

Roll back after RFDN SWS failure
File: H_CRP_TTC_SWRB.xls
Author: E. Picallo



Procedure Summary

Objectives

This procedure describes the steps needed to change the RFDN configuration in Unit In Use (UIU) table after an RFDN SWS failure recovered on-board.

Summary of Constraints

It is highlighted that after this procedure the RFDN SWS positions, in the different S/C modes, will be different from the expected ones.

Moreover:

- the EAT entry is enabled through TC(19,4) thus the status of the ASW function "Event/Action Management" has to be "running";
- the health status (failed/not failed) in UIU table is changed through TC(8,4,116,22) thus the status of the ASW function "FDIR Management" has to be "running".

Spacecraft Configuration

Start of Procedure

CDMU in default configuration.
RFDN SW 1/2/3/4 marked "failed" and "not in use" in UIU table.
Other RFDN SW of the pair marked "not failed" and "in use" in UIU table.
Relevant RFDN SWS EAT entries disabled.

End of Procedure

CDMU in default configuration.
Nominal RFDN SW marked "not failed" and "in use" in UIU table.
Redundant RFDN SW marked "not failed" and "not in use" in UIU table.
Relevant RFDN SWS EAT entries re-enabled.

Reference File(s)

Input Command Sequences

Output Command Sequences

HRRSWRB1
HRRSWRB2
HRRSWRB3
HRRSWRB4

Referenced Displays

ANDs	GRDs	SLDs
ZAZ7M999		(None)
ZAZ7J999		

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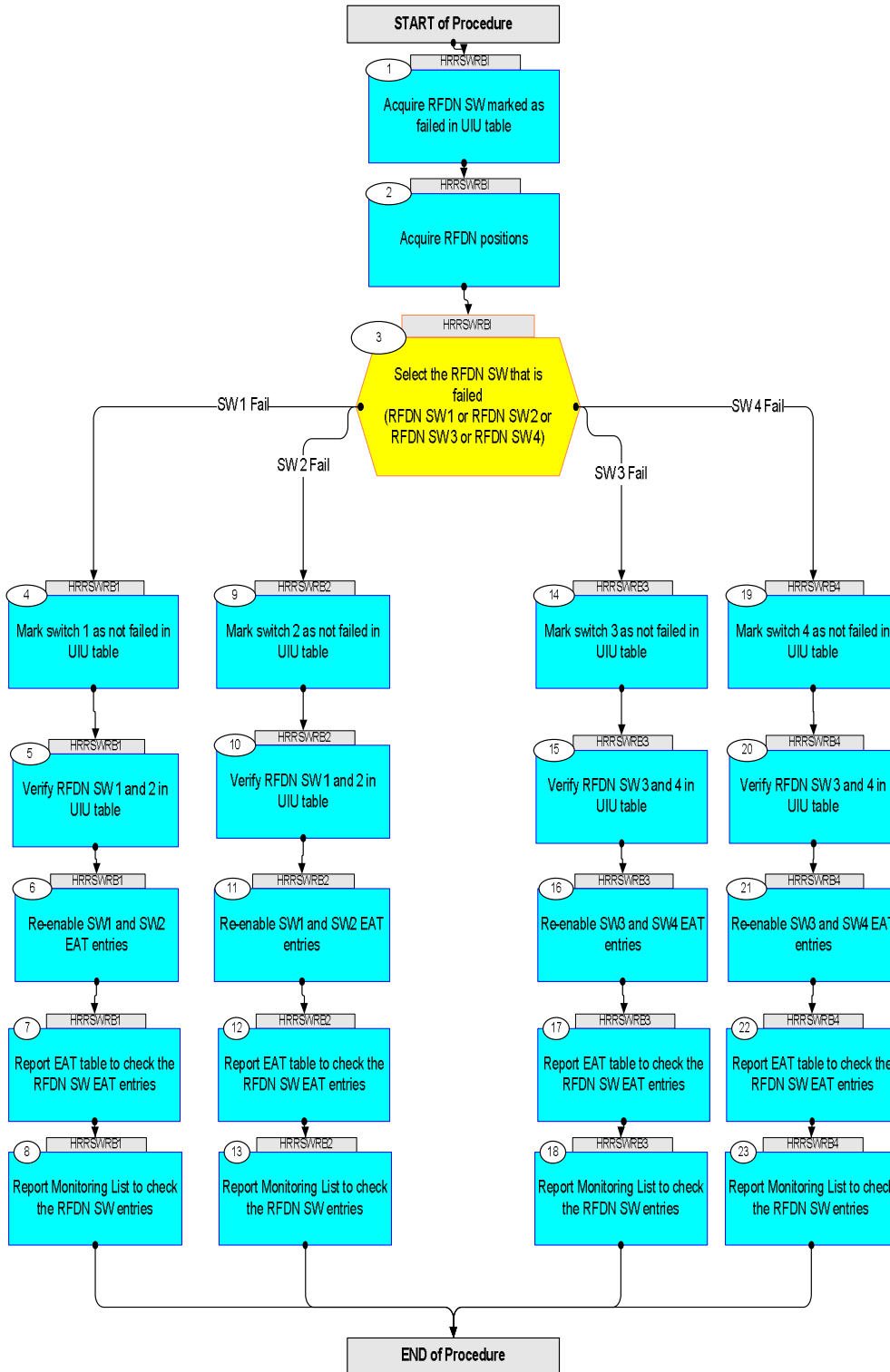
Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
30/07/08	1	1	Created	E. Picallo	
12/01/09	2	2	Re-enable SW_not_in_use MOT entry according to SW Pos. at the end of recovery added	E. Picallo	
20/03/09	2.2	3	Procedure revised according to current FDIR implementation for CDMU ASW v3.8	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 :HRRSWRBI (Rollback RFDNSW Fail) Roll back after RFDN SWs failure Initial TimeTag Type: Sub Schedule ID: <input type="checkbox"/>				
1		Acquire RFDN SW marked as failed in UIU table		Next Step: 2
		Verify Telemetry Rfdn1FailSts DEH48170		AND=ZAZ7M999
		Verify Telemetry Rfdn2FailSts DEH52170		AND=ZAZ7M999
		Verify Telemetry Rfdn3FailSts DEH56170		AND=ZAZ7M999
		Verify Telemetry Rfdn3FailSts DEH56170		AND=ZAZ7M999
2		Acquire RFDN positions		Next Step: 3
		Verify Telemetry RFDN SW1 Pos A RMB05436		AND=ZAZ7J999
		Verify Telemetry RFDN SW1 Pos B RMB09436		AND=ZAZ7J999
		Verify Telemetry RFDN SW2 Pos A RMB06436		AND=ZAZ7J999
		Verify Telemetry RFDN SW2 Pos B RMB10436		AND=ZAZ7J999
		Verify Telemetry RFDN SW3 Pos A RMB07436		AND=ZAZ7J999
		Verify Telemetry RFDN SW3 Pos B RMB11436		AND=ZAZ7J999
		Verify Telemetry RFDN SW4 Pos A RMB08436		AND=ZAZ7J999
		Verify Telemetry RFDN SW4 Pos B RMB12436		(None)
3		Select the RFDN SW that is failed (RFDN SW 1 or RFDN SW 2 or RFDN SW 3 or RFDN SW 4)		Next Step: SW 2 Fail 9 SW 1 Fail 4 SW 3 Fail 14 SW 4 Fail 19

