

SPIRE	Project Document	Ref	SPIRE-RAL-PRJ-0001079
		Issue	8.0
	Non-conformance Reports Status Report	Date	05 April 2005

SPIRE

SUBJECT:	Non-Conformance Reports Status Report	
PREPARED BY:	E A Clark	
DOCUMENT No:	SPIRE-RAL-PRJ-0001079	
APPROVED BY:	Name	Signature & Date
Project Manager	K.J. King	
Instrument Development Manager	E. Sawyer	
Product Assurance Manager	Eric Clark	

Distribution

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List of RAL Non-Conformances

PRODUCT ASSURANCE
SPACE SCIENCE DEPARTMENT
Rutherford Appleton Laboratory

Spacecraft/Project: Herschel	Originator: RAL/SSTD/PA
Instrument: SPIRE	Document No PIRE-RAL-PRJ-0001079
Model: All	Issue : 8.0
Subsystems:	Date: 05-Apr-05

NCR Serial No.	Level	Subsystem Assembly/ Part	Model	NCR Title	Issue Date	Disposition/Corrective Actions	References	Close Out Date
(ATC) SPI-BSM-NCR-17	Major	BSM	STM	None (Mirror spotting water marks)	14-Oct-02	See NCR		01-Nov-02
(ATC) SPI-BSM-NCR-34	Major	BSM	PFM	None (Fail safe rest position)	19-Jan-04	See NCR RFW SPI-BSM-NOT-730 is applicable		01-Jul-04
(ATC) SPI-BSM-NCR-39	Major	BSM	PFM	None (Chop fails settling time)	23-Jun-04	See NCR		01-Jul-04
(CEA) LAM.QUA.SPI.AN 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
(CEA) LAM.QUA.SPI.NC 30017.1	Major	D-Tool	SSW Spectrometer 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
(CEA) LAM.QUA.SPI.NC 30038.1	Major	SMEC	STM	Diameter of the SMEC attachment points	19-Mar-03	See NCR		14-Nov-03
(CEA) LAM.QUA.SPI.NC 30038.2	Major	SMEC	STM	Diameter of the SMEC attachment points	19-Mar-03	See NCR		14-Nov-03

Spacecraft/Project: Herschel	Originator: RAL/SSTD/PA
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(CEA) LAM.QUA.SPI.NC 30045.1	Major	CM3 mirror	STM STM STM	iscrepancy on CM3 optical surface orientation with respect to spigot axis	25-Apr-03	See NCR		14-Nov-03
(CEA) LAM.QUA.SPI.NC 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
(CEA) LAM.QUA.SPI.NC 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
(CEA) NCR_DCU_ 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.		04-Nov-04
(CEA) NCR_DCU_ 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.		04-Nov-04
(CEA) 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.		04-Nov-04
(CEA) 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.		04-Nov-04
(CEA) NCR_DCU_ 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.		04-Nov-04

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(CEA) 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.		04-Nov-04
(CEA) NCR_DCU_ 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.		04-Nov-04
(CEA) NCR_DCU_ 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.		04-Nov-04
(CEA) 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		04-Nov-04
(CEA) 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.		04-Nov-04
(CEA) 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.		04-Nov-04
(CEA) 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.		04-Nov-04
(CEA) NCR_DCU_ 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.		04-Nov-04

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(CEA) 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.		04-Nov-04
(CEA) NCR_DCU_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.		04-Nov-04
(CEA) 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.		04-Nov-04
(CEA) 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.		04-Nov-04
(CEA) NCR_DCU_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.		04-Nov-04
(CEA) 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.		04-Nov-04
(CEA) 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.		04-Nov-04
(CEA) 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.		04-Nov-04

