

DRCU_OFF - Switch OFF the nominal DRCU
 File: H_FCP_SPI_NDRF.xls
 Author: R. Biggins



Procedure Summary

Objectives

The objective of this procedure is to switch OFF the nominal Detector Readout and Control Unit (DRCU)

Summary of Constraints

n/a

Spacecraft Configuration

Start of Procedure

SPIRE is in DRCU_ON mode

End of Procedure

SPIRE is in DPU_ON mode

Reference File(s)

Input Command Sequences

Output Command Sequences

HFSNDRF

Referenced Displays

ANDs **GRDs** **SLDs**
 ZAZ95999

Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
07/08/07		1	Created	R. Biggins	
21/11/07		1.01	Validation : Time tag added to LCL off command	R. Biggins	
15/01/08		2	Update due to initial testing against the simulator: - TCs updated due to new DB	R. Biggins	
29/01/08		3	Update due to changes in input file (DRCU_OFF: version 3) - BBID/OBSID TM checks added - Execution times removed	R. Biggins	
22/02/08		4	Update due to testing against MOC Simulator: - Time Tags updated - BBID/OBSID TM checks added - Editorial updates	R. Biggins	
03/03/08		5	Update due to comments by S. Sidher: - Telecommands to restart telemetry removed - Telecommand to re-enable FDIR removed	R. Biggins	

DRCU_OFF - Switch OFF the nominal DRCU
 File: H_FCP_SPI_NDRF.xls
 Author: R. Biggins

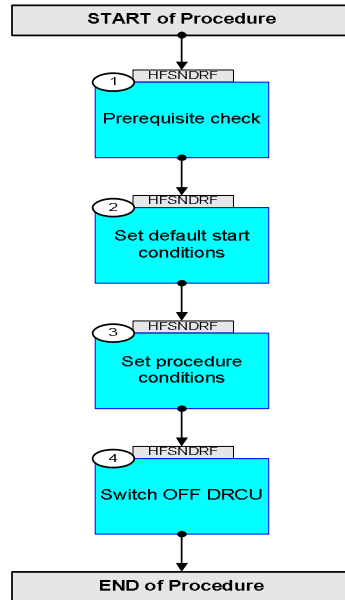


			Updates due to SVT-1 testing: <input type="checkbox"/> - Step 4.1 removed (TC to disable SDB FDIR removed) <input type="checkbox"/> - SET_OBS_MODE moved from end of last step to end of step 3 <input type="checkbox"/> - TC to restart Critical HK generation added after LCL switch OFF <input type="checkbox"/> - Default OBSID value updated to 0x0000 0000 <input type="checkbox"/> - Flags updated <input type="checkbox"/> - Comments added/updated <input type="checkbox"/> - AND updated for all TM parameters		
19/05/08	1	6		R. Biggins	
04/03/09	2.1	6.01	Validation : Packet Updates in db	L.Lucas-hp	

DRCU_OFF - Switch OFF the nominal DRCU
File: H_FCP_SPI_NDRF.xls
Author: R. Biggins



Procedure Flowchart Overview



DRCU_OFF - Switch OFF the nominal DRCU
 File: H_FCP_SPI_NDRF.xls
 Author: R. Biggins



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
Beginning of Procedure				
TC Seq. Name : HFSNDRF (Switch OFF DRCU (Nm))				
TimeTag Type: N				
Sub Schedule ID:				
□				
1		Prerequisite check		Next Step: 2
		Verify Telemetry MODE SM00M500	= DRCU_ON	AND=ZAZ95999
2		Set default start conditions		Next Step: 3
		Note that a TM(5,1) packet [New_Step_Report] is generated after each of the following SET_OBS_STEP telecommands		
	ET=+ UT=+00.00.00	SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500 0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SC001500 80010001 <hex>	
		Verify Telemetry BBFULLTYPE SM2LN500	= ClearObs	AND=ZAZ95999
	ET=+ UT=+00.00.00	SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500 1 <hex>	
	ET=+ UT=+00.00.01	SET_OBSID Command Parameter(s) : OBSERVATION_ID SP00N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION IDENTIFIER	SC000500 00000000 <hex>	

DRCU_OFF - Switch OFF the nominal DRCU
 File: H_FCP_SPI_NDRF.xls
 Author: R. Biggins



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry OBSID SM10N500	= 00000000 <hex>	AND=ZAZ95999
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500 0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SC001500 80000000 <hex>	
		Verify Telemetry BBFULLTYPE SM2LN500	= Null	AND=ZAZ95999
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500 0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SC001500 80020001 <hex>	
		Verify Telemetry BBFULLTYPE SM2LN500	= StartObs	AND=ZAZ95999
3		Set procedure conditions		Next Step: 4
	ET=+ UT=+00.00.00	RESET_DRCU_COUNTERS RESET_DRCU_COUNTERS Subsch. ID : 370 Det. descr. : RESET DRCU COUNTERS	SCD00505	
		Verify that the TRESET parameter has the same value as the THSK parameter TRESET SM01T500	same as THSK	AND=ZAZ95999
		THSK SM00T500	any	AND=ZAZ95999

DRCU_OFF - Switch OFF the nominal DRCU
 File: H_FCP_SPI_NDRF.xls
 Author: R. Biggins



