

Restart telescope decontamination
 File: H_CRP_SYS_DEC2.xls
 Author: E. Picallo



Procedure Summary

Objectives

This procedure is to be used to restart the decontamination function when it has been stopped automatically by the OBSW due to one of the following anomalies:

- Continuity check failure
- CCU A or CCU B invalid

Summary of Constraints

In case of a CCU invalid, a new thermistors triplet shall be selected to calculate the median temperature (acquired only from the healthy CCU). In this case, the telescope temperatures acquired from the invalid CCU are not valid and only the temperatures acquired from the healthy CCU shall be checked.

Spacecraft Configuration

Start of Procedure

Decontamination heating function stopped
 CCU A/B Monit#2 and TCS diagnostic packets still enabled
 Instruments OFF

End of Procedure

Decontamination heating function started

Reference File(s)

Input Command Sequences

Output Command Sequences

HRYDEC21
 HRYDEC22
 HRYDEC23

Referenced Displays

ANDs	GRDs	SLDs
ZAZ9J999		(None)
ZAA00999		
ZAA01999		
ZAZ0X999		

Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
23/02/09		1	Created	E. Picallo	

Status : Version 3 - Unchanged
 Last Checkin: 23/02/09

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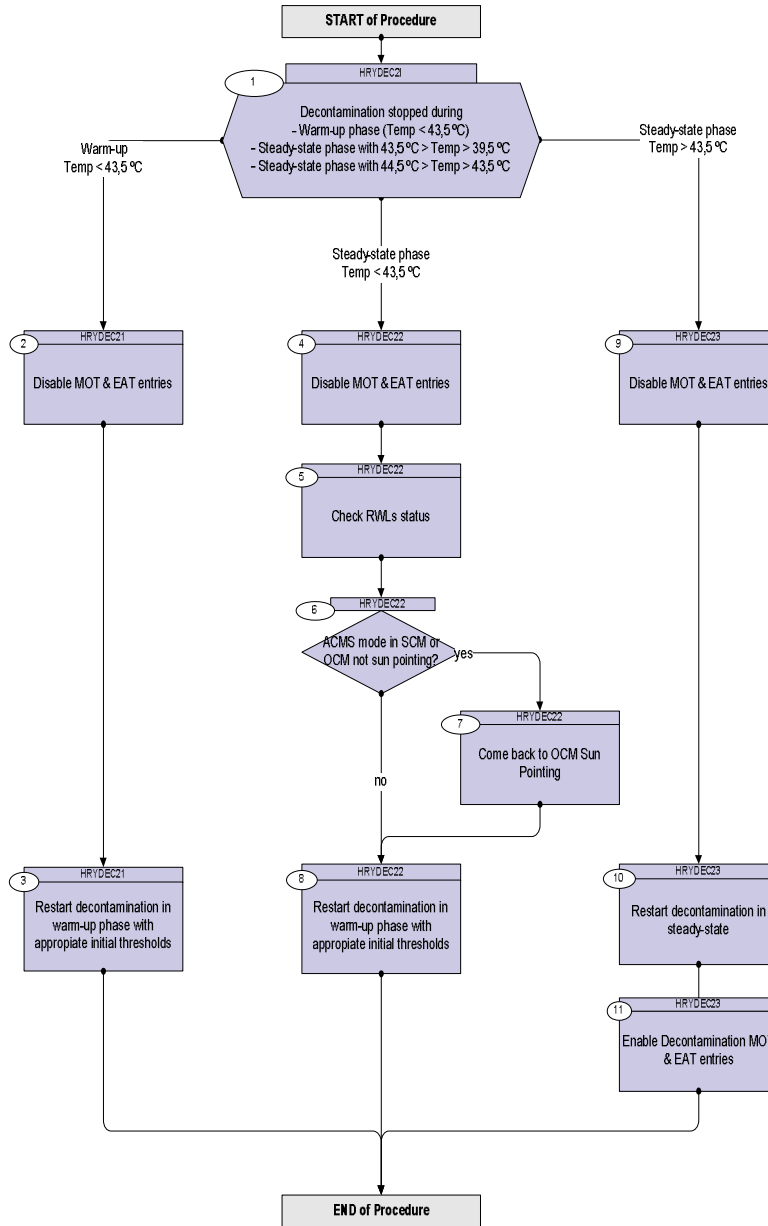