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(CEA) 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.		04-Nov-04
(CEA) 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.		04-Nov-04
(CEA) 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.		04-Nov-04
(CEA) 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.		04-Nov-04
(CEA) 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.		04-Nov-04
(CEA) 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.		04-Nov-04
(CEA) NCR-DPU-CGS-B-24	Minor	DPU	EM	A spike on the read signal of the FIFOs occurs in correspondence with a write cycle on Board DPU-EM-210.00-0 S/N 01&02	23-Jan-04	See NCR Copy of NCR received by RAL PA Section Mon 07/06/2004		
(CEA) NCR-DPU-CGS-B-25	Minor	DPU	EM	Loss of communication on 1355	23-Jan-04	See NCR Copy of NCR received by RAL PA Section Mon 07/06/2004		

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(CEA) NCR-DPU-CGS-B-27	Minor	DPU	EM	Misalignment of the bytes composing the words read from the FIFOs on board DPU-EM-210.00.0 S/N 05 & 06	26-Jan-04	See NCR Copy of NCR received by RAL PA Section Mon 07/06/2004		
(CEA) NCR-DPU-CGS-B-28	Minor	DPU	EM	DPU Boot failure	18-Feb-04	See NCR Copy of NCR received by RAL PA Section Mon 07/06/2004		
HP-153300-ASED-NC-210	Major	DPU SN 153300	PACS	PACS DPU anomalous behaviour during first test at ASED	06-Apr-04	See NCR NCR from ESTEC		
HP-2-SEN-NC-6	Minor	Optical Bench Plate	PFM EQM	out of position holes mismatch FPU to OBP	30-Jun-04	Use as is NCR Accepted and agreed by Spire Email sent 30 July 04		30-Jul-04
HP-2-SEN-NC-7	Minor	Optical Bench Plate	EQM		30-Jun-04	Use as is NCR Accepted and agreed by Spire Email sent 30 July 04		30-Jul-04
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		03-Nov-04
HR-SP-JPL-NCR-5	Minor	JFET's Sn 001-008	CQM	JFET Incoming inspection	08-Oct-03	Corrected at RAL (See NCR) JPL Reviewed and corrected Packing procedure No further action requiredref SPIRE-RAL-REP-001829 incoming inspection report.		04-Apr-05

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HR-SP-JPL-NCR-1	Minor	JPL RF Filter Mod	CQM	RF Filters over Max Mass Limit	14-Aug-03	Use as Delivered re-allocated Mass budget. NCR Closed Action 1 JPL Note Should be added to the EIDP Regarding the increased Mass allowance as of 3/2/2003. Action 2 JPL Request for Waiver should be submitted, to		14-May-04
HR-SP-JPL-NCR-2	Minor	JPL PLWBDA PLW Filter	CQM	PLW FILTER BOWING	03-Sep-03	Use as is deos not affect detector performance. UWC to comment and complete Cause & Action sections of NCR form		14-May-04
HR-SP-JPL-NCR-3	Minor	JPL PLW BD. SL	CQM	Array Process Change	06-Oct-03	Recommend 'Use as is' for the P/LW on CQM only S/LW Recommend 'Use as is' for the P/LW on CQM only S/LW use on PFM 1 build - NOT SUITABLE FOR FLIGHT – review situation for flight spare		18-Oct-04
HR-SP-JPL-NCR-4	Minor	JPL	CQM	Performance criteria not met	06-Oct-03	See NCR		18-Oct-04
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

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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
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

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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 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	Use as is, Has been found to be leak tight during cold test NCR closed re SPIRE-RAL-MoM-002013		14-May-04
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
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 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

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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
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

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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	"Modifications have been implemented Problem resolved" NCR Closed. Ref NRB SPIRE-RAL-MoM-002013		14-May-04
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
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;		07-May-04
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	LAM FPU CM3	AM	CM3 interferes with the sub optics bench at its lower edge.	30-Apr-03	Drawing of sub bench A1 5264 305 12 has been updated STM mirror may need to be removed and the mount modified accordingly		14-May-04

