

Switch to TMTC R after PCDU 1553 bus failure
File: H_CRP_EPS_IF6R.xls
Author: E. Picallo



Procedure Summary

Objectives

This procedure describes the steps needed to switch from the nominal (RT 5) to the redundant PCDU TMTC module (RT 6) after an on board PCDU switchover.

Summary of Constraints

Before switching OFF the nominal 1553 RT (TMTC N) it is necessary to disable the communication between PCDU and CDMU on the 1553 S/C bus.

Before switching ON the redundant 1553 RT (TMTC R) it is necessary to mark it as not failed in "Unit in Use" (UIU) table.

Re-enable of EAT entry ID 157 and communication on the bus are executed after the redundant 1553 RT (TMTC R) is switched ON.

Moreover:

- the EAT entry is enabled/disabled through TC(19,4/5) thus the status of the ASW function "Event/Action Management" has to be "running";

- the switching OFF/ON of the PCDU TMTC module is done using TC(2,1), thus not automatically updating the UIU table, therefore in addition to the health status (failed/not failed) in UIU table, one needs to change the UIU contents thus the status of the ASW function "FDIR Management" has to be "running".

Spacecraft Configuration

Start of Procedure

CDMU in default configuration.
Communication between CDMU and PCDU via nominal 1553 I/F, remote terminal address 5 (nominal TMTC module).
Redundant 1553 I/F, remote terminal address 6 (redundant TMTC module) marked OFF and failed in unit in use table.
EAT entry (Event ID 0x009D) disabled.

End of Procedure

CDMU in default configuration;
Communication between CDMU and PCDU via redundant 1553 I/F, remote terminal address 6 (redundant TMTC module).
Redundant 1553 I/F, remote terminal address 6 (redundant TMTC module) marked ON and not failed in unit in use table.
EAT entry (event ID 0x009D) re-enabled.

Reference File(s)

Input Command Sequences

Output Command Sequences

HRWIF6R

Referenced Displays

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ANDs **GRDs** **SLDs**
 ZAZ7H999
 ZAZ7L999
 ZAZ7K999

