

Enable or disable Reconfiguration Module  
File: H\_CRP\_DHS\_3011.xls  
Author: S. Manganelli



## Procedure Summary

### Objectives

This procedure describes the steps needed to enable or disable the selected RM.

### Summary of Constraints

If only one RM is enabled a failure will be recovered while if both the RM are disabled a failure will not be recovered.

This procedure will be used to recover from a RM fail silent mode, namely by first disabling the RM and then re-enabling it.

It is foreseen that only Ground can enable/disable the RM.

RM alarms information can be acquired/modified through the "TTR Management" function (by default "Stopped").

When the function is stopped, it does not accept any other telecommands than the Start Function TC(8,1,109) and Report Function Status TC(8,5,109), thus the function has to be "Running".

### Spacecraft Configuration

#### Start of Procedure

RM A/B enabled/disabled

#### End of Procedure

RM A/B disabled/enabled

### Reference File(s)

#### Input Command Sequences

#### Output Command Sequences

HRD3011A  
HRD3011B  
HRD3011E  
HRD3011F  
HRD3011M  
HRD3011P  
HRD3011Q  
HRD3011R  
HRD3011L  
HRD3011H

### Referenced Displays

ANDs      GRDs      SLDs

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ZAZAA999 (None)  
 ZAZAI999 XL001999  
 ZAZ7R999