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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 NRB MoM's No SPIRE-RAL-MoM-001616 -		14-Apr-04
HR-SP-RAL-NCR-34.1	Major	DPU HSDPU	AM	DPU Power interface discrepancy	14-Apr-04	See NCR Awaiting Closure from ESA: Harness Definition Document: SPIRE-RAL-PRJ-000608 issue 1.2 corrects this. NCR Closed ref SPIRE-RAL-MoM-002250 NCR		20-Dec-04
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; ATC ICD is reissued is attached		12-Jul-04
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

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HR-SP-RAL-NCR-38	Minor	Structure 300mK Strap Photometer S	SM	300-mK Thermal Short during STM Programme	06-May-03	See NCR Supersceded 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	Item 1-Doug to issue a check list to cover Key integration See note in blue on NCR. Items 2 & 3 no longer valid Delete. NCR Closed		14-May-04
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
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	No re-occurrence NCR Closed. Under investigatiog Suspected Glitch on Mains supply Mains Filter will be used in future.Mains Filter fitted(in place for shutdown 25/09/04)		14-May-04
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	All Actions completed Cold Black Body Modified NCR clos Design of Cold Black Body does not match the cryostat ICD		14-May-04

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HR-SP-RAL-NCR-44	Minor	Test Harness	SM SM	Connector Plating Flaking Off	20-Oct-03	See NCR Superseded By 44v1		22-Oct-03
HR-SP-RAL-NCR-44.1	Minor	GSE Test Cryoharn	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 referers		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
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	SCAL-ICD-000 issue C Flight Model Shows correct orient Remove S-Cal from FPU • Check that the Prime Connector is wired to the active sources • Re-assemble S-Cal so that the prime and redundant connectors are		14-May-04
HR-SP-RAL-NCR-49	Minor	Structure FPU Connector Jac	CQM	RF Filter Connector Jack post thread length	20-Nov-03	Half returned for rework when done some still had to be re Half the Items returned to Taylor Embex for rework the remainder will be reworked at RAL		14-May-04
HR-SP-RAL-NCR-50	Minor	Structure pectrometer C	All	Harnes slot missing on Spectrometer cover baffle.	05-Dec-03	Flight Model Drawings updated NCR Closed		14-May-04

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HR-SP-RAL-NCR-51	Minor	GSE. Cold Harness	GSE	Pins Bent on GSE Harness	22-Dec-03	Returned to Manufacturer for correction Ok when returned 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		14-May-04
HR-SP-RAL-NCR-52	Minor	GSE Warm Test Ha	GSE	Grounding Problems Warm test Harness	22-Dec-03	Harness will need modification Harness returned to Manufacturer for modification (hardware now consistent with Documentation that was correct) NCR closed. Ref SPIRE-RAL-MoM-002013		14-May-04
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: Error on incoming inspection Report		18-Mar-04
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 Repaired at RAL NCR Closed		04-Feb-04
HR-SP-RAL-NCR-56	Minor	Detector chan	CQM	Detector Channels do not follow ICD	12-Jan-04	Raised in error NCR Closed Raised in error all OK Close NCR no further Action Required ref SPIRE-RAL-MoM-002013		14-May-04
HR-SP-RAL-NCR-57	Minor	BDA	CQM	Anomalous warm behavior of Detector System	12-Jan-04	None Known feture before delivery No Action required Known feature before delivery see EIDP NCR Closed		14-May-04

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HR-SP-RAL-NCR-58	Major	DRCU	CQM	MCU switch on over current	16-Jan-04	This unit not built to Flight design QM1 et seq will be ok. N 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		14-May-04
HR-SP-RAL-NCR-59	Minor	Cryostat FPU DCU J28	GSE	Ground Short on DCU J28 LIA-5 connector	21-Jan-04	See NCR Investigation completed but inconclusive check at next cold Test.		
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	Close NCR Reclassify as SPR Sunil to do. raised as an NCR but should have been an Software Problem report (SPR)		14-May-04
HR-SP-RAL-NCR-61.1	Minor	DRCU	CQM	DRCU accepting an unknown command	17-Feb-04	This is a feature of the MCU operation – it does not flag in This was originally thought to be a SPR but later proved to be an NCR so the NCR was Up issued accordingly Ref SPIRE-RAL-MoM-002013		01-Dec-04
HR-SP-RAL-NCR-62	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		02-Nov-04
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		02-Nov-04
HR-SP-RAL-NCR-63	Minor	Cooler, FPU Evaporator H	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		28-May-04