23/02/09		2	TC AC082109 (Stop Function) Biasing inserted as a comment	E. Picallo	
23/02/09	2.1	3	Enable MOT&EAT entries in case of re-start in steady-state added	E. Picallo	

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Procedure Flowchart Overview



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
Beginning of Procedure				
<p><i>TC Seq. Name : HRYDEC2I (Restart decont Init)</i> Restart telescope decontamination Initial</p> <p><i>TimeTag Type:</i> <i>Sub Schedule ID:</i></p> <p style="text-align: center;">□</p>				
1		<p><i>Decontamination stopped during</i></p> <ul style="list-style-type: none"> - <i>Warm-up phase (Temp < 43,5 °C)</i> - <i>Steady-state phase with 43,5 °C > Temp > 39,5 °C</i> - <i>Steady-state phase with 44,5 °C > Temp > 43,5 °C</i> 		<p>Next Step: Warm-up Temp < 43,5 °C 2 Steady-state phase Temp < 43,5 °C 4 Steady-state phase Temp > 43,5 °C 9</p>
1.1		<p><i>Verify telescope temperatures</i></p>		□
		<p>Check the telescope temperatures.</p> <p>Thermistors acquired by CCU A: - T331, T333, T335, T337 for M1 - T339, T341 for M2</p> <p>Thermistors acquired by CCU B: - T332, T334, T336, T338, T340 for M1 - T342 for M2</p> <p>WARNING: In case of a permanent CCU invalid, the telescope temperatures acquired from the invalid CCU are not valid and only the temperatures acquired from the healthy CCU shall be checked.</p> <p>The default thermal sensors to be used for M1 decontamination are TH A (T331), TH A' (T332), TH C (T335).</p> <p>The default thermal sensors to be used for M2 decontamination are TH X (T339), TH Y (T341), TH Z (T342).</p>		
1.1.1		<p><i>Verify M1 thermistors</i></p>		□
		<p>Verify on telescope; M1 THA ; T21-5 (A) PT1000_T331 KD253302</p>		AND=ZAZ9J999
		<p>Verify on telescope; M1 THA' ; T22-5 (A) PT1000_T333 KD254302</p>		AND=ZAZ9J999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify on telescope; M1 THC ; T23-5 (A) PT1000_T335 KD255302		AND=ZAZ9J999
		Verify on telescope; M1 THC' ; T24-5 (A) PT1000_T337 KD256302		AND=ZAZ9J999
		Verify on telescope; M1 THA'' ; T16-5 (B) PT1000_T332 KD248303		AND=ZAZ9J999
		Verify on telescope; M1 THB ; T17-5 (B) PT1000_T334 KD249303		AND=ZAZ9J999
		Verify on telescope; M1 THB' ; T18-5 (B) PT1000_T336 KD250303		AND=ZAZ9J999
		Verify on telescope; M1 THB'' ; T19-5 (B) PT1000_T338 KD251303		AND=ZAZ9J999
		Verify on telescope; M1 THC'' ; T20-5 (B) PT1000_T340 KD252303		AND=ZAZ9J999
1.1.2		Verify M2 thermistors		<input type="checkbox"/>
		Verify on telescope; M2 THX ; T25-5 (A) PT1000_T339 KD257302		AND=ZAZ9J999
		Verify on telescope; M2 THY ; T26-5 (A) PT1000_T341 KD258302		AND=ZAZ9J999
		Verify on telescope; M2 THZ ; T30-5 (B) PT1000_T342 KD262303		AND=ZAZ9J999
1.2		Decontamination stopped during Warm-up phase with Temp < 43,5 °C		<input type="checkbox"/>
		Check if the telescope temperatures have decreased below 43,5°C.		
		Due to power constraints, the following pre-conditions are required to start the decontamination in warm-up and shall remain valid during the entire warm-up phase: - Spacecraft mode shall be: Either in SAM (Instruments OFF) or in NOM but with instruments OFF - ACMS shall be in SAM or OCM / Sun pointing (Z axis), with a Sun Aspect Angle < 1° - Battery shall be at 99% EOC with Vbatt > 25,32 V - The RWLs shall be OFF or in STBY (i.e. can be ON but not commanded)		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
1.3		Decontamination stopped during Steady-state phase with Temp < 43,5°C?		<input type="checkbox"/>
		Check if the telescope temperatures have decreased below 43,5°C.		
		<p>If the telescope temperatures have decreased below 43,5°C, the decontamination must be restarted in warm-up conditions and the power constraints shall be taken into account:</p> <ul style="list-style-type: none"> - ACMS mode must be in SAM or OCM with Sun pointing - RWLs biasing not activated <p>If the telescope temperatures are still in the range [43,5°C - 44,5°C], the decontamination shall be restarted in steady-state conditions, with all the heating lines activated and no constraints on the ACMS mode and the RWLs commanding.</p>		
1.4		Decontamination stopped during Steady-state phase with Temp > 43,5°C?		<input type="checkbox"/>
		If the telescope temperatures is above 43,5°C, the decontamination can be restarted in steady-state conditions i.e. the power constraints are not applicable.		
<p>TC Seq. Name : HRYDEC21 (Restart DecontWarmup) Restart telescope decontamination during warm-up</p> <p>TimeTag Type: Sub Schedule ID:</p> <p><input type="checkbox"/></p>				
2		Disable MOT & EAT entries		Next Step: 3
		WARNING: it is assumed that the MOT and EAT entries related to the decontamination are still enabled (the decontamination function was stopped automatically onboard). Note that the start of the decontamination function set the monitored median temperature to the default value 0xFFFF. Then, to prevent the MOT and EAT to be erroneously triggered, they must be disabled before restarting the decontamination and enabled again after it.		
2.1		Disable Decontamination EAT entries		<input type="checkbox"/>