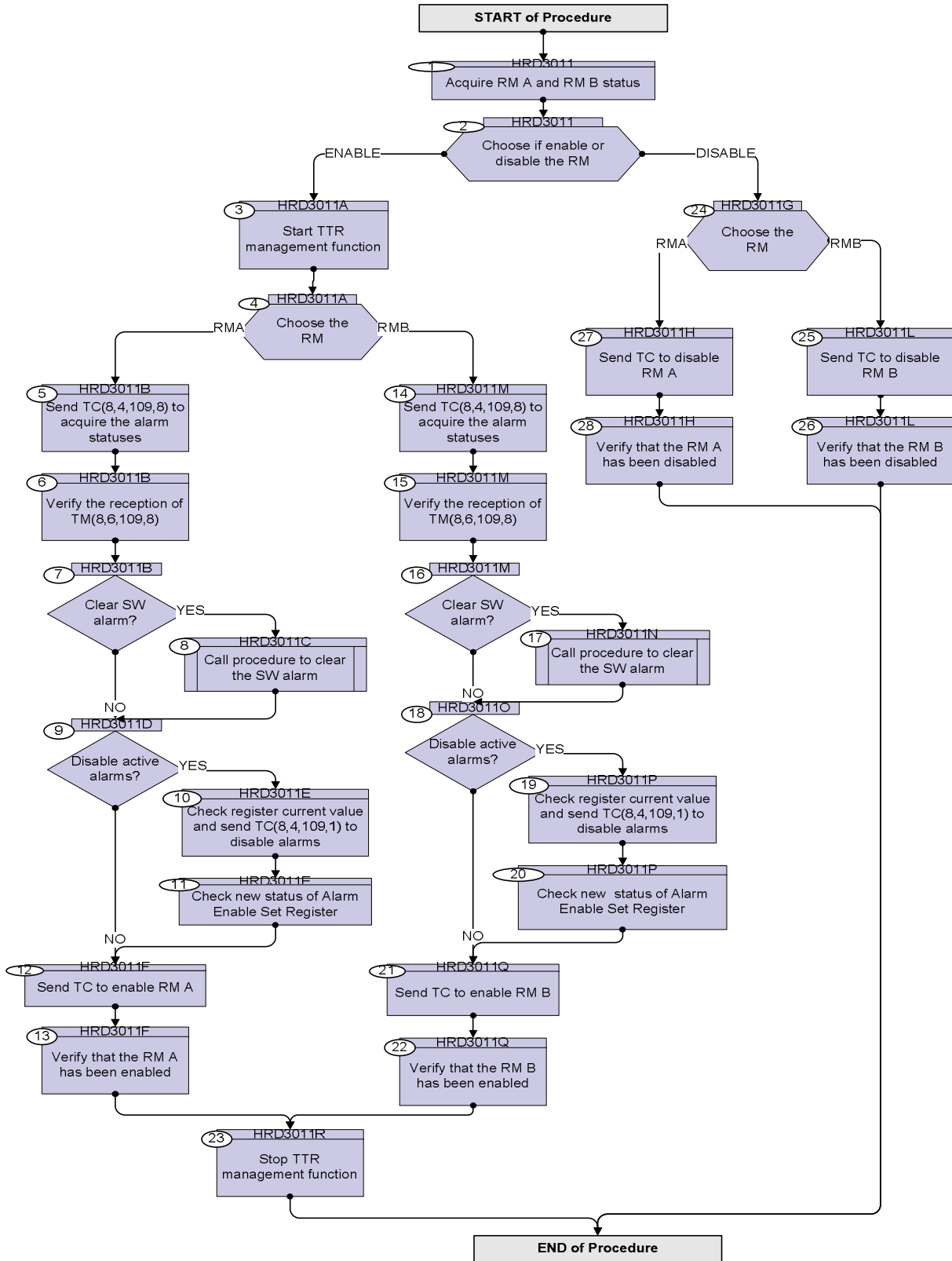
**Configuration Control Information**

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
09/01/08		1	Created	cmevi-hp	
15/02/08		2	TC flags updated.	cmevi-hp	
15/02/08	1	3	DB checked.	cmevi-hp	
14/11/08		4	Procedure updated according to latest version received from industry on 12/09/2008	cmevi-hp	
19/01/09		5	Procedure updated according to latest input received from industry on 16/01/2009	cmevi-hp	
19/01/09	2	6	Updated VISIO diagram	S. Manganelli	
22/03/09	2.2	7	Updated with use of dedicated CROME register TCs, TM checks before and after TC to modify alarm status, TM default values.	S. Manganelli	
22/04/09	2.3	8	Inserted reference sheets and comments to describe the alarm situation on either CDMS PM A or PM B in the different cases foreseen (pre-sep, post-sep, post-sep with PAP6 disabled)	S. Manganelli	

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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 :HRD3011 (Dummy sequence)  TimeTag Type: Sub Schedule ID:  <input type="checkbox"/>				
1		Acquire RM A and RM B status		Next Step: 2
		Verify Telemetry RMA_fromTTR-RMA DEEXG160		AND=ZAZAA999
		Verify Telemetry RMA_fromTTR-RMB DEEXH160		AND=ZAZAA999
		Verify Telemetry RMB_fromTTR-RMA DEEXJ160		AND=ZAZAA999
		Verify Telemetry RMB_fromTTR-RMB DEEXK160		AND=ZAZAA999
2		Choose if enable or disable the RM		Next Step: ENABLE 3 DISABLE 24
TC Seq. Name :HRD3011A (Start TTR management)  TimeTag Type: N Sub Schedule ID:  <input type="checkbox"/>				
3		Start TTR management function		Next Step: 4
		Verify Telemetry TtrSts DEL17170 = Stopped		AND=ZAZAI999
		Execute Telecommand StartTtrManag DCN06170  TC Control Flags : GBM IL DSE --Y -- ---  Subsch. ID : 10 Det. descr. : Start Ttr Management TC(8,1,109)		
		Verify Telemetry TtrSts DEL17170 = Running		AND=ZAZAI999
4		Choose the RM		Next Step: RMA 5 RMB 14



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Packet Telemetry TtrManRptActId DE368170	= AlarmStsRpt	AND=ZAZ7R999
		Verify Packet Telemetry RmId DE283170	= RM_A	AND=ZAZ7R999
7		Clear SW alarm?		Next Step: NO 9 YES 8
		<b>This step should actually be taken if the SW alarm is raised but the User wants to avoid to serve it as soon as the RM will be re-enabled. This is not a nominal operation and it is always recommended to serve the SW alarm.</b>		
<p>TC Seq. Name :HRD3011C (Clear SW Alarm)</p> <p>TimeTag Type: Sub Schedule ID:</p> <p><input type="checkbox"/></p>				
8		Call procedure to clear the SW alarm		Next Step: 9
		Execute Procedure: H_CRP_DHS_3057 Clear SW Alarm in ERC 32		
<p>TC Seq. Name :HRD3011D (Dummy sequence)</p> <p>TimeTag Type: Sub Schedule ID:</p> <p><input type="checkbox"/></p>				
9		Disable active alarms?		Next Step: NO 12 YES 10