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HR-SP-RAL-NCR-63.1	Minor	Cooler, FPU Evaporator H E, S, DRCU,	CQM	Evaporator HS & Pump HS commands reversed.	28-May-04	Check when removed from Cryostat Tests need to be carried out on the Cooler and FPU F16 and F17 to determine if the fault lies in either of these two components		15-Jun-04
HR-SP-RAL-NCR-63.2	Minor	Cooler, FPU Evaporator H E, S, DRCU,	CQM	Evaporator HS & Pump HS commands reversed.	19-Feb-04	Update Harness definition The cooler ICD should remain the same, as any change would propagate to the PACS instrument. The Harness Definition Document Issue 1.1 and the DRCU / DPU		02-Nov-04
HR-SP-RAL-NCR-63.3	Minor	Cooler, FPU Evaporator H E, S, DRCU,	CQM	Evaporator HS & Pump HS commands reversed.	19-Feb-04	See NCR See NCR		02-Nov-04
HR-SP-RAL-NCR-64	Minor	SCAL Prime 4% sou	CQM	Apparent failure of CQM S-Cal 4% source	19-Feb-04	See NCR Superseded by issue of HR-SP-RAL-NCR-064v1		13-May-04
HR-SP-RAL-NCR-64.1	Minor	SCAL Prime 4% sou	CQM	Apparent failure of CQM S-Cal 4% source	09-Mar-04	Review instrument commanding and telemetry streams to Superseded by issue of HR-SP-RAL-NCR-064v2 HSO-CDF-RP-065 attached report from P Hargrave.		18-Jun-04
HR-SP-RAL-NCR-64.2	Minor	SCAL Prime 4% sou	CQM	Apparent failure of CQM S-Cal 4% source	18-Jun-04	See NCR		02-Nov-04
HR-SP-RAL-NCR-65	Minor	Cryostat	GSE	FIR optical loading of detectors from room background	19-Feb-04	Action 1 done Action 2 N/A Note On rechecking the DATA Loading is as expected		14-May-04
HR-SP-RAL-NCR-66	Minor	SCAL	CQM 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		12-Jul-04

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HR-SP-RAL-NCR-67	Minor	FPU	PFM	Hole Miss-alignment	07-Apr-04	As yet undetermined Awaiting more information MSSL informed		
HR-SP-RAL-NCR-68	Minor	JFET JFET feet Torlon Washe	CQM	Torlon Insulating washer upside down on JFET foot assembly	07-May-04	None required, washers are bonded into place so should		02-Nov-04
HR-SP-RAL-NCR-69	Minor	RF Filter	CQM	Screw from filter unit support fallen out	12-May-04	Incorporate a specific reminder to stake the screw with Sc The updated document with the reminder is "SPIRE Final Integration Checklist - SPIRE-RAL-NOT-002088 Issue 1.0"		02-Nov-04
HR-SP-RAL-NCR-70	Minor	SMEC Bushes	CQM	Possible chaffing/wear marks on SMEC bushes	12-May-04	See NCR This mechanism is designed to give similar dynamic performance to the FM. To achieve this, non flight -like bushes are used. Some movement of these bushes is		02-Nov-04
HR-SP-RAL-NCR-71	Minor	FPU Harnesses	CQM	Piece of Kapton found between webbing on filter side	12-May-04	Incorporate a specific reminder for this in the document b		02-Nov-04
HR-SP-RAL-NCR-72	Minor	Filters	CQM	Damage on photometer detector box filters	12-May-04	See NCR Inspection by Peter Hargrave from Cardiff. He reported that this type of appearance of a hot pressed filter is not unusual. This is not a damaged filter. Close NCR		02-Nov-04
HR-SP-RAL-NCR-73	Minor	BDA-JFET M	CQM	Cracking of elastomer in BDA-JFET MDM 51S connector	12-May-04	see remarks The seal is not necessary in SPIRE and is to be removed. It is noted that the same seal is present also in the following connectors and is to be removed. PFM JFP		05-Nov-04
HR-SP-RAL-NCR-74	Minor	JFET Back harness	CQM	Heat Shrink on JFET back Harnesses	12-May-04	See NCR The all existing Kynar heat shrink is to be removed from the Backharness. Adhesive Kapton tape is to be used to substitute the Heat Shrink. (Note. The braid is		02-Nov-04