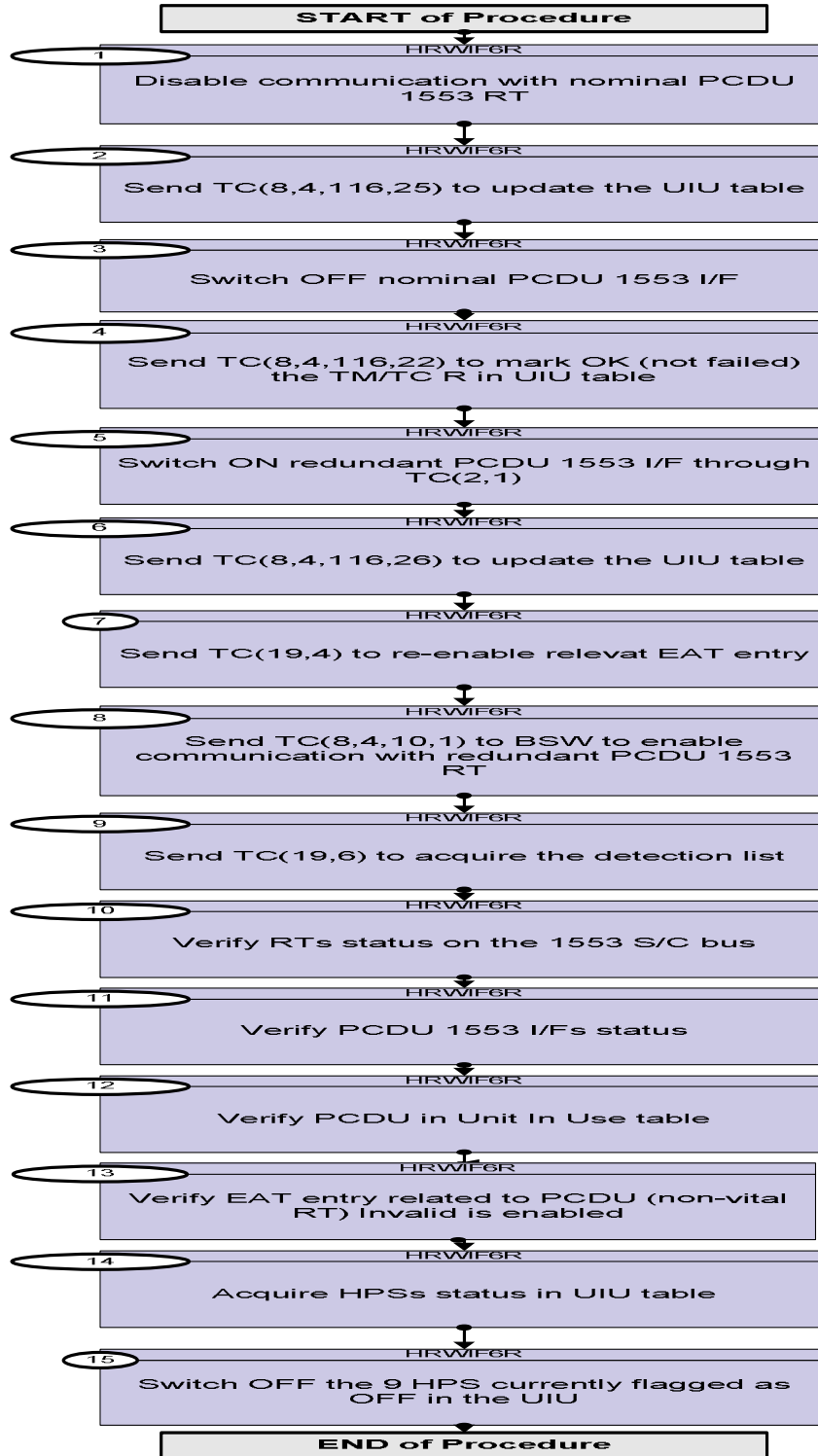
Configuration Control Information

| DATE | FOP ISSUE | VERSION | MODIFICATION DESCRIPTION | AUTHOR | SPR REF |
|----------|-----------|---------|---|------------|---------|
| 28/07/08 | 1 | 1 | Created | E. Picallo | |
| 19/09/08 | | 2 | TC DC005161 (Configure SDBFDIR) M12 / F12 flag setting update | E. Picallo | |
| 09/01/09 | 2 | 3 | CDMU ASW V3.8 and BSW V2.4 alignment | E. Picallo | |
| 20/03/09 | 2.2 | 4 | recommendation to execute the procedure using the MTL added | E. Picallo | |
| 10/04/09 | 2.3 | 5 | Set VC ID for Red High Priority Standard TC added | E. Picallo | |
| 06/07/09 | 2.5 | 6 | Re-enable EAT ID 157 before enable communication redundant 1553 RT (TMTC R)□ Procedure using the MTL | E. Picallo | |

