

Switch BDRs APS and Input Switch ONOFF
File: H_CRP_EPS_BDR.xls
Author: E. Picallo



Procedure Summary

Objectives

This procedure describes the steps needed to reset the Auxiliary Power Supply (APS) and/or Input Switch (IS) of BDR 1/2.

In case the same protection is activated after the reset the related BDR is switched OFF, ie both Auxiliary Power Supply and the Input Switch are switched OFF.

Summary of Constraints

It is necessary to reset the BDR APS and/or Input Switch in the following cases:

- APS LCL over current protection activation
This protection switches OFF the APS; it is reset by switch OFF and then ON the APS.
- Input switch over current protection activation
This protection switches OFF the input switch.
- Output over current protection activation
This protection switches OFF the input switch.
- Bus over voltage protection activation
This protection switches OFF the input switch.

In the last 3 cases it is necessary first to reset the APS and then to reset the input switch.

BDR APS is reset (by switch OFF and then ON the APS) using TCs(8,4,112,3/5) thus the ASW function "PCDU Management" has to be running.

Spacecraft Configuration

Start of Procedure

CDMU in default configuration;
BDR1/2 APS OFF or BDR1/2 APS ON but BDR1/2 Input Switch OFF.

End of Procedure

CDMU in default configuration;
BDR 1/2 APS and Input Switch ON.

Reference File(s)