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HR-SP-RAL-NCR-75	Major	Instrument	CQM	During Cold vibration test the sine test went to 200Hz	12-May-04	See NCR Closed Ref SPIRE CQM DRB Ref (H-P-ASP-MN-5613)		12-Oct-04
HR-SP-RAL-NCR-76	Major	FPU Phot Detector	PFM	Poor Alachrome on photometer Detector box	10-Jun-04	See NCR Alachrome cleaned off and unit made clean to flight standard. Closed ref 076v1 Use as is for current alignment integration activities.		20-Sep-04
HR-SP-RAL-NCR-76.1	Major	Phot Detector	PFM	Poor Alachrome on photometer Detector box	10-Jun-04	See NCR Closed ref SPIRE-RAL-MoM-002131 NRB MoM's		23-Sep-04
HR-SP-RAL-NCR-77	Minor	MSSL FPU Belville washe	PFM	Two sizes of Belville washers with the same assembly number	11-Jun-04	Checks will be made during the bagging of the fixings to e Walton plating (not the original company). They think that some agent has attacked the alocrom! This is due to the fact that it was patchy.		23-Sep-04
HR-SP-RAL-NCR-78	Minor	BSMOGSE	OGSE	Modifications to BSM OGSE	17-Jun-04	See NCR		21-Dec-04
HR-SP-RAL-NCR-79	Minor	FPU 300mk strap	CQM CQM	Minimal clearence between Spect Det Box SLB and 300mk split clamp	01-Jul-04	Examine a copy of the drawings and the assembled compo Reference ECR 075		02-Nov-04
HR-SP-RAL-NCR-80	Minor	Beam splitter i	PFM	Beam Splitter /Mount Interface	11-Aug-04	MSSL to remachine and update drawings Upissued drawing attached to NCR Closed ref SPIRE-RAL-MoM-002131 NRB MoM's		15-Sep-04
HR-SP-RAL-NCR-81	Major	JFP I/F Carbon Fibre	CQM 2	Electrical Short on JFP I/F	20-Aug-04	See NCR HR-SP-RAL-ECR-079 raised to track changes: NCR Re classified as Major 3rd Nov 2004		03-Nov-04

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HR-SP-RAL-NCR-82	Minor		CQM 2	Electrical Short on Cooler Strap	20-Aug-04	The Joint Integrity is to be monitored as per existing SPIR Precise cause unknown. Possibly the screw preload caused the short? The joint was assembled using a single layer of thin Dacron. The PFM design and		25-Oct-04
HR-SP-RAL-NCR-83	Minor	Detector Box Feet	PFM CQM	Electrical Short on Photometer Detector Box Feet	06-Sep-04	See NCR The Kapton was removed from all detector box mounts and a 200um layer of PCB board material (possibly a glass reinforced Kapton) was inserted between the		25-Oct-04
HR-SP-RAL-NCR-84	Minor	Cryostat Thermal Strap Heaters	GSE	Heater failures on Thermal Straps during cool down.	08-Sep-04	Investigate fault when spire is removed from cryostat. uperseded by HR-SP-RAL-NCR-084v1		21-Dec-04
HR-SP-RAL-NCR-84.1	Minor	Cryostat Thermal Strap	GSE	Facility Heater failure on L0 Thermal Straps during cool down	21-Dec-04			
HR-SP-RAL-NCR-85	Minor	Cryostat PUMP	GSE	Pump Failure during cool down	08-Sep-04	ACKNOWLEDGE ERROR MESSAGE..REBOOT PUMPI uperseded by HR-SP-RAL-NCR-085v1		21-Dec-04
HR-SP-RAL-NCR-85.1	Minor	Cryostat PUMP	GSE	Facility Vacuum Pump Failure during cool down	21-Dec-04	Monitor the vacuum pressure closely when filling the cryo		
HR-SP-RAL-NCR-86	Minor	Cryostat Temp sensors	GSE	Temp sensor failures	08-Sep-04	uperseded by HR-SP-RAL-NCR-086v1		21-Dec-04
HR-SP-RAL-NCR-86.1	Minor	Cryostat Temp sensors	GSE	Temp sensor failure During cool down	21-Dec-04			