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		<p>If there are pending active alarms then as soon as the RM will be enabled they will be served. As some alarms cannot be "easily" reset (as vice versa indicated above for SW alarm) the only way to avoid to run the associated CCS's is to disable them. Again this is not a nominal operation and it is highly recommended to skip this step.</p> <p><b>Special Remarks:</b></p> <p>1) Alarm #0: if the WD cannot be refreshed anymore by the OBSW (e.g. because the ICB component, between PM and TTR/RM to be operated in this procedure, is Unhealthy) then it could be actually necessary to disable such an alarm; otherwise it would be immediately raised and served as soon as the RM is re-enabled. This is the case when some PAP attempts are still available for this alarm (e.g attempt counters have been reset or new programming set has been selected).</p> <p>2) Alarm #17: Select PM alarm has never to be disabled.</p>		
<p><i>TC Seq. Name :HRD3011E (Disable alarms)</i></p> <p><i>TimeTag Type: N</i>  <i>Sub Schedule ID:</i></p> <p><input type="checkbox"/></p>				
10		Check register current value and send TC(8,4,109,1) to disable alarms		Next Step: 11
10.1		Send TC(8,4,109,17) to read the register		<input type="checkbox"/>
		<p>Execute Telecommand</p> <p style="text-align: center;"><b>CRMA_RMH_AlarmEnSetReg</b></p> <p><i>TC Control Flags :</i></p> <p style="text-align: right;"><b>GBM IL DSE</b>  <b>--Y -- --</b></p> <p><i>Subsch. ID : 10</i>  <i>Det. descr. : CROME A: Read RMH Alarm Enable Set Register</i></p>	<b>DCW1A159</b>	
10.2		Check the reception of TM(8,6,109,17)		<input type="checkbox"/>
		Both the Alarm Enable Set or Alarm Enable Clear registers have the same layout as as the Filtered Alarm Status Register (see TM/Register layout).		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Packet Reception <b>TM 8-6-109-17 TTR Management - Crome Register Report</b> Packet Details: APID: 16 Type: 8 Subtype: 6 PI1: 27921 PI2: 0	CromeRegRpt	
		Verify Packet Telemetry Function_ID DE008170	= TTR_Manag	(None)
		Verify Packet Telemetry TtrManRptActId DE368170	= CromeRegRpt	(None)
		Verify Packet Telemetry CromeId DE285170	= Crome_A	SLD=XL001999
		Verify Packet Telemetry CromeAddr DE329170	= 070058D4 <hex>	AND=ZAZ7R999
		Verify Packet Telemetry CromeData DE367170	Standard value (all enabled) is HEX 00 23 FE 3F	(None)
		<b>For all the following alarms:            0 - Alarm Disabled            1 - Alarm Enabled</b>		
		This TC must be modified as required by the specific situation. The default values shown are consistent with all alarms enabled except the don't care / not used ones.		
		Execute Telecommand EnblDisblAlarms Command Parameter(s) : RmId DH093170 WatchdogTogg DH104170 ExtAlarm1DoD1 DH105170 ExtAlarm2DoD2 DH106170 ExtAlarm3Ss5a6a DH107170 ExtAlarm4Ss5b6b DH108170 ExtAlarm5Ss3a4a DH109170 ExtAlarm6 DH110170 ExtAlarm7 DH111170 ExtAlarm8 DH112170 PMA SysErr DH113170	DCT55170 RM_A (Def) Enable Enable Enable Enable Enable Enable Disable (Def) Disable (Def) Disable (Def) Enable	



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		PMAAlarmAll DH114170 PMAUnderVolt DH115170 PMASWAlarm DH116170 PMBSysErr DH117170 PMBAlarmAll DH118170 PMBUnderVolt DH119170 PMBSWAlarm DH120170 SelectPM DH121170 NotUsed1 DH122170 NotUsed2 DH123170 NotUsed3 DH124170 WatchdogEnable DH125170	Enable Enable Enable Enable Enable Enable Enable Enable 0 <dec> (Def) 0 <dec> (Def) 0 <dec> (Def) Enable	
		TC Control Flags :  GBM IL DSE  --Y -- ---  Subsch. ID : 10 Det. descr. : TEMPLATE Enable / Disable Alarms TC(8,4,109,1)		
11		Check new status of Alarm Enable Set Register		Next Step: 12
11.1		Send TC(8,4,109,17) to read the register		<input type="checkbox"/>
		Execute Telecommand  CRMA_RM_H_AlarmEnSetReg  TC Control Flags :  GBM IL DSE --Y -- ---  Subsch. ID : 10 Det. descr. : CROME A: Read RMH Alarm Enable Set Register	DCW1A159	
11.2		Check the reception of TM(8,6,109,17)		<input type="checkbox"/>
		<b>Both the Alarm Enable Set or Alarm Enable Clear registers have the same layout as as the Filtered Alarm Status Register (see TM/Register layout).</b>		
		Verify Packet Reception TM 8-6-109-17 TTR Management - Crome Register Report Packet Details:  APID: 16 Type: 8 Subtype: 6 PI1: 27921 PI2: 0	CromeRegRpt	
		Verify Packet Telemetry Function_ID DE008170	= TTR_Manag	(None)
		Verify Packet Telemetry TtrManRptActId DE368170	= CromeRegRpt	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Packet Telemetry CromeId DE285170	= Crome_A	(None)
		Verify Packet Telemetry CromeAddr DE329170	= 070058D4 <hex>	(None)
		Verify Packet Telemetry CromeData DE367170	Consistent with commanded change	(None)
11.3		Send TC(8,4,109,8) to acquire the new alarm statuses		<input type="checkbox"/>
		Execute Telecommand  ReadAlarmSts  Command Parameter(s) : RmId DH093170  TC Control Flags : GBM IL DSE --Y -- ---  Subsch. ID : 10 Det. descr. : TEMPLATE Read Alarm Status TC(8,4,109,8)	DCT62170  RM_A (Def)	
11.4		Verify the reception of TM(8,6,109,8)		<input type="checkbox"/>
		<b>The dedicated Alarm Status Report packet TM(8,6,109,8) is based on the Filtered Alarm Status Register (0x070058FC), i.e. after temporisation and any inversion in the polarity stage.</b>  <b>Thus a bit set to 1 means the alarm is active, independently if the polarity is High or Low.</b>  <b>Note the Filtered Alarm Status Register has a different layout than the Alarm Status Report packet (see TM/Registers Layout)</b>  <b>Values shown below reflect the expected NOMINAL situation, depending on the separation status and PM in use.</b>		
		See tab INFO RM ALARMS at end of procedure for an overview of the foreseen alarm statuses -before separation -after separation -after disabling of PAP6 alarm and being on CDMS PM A or PM B.		