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		Execute Telecommand <p style="text-align: right;">DisMonitOfParam_Templ</p> Command Parameter(s) : <table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">N_Repetition</td> <td style="width: 20%;">DH041170</td> <td style="width: 20%;">2 <dec></td> <td style="width: 30%;"></td> </tr> <tr> <td>ParameterId</td> <td>DH042170</td> <td>2049 <dec></td> <td></td> </tr> <tr> <td>MonitorId</td> <td>DH043170</td> <td>200 <dec></td> <td></td> </tr> <tr> <td>ParameterId</td> <td>DH042170</td> <td>2049 <dec></td> <td></td> </tr> <tr> <td>MonitorId</td> <td>DH043170</td> <td>201 <dec></td> <td></td> </tr> </table> TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 10 Det. descr. : TEMPLATE Disable Monitoring of Parameter, TC(12,2)	N_Repetition	DH041170	2 <dec>		ParameterId	DH042170	2049 <dec>		MonitorId	DH043170	200 <dec>		ParameterId	DH042170	2049 <dec>		MonitorId	DH043170	201 <dec>		DCT27170	
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2.4		Report Monitoring List to check the decontamination entries are disabled		□																				
		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																					
3		Restart decontamination in warm-up phase with appropriate initial thresholds		Next Step: END																				
		Call the nominal procedure to start the decontamination but taking into account the following remarks: 1) the CCU A and CCUB Monit#2 packets as well as the TCS diagnostic packet should be normally still enabled 2) the redundant HPSs should be still ON.																						
		3) If the telescope temperatures are below 39,5°C, run the entire procedure as it is. However, if the telescope temperatures are between 39,5°C and 43,5°C, then: - Select the appropriate decontamination thresholds depending on the current temperature (step 7): [Tmin=40,5, Tmax=41,5] if 39,5<T°<40,5 [Tmin=41,5, Tmax=42,5] if 40,5<T°<41,5 [Tmin=42,5, Tmax=43,5] if 41,5<T°<42,5 [Tmin=43,5, Tmax=44,5] if 42,5<T°<43,5 - Restart the decontamination - Depending on the selected starting threshold, go to the appropriate step to increase these thresholds by 1° - From this point, continue the procedure until the end.																						

