

SPIRE\_SCU\_OFF Switch OFF SCU Thermometry  
 File: H\_COP\_SPI\_SCUF.xls  
 Author: L.Lucas-hp



## Procedure Summary

### Objectives

The purpose of this procedure is to switch off the SPIRE SCU Thermometry and the cooler heat switches

Name:SPIRE\_SCU\_OFF  
 SCU\_OFF  
 Version number:3  
 Generated:27/03/2009

### Summary of Constraints

### Spacecraft Configuration

#### Start of Procedure

SPIRE is in SCU\_ON mode.

#### End of Procedure

SPIRE is in DRCU\_ON mode.

### Reference File(s)

#### Input Command Sequences

#### Output Command Sequences

HCSSCUF

### Referenced Displays

**ANDs**      **GRDs**      **SLDs**  
 SA\_7\_559  
 ZAZ90999  
 SA\_1\_559

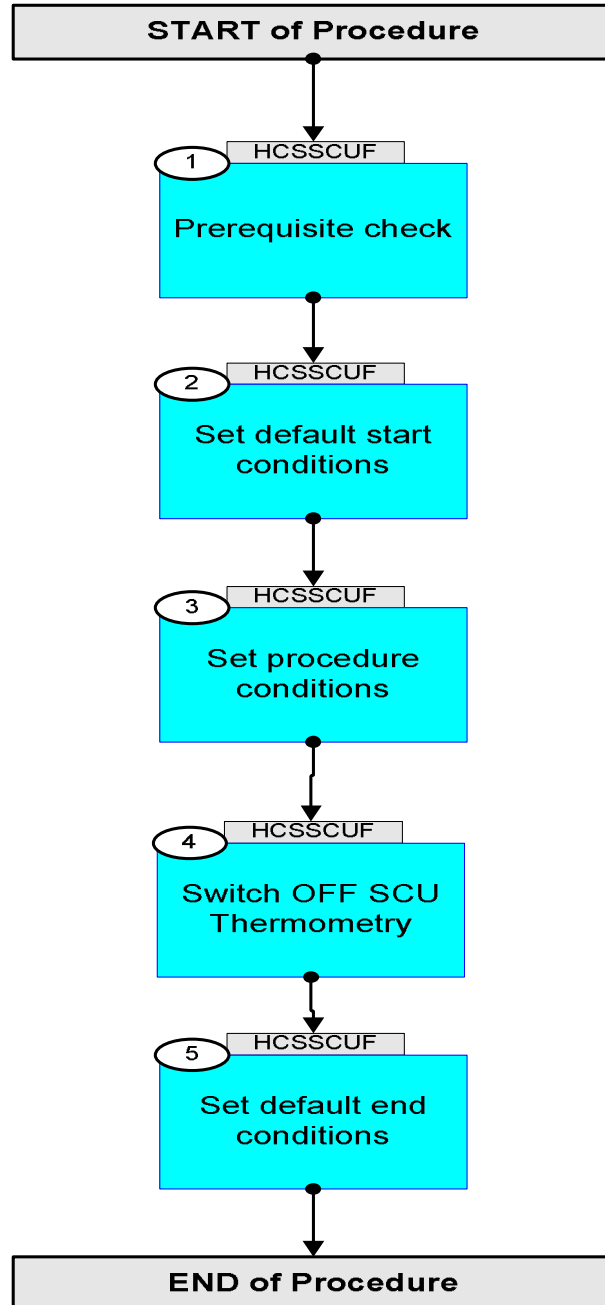
### Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
19/04/09	2.3	1	Created	L.Lucas-hp	
05/05/09	2.4	2	Refreshed flowchosrt, it now shows correct sequence name. Remove ET	L.Lucas-hp	