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand <p style="text-align: right;"><b>ReadAlarmSts</b></p> Command Parameter(s) : <p style="text-align: right;">RmId                    DH093170</p> TC Control Flags : <p style="text-align: right;">                                 GBM IL DSE                                  --Y -- ---</p> Subsch. ID : 10 Det. descr. : TEMPLATE Read Alarm Status TC(8,4,109,8)	DCT62170  RM_B	
15		Verify the reception of TM(8,6,109,8)		Next Step: 16
		<p><b>The dedicated Alarm Status Report packet TM(8,6,109,8) is based on the Filtered Alarm Status Register (0x070058FC), i.e. after temporisation and any inversion in the polarity stage.</b></p> <p><b>Thus a bit set to 1 means the alarm is active, independently if the polarity is High or Low.</b></p> <p><b>Note the Filtered Alarm Status Register has a different layout than the Alarm Status Report packet (see TM/Registers Layout)</b></p> <p><b>Values shown below reflect the expected NOMINAL situation, depending on the separation status and PM in use.</b></p>		
		See tab INFO RM ALARMS at end of procedure for an overview of the foreseen alarm statuses -before separation -after separation -after disabling of PAP6 alarm and being on CDMS PM A or PM B.		
		Verify Packet Reception <b>TM 8-6-109-8 TTR Management - Alarm Status Report</b> Packet Details: <p style="text-align: right;">APID:            16                   Type:            8                   Subtype:       6                   PI1:            27912                   PI2:            0</p>	AlarmStsRpt	
		Verify Packet Telemetry <p style="text-align: right;">Function_ID                    DE008170</p>	= TTR_Manag	(None)
		Verify Packet Telemetry <p style="text-align: right;">TtrManRptActId                DE368170</p>	= AlarmStsRpt	AND=ZAZ7R999
		Verify Packet Telemetry <p style="text-align: right;">RmId                            DE283170</p>	= RM_B	AND=ZAZ7R999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
16		Clear SW alarm?		Next Step: NO 18 YES 17
		<b>This step should actually be taken if the SW alarm is raised but the User wants to avoid to serve it as soon as the RM will be re-enabled. This is not a nominal operation and it is always recommended to serve the SW alarm.</b>		
<p>TC Seq. Name :HRD3011N (Clear SW Alarm)</p> <p>TimeTag Type: Sub Schedule ID:</p> <p><input type="checkbox"/></p>				
17		Call procedure to clear the SW alarm		Next Step: 18
		Execute Procedure: H_CRP_DHS_3057 Clear SW Alarm in ERC 32		
<p>TC Seq. Name :HRD3011O (Dummy sequence)</p> <p>TimeTag Type: Sub Schedule ID:</p> <p><input type="checkbox"/></p>				
18		Disable active alarms?		Next Step: NO 21 YES 19
		<p><b>If there are pending active alarms then as soon as the RM will be enabled they will be served. As some alarms cannot be "easily" reset (as vice versa indicated above for SW alarm) the only way to avoid to run the associated CCS's is to disable them. Again this is not a nominal operation and it is highly recommended to skip this step.</b></p> <p><b>Special Remarks:</b></p> <p><b>1) Alarm #0: if the WD cannot be refreshed anymore by the OBSW (e.g. because the ICB component, between PM and TTR/RM to be operated in this procedure, is Unhealthy) then it could be actually necessary to disable such an alarm; otherwise it would be immediately raised and served as soon as the RM is re-enabled. This is the case when some PAP attempts are still available for this alarm (e.g attempt counters have been reset or new programming set has been selected).</b></p> <p><b>2) Alarm #17: Select PM alarm has never to be disabled.</b></p>		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
TC Seq. Name :HRD3011P (Disable alarms)  TimeTag Type: Sub Schedule ID:  <input type="checkbox"/>				
19		Check register current value and send TC(8,4,109,1) to disable alarms		Next Step: 20
19.1		Send TC(8,4,109,17) to read the register		<input type="checkbox"/>
		Execute Telecommand <div style="text-align: right;">CRMB_RMH_AlarmEnSetReg</div> TC Control Flags : <div style="text-align: right;">GBM IL DSE --Y -- --</div> Subsch. ID : 10 Det. descr. : CROME B: Read RMH Alarm Enable Set Register	DCW38159	
19.2		Check the reception of TM(8,6,109,17)		<input type="checkbox"/>
		<b>Both the Alarm Enable Set or Alarm Enable Clear registers have the same layout as as the Filtered Alarm Status Register (see TM/Register layout).</b>		
		Verify Packet Reception <b>TM 8-6-109-17 TTR Management - Crome Register Report</b> Packet Details: <div style="text-align: right;">             APID: 16              Type: 8              Subtype: 6              PI1: 27921              PI2: 0           </div>	CromeRegRpt	
		Verify Packet Telemetry <div style="text-align: right;">Function_ID DE008170</div>	= TTR_Manag	(None)
		Verify Packet Telemetry <div style="text-align: right;">TtrManRptActId DE368170</div>	= CromeRegRpt	(None)
		Verify Packet Telemetry <div style="text-align: right;">CromeId DE285170</div>	= Crome_B	SLD=XL001999
		Verify Packet Telemetry <div style="text-align: right;">CromeAddr DE329170</div>	= 070058D4 <hex>	AND=ZAZ7R999
		Verify Packet Telemetry <div style="text-align: right;">CromeData DE367170</div>	Standard value (all enabled) is HEX 00 23 FE 3F	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch																																																																								
19.3		Send TC(8,4,109,1) to enable or disable the alarms		<input type="checkbox"/>																																																																								
		This TC must be modified as required by the specific situation. The default values shown are consistent with all alarms enabled except the don't care / not used ones.																																																																										
		Execute Telecommand <p style="text-align: center;"><b>EnblDisblAlarms</b></p> Command Parameter(s) : <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 40%;">RmId</td><td style="width: 20%;">DH093170</td><td style="width: 40%;">RM_B</td></tr> <tr><td>WatchdogTogg</td><td>DH104170</td><td>Enable</td></tr> <tr><td>ExtAlarm1DoD1</td><td>DH105170</td><td>Enable</td></tr> <tr><td>ExtAlarm2DoD2</td><td>DH106170</td><td>Enable</td></tr> <tr><td>ExtAlarm3Ss5a6a</td><td>DH107170</td><td>Enable</td></tr> <tr><td>ExtAlarm4Ss5b6b</td><td>DH108170</td><td>Enable</td></tr> <tr><td>ExtAlarm5Ss3a4a</td><td>DH109170</td><td>Enable</td></tr> <tr><td>ExtAlarm6</td><td>DH110170</td><td>Disable (Def)</td></tr> <tr><td>ExtAlarm7</td><td>DH111170</td><td>Disable (Def)</td></tr> <tr><td>ExtAlarm8</td><td>DH112170</td><td>Disable (Def)</td></tr> <tr><td>PMASysErr</td><td>DH113170</td><td>Enable</td></tr> <tr><td colspan="3"> </td></tr> <tr><td>PMAAlarmAll</td><td>DH114170</td><td>Enable</td></tr> <tr><td>PMAUnderVolt</td><td>DH115170</td><td>Enable</td></tr> <tr><td>PMASWAlarm</td><td>DH116170</td><td>Enable</td></tr> <tr><td>PMBSysErr</td><td>DH117170</td><td>Enable</td></tr> <tr><td>PMBAlarmAll</td><td>DH118170</td><td>Enable</td></tr> <tr><td>PMBUnderVolt</td><td>DH119170</td><td>Enable</td></tr> <tr><td>PMBSWAlarm</td><td>DH120170</td><td>Enable</td></tr> <tr><td>SelectPM</td><td>DH121170</td><td>Enable</td></tr> <tr><td>NotUsed1</td><td>DH122170</td><td>0 &lt;dec&gt; (Def)</td></tr> <tr><td>NotUsed2</td><td>DH123170</td><td>0 &lt;dec&gt; (Def)</td></tr> <tr><td>NotUsed3</td><td>DH124170</td><td>0 &lt;dec&gt; (Def)</td></tr> <tr><td>WatchdogEnable</td><td>DH125170</td><td>Enable</td></tr> </table> TC Control Flags : <p style="text-align: center;"><b>GBM IL DSE</b></p> <p style="text-align: center;">--Y -- ---</p> Subsch. ID : 10 Det. descr. : TEMPLATE Enable / Disable Alarms TC(8,4,109,1)	RmId	DH093170	RM_B	WatchdogTogg	DH104170	Enable	ExtAlarm1DoD1	DH105170	Enable	ExtAlarm2DoD2	DH106170	Enable	ExtAlarm3Ss5a6a	DH107170	Enable	ExtAlarm4Ss5b6b	DH108170	Enable	ExtAlarm5Ss3a4a	DH109170	Enable	ExtAlarm6	DH110170	Disable (Def)	ExtAlarm7	DH111170	Disable (Def)	ExtAlarm8	DH112170	Disable (Def)	PMASysErr	DH113170	Enable				PMAAlarmAll	DH114170	Enable	PMAUnderVolt	DH115170	Enable	PMASWAlarm	DH116170	Enable	PMBSysErr	DH117170	Enable	PMBAlarmAll	DH118170	Enable	PMBUnderVolt	DH119170	Enable	PMBSWAlarm	DH120170	Enable	SelectPM	DH121170	Enable	NotUsed1	DH122170	0 <dec> (Def)	NotUsed2	DH123170	0 <dec> (Def)	NotUsed3	DH124170	0 <dec> (Def)	WatchdogEnable	DH125170	Enable	DCT55170	
RmId	DH093170	RM_B																																																																										
WatchdogTogg	DH104170	Enable																																																																										
ExtAlarm1DoD1	DH105170	Enable																																																																										
ExtAlarm2DoD2	DH106170	Enable																																																																										
ExtAlarm3Ss5a6a	DH107170	Enable																																																																										
ExtAlarm4Ss5b6b	DH108170	Enable																																																																										
ExtAlarm5Ss3a4a	DH109170	Enable																																																																										
ExtAlarm6	DH110170	Disable (Def)																																																																										
ExtAlarm7	DH111170	Disable (Def)																																																																										
ExtAlarm8	DH112170	Disable (Def)																																																																										
PMASysErr	DH113170	Enable																																																																										
PMAAlarmAll	DH114170	Enable																																																																										
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PMBAlarmAll	DH118170	Enable																																																																										
PMBUnderVolt	DH119170	Enable																																																																										
PMBSWAlarm	DH120170	Enable																																																																										
SelectPM	DH121170	Enable																																																																										
NotUsed1	DH122170	0 <dec> (Def)																																																																										
NotUsed2	DH123170	0 <dec> (Def)																																																																										
NotUsed3	DH124170	0 <dec> (Def)																																																																										
WatchdogEnable	DH125170	Enable																																																																										
20		Check new status of Alarm Enable Set Register		Next Step: 21																																																																								
20.1		Send TC(8,4,109,17) to read the register		<input type="checkbox"/>																																																																								
		The Alarm Enable Clear Register (0x070058D0) could also be used as it returns the same value.																																																																										