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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 : HRWIF6R (Switch TMTCR busfail) Switch to TMTC R after PCDU 1553 bus failure TimeTag Type: B Sub Schedule ID: <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | | Disable communication with nominal PCDU 1553 RT | | Next Step: 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | In the TC(8,4,10,1) it is necessary to set the following parameters: - Remote terminal address = 5 (nominal PCDU 1553 I/F) - status of the RTA= off (M0=1,F0=0) - Status of the RT = invalid (M4=1,F4=0) The remaining parameters of the TC have been set but they are not important because are masked. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ET=+00.00.00 UT=+ | Execute Telecommand Command Parameter(s) : <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 30%; text-align: center;">ConfigureSDBFDIR</td> <td style="width: 40%;"></td> </tr> <tr> <td>RTA</td> <td style="text-align: center;">DH011161</td> <td>PCDU A</td> </tr> <tr> <td>M0</td> <td style="text-align: center;">DH030161</td> <td>Update status</td> </tr> <tr> <td>M1</td> <td style="text-align: center;">DH031161</td> <td>Ignore Flag</td> </tr> <tr> <td>M2</td> <td style="text-align: center;">DH032161</td> <td>Ignore Flag</td> </tr> <tr> <td>M3</td> <td style="text-align: center;">DH033161</td> <td>Ignore Flag</td> </tr> <tr> <td>M4</td> <td style="text-align: center;">DH034161</td> <td>Update status</td> </tr> <tr> <td>M5</td> <td style="text-align: center;">DH035161</td> <td>Ignore Flag</td> </tr> <tr> <td>M6</td> <td style="text-align: center;">DH036161</td> <td>Ignore Flag</td> </tr> <tr> <td>M7</td> <td style="text-align: center;">DH037161</td> <td>Ignore Flag</td> </tr> <tr> <td>F0</td> <td style="text-align: center;">DH018161</td> <td>OFF</td> </tr> <tr> <td>F1</td> <td style="text-align: center;">DH019161</td> <td>Dead</td> </tr> <tr> <td colspan="3"> </td> </tr> <tr> <td>F2</td> <td style="text-align: center;">DH020161</td> <td>Sick TC</td> </tr> <tr> <td>F3</td> <td style="text-align: center;">DH021161</td> <td>Sick TM</td> </tr> <tr> <td>F4</td> <td style="text-align: center;">DH022161</td> <td>Invalid</td> </tr> <tr> <td>F5</td> <td style="text-align: center;">DH023161</td> <td>Non-vital</td> </tr> <tr> <td>F6</td> <td style="text-align: center;">DH024161</td> <td>NOMINAL</td> </tr> <tr> <td>F7</td> <td style="text-align: center;">DH025161</td> <td>OFF</td> </tr> <tr> <td>M12</td> <td style="text-align: center;">DH051161</td> <td>Ignore Flag</td> </tr> <tr> <td>M_C</td> <td style="text-align: center;">DH043161</td> <td>Ignore CNT</td> </tr> <tr> <td>M8</td> <td style="text-align: center;">DH038161</td> <td>Ignore Flag</td> </tr> <tr> <td>M9</td> <td style="text-align: center;">DH039161</td> <td>Ignore Flag</td> </tr> <tr> <td>M10</td> <td style="text-align: center;">DH040161</td> <td>Ignore Flag</td> </tr> <tr> <td>M11</td> <td style="text-align: center;">DH041161</td> <td>Ignore Flag</td> </tr> <tr> <td>F12</td> <td style="text-align: center;">DH050161</td> <td>DISABLED</td> </tr> <tr> <td>CNT</td> <td style="text-align: center;">DH042161</td> <td>LoopCnt1</td> </tr> <tr> <td>F8</td> <td style="text-align: center;">DH026161</td> <td>Bus A</td> </tr> <tr> <td colspan="3"> </td> </tr> <tr> <td>F9</td> <td style="text-align: center;">DH027161</td> <td>Unhealthy</td> </tr> <tr> <td>F10</td> <td style="text-align: center;">DH028161</td> <td>Unhealthy</td> </tr> <tr> <td>F11</td> <td style="text-align: center;">DH029161</td> <td>DISABLED</td> </tr> </table> | | ConfigureSDBFDIR | | RTA | DH011161 | PCDU A | M0 | DH030161 | Update status | M1 | DH031161 | Ignore Flag | M2 | DH032161 | Ignore Flag | M3 | DH033161 | Ignore Flag | M4 | DH034161 | Update status | M5 | DH035161 | Ignore Flag | M6 | DH036161 | Ignore Flag | M7 | DH037161 | Ignore Flag | F0 | DH018161 | OFF | F1 | DH019161 | Dead | | | | F2 | DH020161 | Sick TC | F3 | DH021161 | Sick TM | F4 | DH022161 | Invalid | F5 | DH023161 | Non-vital | F6 | DH024161 | NOMINAL | F7 | DH025161 | OFF | M12 | DH051161 | Ignore Flag | M_C | DH043161 | Ignore CNT | M8 | DH038161 | Ignore Flag | M9 | DH039161 | Ignore Flag | M10 | DH040161 | Ignore Flag | M11 | DH041161 | Ignore Flag | F12 | DH050161 | DISABLED | CNT | DH042161 | LoopCnt1 | F8 | DH026161 | Bus A | | | | F9 | DH027161 | Unhealthy | F10 | DH028161 | Unhealthy | F11 | DH029161 | DISABLED | DC005161 | |
| | ConfigureSDBFDIR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RTA | DH011161 | PCDU A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M0 | DH030161 | Update status | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M1 | DH031161 | Ignore Flag | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M2 | DH032161 | Ignore Flag | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M3 | DH033161 | Ignore Flag | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M4 | DH034161 | Update status | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M5 | DH035161 | Ignore Flag | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M6 | DH036161 | Ignore Flag | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M7 | DH037161 | Ignore Flag | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F0 | DH018161 | OFF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F1 | DH019161 | Dead | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| F2 | DH020161 | Sick TC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F3 | DH021161 | Sick TM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F4 | DH022161 | Invalid | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F5 | DH023161 | Non-vital | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F6 | DH024161 | NOMINAL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F7 | DH025161 | OFF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M12 | DH051161 | Ignore Flag | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M_C | DH043161 | Ignore CNT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M8 | DH038161 | Ignore Flag | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M9 | DH039161 | Ignore Flag | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M10 | DH040161 | Ignore Flag | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M11 | DH041161 | Ignore Flag | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F12 | DH050161 | DISABLED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CNT | DH042161 | LoopCnt1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F8 | DH026161 | Bus A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| F9 | DH027161 | Unhealthy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F10 | DH028161 | Unhealthy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F11 | DH029161 | DISABLED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | TC Control Flags : Subsch. ID : 10 Det. descr. : Configure SDB FDIR <div style="text-align: right;"> GBM IL DSE --Y -- -- </div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| Step No. | Time | Activity/Remarks | TC/TLM | Display/ Branch |
|----------|----------------------|---|---|-----------------|
| 2 | | Send TC(8,4,116,25) to update the UIU table | | Next Step: 3 |
| | ET=+00.00.05 UT=+ | Execute Telecommand H_FdirMarkUnitOff_Templ Command Parameter(s) : H_ConfStsUnitId DHZ00170 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : TEMPLATE FDIR: Mark Unit OFF, TC(8,4,116,25), Herschel Version | DC91H159 PcdutmtcA | |
| 3 | | Switch OFF nominal PCDU 1553 I/F | | Next Step: 4 |
| | | Note that when the nominal TM/TC is turned OFF the state of all LCLs and HPSs is maintained. | | |
| | ET=+00.00.05 UT=+ | Execute Telecommand PCDU_1553_IF_A_OFF_Nom TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : PCDU 1553 I/F A OFF Nominal - High Level | DCH08170 | |
| | ET=+00.00.05 UT=+ | Execute Telecommand PCDU_1553_IF_A_OFF_Red TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : PCDU 1553 I/F A OFF Redundant - High Level | DCH24170 | |
| 4 | | Send TC(8,4,116,22) to mark OK (not failed) the TM/TC R in UIU table | | Next Step: 5 |
| | | Mark Unit OK telecommand is used to modify the health status of a unit as OK. | | |
| | ET=+00.00.05 UT=+ | Execute Telecommand MarkOKUnitB_Pcdutmtc TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Fdir Mark OK Unit B Pcdutmtc, TC(8,4,116,22) | DCBEL170 | |

