

Immediate switch OFF (Redundant)
 File: H_CRP_PAC_RSIF.xls
 Author: R. Biggins



Procedure Summary

Objectives

The objective of this procedure is to immediately switch OFF the redundant PACS units

- Disable PACS related OBCPs
- Disable RT interrogations
- Switch off DPU
- Re-enable PACS related OBCPs

Summary of Constraints

This procedure should only be executed if the normal switch off procedure (H_FCP_PAC_RSOF) cannot be run

Spacecraft Configuration

Start of Procedure

PACS in any mode

End of Procedure

PACS powered OFF

Reference File(s)

Input Command Sequences

Output Command Sequences

HRPRSIF

Referenced Displays

| | | |
|-------------|-------------|-------------|
| ANDs | GRDs | SLDs |
| ZAZ97999 | | |
| ZAZA0999 | | |

Configuration Control Information

| DATE | FOP ISSUE | VERSION | MODIFICATION DESCRIPTION | AUTHOR | SPR REF |
|------------|-----------|---------|---|------------|---------|
| 09/11/2007 | | 1 | Created | R. Biggins | |
| 18/01/2008 | | 2 | Update due to initial testing against the simulator: - TCs updated due to new DB | R. Biggins | |
| 27/05/2008 | 1 | 3 | Updates due to SVT-1 testing: - TC to disable/enable FDIR removed - TCs added to disable/enable OBCPs - TC to disable RT interrogations moved directly before DPU switch off - Comments added/updated - Flags updated - AND updated for all TM parameters | R. Biggins | |
| 23/10/2008 | | 4 | Updates due to new procedures from industry - TC DC005161 database definition updated - New step added to update UIU table | R. Biggins | |
| 10/12/2008 | | 5 | Updates due to testing: - TC DCT85170 corrected to DCT84170 in step 6 - Time tags added to TCs in steps 2-4 - Flags updated | R. Biggins | |

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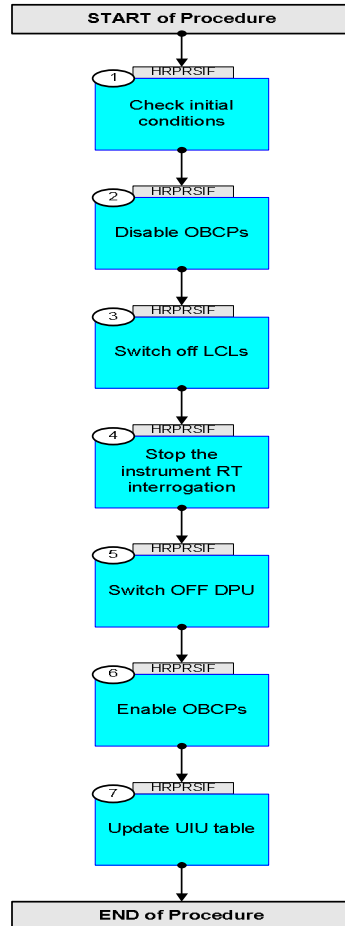


| | | | | | |
|------------|-----|------|---|------------|--|
| 13/01/2009 | 2 | 6 | Update due to new database - TCs DCT85170 and DCT84170 updated due to new definitions (step 2 and 6) | R. Biggins | |
| 04/03/2009 | 2.1 | 6.01 | Validation : Validation: Updates due to SVT-2/SOVT-2 testing - Summary updated | R. Biggins | |
| 18/08/2009 | | 7 | - TCs to disable and enable OBCPs updated - TC added to verify OBCP state | R. Biggins | |
| 24/09/2009 | 2.5 | 8 | - Enable EAT entry TC updated | R. Biggins | |
| 19/11/2010 | 3.1 | 9 | UIU table TCs updated to ensure 4 minute delay before PACS switch-on | R. Biggins | |

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Procedure Flowchart Overview