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand  <b>CRMB_RMH_AlarmEnSetReg</b>  <i>TC Control Flags :</i>  Subsch. ID : 10 Det. descr. : CROME B: Read RMH Alarm Enable Set Register Register	DCW38159	
20.2		Check the reception of TM(8,6,109,17)		<input type="checkbox"/>
		<b>Both the Alarm Enable Set or Alarm Enable Clear registers have the same layout as as the Filtered Alarm Status Register (see TM/Register layout).</b>		
		Verify Packet Reception <b>TM 8-6-109-17 TTR Management - Crome Register Report</b> <i>Packet Details:</i>  APID: 16 Type: 8 Subtype: 6 PI1: 27921 PI2: 0	CromeRegRpt	
		Verify Packet Telemetry <b>Function_ID</b> DE008170	= TTR_Manag	(None)
		Verify Packet Telemetry <b>TtrManRptActId</b> DE368170	= CromeRegRpt	(None)
		Verify Packet Telemetry <b>CromeId</b> DE285170	= Crome_B	(None)
		Verify Packet Telemetry <b>CromeAddr</b> DE329170	= 070058D4 <hex>	(None)
		Verify Packet Telemetry <b>CromeData</b> DE367170	Consistent with commanded change	(None)
20.3		Send TC(8,4,109,8) to acquire the alarm statuses		<input type="checkbox"/>
		Execute Telecommand  <b>ReadAlarmSts</b>  <i>Command Parameter(s) :</i> <b>RmId</b> DH093170  <i>TC Control Flags :</i>  Subsch. ID : 10 Det. descr. : TEMPLATE Read Alarm Status TC(8,4,109,8)	DCT62170  <b>RM_B</b>	