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
<p><i>TC Seq. Name : HRRSWRB1 (RollbackRFDNSW1 Fail)</i> Roll back after RFDN SW1 failure</p> <p><i>TimeTag Type: N</i> <i>Sub Schedule ID:</i></p> <p>□</p>				
4		Mark switch 1 as not failed in UIU table		Next Step: 5
		Execute Telecommand MarkOKUnitA_RfdnSw1_2 <i>TC Control Flags :</i> GBM IL DSE --Y -- -- <i>Subsch. ID : 10</i> <i>Det. descr. : Fdir Mark OK Unit A RFDN (SW1/2),</i> <i>TC(8,4,116,22)</i>	DC69H170	
5		Verify RFDN SW 1 and 2 in UIU table		Next Step: 6
		Verify Telemetry Rfdn1FuncSts DEH49170		AND=ZAZ7M999
		Verify Telemetry Rfdn1Use DEH51170	= In_Use	AND=ZAZ7M999
		Verify Telemetry Rfdn1LogSts DEH50170	= Nominal	AND=ZAZ7M999
		Verify Telemetry Rfdn1FailSts DEH48170	= Not_Failed	AND=ZAZ7M999
		Verify Telemetry Rfdn2FuncSts DEH53170		AND=ZAZ7M999
		Verify Telemetry Rfdn2Use DEH55170	= Not_In_Use	AND=ZAZ7M999
		Verify Telemetry Rfdn2LogSts DEH54170	= Redundant	AND=ZAZ7M999
		Verify Telemetry Rfdn2FailSts DEH52170	= Not_Failed	AND=ZAZ7M999
6		Re-enable SW1 and SW2 EAT entries		Next Step: 7
		Re-enable the following entries in the EAT: RFDNSW1_Not_In_PosB_Fail (event ID 0x9200) RFDNSW1_Not_In_PosA_Fail (event ID 0x9201) RFDNSW2_Not_In_PosB_Fail (event ID 0x9202) RFDNSW2_Not_In_PosA_Fail (event ID 0x9203)		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand <p style="text-align: right;">EnableActions</p> 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 TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 10 Det. descr. : TEMPLATE Enable Actions TC(19,4)	DCT84170	
7		Report EAT table to check the RFDN SW EAT entries		Next Step: 8
		Execute Telecommand <p style="text-align: right;">ReptEvtActTable</p> TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 10 Det. descr. : TEMPLATE Report The contents of the event/action table TC(19,6)	DCT86170	
		Verify RFDN SWs (SW 1, SW 2, SW3 and SW4) EAT entries are re-enabled		
8		Report Monitoring List to check the RFDN SW entries		Next Step: END
		Execute Telecommand <p style="text-align: right;">ReportMonitList</p> TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 10 Det. descr. : TEMPLATE Report current monitoring list, TC(12,8) no appl. data	DC51F170	
		Verify that 4 RFDN SWs (SW 1, SW 2, SW3 and SW4) MOT entries are enabled according to the current RFDN SWs positions		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
<i>TC Seq. Name : HRRSWRB2 (RollbackRFDNSW2 Fail)</i> Roll back after RFDN SW2 failure <i>TimeTag Type: N</i> <i>Sub Schedule ID:</i> <input type="checkbox"/>				
9		Mark switch 2 as not failed in UIU table		Next Step: 10
		Execute Telecommand <p style="text-align: right;">MarkOKUnitB_RfdnSw1_2</p> <i>TC Control Flags :</i> <p style="text-align: right;">GBM IL DSE --Y -- --</p> <i>Subsch. ID : 10</i> <i>Det. descr. : Fdir Mark OK Unit B RFDN (SW1/2),</i> <i>TC(8,4,116,22)</i>	DC95H170	
10		Verify RFDN SW 1 and 2 in UIU table		Next Step: 11
		Verify Telemetry <p style="text-align: right;">Rfdn1FuncSts DEH49170</p>		AND=ZAZ7M999
		Verify Telemetry <p style="text-align: right;">Rfdn1Use DEH51170</p>	= In_Use	AND=ZAZ7M999
		Verify Telemetry <p style="text-align: right;">Rfdn1LogSts DEH50170</p>	= Nominal	AND=ZAZ7M999
		Verify Telemetry <p style="text-align: right;">Rfdn1FailSts DEH48170</p>	= Not_Failed	AND=ZAZ7M999
		Verify Telemetry <p style="text-align: right;">Rfdn2FuncSts DEH53170</p>		AND=ZAZ7M999
		Verify Telemetry <p style="text-align: right;">Rfdn2Use DEH55170</p>	= Not_In_Use	AND=ZAZ7M999