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| Step No. | Time | Activity/Remarks | TC/TLM | Display/ Branch |
|--|----------------------|--|---|-----------------|
| Beginning of Procedure | | | | |
| TC Seq. Name :HRPRSIF (Immediate OFF (Red)) | | | | |
| TimeTag Type: N Sub Schedule ID: □ | | | | |
| 1 | | Check initial conditions | | Next Step: 2 |
| 1.1 | | Redundant instrument LCLs | | □ |
| | | Verify Telemetry PacsD_R_L42_S WM42B565 | = ON | AND=ZAZ97999 |
| | | Verify Telemetry PacsS_R_L36_S WM62A565 | = ON or OFF | AND=ZAZ97999 |
| | | Verify Telemetry PacsB_R_L28_1S WM32D565 | = ON or OFF | AND=ZAZ97999 |
| | | Verify Telemetry PacsMec2_L69_1S WM62E565 | = ON or OFF | AND=ZAZ97999 |
| 2 | | Disable OBCPs | | Next Step: 3 |
| | ET=+ UT=+00.00.00 | Execute Telecommand DisableActions Command Parameter(s) : N_Repetition DH041170 APID_for_EAT_TC DH236170 EventId DH146170 APID_for_EAT_TC DH236170 EventId DH146170 APID_for_EAT_TC DH236170 EventId DH146170 APID_for_EAT_TC DH236170 EventId DH146170 APID_for_EAT_TC DH236170 EventId DH146170 APID_for_EAT_TC DH236170 EventId DH146170 | DCT85170 | |
| | | APID_for_EAT_TC DH236170 EventId DH146170 APID_for_EAT_TC DH236170 EventId DH146170 TC Control Flags : Subsch. ID : 10 Det. descr. : TEMPLATE Disable Actions TC(19,5) | CDMS (Def) AC <hex> CDMS (Def) BA <hex> GBM IL DSE --Y -- -- | |

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| Step No. | Time | Activity/Remarks | TC/TLM | Display/ Branch |
|----------|----------------------|--|----------|-----------------|
| | ET=+ UT=+00.00.05 | Execute Telecommand ReptEvtActTable <i>Subsch. ID : 10</i> Det. descr. : TEMPLATE Report The contents of the event/action table TC(19,6) | DCT86170 | |
| | | View the OEAD to ensure that the correct OBCPs have been disabled | | |
| 3 | | <i>Switch off LCLs</i> | | Next Step: 4 |
| | | Sending this TC will generate the following TM(5,1) packets: EVENT_REPORT_2_18 - HK DPU SOFT EVENT_REPORT_8_15 - COUNTER Error EVENT_REPORT_3_31 - 1355 Timeout The following TM(5,2) packets are also expected: EXCEPTION_REPORT_0_25 - PACS NOMINAL OFF | | |
| | ET=+ UT=+00.00.00 | Switch off SPU LCL SwOff_PacsS_R_L36 <i>Subsch. ID : 10</i> Det. descr. : PCDU: TC(8,4,112,3) PACS SPU Red - switch LCL_36 off | DC36B170 | |
| | | Verify Telemetry PacsS_R_L36_S WM62A565 | = OFF | AND=ZAZ97999 |
| | | Sending this TC will generate the following TM(5,1) packets: EVENT_REPORT_2_18 - HK DPU SOFT EVENT_REPORT_8_15 - COUNTER Error EVENT_REPORT_3_7 - SS Stopped The following TM(5,2) packets are also expected: EXCEPTION_REPORT_0_25 - PACS NOMINAL OFF | | |
| | ET=+ UT=+00.00.00 | Switch off BOLC LCL SwOff_PacsB_R_L28 <i>Subsch. ID : 10</i> Det. descr. : PCDU: TC(8,4,112,3) PACS BOLC Red-switch LCL_28 off | DC28B170 | |
| | | Verify Telemetry PacsB_R_L28_1S WM32D565 | = OFF | AND=ZAZ97999 |
| | ET=+ UT=+00.00.00 | Switch off DECMEC LCL SwOff_PacsDecMec2_L69 <i>Subsch. ID : 10</i> Det. descr. : PCDU: TC(8,4,112,3) PACS DEC/MEC2 - switch LCL_69 off | DC69B170 | |
| | | Verify Telemetry PacsMec2_L69_1S WM62E565 | = OFF | AND=ZAZ97999 |