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch									
		<p>4) In case of a CCU invalid, a new thermistors triplet should have been selected to calculate the median temperature (acquired only from the healthy CCU since the telescope temperatures acquired from the invalid CCU are not valid)</p> <p>Thermistors acquired by CCU A: - T331, T333, T335 and T337 for M1 - T339 and T341 for M2</p> <p>Thermistors acquired by CCU B: - T332, T334, T336, T338, T340 for M1 - T342 for M2</p> <p>Note: The contingency procedure H_CRP_CCU_CCUR includes the modification of triplet thermistors used for decontamination (calling to contingency procedure H_CRP_SYS_DECP to perform a M1/2 Decontamination heating thermistors update)</p>											
		<p>Execute Procedure: H_LEO_SYS_DEC1 Start Decontamination heating</p>											
<p>TC Seq. Name : HRYDEC22 (Restart Decont<43.5) Restart telescope decontamination when temp < 43.5 °C</p> <p>TimeTag Type: N Sub Schedule ID: <input type="checkbox"/></p>													
4		Disable MOT & EAT entries		Next Step: 5									
		<p>WARNING: it is assumed that the MOT and EAT entries related to the decontamination are still enabled (the decontamination function was stopped automatically onboard). Note that the start of the decontamination function set the monitored median temperature to the default value 0xFFFF. Then, to prevent the MOT and EAT to be erroneously triggered, they must be disabled before restarting the decontamination and enabled again after it.</p>											
4.1		Disable Decontamination EAT entries		<input type="checkbox"/>									
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		Execute Telecommand <p style="text-align: right;">DisableActions</p> <i>Command Parameter(s) :</i> N_Repetition DH041170 APID_for_EAT_TC DH236170 EventId DH146170 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 Disable Actions TC(19,5)	DCT85170										
4.2		Report EAT table to check the decontamination entries are disabled		□									
		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										
4.3		Disable Decontamination MOT entries		□									
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		Execute Telecommand <p style="text-align: right;">ArmDisableMon</p> <i>TC Control Flags :</i> <p style="text-align: right;">GBM IL DSE --Y -- ---</p> <i>Subsch. ID : 10</i> Det. descr. : Arm Disable On Board Monitoring, TC(8,4,106,1)	DC54F170										