		Verify Telemetry <p style="text-align: right;">Rfdn2LogSts DEH54170</p>	= Redundant	AND=ZAZ7M999
		Verify Telemetry <p style="text-align: right;">Rfdn2FailSts DEH52170</p>	= Not_Failed	AND=ZAZ7M999
11		Re-enable SW1 and SW2 EAT entries		Next Step: 12
		Re-enable the following entries in the EAT: RFDNSW1_Not_In_PosB_Fail (event ID 0x9200) RFDNSW1_Not_In_PosA_Fail (event ID 0x9201) RFDNSW2_Not_In_PosB_Fail (event ID 0x9202) RFDNSW2_Not_In_PosA_Fail (event ID 0x9203)		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand <p style="text-align: right;">EnableActions</p> 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 TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 10 Det. descr. : TEMPLATE Enable Actions TC(19,4)	DCT84170 4 <dec> CDMS (Def) 9200 <hex> CDMS (Def) 9201 <hex> CDMS (Def) 9202 <hex> CDMS (Def) 9203 <hex>	
12		Report EAT table to check the RFDN SW EAT entries		Next Step: 13
		Execute Telecommand <p style="text-align: right;">ReptEvtActTable</p> TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 10 Det. descr. : TEMPLATE Report The contents of the event/action table TC(19,6)	DCT86170	
		Verify RFDN SWs (SW 1, SW 2, SW3 and SW4) EAT entries are re-enabled		
13		Report Monitoring List to check the RFDN SW entries		Next Step: END
		Execute Telecommand <p style="text-align: right;">ReportMonitList</p> TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 10 Det. descr. : TEMPLATE Report current monitoring list, TC(12,8) no appl. data	DC51F170	
		Verify that 4 RFDN SWs (SW 1, SW 2, SW3 and SW4) MOT entries are enabled according to the current RFDN SWs positions		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
<i>TC Seq. Name : HRRSWRB3 (RollbackRFDNSW3 Fail)</i> Roll back after RFDN SW3 failure <i>TimeTag Type: N</i> <i>Sub Schedule ID:</i> <input type="checkbox"/>				
14		Mark switch 3 as not failed in UIU table		Next Step: 15
		Execute Telecommand <p style="text-align: right;">MarkOKUnitA_RfdnSw3_4</p> <i>TC Control Flags :</i> <p style="text-align: right;">GBM IL DSE --Y -- --</p> <i>Subsch. ID : 10</i> <i>Det. descr. : Fdir Mark OK Unit A RFDN (SW3/4),</i> <i>TC(8,4,116,22)</i>	DC70H170	
15		Verify RFDN SW 3 and 4 in UIU table		Next Step: 16
		Verify Telemetry <p style="text-align: right;">Rfdn3FuncSts DEH57170</p>		AND=ZAZ7M999
		Verify Telemetry <p style="text-align: right;">Rfdn3Use DEH59170</p>	= In_Use	AND=ZAZ7M999
		Verify Telemetry <p style="text-align: right;">Rfdn3LogSts DEH58170</p>	= Nominal	AND=ZAZ7M999
		Verify Telemetry <p style="text-align: right;">Rfdn3FailSts DEH56170</p>	= Not_Failed	AND=ZAZ7M999
		Verify Telemetry <p style="text-align: right;">Rfdn4FuncSts DEH61170</p>		AND=ZAZ7M999
		Verify Telemetry <p style="text-align: right;">Rfdn4Use DEH63170</p>	= Not_In_Use	AND=ZAZ7M999
		Verify Telemetry <p style="text-align: right;">Rfdn4LogSts DEH62170</p>	= Redundant	AND=ZAZ7M999
		Verify Telemetry <p style="text-align: right;">Rfdn4FailSts DEH60170</p>	= Not_Failed	AND=ZAZ7M999
16		Re-enable SW3 and SW4 EAT entries		Next Step: 17
		Re-enable the following entries in the EAT: RFDNSW3_Not_In_PosB_Fail (event ID 0x9204) RFDNSW3_Not_In_PosA_Fail (event ID 0x9205) RFDNSW4_Not_In_PosB_Fail (event ID 0x9206) RFDNSW4_Not_In_PosA_Fail (event ID 0x9207)		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand <p style="text-align: right;">EnableActions</p> 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 TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 10 Det. descr. : TEMPLATE Enable Actions TC(19,4)	DCT84170 4 <dec> CDMS (Def) 9204 <hex> CDMS (Def) 9205 <hex> CDMS (Def) 9206 <hex> CDMS (Def) 9207 <hex>	