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch										
20.4		Verify the reception of TM(8,6,109,8)		<input type="checkbox"/>										
		<p>The dedicated Alarm Status Report packet TM(8,6,109,8) is based on the Filtered Alarm Status Register (0x070058FC), i.e. after temporisation and any inversion in the polarity stage.</p> <p><b>Thus a bit set to 1 means the alarm is active, independently if the polarity is High or Low.</b></p> <p>Note the Filtered Alarm Status Register has a different layout than the Alarm Status Report packet (see TM/Registers Layout)</p> <p>Values shown below reflect the expected NOMINAL situation, depending on the separation status and PM in use.</p>												
		See tab INFO RM ALARMS at end of procedure for an overview of the foreseen alarm statuses -before separation -after separation -after disabling of PAP6 alarm and being on CDMS PM A or PM B.												
		Verify Packet Reception <b>TM 8-6-109-8 TTR Management - Alarm Status Report</b> Packet Details: <table style="margin-left: 20px;"> <tr><td>APID:</td><td>16</td></tr> <tr><td>Type:</td><td>8</td></tr> <tr><td>Subtype:</td><td>6</td></tr> <tr><td>PI1:</td><td>27912</td></tr> <tr><td>PI2:</td><td>0</td></tr> </table>	APID:	16	Type:	8	Subtype:	6	PI1:	27912	PI2:	0	AlarmStsRpt	
APID:	16													
Type:	8													
Subtype:	6													
PI1:	27912													
PI2:	0													
		Verify Packet Telemetry <table style="margin-left: 20px;"> <tr><td>Function_ID</td><td>DE008170</td><td>= TTR_Manag</td><td>(None)</td></tr> </table>	Function_ID	DE008170	= TTR_Manag	(None)								
Function_ID	DE008170	= TTR_Manag	(None)											
		Verify Packet Telemetry <table style="margin-left: 20px;"> <tr><td>TtrManRptActId</td><td>DE368170</td><td>= AlarmStsRpt</td><td>AND=ZAZ7R999</td></tr> </table>	TtrManRptActId	DE368170	= AlarmStsRpt	AND=ZAZ7R999								
TtrManRptActId	DE368170	= AlarmStsRpt	AND=ZAZ7R999											
		Verify Packet Telemetry <table style="margin-left: 20px;"> <tr><td>RmId</td><td>DE283170</td><td>= RM_B</td><td>AND=ZAZ7R999</td></tr> </table>	RmId	DE283170	= RM_B	AND=ZAZ7R999								
RmId	DE283170	= RM_B	AND=ZAZ7R999											
TC Seq. Name :HRD3011Q (Enable RMB)  TimeTag Type: Sub Schedule ID:  <input type="checkbox"/>														
21		Send TC to enable RM B		Next Step: 22										