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand DisMonitOfParam_Templ <i>Command Parameter(s) :</i> N_Repetition DH041170 ParameterId DH042170 MonitorId DH043170 ParameterId DH042170 MonitorId DH043170 <i>TC Control Flags :</i> GBM IL DSE --Y -- --- <i>Subsch. ID : 10</i> Det. descr. : TEMPLATE Disable Monitoring of Parameter, TC(12,2)	DCT27170	
4.4		Report Monitoring List to check the decontamination entries are disabled		☐
		Execute Telecommand ReportMonitList <i>TC Control Flags :</i> GBM IL DSE --Y -- --- <i>Subsch. ID : 10</i> Det. descr. : TEMPLATE Report current monitoring list, TC(12,8) no appl. data	DC51F170	
5		Check RWLs status		Next Step: 6
		Due to power constraints, the RWLs run-in can not be performed during the decontamination warm-up phase but only when the decontamination is in steady state phase. During the decontamination warm-up, the RWLs can be powered ON but in STBY (i.e. no RWL biasing ongoing and they can not be commanded).		
		Verify Telemetry RWL1 power AE4P3002	= OFF = ON	AND=ZAA00999
		Verify Telemetry RWL2 power AE4P4002	= OFF = ON	AND=ZAA01999
		Verify Telemetry RWL3 power AE4P5002	= OFF = ON	AND=ZAA01999
		Verify Telemetry RWL4 power AE4P6002	= OFF = ON	AND=ZAA01999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry CurrentBiasAid AESM9002	= Standby = Stopped	AND=ZAA01999
		WARNING: In case of RWL biasing activated (i.e. RWL run-in procedure ongoing), then it can be stopped by using the TC AC082109 (Stop Function) with parameter Any Function ID = Biasing.		
6		<i>ACMS mode in SCM or OCM not sun pointing?</i>		Next Step: yes 7 no 8
		Verify Telemetry AcmsMode AESMG002		AND=ZAZ0X999
7		<i>Come back to OCM Sun Pointing</i>		Next Step: 8
		NOTE: you can refer to H_FCP_AOC_3003 "Procedure for delta-V manoeuvres" to perform a transition to OCM. However, the last step to perform a delta-V is not needed in this case.		
		After commanding the OCM Sun pointing, verify the correct ACMS mode and S/C attitude		
		Verify Telemetry AcmsMode AESMG002	= OCM	AND=ZAZ0X999
		Verify Telemetry AcmsSubstate AESMF002	= OCM Pointing	AND=ZAZ0X999
		Verify Telemetry Sunvector X BRF AEUVX001	approx. 0	(None)
		Verify Telemetry Sunvector Y BRF AEUVY001	approx. 0	(None)
		Verify Telemetry Sunvector Z BRF AEUVZ001	approx. 1	(None)
		Verify Telemetry Est ang rate X AESR7001	~0 rd/s	(None)
		Verify Telemetry Est ang rate Y AESR8001	~0 rd/s	(None)
		Verify Telemetry Est ang rate Z AESR9001	~0 rd/s	(None)
8		<i>Restart decontamination in warm-up phase with appropriate initial thresholds</i>		Next Step: END

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		<p>Call the nominal procedure to start the decontamination but taking into account the following remarks:</p> <p>1) the CCU A and CCUB Monit#2 packets as well as the TCS diagnostic packet should be normally still enabled</p> <p>2) the redundant HPSs should be still ON.</p>		
		<p>3) If the telescope temperatures are below 39,5°C, run the entire procedure as it is. However, if the telescope temperatures are between 39,5°C and 43,5°C, then:</p> <ul style="list-style-type: none"> - Select the appropriate thresholds depending on the current temperature (step 7): <ul style="list-style-type: none"> [Tmin=40,5, Tmax=41,5] if 39,5<T°<40,5 [Tmin=41,5, Tmax=42,5] if 40,5<T°<41,5 [Tmin=42,5, Tmax=43,5] if 41,5<T°<42,5 [Tmin=43,5, Tmax=44,5] if 42,5<T°<43,5 - Restart the decontamination - Depending on the selected starting threshold, go to the appropriate step to increase these thresholds by 1° - From this point, continue the procedure until the end. 		
		<p>4) In case of a CCU invalid, a new thermistors triplet is selected to calculate the median temperature (acquired only from the healthy CCU). In this case, the telescope temperatures acquired from the invalid CCU are not valid and only the temperatures acquired from the healthy CCU shall be checked.</p> <p>Thermistors acquired by CCU A:</p> <ul style="list-style-type: none"> - T331, T333, T335, T337 for M1 - T339 ,T341 for M2 <p>Thermistors acquired by CCU B:</p> <ul style="list-style-type: none"> - T332, T334, T336, T338, T340 for M1 - T342 for M2 <p>Note: The contingency procedure H_CRP_CCUCUR includes the modification of triplet thermistors used for decontamination (calling to contingency procedure H_CRP_SYS_DECP to perform a M1/2 Decontamination heating thermistors update)</p>		
		<p>Execute Procedure: H_LEO_SYS_DEC1 Start Decontamination heating</p>		

TC Seq. Name :HRYDEC23 (Restart DecontSteady)
 Restart decontamination in steady-state when temp > 43.5°C

TimeTag Type:
 Sub Schedule ID:

