Dump MTL summary or detailed report
File: H_FCP_DHS_3027.xls
Author: S. Manganelli

Procedure Summary

Objectives

This procedure describes the steps needed to perform one of the
following actions related to the Mission Timeline:
- Acquire detailed report of all TCs in MTL;
- Acquire detailed report of all TCs in MTL within the specified
time period;
- Acquire summary report;
- Acquire a summary report over a time period.

Summary of Constraints

 **** No MTL uplink must be started or in progress when this
procedure is run ****

The procedure can be run even if the MTL function is stopped,
like after a level 3 reconfiguration.

Only one of the following TCs shall be in execution or in queue
at the same time:
• Reset Command Schedule TC(11,3)
• Report Command Schedule TC(11,9)
• Report Command Schedule over Time Period TC(11,11)
• Report Command Schedule in Summary Form TC(11,12)
• Report Command Schedule Summary over Time Period
  TC(11,14)
• Report Status of Command Schedule TC(11,18)

Spacecraft Configuration

Start of Procedure

CDMU in default configuration, that is:
- PM A or B ON (nominally A)
- TM Encoder/OBT A or B active (nominally A)
- RM A and B enabled
- MM A and B ON

End of Procedure

CDMU in default configuration, that is:
- PM A or B ON (nominally A)
- TM Encoder/OBT A or B active (nominally A)
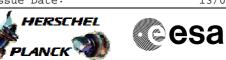- RM A and B enabled
- MM A and B ON

Reference File(s)

Input Command Sequences

Output Command Sequences

HFD3027A
HFD3027B
HFD3027C
HFD3027D

Referenced Displays
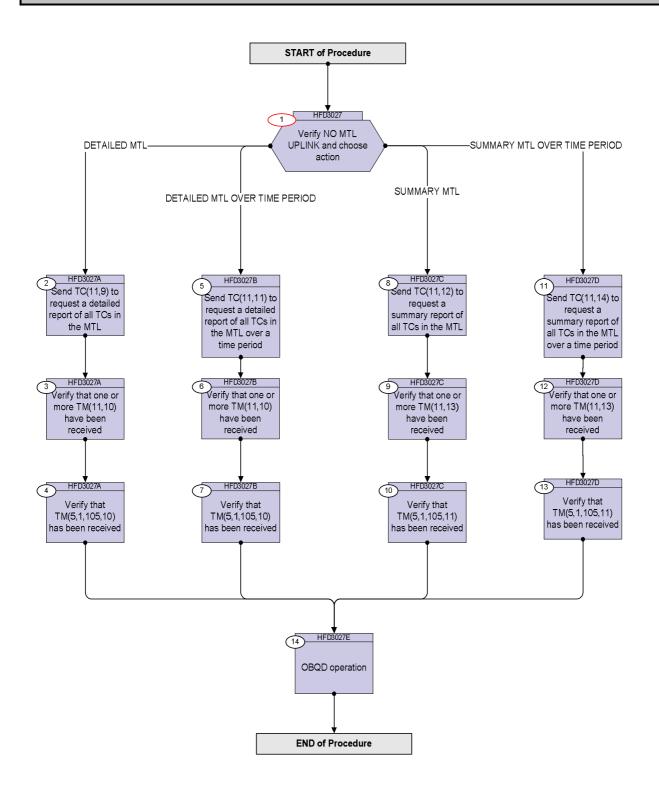
ANDs   GRDs   SLDs

Status   : Version 7 - Updated
Last Checkin: 12/04/10

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(None)