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| Step No. | Time | Activity/Remarks | TC/TLM | Display/ Branch |
|----------|----------------------|---|---|-----------------|
| | ET=+00.00.05 UT=+ | Execute Telecommand EnableActions <i>Command Parameter(s) :</i> N_Repetition DH041170 APID_for_EAT_TC DH236170 EventId DH146170 <i>TC Control Flags :</i> GBM IL DSE --Y -- --- <i>Subsch. ID : 10</i> Det. descr. : TEMPLATE Enable Actions TC(19,4) | DCT84170 1 <dec> (Def) CDMS (Def) 157 <dec> | |
| 8 | | Send TC(8,4,10,1) to BSW to enable communication with redundant PCDU 1553 RT | | Next Step: 9 |
| | | <p>In the TC(8,4,10,1) it is necessary to set, in this case, the following parameters:</p> <ul style="list-style-type: none"> - Remote terminal address = 6 (redundant PCDU 1553 I/F) - status of the RTA= on (M0=1,F0=1) - Status of the RT = valid (M4=1,F4=1) - RT Nominal/Redundant = Redundant (M6=1,F6=1) <p>The remaining parameters of the TC have been set but they are not important because are masked.</p> | | |
| | ET=+00.00.05 UT=+ | Execute Telecommand ConfigureSDBFDIR <i>Command Parameter(s) :</i> RTA DH011161 M0 DH030161 M1 DH031161 M2 DH032161 M3 DH033161 M4 DH034161 M5 DH035161 M6 DH036161 M7 DH037161 F0 DH018161 F1 DH019161 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 | DC005161 PCDU B Update status Ignore Flag Ignore Flag Ignore Flag Update status Ignore Flag Update status Ignore Flag ON Dead Sick TC Sick TM Valid Non-vital REDUNDANT OFF Ignore Flag Ignore CNT Ignore Flag Ignore Flag Ignore Flag DISABLED LoopCnt1 Bus A | |

