (160mm instead of 161mm). The mirror remains symmetrical with respect to the Mechanical interface.		03-Jan-03
LAM.QUA.SPI.NC R 30017.1	Major	D-Tool	SSW Spectro meter Channel	Discrepancy on the distance between the two dowel pins at the I/F with Spire optical bench	12-Feb-03	See NCR		10-Jan-03
LAM.QUA.SPI.NC R 30038.1	Major	SMEC	STM	Diameter of the SMEC attachment points	19-Mar-03	See NCR		14-Nov-03
LAM.QUA.SPI.NC R 30038.2	Major	SMEC	STM	Diameter of the SMEC attachment points	19-Mar-03	See NCR		14-Nov-03
LAM.QUA.SPI.NC R 30045.1	Major	CM3 mirror	STM STM STM	Discrepancy on CM3 optical surface orientation with respect to spigot axis	25-Apr-03	See NCR		14-Nov-03
LAM.QUA.SPI.NC R 30047.1	Major	SM7 Mirror M	STM STM STM	Orientation of the SM7 Mirror	14-Jul-03	See NCR HR-SP-MSSL-ECR-002 raised but Not Implemented MSSL referenced NCR and modified drawing (issue 3) accordingly		07-Oct-03
LAM.QUA.SPI.NC R 30048.1	Major	SM8_a Mirror	STM STM STM	SM8 Mirror Orientation	11-Sep-03	See NCR HR-SP-MSSL-ECR-001 raised but Not Implemented MSSL referenced NCR and modified drawing (issue 3) accordingly		07-Oct-03

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MSSL-NCR-1	Major	Structure Photometer c		Baffel panel damaged	13-Aug-02	implement recovery procedure once it has been appr ITEM Scrapped due to other damage NCR closed		17-Apr-03
NCR_DCU_109	Major	Warm DCU Backplane	QM1	DCU photometer and spectrometer supplies merged	27-Aug-03	See NCR Supplied as part of the Warm Electronics EIDP.		
NCR_DCU_110	Major	Warm DCU	QM1	DCU photometer and spectrometer noise allocation	27-Aug-03	See NCR Supplied as part of the Warm Electronics EIDP.		
NCR_DCU_121	Major	Warm DCU BIAS	QM1	Transients to FPU at power on	15-Sep-03	See NCR Supplied as part of the Warm Electronics EIDP.		
NCR_DCU_124	Major	Warm DCU BIAS	QM1	"Temperature Readout" Bias channel: Amplitude Non-conformance	15-Sep-03	See NCR Supplied as part of the Warm Electronics EIDP: May be related to NCR 155		
NCR_DCU_125	Major	Warm DCU	QM1	Missing Supply voltage HK channels on all DCU issing supply voltage HK channels on all DCU	15-Sep-03	See NCR Supplied as part of the Warm Electronics EIDP.		
NCR_DCU_126	Major	Warm DCU BIAS	QM1	Missing temperature probe on BIAS board	15-Sep-03	See NCR Supplied as part of the Warm Electronics EIDP.		
NCR_DCU_127	Major	Warm DCU BIAS	QM1	Vdd1 for bias spectro not found	15-Sep-03	See NCR Supplied as part of the Warm Electronics EIDP.		

