

S/C Mode transition from Nominal to Survival  
 File: H\_CRP\_DHS\_3060.xls  
 Author: S. Manganelli



## Procedure Summary

### Objectives

This procedure describes the steps needed to perform the S/C transition from Nominal mode to Survival mode.

### Summary of Constraints

The S/C mode is changed through a TC that emulates the sequence of commands sent by the RM for CCS 0/6/11/13 depending on applicable PAP set in use. To work correctly, this procedure requires both RMs to be disabled. This is because the RMs would react to the commanded activity as if it would be a failure on board. At the end of the procedure the RMs must be re-enabled.

\*\*\*\* WARNING: the CDMU will NOT be protected by the RMs while they are disabled, so this is a very critical operation. Extra ground support should be available when running this procedure. Only the SOM can authorize this procedure..

### Spacecraft Configuration

#### Start of Procedure

CDMU nominal mode

#### End of Procedure

CDMU survival mode

### Reference File(s)

#### Input Command Sequences

#### Output Command Sequences

HRD3060A  
 HRD3060B  
 HRD3060C  
 HRD3060E  
 HRD3060F

### Referenced Displays

ANDs	GRDs	SLDs
ZAZAA999		(None)
ZAZAI999		
ZAZ7R999		

### Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
12/11/08		1	Created	cmevi-hp	

Status : Version 4 - Unchanged  
 Last Checkin: 04/05/09

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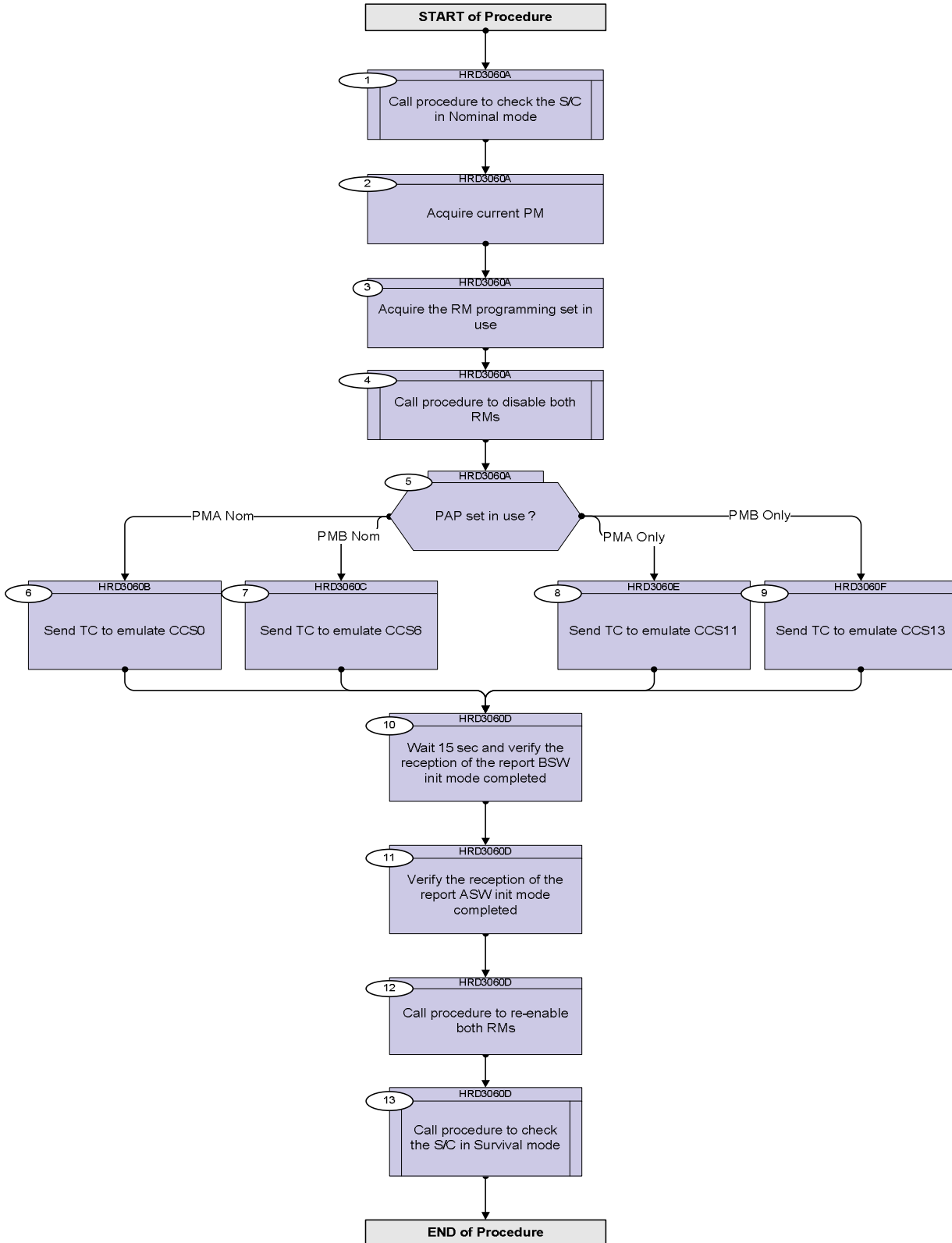