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand  RM_B_enable  TC Control Flags :  Subsch. ID : 10 Det. descr. : RM B enable - High Priority Standard  GBM IL DSE --Y -- --	DCA15170	
22		Verify that the RM B has been enabled		Next Step: 23
		Verify Telemetry RMB_fromTTR-RMA DEEXJ160	= ENABLED	AND=ZAZAA999
		Verify Telemetry RMB_fromTTR-RMB DEEXK160	= ENABLED	AND=ZAZAA999
TC Seq. Name :HRD3011R (Stop TTR management )  TimeTag Type: N Sub Schedule ID: <input type="checkbox"/>				
23		Stop TTR management function		Next Step: END
		Execute Telecommand  StopTtrManag  TC Control Flags :  Subsch. ID : 10 Det. descr. : Stop Ttr Management TC(8,2,109)  GBM IL DSE --Y -- --	DCN07170	
TC Seq. Name :HRD3011G (Dummy sequence)  TimeTag Type: Sub Schedule ID: <input type="checkbox"/>				
24		Choose the RM		Next Step: RMB 25 RMA 27
TC Seq. Name :HRD3011L (Disable RMB)  TimeTag Type: Sub Schedule ID: <input type="checkbox"/>				

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
25		Send TC to disable RM B		Next Step: 26
		Execute Telecommand  RM_B_Disable  TC Control Flags :  GBM IL DSE --Y -- --  Subsch. ID : 10 Det. descr. : RM B Disable - High Priority Standard	DCA12170	
26		Verify that the RM B has been disabled		Next Step: END
		Verify Telemetry RMB_fromTTR-RMA DEEXJ160 = DISABLED		AND=ZAZAA999
		Verify Telemetry RMB_fromTTR-RMB DEEXK160 = DISABLED		AND=ZAZAA999
TC Seq. Name :HRD3011H (Disable RMA)  TimeTag Type: Sub Schedule ID:  <input type="checkbox"/>				
27		Send TC to disable RM A		Next Step: 28
		Execute Telecommand  RM_A_Disable  TC Control Flags :  GBM IL DSE --Y -- --  Subsch. ID : 10 Det. descr. : RM A Disable - High Priority Standard	DCA11170	
28		Verify that the RM A has been disabled		Next Step: END
		Verify Telemetry RMA_fromTTR-RMA DEEXG160 = DISABLED		AND=ZAZAA999
		Verify Telemetry RMA_fromTTR-RMB DEEXH160 = DISABLED		AND=ZAZAA999
<b>End of Procedure</b>				