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Note that a TM(5,1) packet [New_Step_Report] is generated after each of the following SET_OBS_STEP telecommands		
	ET=+ UT=+00.00.00	SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP SC003500 1 <hex>	
	ET=+ UT=+00.00.01	SET_OBSID Command Parameter(s) : OBSERVATION_ID SP00N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION IDENTIFIER	SET_OBSID SC000500 OBS_ID	
		Verify Telemetry OBSID SM10N500	OBS_ID	AND=ZAZ95999
	ET=+ UT=+00.00.00	SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP SC003500 0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SET_BBID SC001500 80000000 <hex>	
		Verify Telemetry BBFULLTYPE SM2LN500	= Null	AND=ZAZ95999
	ET=+ UT=+00.00.00	SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP SC003500 0 <hex>	

DRCU_OFF - Switch OFF the nominal DRCU
 File: H_FCP_SPI_NDRF.xls
 Author: R. Biggins



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.01	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SC001500 8C020001 <hex>	
		Verify Telemetry BBFULLTYPE SM2LN500	TBD	AND=ZAZ95999
	ET=+ UT=+00.00.00	SET_OBS_MODE SET_OBS_MODE Command Parameter(s) : OBSERVING_MODE SP02N500 Subsch. ID : 370 Det. descr. : SET OBSERVING MODE	SC002500 ff <hex>	
		Verify Telemetry MODE SM00M500	= DRCU_OFF	AND=ZAZ95999
	ET=+ UT=+00.00.00	SET_OBS_MODE SET_OBS_MODE Command Parameter(s) : OBSERVING_MODE SP02N500 Subsch. ID : 370 Det. descr. : SET OBSERVING MODE	SC002500 0 <hex>	
		Verify Telemetry MODE SM00M500	= DPU_ON	AND=ZAZ95999
4		Switch OFF DRCU		Next Step: END
4.1		HK reports		<input type="checkbox"/>
		WARNING: The following TCs will stop production of HK packets from SPIRE. It is essential that the FCU LCL is switched OFF and the HK restarted before the spacecraft FDIR time-out is reached (90 seconds) and the RT considered 'invalid', and TM declared 'sick'		
	ET=+ UT=+00.00.00	CLEAR_HK_REPORT CLEAR_HK_REPORT Command Parameter(s) : PKTID_CLEARHK SPR6N500 Subsch. ID : 370 Det. descr. : CLEAR HOUSEKEEPING PARAMETER REPORT DEFINITION	SCR01500 300 <hex>	

DRCU_OFF - Switch OFF the nominal DRCU
 File: H_FCP_SPI_NDRF.xls
 Author: R. Biggins



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify: Packet is not being generated Critical_HK_Parameter_Report Packet Details: APID: 1280 Type: 3 Subtype: 25 PI1: 768 PI2:	SCRITHK00559	
	ET=+ UT=+00.00.00	CLEAR_HK_REPORT CLEAR_HK_REPORT Command Parameter(s) : PCKTID_CLEARHK SPR6N500 Subsch. ID : 370 Det. descr. : CLEAR HOUSEKEEPING PARAMETER REPORT DEFINITION	SCR01500 301 <hex>	
		Verify: Packet is not being generated Nominal_HK_Parameter_Report Packet Details: APID: 1282 Type: 3 Subtype: 25 PI1: 769 PI2:	SNOMHK00559	
4.2		Set default end conditions		<input type="checkbox"/>
		Note that a TM(5,1) packet [New_Step_Report] is generated after each of the following SET_OBS_STEP telecommands		
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500 0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SC001500 80000000 <hex>	
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500 0 <hex>	

DRCU_OFF - Switch OFF the nominal DRCU
 File: H_FCP_SPI_NDRF.xls
 Author: R. Biggins



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.01	SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SET_BBID SC001500 80030001 <hex>	
	ET=+ UT=+00.00.00	SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP SC003500 1 <hex>	
	ET=+ UT=+00.00.01	SET_OBSID Command Parameter(s) : OBSERVATION_ID SP00N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION IDENTIFIER	SET_OBSID SC000500 00000000 <hex>	
	ET=+ UT=+00.00.00	SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP SC003500 0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SET_BBID SC001500 80000000 <hex>	
4.3		Power OFF DRCU		<input type="checkbox"/>
	ET=+ UT=+00.00.00	Execute Telecommand SwOff_SpireHSFCU_N_L51 Subsch. ID : 10 Det. descr. : PCDU: TC(8,4,112,3) SPIRE HSFCU Nom - switch LCL_51 off	DC51B170	
		Verify Telemetry SpirHsfN_L51_1S WM42C565	= OFF	AND=ZAZ95999
		Verify Telemetry SpireHsfN_L51_I WM408565	= 0.0 A	AND=ZAZ95999

DRCU_OFF - Switch OFF the nominal DRCU
 File: H_FCP_SPI_NDRF.xls
 Author: R. Biggins



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.01	DEFINE_NEW_HK_REPORT DEFINE_NEW_HK_REPORT Command Parameter(s) : HKPCKTID_DEFINENEWHK SPR0N500 HKSID_DEFINENEWHK SPR1N500 HKINTERVAL_DEFINENEWHK SPR2N500 HKREPEAT_DEFINENEWHK SPR3N500 TABLEID_DEFINENEWHK SPR4N500 Subsch. ID : 370 Det. descr. : DEFINE NEW HOUSEKEEPING PARAMETER REPORT	SCR00500 300 <hex> 300 <hex> 7d0 <hex> 1 <hex> 0 <hex>	
		Verify: Packet is being generated Critical_HK_Parameter_Report Packet Details: APID: 1280 Type: 3 Subtype: 25 PI1: 768 PI2:	SCRITHK00559 1280 3 25 768	
End of Procedure				