Input Command Sequences

Output Command Sequences

HRWBDR1
HRWBDR2

Referenced Displays

ANDs GRDs SLDs

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ZAZ28999
ZAZ7H999

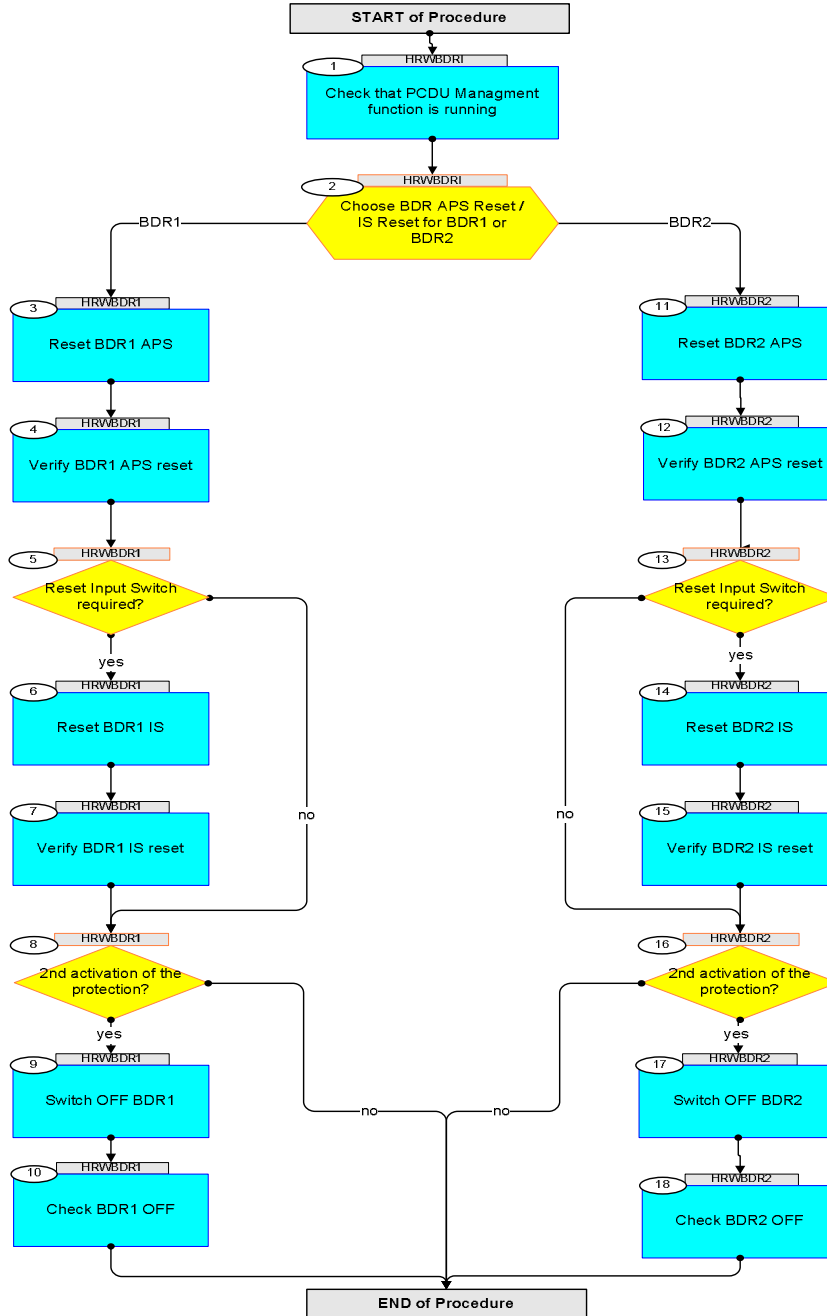
Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
23/07/08	1	1	Created	E. Picallo	
17/10/08	2	2	RID MAN-340 CDMU ASW v3.6.2 and BSW v2.2 alignment	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 : HRWBDR1 (Switch BDRs Initial) Switch BDRs APS and Input Switch ONOFF TimeTag Type: N Sub Schedule ID: <input type="checkbox"/>				
1		Check that PCDU Management function is running		Next Step: 2
		Verify Telemetry PcdusSts DEH45170	= Running	AND=ZAZ28999
2		Choose BDR APS Reset / IS Reset for BDR1 or BDR2		Next Step: BDR1 3 BDR2 11
2.1		Verification BDR1 Status		<input type="checkbox"/>
		In case of APS LCL over current protection activation, it switches OFF the APS; it is reset by switch OFF and then ON the APS.		
		Verify if BDR1 APS status is OFF 1553_BDR1_OnOff WMT1A565	= OFF	AND=ZAZ7H999
		In case of: - Input switch over current protection activation OR - Output over current protection activation OR - Bus over voltage protection activation These protections switches OFF the input switch. It is necessary first to reset the APS and then to reset the input switch.		
		Verify if DR1 Input Switch status is OFF BDR1_InpSwtMon WMB06565	= -0.050832373 V	AND=ZAZ7H999
2.2		Verification BDR2 Status		<input type="checkbox"/>
		Verify if BDR2 APS status is OFF 1553_BDR2_OnOff WMT1B565	= OFF	AND=ZAZ7H999
		In case of APS LCL over current protection activation, it switches OFF the APS; it is reset by switch OFF and then ON the APS.		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		In case of: - Input switch over current protection activation OR - Output over current protection activation OR - Bus over voltage protection activation These protections switches OFF the input switch. It is necessary first to reset the APS and then to reset the input switch.		
		Verify if BDR2 Input Switch status is OFF BDR2_InpSwtMon WMB07565	= -0.050832373 V	AND=ZAZ7H999
<p><i>TC Seq. Name :HRWBDR1 (Switch BDR1)</i> Switch BDR1 APS and Input Switch ON/OFF</p> <p><i>TimeTag Type: N</i> <i>Sub Schedule ID:</i></p> <p style="text-align: center;"><input type="checkbox"/></p>				
3		Reset BDR1 APS		Next Step: 4
3.1		Switch BDR1 OFF APS		<input type="checkbox"/>
		Execute Switch BDR1 OFF Telecommand SwOff_PCDU_BDR1	DC73B170	
		TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : PCDU: Perform Activity TC(8,4,112,3) switch BDR1 off		
		Verify BDR1 APS status Telemetry 1553_BDR1_OnOff WMT1A565	= OFF	AND=ZAZ7H999
		Verify 1553 BDR1 ON/OFF command Read-back Telemetry BDR1_1553CmdSts WMT2A565	= OFF	AND=ZAZ7H999
3.2		Switch BDR1 ON APS		<input type="checkbox"/>
		Execute Switch BDR1 ON Telecommand SwOn_PCDU_BDR1	DC73D170	
		TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : PCDU: Perform Activity TC(8,4,112,5) switch BDR1 on		
4		Verify BDR1 APS reset		Next Step: 5