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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>				
<i>TC Seq. Name : HCSSCUF (SCU_OFF -Thermometry)</i>  <i>TimeTag Type: Y</i> <i>Sub Schedule ID:</i>  <input type="checkbox"/>				
1		<i>Prerequisite check</i>		Next Step: 2
1.1		<i>HSC/ICC input</i>		<input type="checkbox"/>
		Verify that the HSC has supplied a valid OBSID value:  OBS_ID = 0xnnnn nnnn		
1.2		<i>Verify TM</i>		<input type="checkbox"/>
		Verify Telemetry  SCUTEMPSTAT SM_1F520	0xFFFF	AND=SA_7_559
		Verify Telemetry  MODE SM00M500	= SCU_ON	AND=SA_7_559
		Verify Telemetry  SUBKSTAT SMK0F520	= 1 <hex>	AND=SA_7_559
2		<i>Set default start conditions</i>		Next Step: 3
		Note that a <b>TM(5,1)</b> 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  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  80010001 <hex>	
		Verify Telemetry  BBFULLTYPE SM2LN500	= ClearObs	AND=ZAZ90999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	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  1 <hex>	
	ET=+ UT=+00.00.01	SET_OBSID  SET_OBSID  Command Parameter(s) : OBSERVATION_ID SP00N500  Subsch. ID : 370 Det. descr. : SET OBSERVATION IDENTIFIER	SC000500  00000000 <hex>	
		Verify Telemetry  OBSID SM10N500	= 00000000 <hex>	AND=ZAZ90999
	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=ZAZ90999
	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>	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry <b>BBFULLTYPE</b> <b>SM2LN500</b>	= StartObs	AND=ZAZ90999
3		Set procedure conditions		Next Step: 4
	ET=+ UT=+00.00.00	RESET_DRCU_COUNTERS <b>RESET_DRCU_COUNTERS</b> Subsch. ID : 370 Det. descr. : RESET DRCU COUNTERS	SCD00505	
		Verify that the TRESET parameter has the same value as the THSK parameter <b>TRESET</b> <b>SM01T500</b>	same as THSK	AND=ZAZ90999
		<b>THSK</b> <b>SM00T500</b>	any	AND=ZAZ90999
		Note that a <b>TM(5,1)</b> packet [New_Step_Report] is generated after each of the following SET_OBS_STEP telecommands		
	ET=+ UT=+00.00.00	SET_OBS_STEP <b>SET_OBS_STEP</b> Command Parameter(s) : <b>OBSERVATION_STEP</b> <b>SP03N500</b> Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500  1 <hex>	
	ET=+ UT=+00.00.01	SET_OBSID <b>SET_OBSID</b> Command Parameter(s) : <b>OBSERVATION_ID</b> <b>SP00N500</b> Subsch. ID : 370 Det. descr. : SET OBSERVATION IDENTIFIER	SC000500  OBS_ID	
		Verify Telemetry <b>OBSID</b> <b>SM10N500</b>	OBS_ID	AND=ZAZ90999
	ET=+ UT=+00.00.00	SET_OBS_STEP <b>SET_OBS_STEP</b> Command Parameter(s) : <b>OBSERVATION_STEP</b> <b>SP03N500</b> Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500  0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID <b>SET_BBID</b> Command Parameter(s) : <b>BUILDING_BLOCK_ID</b> <b>SP01N500</b> Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SC001500  80000000 <hex>	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry <b>BBFULLTYPE</b> <b>SM2LN500</b>	= Null	AND=SA_1_559
	ET=+ UT=+00.00.01	SET_OBS_STEP <b>SET_OBS_STEP</b> Command Parameter(s) : <b>OBSERVATION_STEP</b> <b>SP03N500</b> TC Control Flags : <b>GBM IL DSE</b> ---Y -- --- Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500 0 <hex>	
	ET=+ UT=+00.00.00	SET_BBID <b>SET_BBID</b> Command Parameter(s) : <b>BUILDING_BLOCK_ID</b> <b>SP01N500</b> TC Control Flags : <b>GBM IL DSE</b> --- -- --- Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SC001500 8a0c0001 <hex>	
		Verify Telemetry <b>BBFULLTYPE</b> <b>SM2LN500</b>	= SCU_Off	AND=SA_7_559
4		Switch OFF SCU Thermometry		Next Step: 5
		Verify Telemetry <b>SCUTEMPSTAT</b> <b>SM_1F520</b>	0xFFFF	AND=SA_7_559
		Verify Telemetry <b>MODE</b> <b>SM00M500</b>	= SCU_ON	AND=SA_7_559
		Verify Telemetry <b>SUBKSTAT</b> <b>SMK0F520</b>	= 1 <hex>	AND=SA_7_559