□

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch															
9		Disable MOT & EAT entries		Next Step: 10															
		WARNING: it is assumed that the MOT and EAT entries related to the decontamination are still enabled (the decontamination function was stopped automatically onboard). Note that the start of the decontamination function set the monitored median temperature to the default value 0xFFFF. Then, to prevent the MOT and EAT to be erroneously triggered, they must be disabled before restarting the decontamination and enabled again after it.																	
9.1		Disable Decontamination EAT entries		<input type="checkbox"/>															
		There are 2 entries defined in the EAT related to decontamination: <table border="0"> <tr> <td>APID</td> <td>Event ID</td> <td>Action TC</td> </tr> <tr> <td>16(CDMS)</td> <td>40960</td> <td>Switch OFF HPS1 TC(8,4,112,3)</td> </tr> <tr> <td>16(CDMS)</td> <td>40961</td> <td>Switch OFF HPS10 TC(8,4,112,3)</td> </tr> </table>	APID	Event ID	Action TC	16(CDMS)	40960	Switch OFF HPS1 TC(8,4,112,3)	16(CDMS)	40961	Switch OFF HPS10 TC(8,4,112,3)								
APID	Event ID	Action TC																	
16(CDMS)	40960	Switch OFF HPS1 TC(8,4,112,3)																	
16(CDMS)	40961	Switch OFF HPS10 TC(8,4,112,3)																	
		Execute Telecommand <p style="text-align: right;">DisableActions</p> <p>Command Parameter(s) :</p> <table border="0"> <tr> <td>N_Repetition</td> <td>DH041170</td> <td>2 <dec></td> </tr> <tr> <td>APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td>EventId</td> <td>DH146170</td> <td>40960 <dec></td> </tr> <tr> <td>APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td>EventId</td> <td>DH146170</td> <td>40961 <dec></td> </tr> </table> <p>TC Control Flags :</p> <p style="text-align: right;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 10 Det. descr. : TEMPLATE Disable Actions TC(19,5)</p>	N_Repetition	DH041170	2 <dec>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	40960 <dec>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	40961 <dec>	DCT85170	
N_Repetition	DH041170	2 <dec>																	
APID_for_EAT_TC	DH236170	CDMS (Def)																	
EventId	DH146170	40960 <dec>																	
APID_for_EAT_TC	DH236170	CDMS (Def)																	
EventId	DH146170	40961 <dec>																	
9.2		Report EAT table to check the decontamination entries are disabled		<input type="checkbox"/>															
		Execute Telecommand <p style="text-align: right;">ReptEvtActTable</p> <p>TC Control Flags :</p> <p style="text-align: right;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 10 Det. descr. : TEMPLATE Report The contents of the event/action table TC(19,6)</p>	DCT86170																
9.3		Disable Decontamination MOT entries		<input type="checkbox"/>															

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch										
		<p>There are 2 entries defined in the MOT related to decontamination:</p> <table border="1"> <thead> <tr> <th>Parameter ID</th> <th>Mon ID</th> <th>Event ID</th> </tr> </thead> <tbody> <tr> <td>M2 median temp (2049)</td> <td>200</td> <td>40960</td> </tr> <tr> <td>M2 median temp (2049)</td> <td>201</td> <td>40961</td> </tr> </tbody> </table>	Parameter ID	Mon ID	Event ID	M2 median temp (2049)	200	40960	M2 median temp (2049)	201	40961			
Parameter ID	Mon ID	Event ID												
M2 median temp (2049)	200	40960												
M2 median temp (2049)	201	40961												
		<p>Execute Telecommand</p> <p style="text-align: right;">ArmDisableMon</p> <p>TC Control Flags :</p> <p style="text-align: right;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 10 Det. descr. : Arm Disable On Board Monitoring, TC(8,4,106,1)</p>	DC54F170											
		<p>Execute Telecommand</p> <p style="text-align: right;">DisMonitOfParam_Templ</p> <p>Command Parameter(s) :</p> <table border="1"> <thead> <tr> <th>N_Repetition</th> <th>ParameterId</th> <th>MonitorId</th> <th>ParameterId</th> <th>MonitorId</th> </tr> </thead> <tbody> <tr> <td>DH041170</td> <td>DH042170</td> <td>DH043170</td> <td>DH042170</td> <td>DH043170</td> </tr> </tbody> </table> <p>TC Control Flags :</p> <p style="text-align: right;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 10 Det. descr. : TEMPLATE Disable Monitoring of Parameter, TC(12,2)</p>	N_Repetition	ParameterId	MonitorId	ParameterId	MonitorId	DH041170	DH042170	DH043170	DH042170	DH043170	DCT27170	
N_Repetition	ParameterId	MonitorId	ParameterId	MonitorId										
DH041170	DH042170	DH043170	DH042170	DH043170										
9.4		Report Monitoring List to check the decontamination entries are disabled		<input type="checkbox"/>										
		<p>Execute Telecommand</p> <p style="text-align: right;">ReportMonitList</p> <p>TC Control Flags :</p> <p style="text-align: right;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 10 Det. descr. : TEMPLATE Report current monitoring list, TC(12,8) no appl. data</p>	DC51F170											
10		Restart decontamination in steady-state		Next Step: 11										
10.1		Verify HPSs status		<input type="checkbox"/>										
		Verify all HPSs involved in the decontamination activity are still ON (HPSs 1,2,4,6,9,10,15,17,18)												
		<p>Verify Telemetry</p> <table border="1"> <thead> <tr> <th>GRP1_HPS_STS</th> <th>WM12G565</th> <th>= ON</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	GRP1_HPS_STS	WM12G565	= ON					AND=ZAZ9J999				
GRP1_HPS_STS	WM12G565	= ON												