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HR-SP-RAL-NCR-87	Major	JFET's	CQM	One JFET Turned on one did not during 2nd cold test.	18-Oct-04	Spare JFETS sent to replace damaged JFETS and the da JFET REPLACED ON CQM Progression of NRB's held:SPIRE-RAL-MoM-002193, 002193v1, 002243, and 002243v1		
HR-SP-RAL-NCR-88	Major	300mk strap	CQM	300-mK strap clearance at cooler cold-tip	14-Sep-04	See NCR 1mm was removed from each of the straps to increase the clearance between the components to enable CQM-II testing to proceed. This needs to be formally reviewed		25-Oct-04
HR-SP-RAL-NCR-89	Minor	Cryostat	GSE	Cooler hold time anomaly	21-Oct-04	TBD		
HR-SP-RAL-NCR-90	Minor	Cryostat Harness	GSE	Electrical Short on SPIRE Cryostat Harness	18-Oct-04	Update master procedure for PFM-I test to monitor groun		
HR-SP-RAL-NCR-91	Minor	FPU PCAL	CQM	Drive shorted to shield in FPU	10-Nov-04	USE as is for CQM, leave OPEN for PFM If, as assumed, this was always the case for the CQM it has no effect on the PCAL operation as the shield wire is not connected to chassis at any point in the system. We		
HR-SP-RAL-NCR-92	Minor	FPU/JFP/JFS	EQM	SPIRE EQM Electrical Interface Bench Test Anomalies	30-Nov-04	Closed by HR-SP-RAL-NCR-92v2. ref SPIRE-RAL-MoM-002304		12-Jan-05
HR-SP-RAL-NCR-92.2	Major	FPU/JFP/JFS	PFM CQM	SPIRE EQM Electrical Interface Bench Test Anomalies	12-Jan-05	USE as is for CQM, leave OPEN for PFM NRB ref SPIRE-RAL-MoM-002304		
HR-SP-RAL-NCR-93	Minor	S-CAL Box	PFM	S-Cal Box Blacking behind SM8B"	30-Nov-04	Use as is note disposition on PFM ABCIDL		