17		Report EAT table to check the RFDN SW EAT entries		Next Step: 18
		Execute Telecommand <p style="text-align: right;">ReptEvtActTable</p> TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 10 Det. descr. : TEMPLATE Report The contents of the event/action table TC(19,6)	DCT86170	
		Verify RFDN SWs (SW 1, SW 2, SW3 and SW4) EAT entries are re-enabled		
18		Report Monitoring List to check the RFDN SW entries		Next Step: END
		Execute Telecommand <p style="text-align: right;">ReportMonitList</p> TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 10 Det. descr. : TEMPLATE Report current monitoring list, TC(12,8) no appl. data	DC51F170	
		Verify that 4 RFDN SWs (SW 1, SW 2, SW3 and SW4) MOT entries are enabled according to the current RFDN SWs positions		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
TC Seq. Name : HRRSWRB4 (RollbackRFDNSW4 Fail) Roll back after RFDN SW4 failure TimeTag Type: N Sub Schedule ID: <input type="checkbox"/>				
19		Mark switch 4 as not failed in UIU table		Next Step: 20
		Execute Telecommand MarkOKUnitB_RfdnSw3_4 TC Control Flags : <div style="text-align: right;">GBM IL DSE --Y -- --</div> Subsch. ID : 10 Det. descr. : Fdir Mark OK Unit B RFDN (SW3/4), TC(8,4,116,22)	DC96H170	
20		Verify RFDN SW 3 and 4 in UIU table		Next Step: 21
		Verify Telemetry <div style="text-align: right;">Rfdn3FuncSts DEH57170</div>		AND=ZAZ7M999
		Verify Telemetry <div style="text-align: right;">Rfdn3Use DEH59170</div>	= In_Use	AND=ZAZ7M999
		Verify Telemetry <div style="text-align: right;">Rfdn3LogSts DEH58170</div>	= Nominal	AND=ZAZ7M999
		Verify Telemetry <div style="text-align: right;">Rfdn3FailSts DEH56170</div>	= Not_Failed	AND=ZAZ7M999
		Verify Telemetry <div style="text-align: right;">Rfdn4FuncSts DEH61170</div>		AND=ZAZ7M999
		Verify Telemetry <div style="text-align: right;">Rfdn4Use DEH63170</div>	= Not_In_Use	AND=ZAZ7M999
		Verify Telemetry <div style="text-align: right;">Rfdn4LogSts DEH62170</div>	= Redundant	AND=ZAZ7M999
		Verify Telemetry <div style="text-align: right;">Rfdn4FailSts DEH60170</div>	= Not_Failed	AND=ZAZ7M999
21		Re-enable SW3 and SW4 EAT entries		Next Step: 22
		Re-enable the following entries in the EAT: RFDNSW3_Not_In_PosB_Fail (event ID 0x9204) RFDNSW3_Not_In_PosA_Fail (event ID 0x9205) RFDNSW4_Not_In_PosB_Fail (event ID 0x9206) RFDNSW4_Not_In_PosA_Fail (event ID 0x9207)		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand <p style="text-align: right;">EnableActions</p> 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 TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 10 Det. descr. : TEMPLATE Enable Actions TC(19,4)	DCT84170	
22		Report EAT table to check the RFDN SW EAT entries		Next Step: 23
		Execute Telecommand <p style="text-align: right;">ReptEvtActTable</p> TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 10 Det. descr. : TEMPLATE Report The contents of the event/action table TC(19,6)	DCT86170	
		Verify RFDN SWs (SW 1, SW 2, SW3 and SW4) EAT entries are re-enabled		
23		Report Monitoring List to check the RFDN SW entries		Next Step: END
		Execute Telecommand <p style="text-align: right;">ReportMonitList</p> TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 10 Det. descr. : TEMPLATE Report current monitoring list, TC(12,8) no appl. data	DC51F170	
		Verify that 4 RFDN SWs (SW 1, SW 2, SW3 and SW4) MOT entries are enabled according to the current RFDN SWs positions		
End of Procedure				