Restart telescope decontamination
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry GRP2_HPS_STS WM22G565	= ON	AND=ZAZ9J999
		Verify Telemetry GRP4_HPS_STS WM32G565	= ON	AND=ZAZ9J999
		Verify Telemetry GRP6_HPS_STS WM42G565	= ON	AND=ZAZ9J999
		Verify Telemetry GRP9_HPS_STS WM52H565	= ON	AND=ZAZ9J999
		Verify Telemetry GRP10_HPS_STS WM62G565	= ON	AND=ZAZ9J999
		Verify Telemetry GRP15_HPS_STS WM82H565	= ON	AND=ZAZ9J999
		Verify Telemetry GRP17_HPS_STS WM92H565	= ON	AND=ZAZ9J999
		Verify Telemetry GRP18_HPS_STS WMA2G565	= ON	AND=ZAZ9J999
10.2		Verify decontamination parameters		<input type="checkbox"/>
		Call procedure H_LEO_SYS_DECS and verify the following decontamination parameters values: - Tmin1 = 43,5°C - Tmax1 = 44,5°C - Tmin2 = 43,5°C - Tmax2 = 44,5°C - M1 heater mask: selecting all lines 3,4,5,6,7,8,9 - M2 heater mask: selecting both lines 1 & 2		
		Execute Procedure: H_LEO_SYS_DECS Decontamination Heating Status Report		
10.3		Restart decontamination function		<input type="checkbox"/>
		Call contingency procedure H_CRP_SYS_DECM to start the decontamination heating function		
		Execute Procedure: H_CRP_SYS_DECM Start/Stop Decontamination heating function		
10.4		Monitor telescope temperatures		<input type="checkbox"/>