	ET=+ UT=+00.00.02	SEND_DRCU_COMMAND <b>SEND_DRCU_COMMAND</b> Command Parameter(s) : <b>DRCUCOMMAND</b> <b>SPD4N505</b> <b>OVERRIDE</b> <b>SPD9N505</b> TC Control Flags : <b>GBM IL DSE</b> --- -- --- Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505 a0850000 <hex> 0 <hex> (Def)	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.00	SEND_DRCU_COMMAND  SEND_DRCU_COMMAND  Command Parameter(s) : DRCUCOMMAND                   SPD4N505 OVERRIDE                   SPD9N505  TC Control Flags :  GBM IL DSE --- -- ---  Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505  a0860000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND  SEND_DRCU_COMMAND  Command Parameter(s) : DRCUCOMMAND                   SPD4N505 OVERRIDE                   SPD9N505  TC Control Flags :  GBM IL DSE --- -- ---  Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505  a0c40000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.00	SEND_DRCU_COMMAND  SEND_DRCU_COMMAND  Command Parameter(s) : DRCUCOMMAND                   SPD4N505 OVERRIDE                   SPD9N505  TC Control Flags :  GBM IL DSE --- -- ---  Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505  a0c50000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND  SEND_DRCU_COMMAND  Command Parameter(s) : DRCUCOMMAND                   SPD4N505 OVERRIDE                   SPD9N505  TC Control Flags :  GBM IL DSE --- -- ---  Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505  a0c60000 <hex> 0 <hex> (Def)	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.00	SEND_DRCU_COMMAND  SEND_DRCU_COMMAND  Command Parameter(s) : DRCUCOMMAND                   SPD4N505 OVERRIDE                   SPD9N505  TC Control Flags :  GBM IL DSE --- -- ---  Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505  a0c70000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND  SEND_DRCU_COMMAND  Command Parameter(s) : DRCUCOMMAND                   SPD4N505 OVERRIDE                   SPD9N505  TC Control Flags :  GBM IL DSE --- -- ---  Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505  a0c80000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.00	SEND_DRCU_COMMAND  SEND_DRCU_COMMAND  Command Parameter(s) : DRCUCOMMAND                   SPD4N505 OVERRIDE                   SPD9N505  TC Control Flags :  GBM IL DSE --- -- ---  Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505  a0ca0000 <hex> 0 <hex> (Def)	
	ET=+ UT=+00.00.01	SEND_DRCU_COMMAND  SEND_DRCU_COMMAND  Command Parameter(s) : DRCUCOMMAND                   SPD4N505 OVERRIDE                   SPD9N505  TC Control Flags :  GBM IL DSE --- -- ---  Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU	SCD06505  a0cc0000 <hex> 0 <hex> (Def)	
		Verify Telemetry  SCUTEMPSTAT                   SM_1F520	= 0 <hex>	AND=SA_7_559
		Verify Telemetry  SUBKSTAT                   SMK0F520	= 0 <hex>	AND=SA_7_559
		Verify Telemetry  MODE                   SM00M500	= DRCU_ON	AND=SA_7_559



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
5		Set default end conditions		Next Step: END
		Note that a <b>TM(5,1)</b> 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  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=ZAZ90999
	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  80030001 <hex>	
		Verify Telemetry  BBFULLTYPE SM2LN500	= EndObs	AND=ZAZ90999
	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>	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	
	ET=+ UT=+00.00.01	SET_OBSID  Command Parameter(s) : OBSERVATION_ID  Subsch. ID : 370 Det. descr. : SET OBSERVATION IDENTIFIER	SET_OBSID  SP00N500  00000000 <hex>	SC000500	
		Verify Telemetry  OBSID	SM10N500  = 00000000 <hex>	AND=ZAZ90999	
	ET=+ UT=+00.00.00	SET_OBS_STEP  Command Parameter(s) : OBSERVATION_STEP  Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP  SP03N500  0 <hex>	SC003500	
	ET=+ UT=+00.00.01	SET_BBID  Command Parameter(s) : BUILDING_BLOCK_ID  Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER	SET_BBID  SP01N500  80000000 <hex>	SC001500	
		Verify Telemetry  BBFULLTYPE	SM2LN500  = Null	AND=ZAZ90999	
<b>End of Procedure</b>					