

Configure TMTC N (RT 5) Nominal after PCDU 1553 bus failure  
File: H\_CRP\_EPS\_IF5N.xls  
Author: E. Picallo



## Procedure Summary

### Objectives

This procedure describes the steps needed to configure TMTC N (RT 5) Nominal and the TMTC R (RT 6) Redundant & Not failed after TMTC N (RT 6) bus failure.

This allows to re-establish the TMTC module redundancy after TMTC R (RT 6) bus failure.

### Summary of Constraints

It is necessary to mark the TMTC N (RT 5) as Nominal and the TMTC R (RT 6) as not failed in the "Unit in Use" table. Thus the status of the ASW function "FDIR Management" has to be "running".

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

### Spacecraft Configuration

#### Start of Procedure

CDMU in default configuration.  
Communication between CDMU and PCDU via nominal 1553 I/F, RT 5 (nominal TMTC module).  
Redundant 1553 I/F, RT 6 (redundant TMTC module), marked OFF, Nominal 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 nominal 1553 I/F, remote terminal address 5 (nominal TMTC module).  
Nominal 1553 I/F, RT 5 (nominal TMTC module) marked ON and Nominal in the Unit in Use table.  
Redundant 1553 I/F, RT 6 (redundant TMTC module) marked OFF, Redundant and Not failed in unit in use table.  
EAT entry (event ID 0x009D) re-enabled.

### Reference File(s)

#### Input Command Sequences

#### Output Command Sequences

HRWIF5N

### Referenced Displays

ANDs      GRDs      SLDs  
ZAZ7L999

### Configuration Control Information

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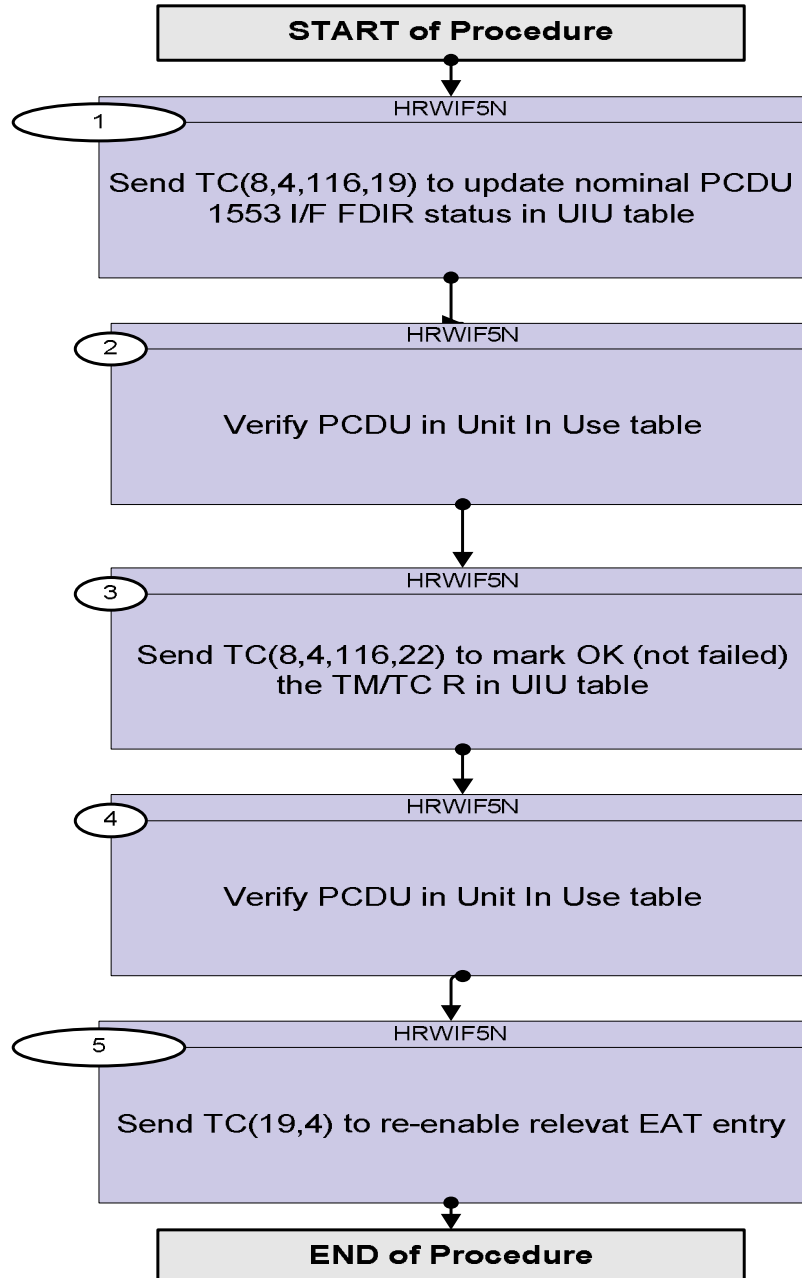


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20/04/09	2.3	1	Created	E. Picallo	

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### Procedure Flowchart Overview