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| Step No. | Time | Activity/Remarks | TC/TLM | Display/ Branch |
|----------|----------------------|--|---|-----------------|
| 4 | | Stop the instrument RT interrogation | | Next Step: 5 |
| | ET=+ UT=+00.00.00 | Execute Telecommand ConfiguresSDBFDIR Command Parameter(s) : RTA DH011161 M0 DH030161 M1 DH031161 M2 DH032161 M3 DH033161 M4 DH034161 M5 DH035161 M6 DH036161 M7 DH037161 F0 DH018161 F1 DH019161 | DC005161 PACS B Update status Ignore Flag Ignore Flag Ignore Flag Update status Ignore Flag Ignore Flag Ignore Flag OFF Alive | |
| | | F2 DH020161 F3 DH021161 F4 DH022161 F5 DH023161 F6 DH024161 F7 DH025161 M12 DH051161 M_C DH043161 M8 DH038161 M9 DH039161 M10 DH040161 M11 DH041161 F12 DH050161 CNT DH042161 F8 DH026161 | Well TC Well TM Invalid Non-vital NOMINAL ON Ignore Flag Ignore CNT Ignore Flag Ignore Flag Ignore Flag ENABLED LoopCnt1 Bus A | |
| | | F9 DH027161 F10 DH028161 F11 DH029161 Subsch. ID : 10 Det. descr. : Configure SDB FDIR | Healthy Healthy DISABLED | |
| | | Wait up to 1 minute for the generation of the D_H_Hk_P64 packet from the CDMU (APID = 18) | | |
| | | Verify Telemetry PACSB_OnOff DED31161 | = OFF | AND=ZAZ97999 |
| | | Verify Telemetry PACSB_ValidInv DED35161 | = Invalid | AND=ZAZ97999 |
| 5 | | Switch OFF DPU | | Next Step: 6 |
| | ET=+ UT=+00.00.00 | Switch off DPU LCL SwOff_PacsD_R_L42 Subsch. ID : 10 Det. descr. : PCDU: TC(8,4,112,3) PACS DPU Red - switch LCL_42 off | DC42B170 | |

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| Step No. | Time | Activity/Remarks | TC/TLM | Display/ Branch |
|----------|----------------------|--|--|-------------------|
| | | Verify Telemetry PacsD_R_L42_S WM42B565 | = OFF | AND=ZAZ97999 |
| 6 | | <i>Enable OBCPs</i> | | Next Step: 7 |
| | ET=+ UT=+00.00.00 | Execute Telecommand EnableActions Command Parameter(s) : N_Repetition DH041170 APID_for_EAT_TC DH236170 EventId DH146170 APID_for_EAT_TC DH236170 EventId DH146170 APID_for_EAT_TC DH236170 EventId DH146170 APID_for_EAT_TC DH236170 EventId DH146170 APID_for_EAT_TC DH236170 EventId DH146170 APID_for_EAT_TC DH236170 EventId DH146170 | DCT84170 | |
| | | APID_for_EAT_TC DH236170 EventId DH146170 APID_for_EAT_TC DH236170 EventId DH146170 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : TEMPLATE Enable Actions TC(19,4) | CDMS (Def) AC <hex> CDMS (Def) BA <hex> | |
| | ET=+ UT=+00.00.05 | Execute Telecommand ReptEvtActTable Subsch. ID : 10 Det. descr. : TEMPLATE Report The contents of the event/action table TC(19,6) | DCT86170 | |
| | | View the OEAD to ensure that the correct OBCPs have been enabled | | |
| 7 | | <i>Update UIU table</i> | | Next Step: END |
| | ET=+ UT=+00.04.00 | Execute Telecommand H_FdirMarkUnitOff_Templ Command Parameter(s) : H_ConfStsUnitId DHZ00170 | DC91H159 PacsBolc | |
| | | Subsch. ID : 10 Det. descr. : TEMPLATE FDIR: Mark Unit OFF, TC(8,4,116,25), Herschel Version | | |

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|-------------------------|---------------------|---|---------------------------------------|-----------------|
| | ET= UT=+00.00.01 | Execute Telecommand H_FdirMarkUnitOff_Templ Command Parameter(s) : H_ConfStsUnitId DHZ00170 Subsch. ID : 10 Det. descr. : TEMPLATE FDIR: Mark Unit OFF, TC(8,4,116,25), Herschel Version | DC91H159 PacsDec | |
| | ET= UT=+00.00.01 | Execute Telecommand H_FdirMarkUnitOff_Templ Command Parameter(s) : H_ConfStsUnitId DHZ00170 Subsch. ID : 10 Det. descr. : TEMPLATE FDIR: Mark Unit OFF, TC(8,4,116,25), Herschel Version | DC91H159 PacsDpu | |
| | | Verify Telemetry PacsBolc1FuncSt DEL54171 | = Off | AND=ZAZA0999 |
| | | Verify Telemetry PacsDeclFuncSts DEL44171 | = Off | AND=ZAZA0999 |
| | | Verify Telemetry PacsDpuFuncSts DEL50171 | = Off | AND=ZAZA0999 |
| End of Procedure | | | | |