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**INFO RM ALARMS**

	RmId	PM A ON	PM A ON	PM A ON	PM B ON	PM B ON	PM B ON
		Pre-sep	Nominal Post-sep	Post-sep PAP6 dis	Pre-sep	Nominal Post-sep	Post-sep PAP6 dis
DE283170		A / B	A / B	A / B	A / B	A / B	A / B
DE345170	WatchdogTogg	0	0	0	0	0	0
DE346170	ExtAlarm1DoD1	0	0	0	0	0	0
DE347170	ExtAlarm2DoD2	0	0	0	0	0	0
DE348170	ExtAlarm3Ss5a6a	0	1	1	0	1	1
DE349170	ExtAlarm4Ss5b6b	0	1	0	0	1	0
DE350170	ExtAlarm5Ss3a4a	0	1	0	0	1	0
DE351170	ExtAlarm6	Don't care	Don't care	Don't care	Don't care	Don't care	Don't care
DE352170	ExtAlarm7	Don't care	Don't care	Don't care	Don't care	Don't care	Don't care
DE353170	ExtAlarm8	Don't care	Don't care	Don't care	Don't care	Don't care	Don't care
DE354170	PMA SysErr	0	0	0	1	1	1
DE355170	PMA AlarmAll	0	0	0	0	0	0
DE356170	PMA UnderVolt	0	0	0	1	1	1
DE357170	PMA SWAlarm	0	0	0	0	0	0
DE358170	PMB SysErr	1	1	1	0	0	0
DE359170	PMB AlarmAll	0	0	0	0	0	0
DE360170	PMB UnderVolt	1	1	1	0	0	0
DE361170	PMB SWAlarm	0	0	0	0	0	0
DE362170	SelectPM	0	0	0	1	1	1
DE363170	NotUsed1	Don't care	Don't care	Don't care	Don't care	Don't care	Don't care
DE364170	NotUsed2	Don't care	Don't care	Don't care	Don't care	Don't care	Don't care
DE365170	NotUsed3	Don't care	Don't care	Don't care	Don't care	Don't care	Don't care
DE366170	WatchdogEnable	Don't care	Don't care	Don't care	Don't care	Don't care	Don't care

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**INFO ALARM REGISTERS**

7. The RM Alarms status/polarity/enable TM/TC layout vs related Crome Registers

- The dedicated Alarm Status Report packet TM(8,6,109,8) is based on the Filtered Alarm Status Register, i.e. after temporisation and any inversion in the polarity stage. Thus a bit set to 1 means the alarm is active, independently if the polarity is High or Low.

Note: the different layouts are depicted herafter

- TM(8,6,109,8) Alarm Status Report

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
not used										WD tog.	DOD alarms	Sep. straps alarms	Ext. alarms	PMA alarms	PMB alarms	Sel PM	not used	WD En.													

- TM(8,6,109,17) Read Crome Filtered Alarm Status Register

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
not used										WD En.	not used	Sel PM	FMB alarms	PMA alarms	Ext. alarms	Sep. straps alarms	DOD alarms	WD tog.													

- Dedicated TC(8,4,109,9) allows to set the Polarity to High/Low. Its execution can be checked by reading the Alarm Polarity Register.  
 Note: while in the TC a raw value set to 0 correspond to High, in the registry a bit set to 0 reflects Low. The Alarm Polarity Register layout is the same as the Filtered Alarm Status Register.
- Dedicated TC(8,4,109,1) allows to enable/disable an alarm. Its execution can be checked by reading either of the Alarm Enable Clear or Alarm Enable Set Registers.  
 Note: Both registers will return the same value, thus in the operational procedures only one of them is checked. Again these two registers share the same layout at the Filtered Alarm Status Register.

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**INFO ALARM CONDITIONING**

**10.2 ALARM CONDITIONING**

The alarm conditioning shall be as follows.

Alarm No	Function	Polarity	Temporisation	Enable mask	Comments
0	WD toggle	Toggle	WD. 2 second	ON	
1	Battery DOD1	Low (Contact Closed)	1 msec	ON	
2	Battery DOD2	Low (Contact Closed)	1 msec	ON	
3	Separation strap input 1	High (Contact Open)	21 seconds	ON	
4	Separation strap input 2	High (Contact Open)	19 seconds	ON	
5	Separation strap input 3	High (Contact Open)	19 seconds	ON	
6	External unused			OFF	
7	External unused			OFF	
8	External unused			OFF	
9	PMA CPU	Low		ON	(*)
10	PMA COCOS	High		ON	(*)
11	PMA Undervoltage	Low		ON	(*)
12	PMA Software	High		ON	(*)
13	PMB CPU	Low		ON	(*)
14	PMB COCOS	High		ON	(*)
15	PMB Undervoltage	Low		ON	(*)
16	PMB Software	High		ON	(*)
17	Select PM (high = PMB)	High		ON	(*)
18	Unused				(*)
19	Unused				(*)
20	Unused				(*)
21	WD enable	High		ON	(*)

(\*): Polarity of internal Alarms to be defined by CDMU contractor.

**Table 10-2.** RM alarm conditioning