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| Step No. | Time | Activity/Remarks | TC/TLM | Display/ Branch |
|----------|----------------------|---|------------------------------------|--------------------------|
| | | F9 DH027161 F10 DH028161 F11 DH029161 TC Control Flags : Subsch. ID : 10 Det. descr. : Configure SDB FDIR GBM IL DSE --Y -- --- | Unhealthy Unhealthy DISABLED | |
| 9 | | Send TC(19,6) to acquire the detection list | | Next Step: 10 |
| | ET=+00.00.05 UT=+ | Execute Telecommand ReptEvtActTable TC Control Flags : Subsch. ID : 10 Det. descr. : TEMPLATE Report The contents of the event/action table TC(19,6) GBM IL DSE --Y -- --- | DCT86170 | |
| 10 | | Verify RTs status on the 1553 S/C bus | | Next Step: 11 |
| 10.1 | | Verify nominal RT status on the 1553 S/C bus | | <input type="checkbox"/> |
| | | Verify Telemetry PCDUA_On_Off DEFAG160 = OFF AND=ZAZ7H999 | | |
| | | Verify Telemetry PCDUA_Val_Inval DEFAG160 = Invalid AND=ZAZ7H999 | | |
| 10.2 | | Verify redundant RT status on the 1553 S/C bus | | <input type="checkbox"/> |
| | | Verify Telemetry PCDUB_On_Off DEFB1160 = ON AND=ZAZ7H999 | | |
| | | Verify Telemetry PCDUB_Val_Inval DEFB5160 = Valid AND=ZAZ7H999 | | |
| | | Verify Telemetry PCDU_No_Re_RTA DEFDM160 = REDUNDANT AND=ZAZ7H999 | | |
| | | Notice that the parameter DEFDM160 is for the overall PCDU it indicates the I/F "Active", that is the RT used to communicate where: - RT 5 (I/F A) is always the nominal one. - RT 6 (I/F B) is always the redundant one. | | |
| 11 | | Verify PCDU 1553 I/Fs status | | Next Step: 12 |

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| Step No. | Time | Activity/Remarks | TC/TLM | Display/ Branch |
|----------|------|---|--------------|--------------------------|
| 11.1 | | Verify nominal PCDU 1553 I/F is OFF | | <input type="checkbox"/> |
| | | Verify PCDU 1553 I/F Module #1 Status N Telemetry PCDU_1553_M1_N WMB02565 | = OFF | AND=ZAZ7H999 |
| | | Verify PCDU 1553 I/F Module #1 Status R Telemetry PCDU_1553_M1_R WMB04565 | = OFF | AND=ZAZ7H999 |
| 11.2 | | Verify redundant PCDU 1553 I/F is ON | | <input type="checkbox"/> |
| | | Verify PCDU 1553 I/F Module #2 Status N Telemetry PCDU_1553_M2_N WMB03565 | = ON | AND=ZAZ7H999 |
| | | Verify PCDU 1553 I/F Module #2 Status R Telemetry PCDU_1553_M2_R WMB05565 | = ON | AND=ZAZ7H999 |
| 12 | | Verify PCDU in Unit In Use table | | Next Step: 13 |
| | | Verify unit status Telemetry PcdulFuncSts DEG03170 | = Off | AND=ZAZ7L999 |
| | | Verify Telemetry PcdulUse DEN00170 | = Not_In_Use | AND=ZAZ7L999 |
| | | Verify default status Telemetry PcdulLogSts DEN01170 | = Redundant | AND=ZAZ7L999 |
| | | Verify FDIR status Telemetry PcdulFailSts DEN02170 | = Not_Failed | AND=ZAZ7L999 |
| | | Verify unit status Telemetry Pcdul2FuncSts DEG02170 | = On | AND=ZAZ7L999 |
| | | Verify Telemetry Pcdul2Use DEN03170 | = In_Use | AND=ZAZ7L999 |
| | | Verify default status Telemetry Pcdul2LogSts DEN04170 | = Nominal | AND=ZAZ7L999 |
| | | Verify FDIR status Telemetry Pcdul2FailSts DEN05170 | = Not_Failed | AND=ZAZ7L999 |
| 13 | | Verify EAT entry related to PCDU (non-vital RT) Invalid is enabled | | Next Step: 14 |
| | | Verify Packet Reception TM 19-7 Event-Action Table Content Report Packet Details: APID: 16 Type: 19 Subtype: 7 PI1: PI2: | EvtActTblRpt | |