11/01/09	2	2	Updated following OBSW 3.8 Removed parameters of Boot report (not manageable, use excel instead)	S. Manganelli	
25/03/09	2.2	3	Added steps to disable RMs before triggering transition, and re-enabling RM after the transition. Comments modified in Proc cover.	S. Manganelli	
04/05/09	2.4	4	Inserted selection steps for PMA only / PMB only cases as per TAS-I inputs. Used instantiated steps instead of calling the procedure to acquire the PAP set in use. Modified AND reference.	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 :HRD3060A (Check Nominal mode)				
TimeTag Type: Sub Schedule ID:  <input type="checkbox"/>				
1		Call procedure to check the S/C in Nominal mode		Next Step: 2
		<b>Execute procedure H_FCP_DHS_4003.</b>		
2		Acquire current PM		Next Step: 3
		Verify Telemetry <b>Active_PM_Board                      DEDM1160</b>		AND=ZAZAA999
3		Acquire the RM programming set in use		Next Step: 4
3.1		Start TTR management		<input type="checkbox"/>
		Verify Telemetry <b>TtrSts                      DEL17170</b>	<b>= Stopped</b>	AND=ZAZAI999
		If the TTR Management function is already running go to next step.		
		Execute Telecommand <b>StartTtrManag</b>  TC Control Flags : <b>GBM IL DSE</b> <b>--Y -- ---</b>  Subsch. ID : 10 Det. descr. : Start Ttr Management TC(8,1,109)	<b>DCN06170</b>	
		Verify Telemetry <b>TtrSts                      DEL17170</b>	<b>= Running</b>	AND=ZAZAI999
3.2		Read PAP in use on RMA		<input type="checkbox"/>
		Execute Telecommand <b>CRMA_RMh_PAPpointerReg</b>  TC Control Flags : <b>GBM IL DSE</b> <b>--Y -- ---</b>  Subsch. ID : 10 Det. descr. : CROME A: Read RMH PAP Pointer Register	<b>DCW0Z159</b>	



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		<b>Possible values in RM Attempt Pointer:</b> Set 1 PMA Nom--> 0x02000000 Set 2 PMB Nom--> 0x02000078 Set 3 PMA only--> 0x020000F0 Set 4 PMB only--> 0x02000118		
3.4		Read PAP in use on RMB		□
		Execute Telecommand <div style="text-align: right;"><b>CRMB_RMH_PAPpointerReg</b></div> TC Control Flags : <div style="text-align: right;">GBM IL DSE --Y -- ---</div> Subsch. ID : 10 Det. descr. : CROME B: Read RMH PAP Pointer Register	DCW2X159	
		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;">CromeId DE285170</div>	= Crome_B	AND=ZAZ7R999
		Verify Packet Telemetry <div style="text-align: right;">CromeAddr DE329170</div>	= 07005830 <hex>	(None)
		Verify Packet Telemetry <div style="text-align: right;">CromeData DE367170</div>	note down	(None)
		<b>Possible values in RM PAP Pointer:</b> Set 1 PMA Nom --> 0x02000030 Set 2 PMB Nom--> 0x020000A8 Set 3 PMA only--> 0x02000104 Set 4 PMB only--> 0x0200012C		
3.5		Read Attempt pointer in use on RMB		□
		Execute Telecommand <div style="text-align: right;"><b>CRMB_RMH_AT_pointerReg</b></div> TC Control Flags : <div style="text-align: right;">GBM IL DSE --Y -- ---</div> Subsch. ID : 10 Det. descr. : CROME B: Read RMH AT Pointer Register	DCW2W159	



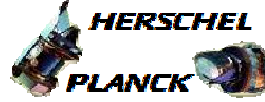
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
5		PAP set in use ?		Next Step: PMA Nom 6 PMB Nom 7 PMA Only 8 PMB Only 9
<p>TC Seq. Name :HRD3060B (Emulate CCS0)</p> <p>TimeTag Type: Sub Schedule ID:  <input type="checkbox"/></p>				
6		Send TC to emulate CCS0		Next Step: 10
		Execute Telecommand  <div style="text-align: right;">PAP0_DoD_PMA_Nom</div> TC Control Flags :  <div style="text-align: right;">GBM IL DSE --Y -- ---</div> Subsch. ID : 10 Det. descr. : PAP#0 DoD - (PMA Nominal) - High Priority Standard	DCZA0159	
<p>TC Seq. Name :HRD3060C (Emulate CCS6)</p> <p>TimeTag Type: Sub Schedule ID:  <input type="checkbox"/></p>				
7		Send TC to emulate CCS6		Next Step: 10
		Execute Telecommand  <div style="text-align: right;">PAP0_DoD_PMB_Nom</div> TC Control Flags :  <div style="text-align: right;">GBM IL DSE --Y -- ---</div> Subsch. ID : 10 Det. descr. : PAP#0 DoD - (PMB Nominal) - High Priority Standard	DCZB0159	
<p>TC Seq. Name :HRD3060E (Emulate CCS11)</p> <p>TimeTag Type: N Sub Schedule ID:  <input type="checkbox"/></p>				



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
8		Send TC to emulate CCS11		Next Step: 10
		Execute Telecommand PAPA0_DoD_PMA_Only TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : PAPA#0 DoD - (PMA Only) - High Priority Standard	DCZAA159	
TC Seq. Name :HRD3060F (Emulate CCS13) TimeTag Type: N Sub Schedule ID: <input type="checkbox"/>				
9		Send TC to emulate CCS13		Next Step: 10
		Execute Telecommand PAPA0_DoD_PMB_Only TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : PAPA#0 DoD - (PMB Only) - High Priority Standard	DCZBA159	
TC Seq. Name :HRD3060D (Check Survival mode) TimeTag Type: Sub Schedule ID: <input type="checkbox"/>				
10		Wait 15 sec and verify the reception of the report BSW init mode completed		Next Step: 11
		Verify Packet Reception CdmuBsw Event 5-4 Boot Report and Reconfiguration Log Packet Details: APID: 16 Type: 5 Subtype: 4 PI1: 134 PI2: 134	D_EvRp_534	
		Use Excel Spreadsheet to decommutate the event		