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
<b>Beginning of Procedure</b>				
TC Seq. Name : HRWIF5N (TMTCN (RT5) Nominal) Configure TMTC N (RT 5) Nominal after PCDU 1553 bus failure  TimeTag Type: N Sub Schedule ID:  <input type="checkbox"/>				
1		Send TC(8,4,116,19) to update nominal PCDU 1553 I/F FDIR status in UIU table		Next Step: 2
<b>After the execution of this TC the TMTC N is considered the nominal I/F while the TMTC R is considered the redundant I/F.</b>				
		Execute Telecommand <div style="text-align: right;">FdirSelNomUnit_Templ</div> Command Parameter(s) : <div style="text-align: right;">FdirUnitAorB                    DH064170</div> TC Control Flags : <div style="text-align: right;">GBM IL DSE --Y -- ---</div> Subsch. ID : 10 Det. descr. : TEMPLATE Fdir Select Nominal Unit TC(8,4,116,19)	DCT31170  PCDU_TMTC_A	
2		Verify PCDU in Unit In Use table		Next Step: 3
		Verify unit status Telemetry <div style="text-align: right;">PcdulFuncSts                    DEG03170</div>	= On	AND=ZAZ7L999
		Verify Telemetry <div style="text-align: right;">PcdulUse                            DEN00170</div>	= In_Use	AND=ZAZ7L999
		Verify default status Telemetry <div style="text-align: right;">PcdulLogSts                    DEN01170</div>	= Nominal	AND=ZAZ7L999
		Verify FDIR status Telemetry <div style="text-align: right;">PcdulFailSts                    DEN02170</div>	= Not_Failed	AND=ZAZ7L999
		Verify unit status Telemetry <div style="text-align: right;">Pcdu2FuncSts                    DEG02170</div>	= Off	AND=ZAZ7L999
		Verify Telemetry <div style="text-align: right;">Pcdu2Use                            DEN03170</div>	= Not_In_Use	AND=ZAZ7L999
		Verify default status Telemetry <div style="text-align: right;">Pcdu2LogSts                    DEN04170</div>	= Redundant	AND=ZAZ7L999
		Verify FDIR status Telemetry <div style="text-align: right;">Pcdu2FailSts                    DEN05170</div>	= Failed	AND=ZAZ7L999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
3		Send TC(8,4,116,22) to mark OK (not failed) the TM/TC R in UIU table		Next Step: 4
		<b>Mark Unit OK telecommand is used to modify the health status of a unit as OK.</b>		
		Execute Telecommand  MarkOKUnitB_PcdUTmTc  TC Control Flags :  Subsch. ID : 10 Det. descr. : Fdir Mark OK Unit B PcdUTmTc, TC(8,4,116,22)  GBM IL DSE --Y -- ---	DCBEL170	
4		Verify PCDU in Unit In Use table		Next Step: 5
		Verify unit status Telemetry PcdU1FuncSts	DEG03170 = On	AND=ZAZ7L999
		Verify Telemetry PcdU1Use	DEN00170 = In_Use	AND=ZAZ7L999
		Verify default status Telemetry PcdU1LogSts	DEN01170 = Nominal	AND=ZAZ7L999
		Verify FDIR status Telemetry PcdU1FailSts	DEN02170 = Not_Failed	AND=ZAZ7L999
		Verify unit status Telemetry PcdU2FuncSts	DEG02170 = Off	AND=ZAZ7L999
		Verify Telemetry PcdU2Use	DEN03170 = Not_In_Use	AND=ZAZ7L999
		Verify default status Telemetry PcdU2LogSts	DEN04170 = Redundant	AND=ZAZ7L999
		Verify FDIR status Telemetry PcdU2FailSts	DEN05170 = Not_Failed	AND=ZAZ7L999
5		Send TC(19,4) to re-enable relevat EAT entry		Next Step: END
		<b>When this request is received, the action telecommand associated with the event TM (5,x,157) PCDU (non-vital RT) Invalid shall be enabled.</b>  <b>In the TC(19,4) it is necessary to set the following parameters:</b> <b>N, number of events to be enabled, equal to 1.</b> <b>APID, identifier of the Application Process generating this event report, equal to 16 (CDMU).</b> <b>Event ID, identifier of the event to be enabled, equal to 157.</b>		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand <p style="text-align: right;"><b>EnableActions</b></p> <i>Command Parameter(s) :</i> <b>N_Repetition</b> DH041170 <b>APID_for_EAT_TC</b> DH236170 <b>EventId</b> DH146170  <i>TC Control Flags :</i> <p style="text-align: right;"><b>GBM IL DSE</b>            --Y -- ---</p> <i>Subsch. ID : 10</i> Det. descr. : TEMPLATE Enable Actions TC(19,4)	DCT84170	
5.1		Send TC(19,6) to acquire the detection list		□
		Execute Telecommand <p style="text-align: right;"><b>ReptEvtActTable</b></p> <i>TC Control Flags :</i> <p style="text-align: right;"><b>GBM IL DSE</b>            --Y -- ---</p> <i>Subsch. ID : 10</i> Det. descr. : TEMPLATE Report The contents of the event/action table TC(19,6)	DCT86170	
5.2		Verify that TM(19,7) have been received and that action related to PCDU (non-vital RT) Invalid is enabled		□
		Verify Packet Reception <p style="text-align: center;"><b>TM 19-7 Event-Action Table Content Report</b></p> <i>Packet Details:</i> <p style="text-align: right;"><b>APID:</b>          16  <b>Type:</b>          19  <b>Subtype:</b>      7  <b>PI1:</b>  <b>PI2:</b></p>	<b>EvtActTblRpt</b>	
<b>End of Procedure</b>				