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NCR_DCU_129	Major	Warm DCU LIAS	QM1	6 DCU LIAS channels show none reproducible behaviour	15-Sep-03	See NCR Supplied as part of the Warm Electronics EIDP.		
NCR_DCU_132	Major	Warm DCU	QM1	DCU J03 Connector missing pin 13	16-Sep-03	See NCR Supplied as part of the Warm Electronics EIDP.		
NCR_DCU_134	Major	Warm DCU Bias	QM1	Heater PMW2 channel not functional	24-Sep-03	See NCR Supplied as part of the Warm Electronics EIDP.		
NCR_DCU_147	Major	Warm DCU LIAP	QM1	LIAP No 5 Shows bad gain on channel 30	29-Oct-03	See NCR Supplied as part of the Warm Electronics EIDP.		
NCR_DCU_148	Major	Warm DCU LIAP	QM1	LIAP No 6 Shows bad gain on channel 9	29-Oct-03	See NCR Supplied as part of the Warm Electronics EIDP.		
NCR_DCU_149	Major	Warm DCU LIAS	QM1	LIAS cut-off frequency non-conformance	29-Oct-03	See NCR Supplied as part of the Warm Electronics EIDP.		
NCR_DCU_150	Major	Warm DCU LIAP	QM1	LIAP cut-off frequency non-conformance	29-Oct-03	See NCR Supplied as part of the Warm Electronics EIDP.		
NCR_DCU_151	Major	Warm DCU BIAS	QM1	BIAS amplitude depends on frequency	28-Oct-03	See NCR Supplied as part of the Warm Electronics EIDP.		

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NCR_DCU_152	Major	Warm DCU LIAS	QM1	LIAS no 1 shows bad gain on Channels 13, 19, 23	29-Oct-03	See NCR Supplied as part of the Warm Electronics EIDP.		
NCR_DCU_153	Major	Warm DCU LIAS	QM1	LIAS no 2 shows bad gain on Channels 1, 5, 9, 12, 20, 21, 24	29-Oct-03	See NCR Supplied as part of the Warm Electronics EIDP.		
NCR_DCU_154	Major	Warm DCU LIAS	QM1	LIAS no 3 shows bad gain on Channels 8, 9, 10, 11, 21, 24	29-Oct-03	See NCR Supplied as part of the Warm Electronics EIDP.		
NCR_DCU_155	Major	Warm DCU BIAS	QM1	Bolometer Bias Max. amplitude is 200mVpp instead of 200mVrms	29-Oct-03	See NCR Supplied as part of the Warm Electronics EIDP.		
NCR_MCU_104	Major	Warm FCU/MCU	QM1	MCU QM0 J01/J39 position swapped	15-Sep-03	See NCR Supplied as part of the Warm Electronics EIDP.		
NCR_MCU_105	Major	Warm FCU/MCU	QM1	MCU QM0 Board position and connector position not representative of flight model	15-Sep-03	See NCR Supplied as part of the Warm Electronics EIDP.		
NCR_MCU_122	Major	Warm FCU/MCU	QM1	MCU QM0 command to response timing exceeds specification	15-Sep-03	See NCR Supplied as part of the Warm Electronics EIDP.		
NCR_MCU_123	Major	Warm FCU/MCU	QM1	MCU QM0 drains excessive current on MCU_P15 at power on	15-Sep-03	See NCR Supplied as part of the Warm Electronics EIDP.		

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NCR_SCU_ 118	Major	Warm FCU/SCU CCHK	QM1	J03 pin out not consistant with DRCU ICD	10-Sep-03	See NCR Supplied as part of the Warm Electronics EIDP.		
NCR_SCU_ 128	Major	Warm FCU/SCU TEMP	QM1	SCU QM1 "ScuTHTref"HK channel not functional	15-Sep-03	See NCR Supplied as part of the Warm Electronics EIDP.		
NCR_SCU_ 130	Major	Warm FCU/SCU CCHK-IF	QM1	Position of the parameters in the telemetry data frame	15-Sep-03	See NCR Supplied as part of the Warm Electronics EIDP.		
NCR_SCU_ 138	Major	Warm FCU/SCU CCHK-IF	QM1	TC_heater voltage, inconsistency between Sap & SEDI measurements	24-Sep-03	See NCR Supplied as part of the Warm Electronics EIDP.		
SPI-BSM-NCR- 17	Minor	BSM Mirror	STM	STM Mirror Surface Spotting	14-Oct-02	See NCR Spotting on Mirror Waiver Given.		01-Nov-02

END OF LIST