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify BDR1 APS status Telemetry 1553_BDR1_OnOff WMT1A565	= ON	AND=ZAZ7H999
		Verify 1553 BDR1 ON/OFF command Read-back Telemetry BDR1_1553CmdSts WMT2A565	= ON	AND=ZAZ7H999
5		<i>Reset Input Switch required?</i>		Next Step: yes 6 no 8
		Verify if DR1 Input Switch status is OFF BDR1_InpSwtMon WMB06565	<= -0.050832373 V	AND=ZAZ7H999
6		<i>Reset BDR1 IS</i>		Next Step: 7
6.1		<i>Switch BDR1 IS OFF</i>		<input type="checkbox"/>
		Execute Telecommand BDR_1_OFF_Nom TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : BDR 1 OFF Nominal - High Level	DCH10170	
		Verify BDR1 Input Switch status Telemetry BDR1_InpSwtMon WMB06565	<= -0.050832373 V	AND=ZAZ7H999
6.2		<i>Switch BDR1 IS ON</i>		<input type="checkbox"/>
		Execute Telecommand BDR_1_ON_Nom TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : BDR 1 ON Nominal - High Level	DCH09170	
7		<i>Verify BDR1 IS reset</i>		Next Step: 8
		Verify BDR1 Input Switch status Telemetry BDR1_InpSwtMon WMB06565	>= 5.89655525 V	AND=ZAZ7H999
8		<i>2nd activation of the protection?</i>		Next Step: yes 9 no END

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify BDR1 APS status Telemetry 1553_BDR1_OnOff WMT1A565	= OFF	AND=ZAZ7H999
		Verify BDR1 Input Switch status Telemetry BDR1_InpSwtMon WMB06565	<= -0.050832373 V	AND=ZAZ7H999
9		Switch OFF BDR1		Next Step: 10
		Execute Telecommand SwOff_PCDU_BDR1 TC Control Flags : GBM IL DSE --Y -- -- Subsch. ID : 10 Det. descr. : PCDU: Perform Activity TC(8,4,112,3) switch BDR1 off	DC73B170	
		Execute Telecommand BDR_1_OFF_Nom TC Control Flags : GBM IL DSE --Y -- -- Subsch. ID : 10 Det. descr. : BDR 1 OFF Nominal - High Level	DCH10170	
10		Check BDR1 OFF		Next Step: END
		Verify BDR1 APS status Telemetry 1553_BDR1_OnOff WMT1A565	= OFF	AND=ZAZ7H999
		Verify BDR1 Input Switch status Telemetry BDR1_InpSwtMon WMB06565	<= -0.050832373 V	AND=ZAZ7H999
TC Seq. Name : HRWBDR2 (Switch BDR2) Switch BDR2 APS and Input Switch ON/OFF TimeTag Type: N Sub Schedule ID: <input type="checkbox"/>				
11		Reset BDR2 APS		Next Step: 12
11.1		Switch BDR2 OFF APS		<input type="checkbox"/>