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| Step No. | Time | Activity/Remarks | TC/TLM | Display/ Branch |
|----------|------|---|--------|------------------|
| | | Verify that TM(19,7) have been received and that action related to PCDU (non-vital RT) Invalid is enabled (Event ID 157) | | |
| 14 | | <i>Acquire HPSS status in UIU table</i> | | Next Step: 15 |
| | | Since when the TM/TC R is turned ON all HPSSs are automatically turned ON by the PCDU (even if some were OFF), it is necessary to check the UIU table to know what HPSSs were OFF before the switchover. | | |
| 14.1 | | <i>Verify Nominal HPSS status in UIU table</i> | | □ |
| | | Verify Telemetry Hps1FuncSts DEG77170 | | AND=ZAZ7K999 |
| | | Verify Telemetry Hps2FuncSts DEG81170 | | AND=ZAZ7K999 |
| | | Verify Telemetry Hps3FuncSts DEG85170 | | AND=ZAZ7K999 |
| | | Verify Telemetry Hps4FuncSts DEG89170 | | AND=ZAZ7K999 |
| | | Verify Telemetry Hps5FuncSts DEG93170 | | AND=ZAZ7K999 |
| | | Verify Telemetry Hps6FuncSts DEG97170 | | AND=ZAZ7K999 |
| | | Verify Telemetry Hps7FuncSts DEH01170 | | AND=ZAZ7K999 |
| | | Verify Telemetry Hps8FuncSts DEH05170 | | AND=ZAZ7K999 |
| | | Verify Telemetry Hps9FuncSts DEH09170 | | AND=ZAZ7L999 |
| 14.2 | | <i>Verify Redundant HPSS status in UIU table</i> | | □ |
| | | Verify Telemetry Hps10FuncSts DEG41170 | | AND=ZAZ7L999 |
| | | Verify Telemetry Hps11FuncSts DEG45170 | | AND=ZAZ7K999 |
| | | Verify Telemetry Hps12FuncSts DEG49170 | | AND=ZAZ7K999 |
| | | Verify Telemetry Hps13FuncSts DEG53170 | | AND=ZAZ7K999 |

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| Step No. | Time | Activity/Remarks | TC/TLM | Display/ Branch |
|-------------------------|------|---|--------|--------------------------|
| | | Verify Telemetry Hps14FuncSts DEG57170 | | AND=ZAZ7K999 |
| | | Verify Telemetry Hps15FuncSts DEG61170 | | AND=ZAZ7K999 |
| | | Verify Telemetry Hps16FuncSts DEG65170 | | AND=ZAZ7K999 |
| | | Verify Telemetry Hps17FuncSts DEG69170 | | AND=ZAZ7K999 |
| | | Verify Telemetry Hps18FuncSts DEG73170 | | AND=ZAZ7K999 |
| 15 | | Switch OFF the 9 HPS currently flagged as OFF in the UIU | | Next Step: END |
| | | In order to restore the original HPS configuration, ie only 9 HPS ON, the Ground shall switch OFF the 9 HPS currently flagged as OFF in the UIU. | | |
| 15.1 | | Switch OFF redundant HPS? | | <input type="checkbox"/> |
| | | WARNING: If it is necessary to switch OFF more than one redundant HPS the procedure must be called more times. | | |
| | | Execute Procedure: H_CRP_TCS_HPR0 Redundant HPS switch OFF | | |
| 15.2 | | Switch OFF nominal HPS? | | <input type="checkbox"/> |
| | | WARNING: If it is necessary to switch OFF more than one redundant HPS the procedure must be called more times. | | |
| | | Execute Procedure: H_CRP_TCS_HPNO Nominal HPS switch OFF | | |
| End of Procedure | | | | |