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HR-SP-RAL-NCR-94	Major	300mk Busbar	CQM	Large temperature drop along CQM 300 mK busbar	01-Dec-04	PFM bus-bar made from 5N annealed copper – see MSS USE AS IS for CQM NCR CLOSED SPIRE-RAL-TN-002248 attached		04-Apr-05
HR-SP-RAL-NCR-95	Minor	OGSE	CQM	Misalignment between SPIRE and OGSE	01-Dec-04	Add optical alignment procedure to the PFM1 Cold Test M NCR Closed all actions taken.		04-Apr-05
HR-SP-RAL-NCR-96	Major	FPU	PFM CQM	L1 electrical short	13-Dec-04	The cause of the short to be investigated. Ref NRB SPIRE-RAL-MoM-002247 (v1 to v3) Agreed to use as is. Leave NCR open until isolation test plan is established for PFM		
HR-SP-RAL-NCR-97	Minor	SFIL	PFM	SFIL COLD STOP insert came out of Housing	20-Dec-04	Refit Insert		
HR-SP-RAL-NCR-98	Minor	SLW SSW	PFM	LOCATION DIAMETER TO SMALL	20-Dec-04	Open bores out to 25.00mm		
HR-SP-RAL-NCR-99	Minor		PFM	Bores on the photometer harness connector plate need re-machining	22-Dec-04	TBD Allocated to Alan Pearce		
HR-SP-RAL-NCR-100	Minor	BDA	PFM	Damage to PFM SSW BDA J06 and PFM F14 P06 Pin 26	25-Jan-05	For PFM-I test campaign – Temporary fix as per Figure 4		
HR-SP-RAL-NCR-101	Minor	SSW BDA J06 / P06	PFM	Damage to PFM F14 JFS-P12 (Pin 1)	27-Jan-05	Straighten pin see r"emarks" Gauge wire inserted into socket contact to protect it from buckling damage. The pin was carefully bent back into the correct position. The interface was tested with a spare		

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Model: All	Issue : 8.0
Subsystems:	Date: 05-Apr-05

<i>NCR Serial No.</i>	<i>Level</i>	<i>Subsystem Assembly/ Part</i>	<i>Model</i>	<i>NCR Title</i>	<i>Issue Date</i>	<i>Disposition/Corrective Actions</i>	<i>References</i>	<i>Close Out Date</i>
HR-SP-RAL-NCR-102	Minor	JFS	PFM	Incorrect labeling of connectors of JFS J11, J12, J13 and J14	31-Jan-05	Use as is for PFM-1 and re-work for PFM-II		
HR-SP-RAL-NCR-103	Minor	JFS	PFM	Inconsistent BSM position sensor signal polarity	31-Jan-05	Awaiting completion of cause and disposition sections		
HR-SP-RAL-NCR-104	Minor	JFS PTC	FS	Ground short on PTC	31-Jan-05	Use Flight Spare SN 002 on PFM Model and return faulty		
HR-SP-RAL-NCR-105	Major	MCU CQM1	QM1 CQM	Simultaneous generation of BSM and SMEC frames leads to Frame ID error reports	03-Feb-05	TBD No effect on EQM Testing (MCU not used).		
HR-SP-RAL-NCR-106	Minor	FPU	PFM	Electrical short between FPU and Cryostat Chassis	03-Feb-05	Awaiting completion of cause and disposition sections		
HR-SP-RAL-NCR-107	Minor	Warm DCU/SCU DC Thermom	PFM	Dynamic range of SCU thermometry not matched to flight thermometers	03-Mar-05	ADC ranges for later models to be set to match the actual		
HR-SP-RAL-NCR-108	Major		PFM	Autonomous Shut Down of LIAs	11-Mar-05	Allocated to Dave Smith		
HR-SP-RAL-NCR-109	Minor	LO Straps Evaporator Str	CQM	Evaporator Straps fail incoming inspection	17-Mar-05	Remove corner to produce 5 X 450 chamfer. Operation carried out by A Pearce. NCR closed		04-Apr-05

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<i>NCR Serial No.</i>	<i>Level</i>	<i>Subsystem Assembly/ Part</i>	<i>Model</i>	<i>NCR Title</i>	<i>Issue Date</i>	<i>Disposition/Corrective Actions</i>	<i>References</i>	<i>Close Out Date</i>
HR-SP-UCF-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
HR-SP-UCF-NCR-2	Major	SCAL	PFM	Prime & redundant connectors soldering not to ESA standard	20-Aug-04	Rework of the connectors by an ESA Qualified operator, a Corrected at Cardiff and Photo's inspected at RAL SCAL Can be accepted.		04-Nov-04
MSSL-SPIRE-NCR-1	Major	Structure Photometer c	CQM	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
MSSL-SPIRE-NCR-3	Major	L0 Strap	CQM	Electrical short on Level 0 Thermal strap	26-Jan-05	TBD		

END OF LIST