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Switch BDR2 OFF Telecommand SwOff_PCDU_BDR2 <i>TC Control Flags :</i> GBM IL DSE --Y -- -- <i>Subsch. ID : 10</i> Det. descr. : PCDU: Perform Activity TC(8,4,112,3) switch BDR2 off	DC74B170	
		Verify BDR2 APS status Telemetry 1553_BDR2_OnOff WMT1B565	= OFF	AND=ZAZ7H999
		Verify 1553 BDR2 ON/OFF command Read-back Telemetry BDR2_1553CmdSts WMT2B565	= OFF	AND=ZAZ7H999
11.2		<i>Switch BDR2 ON APS</i>		<input type="checkbox"/>
		Execute Switch BDR2 ON Telecommand SwOn_PCDU_BDR2 <i>TC Control Flags :</i> GBM IL DSE --Y -- -- <i>Subsch. ID : 10</i> Det. descr. : PCDU: Perform Activity TC(8,4,112,5) switch BDR2 on	DC74D170	
12		<i>Verify BDR2 APS reset</i>		Next Step: 13
		Verify BDR2 APS status Telemetry 1553_BDR2_OnOff WMT1B565	= ON	AND=ZAZ7H999
		Verify 1553 BDR2 ON/OFF command Read-back Telemetry BDR2_1553CmdSts WMT2B565	= ON	AND=ZAZ7H999
13		<i>Reset Input Switch required?</i>		Next Step: yes 14 no 16
		Verify if BDR2 Input Switch status is OFF BDR2_InpSwtMon WMB07565	<= -0.050832373 V	AND=ZAZ7H999
14		<i>Reset BDR2 IS</i>		Next Step: 15
14.1		<i>Switch BDR2 IS OFF</i>		<input type="checkbox"/>

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand <p style="text-align: right;">BDR_2_OFF_Nom</p> TC Control Flags : <p style="text-align: right;">GBM IL DSE ---Y ---</p> Subsch. ID : 10 Det. descr. : BDR 2 OFF Nominal - High Level	DCH40170	
		Verify BDR2 Input Switch status Telemetry <p style="text-align: right;">BDR2_InpSwMon WMB07565</p>	<= -0.050832373 V	AND=ZAZ7H999
14.2		Switch BDR2 IS ON		<input type="checkbox"/>
		Execute Telecommand <p style="text-align: right;">BDR_2_ON_Nom</p> TC Control Flags : <p style="text-align: right;">GBM IL DSE ---Y ---</p> Subsch. ID : 10 Det. descr. : BDR 2 ON Nominal - High Level	DCH39170	
15		Verify BDR2 IS reset		Next Step: 16
		Verify BDR2 Input Switch status Telemetry <p style="text-align: right;">BDR2_InpSwMon WMB07565</p>	>= 5.89655525 V	AND=ZAZ7H999
16		2nd activation of the protection?		Next Step: yes 17 no END
		Verify BDR2 APS status Telemetry <p style="text-align: right;">1553_BDR2_OnOff WMT1B565</p>	= OFF	AND=ZAZ7H999
		Verify BDR2 Input Switch status Telemetry <p style="text-align: right;">BDR2_InpSwMon WMB07565</p>	<= -0.050832373 V	AND=ZAZ7H999
17		Switch OFF BDR2		Next Step: 18
		Execute Telecommand <p style="text-align: right;">SwOff_PCDU_BDR2</p> TC Control Flags : <p style="text-align: right;">GBM IL DSE ---Y ---</p> Subsch. ID : 10 Det. descr. : PCDU: Perform Activity TC(8,4,112,3) switch BDR2 off	DC74B170	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand <p style="text-align: right;">BDR_2_OFF_Nom</p> <i>TC Control Flags :</i> <p style="text-align: right;">GBM IL DSE --Y -- --</p> <i>Subsch. ID : 10</i> <i>Det. descr. : BDR 2 OFF Nominal - High Level</i>	DCH40170	
18		<i>Check BDR2 OFF</i>		Next Step: END
		Verify BDR2 APS status Telemetry <p style="text-align: center;">1553_BDR2_OnOff WMT1B565</p>	= OFF	AND=ZAZ7H999
		Verify BDR2 Input Switch status Telemetry <p style="text-align: center;">BDR2_InpSwMon WMB07565</p>	<= -0.050832373 V	AND=ZAZ7H999
End of Procedure				