

Configure TMTC R (RT 6) Nominal after PCDU 1553 bus failure
File: H_CRP_EPS_IF6N.xls
Author: E. Picallo



Procedure Summary

Objectives

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

This allows to re-establish the TMTC module redundancy after TMTC N (RT 5) bus failure.

Summary of Constraints

It is necessary to mark the TMTC R (RT 6) as Nominal and the TMTC N (RT 5) 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 redundant 1553 I/F, RT 6 (redundant TMTC module).
Nominal 1553 I/F, RT 5 (nominal 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 redundant 1553 I/F, remote terminal address 6 (redundant TMTC module). Redundant 1553 I/F, RT 6 (redundant TMTC module) marked ON and Nominal in the Unit in Use table.
Nominal 1553 I/F, RT 5 (nominal 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

HRWIF6N

Referenced Displays

ANDs GRDs SLDs
ZAZ7L999

Configuration Control Information

Status : Version 3 - Unchanged
Last Checkin: 20/04/09

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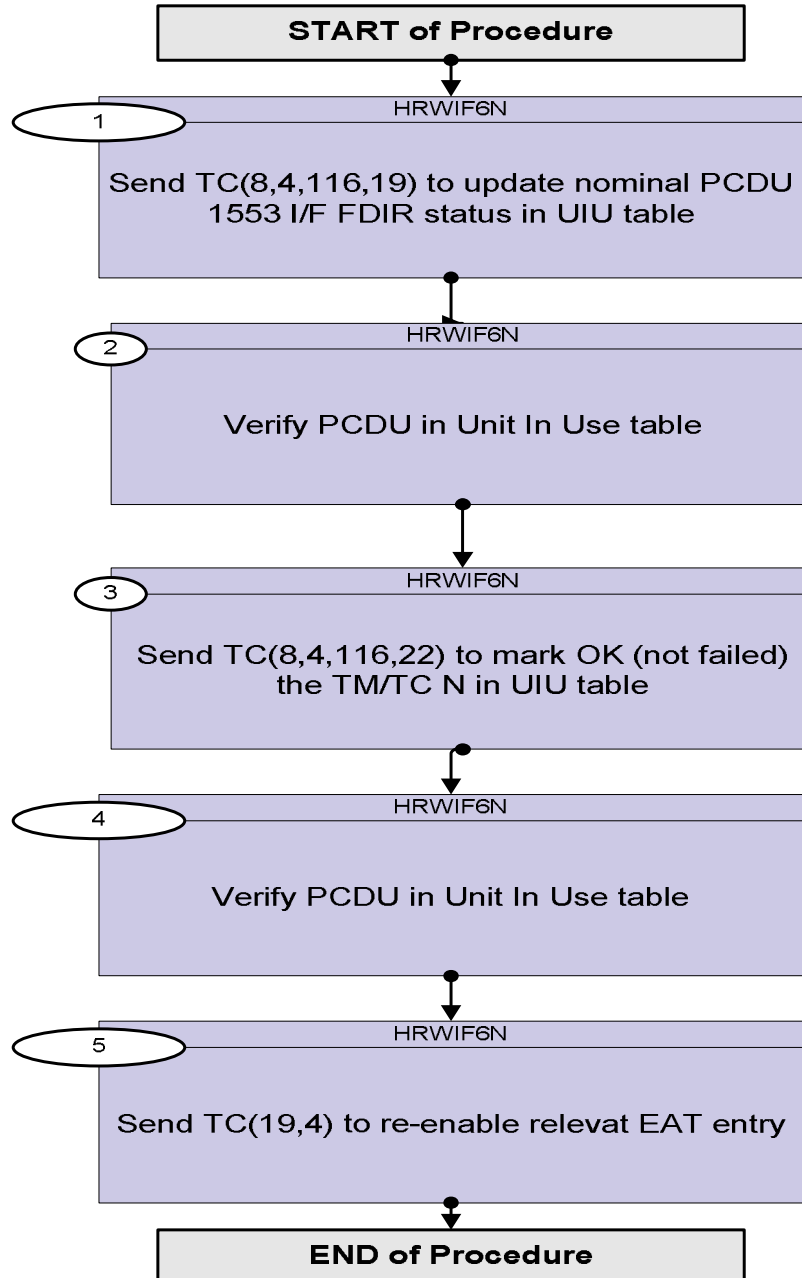


DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
22/09/08		1	Created	E. Picallo	
09/01/09	2	2	CDMU ASW V3.8 and BSW V2.4 alignment	E. Picallo	
20/04/09	2.3	3	First select TMTC B Nominal then mark OK TMTC A	E. Picallo	

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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 : HRWIF6N (TMTC R (RT6) Nominal) Configure TMTC R (RT 6) 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
After the execution of this TC the TMTC R is considered the nominal I/F while the TMTC N is considered the redundant I/F.				
		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_B	
2		Verify PCDU in Unit In Use table		Next Step: 3
		Verify unit status Telemetry <div style="text-align: right;">PcdulFuncSts DEG03170</div>	= Off	AND=ZAZ7L999
		Verify Telemetry <div style="text-align: right;">PcdulUse DEN00170</div>	= Not_In_Use	AND=ZAZ7L999
		Verify default status Telemetry <div style="text-align: right;">PcdulLogSts DEN01170</div>	= Redundant	AND=ZAZ7L999
		Verify FDIR status Telemetry <div style="text-align: right;">PcdulFailSts DEN02170</div>	= Failed	AND=ZAZ7L999
		Verify unit status Telemetry <div style="text-align: right;">Pcdul2FuncSts DEG02170</div>	= On	AND=ZAZ7L999
		Verify Telemetry <div style="text-align: right;">Pcdul2Use DEN03170</div>	= In_Use	AND=ZAZ7L999
		Verify default status Telemetry <div style="text-align: right;">Pcdul2LogSts DEN04170</div>	= Nominal	AND=ZAZ7L999
		Verify FDIR status Telemetry <div style="text-align: right;">Pcdul2FailSts DEN05170</div>	= Not_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 N in UIU table		Next Step: 4
		Mark Unit OK telecommand is used to modify the health status of a unit as OK.		
		Execute Telecommand MarkOKUnitA_PcdUTmTc TC Control Flags : Subsch. ID : 10 Det. descr. : Fdir Mark OK Unit A PCDU TM TC, TC(8,4,116,22) GBM IL DSE --Y -- ---	DCB6H170	
4		Verify PCDU in Unit In Use table		Next Step: 5
		Verify unit status Telemetry PcdU1FuncSts DEG03170	= Off	AND=ZAZ7L999
		Verify Telemetry PcdU1Use DEN00170	= Not_In_Use	AND=ZAZ7L999
		Verify default status Telemetry PcdU1LogSts DEN01170	= Redundant	AND=ZAZ7L999
		Verify FDIR status Telemetry PcdU1FailSts DEN02170	= Not_Failed	AND=ZAZ7L999
		Verify unit status Telemetry PcdU2FuncSts DEG02170	= On	AND=ZAZ7L999
		Verify Telemetry PcdU2Use DEN03170	= In_Use	AND=ZAZ7L999
		Verify default status Telemetry PcdU2LogSts DEN04170	= Nominal	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
		When this request is received, the action telecommand associated with the event TM (5,x,157) PCDU (non-vital RT) Invalid shall be enabled. In the TC(19,4) it is necessary to set the following parameters: N, number of events to be enabled, equal to 1. APID, identifier of the Application Process generating this event report, equal to 16 (CDMU). Event ID, identifier of the event to be enabled, equal to 157.		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand <p style="text-align: right;">EnableActions</p> <i>Command Parameter(s) :</i> N_Repetition DH041170 APID_for_EAT_TC DH236170 EventId DH146170 <i>TC Control Flags :</i> <p style="text-align: right;">GBM IL DSE --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;">ReptEvtActTable</p> <i>TC Control Flags :</i> <p style="text-align: right;">GBM IL DSE --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;">TM 19-7 Event-Action Table Content Report</p> <i>Packet Details:</i> <p style="text-align: right;">APID: 16 Type: 19 Subtype: 7 PI1: PI2:</p>	EvtActTblRpt	
End of Procedure				