Restart telescope decontamination
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		During decontamination, monitor the values of the involved thermistors and the median temperatures on M1 & M2, which should be in the range [43,5°C/44,5°C]		
10.5		<i>Verify telescope temperatures</i>		☐
		<p>Check the telescope temperatures.</p> <p>Thermistors acquired by CCU A: - T331, T333, T335, T337 for M1 - T339, T341 for M2</p> <p>Thermistors acquired by CCU B: - T332, T334, T336, T338, T340 for M1 - T342 for M2</p> <p>WARNING: In case of a permanent CCU invalid, the telescope temperatures acquired from the invalid CCU are not valid and only the temperatures acquired from the healthy CCU shall be checked.</p> <p>The default thermal sensors to be used for M1 decontamination are TH A (T331), TH A'' (T332), TH C (T335).</p> <p>The default thermal sensors to be used for M2 decontamination are TH X (T339), TH Y (T341), TH Z (T342).</p>		
10.5.1		<i>Verify M1 thermistors</i>		☐
		Verify on telescope; M1 THA ; T21-5 (A) PT1000_T331 KD253302		AND=ZAZ9J999
		Verify on telescope; M1 THA' ; T22-5 (A) PT1000_T333 KD254302		AND=ZAZ9J999
		Verify on telescope; M1 THC ; T23-5 (A) PT1000_T335 KD255302		AND=ZAZ9J999
		Verify on telescope; M1 THC' ; T24-5 (A) PT1000_T337 KD256302		AND=ZAZ9J999
		Verify on telescope; M1 THA'' ; T16-5 (B) PT1000_T332 KD248303		AND=ZAZ9J999
		Verify on telescope; M1 THB ; T17-5 (B) PT1000_T334 KD249303		AND=ZAZ9J999
		Verify on telescope; M1 THB' ; T18-5 (B) PT1000_T336 KD250303		AND=ZAZ9J999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify on telescope; M1 THB'' ; T19-5 (B) PT1000_T338 KD251303		AND=ZAZ9J999
		Verify on telescope; M1 THC'' ; T20-5 (B) PT1000_T340 KD252303		AND=ZAZ9J999
10.5.2		Verify M2 thermistors		<input type="checkbox"/>
		Verify on telescope; M2 THX ; T25-5 (A) PT1000_T339 KD257302		AND=ZAZ9J999
		Verify on telescope; M2 THY ; T26-5 (A) PT1000_T341 KD258302		AND=ZAZ9J999
		Verify on telescope; M2 THZ ; T30-5 (B) PT1000_T342 KD262303		AND=ZAZ9J999
11		Enable Decontamination MOT & EAT entries		Next Step: END
		Dedicated MOT and EAT entries are defined to switch OFF both M2 HPSs if the M2 median temperature exceeds the Tmaxmax threshold. These entries are disabled by default, so they must be enabled after starting the decontamination.		
11.1		Enable Decontamination MOT entries		<input type="checkbox"/>
		There are 2 entries are defined in the MOT related to decontamination: Parameter ID Monitoring ID Event ID M2 median temp (2049) 200 40960 M2 median temp (2049) 201 40961		
		Execute Telecommand <p style="text-align: right;">EnabMonitOfParam_Templ</p> <p>DCT26170</p> <pre> Command Parameter(s) : N_Repetition DH041170 2 <dec> ParameterId DH042170 2049 <dec> MonitorId DH043170 200 <dec> ParameterId DH042170 2049 <dec> MonitorId DH043170 201 <dec> TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : TEMPLATE Enable Monitoring of Parameter, TC(12,1) </pre>		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch															
11.2		Report Monitoring List to check the decontamination entries		<input type="checkbox"/>															
		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																
11.3		Enable Decontamination EAT related entries		<input type="checkbox"/>															
		There are 2 entries are defined in the EAT related to decontamination: APID Event ID Action TC 16(CDMS) 40960 Switch OFF HPS1 TC(8,4,112,3) 16(CDMS) 40961 Switch OFF HPS10 TC(8,4,112,3)																	
		Execute Telecommand <p style="text-align: right;">EnableActions</p> Command Parameter(s) : <table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">N Repetition</td> <td style="width: 30%;">DH041170</td> <td style="width: 40%;">2 <dec></td> </tr> <tr> <td>APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td>EventId</td> <td>DH146170</td> <td>40960 <dec></td> </tr> <tr> <td>APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td>EventId</td> <td>DH146170</td> <td>40961 <dec></td> </tr> </table> TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 10 Det. descr. : TEMPLATE Enable Actions TC(19,4)	N Repetition	DH041170	2 <dec>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	40960 <dec>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	40961 <dec>	DCT84170	
N Repetition	DH041170	2 <dec>																	
APID_for_EAT_TC	DH236170	CDMS (Def)																	
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EventId	DH146170	40961 <dec>																	
11.4		Report EAT table to check the decontamination EAT entries		<input type="checkbox"/>															
		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																
End of Procedure																			