Configuration Control Information

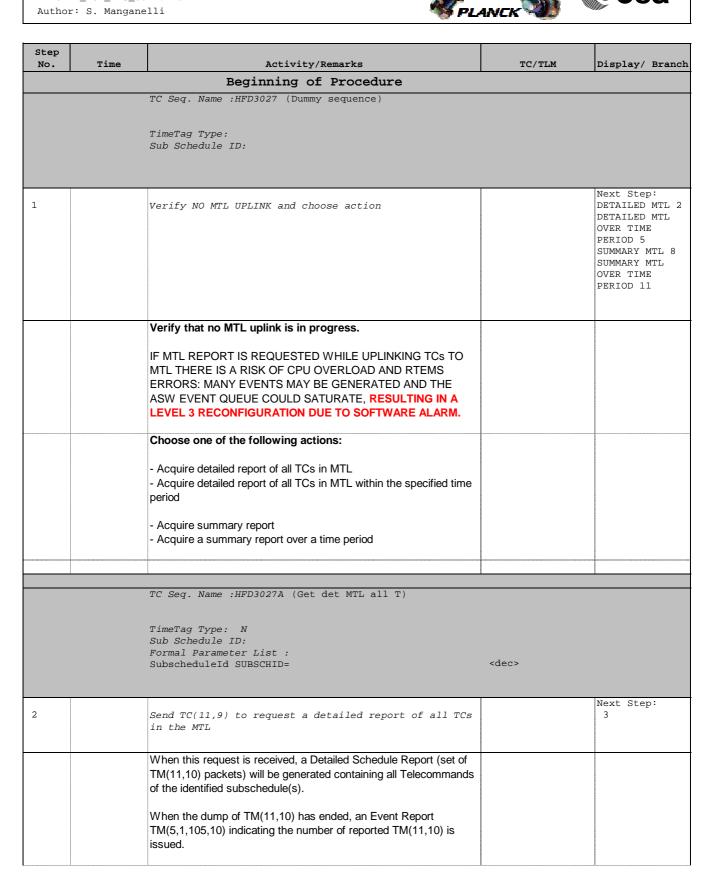| DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
12/11/07		1	Created	cmevi-hp	
10/06/08	1	2	TC flags / Seq type modification	S. Manganelli	
01/12/08		3	Procedure updated according to latest version received from industry on 24/10/2008	cmevi-hp	
13/01/09	2	4	Updated following OBSW 3_8	S. Manganelli	
15/03/09		5	Fixed MOIS FP bug	S. Manganelli	
19/03/09	2.2	6	DB modified due to OBSW 3_8_2	S. Manganelli	
12/04/10	3	7	Added initial check to avoid requesting MTL report while MTL is being uplinked and final step for OBQD operation. Reformatted comments, modified constraint list on header page.	S. Manganelli	

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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 :HFD3027 (Dummy sequence) TimeTag Type: Sub Schedule ID:		
1		*Verify NO MTL UPLINK and choose action*		Next Step: DETAILED MTL 2 DETAILED MTL OVER TIME PERIOD 5 SUMMARY MTL 8 SUMMARY MTL OVER TIME PERIOD 11
		Verify that no MTL uplink is in progress. IF MTL REPORT IS REQUESTED WHILE UPLINKING TCs TO MTL THERE IS A RISK OF CPU OVERLOAD AND RTEMS ERRORS: MANY EVENTS MAY BE GENERATED AND THE ASW EVENT QUEUE COULD SATURATE, **RESULTING IN A LEVEL 3 RECONFIGURATION DUE TO SOFTWARE ALARM.**		
		Choose one of the following actions: - Acquire detailed report of all TCs in MTL - Acquire detailed report of all TCs in MTL within the specified time period - Acquire summary report - Acquire a summary report over a time period		
		TC Seq. Name :HFD3027A (Get det MTL all T) TimeTag Type: N Sub Schedule ID: Formal Parameter List : SubscheduleId SUBSCHID=	<dec>	
2		*Send TC(11,9) to request a detailed report of all TCs in the MTL*		Next Step: 3
		When this request is received, a Detailed Schedule Report (set of TM(11,10) packets) will be generated containing all Telecommands of the identified subschedule(s). When the dump of TM(11,10) has ended, an Event Report TM(5,1,105,10) indicating the number of reported TM(11,10) is issued.		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		In the TC(11,9) it is necessary to set the following parameters: - N: The number of Subschedule-IDs that follow, <=117. If N = 0 the TC addresses all subschedules residing on-board. - Subschedule-ID: The Subschedule Identifier allows to identify a set of Telecommands for one or several Applications/users, and to distinguish them from the rest of the MTL.		
		WARNING: the following TCs are intended to be just examples. Only the first one is instantiated in the TC sequence.		
		WARNING: the TC used here has variable length according to the value of N. This must be instantiated at procedure run time following the specific needs. The TC included in the sequence has no repeated values.		
2.1		*Detailed report for all Subschedules*		

		Execute Telecommand
		
		                              ReportSubSchedule
		
		 Command Parameter(s) :
		                    N_Repetition DH041170
		
		 TC Control Flags :
		                                  GBM IL DSE
		                                  --Y -- ---
		
		 Subsch. ID : 10
		 Det. descr. : TEMPLATE ReportSubSchedule, TC(11,9)
			DC84F170
			
			 0 <dec>	

2.2		*Detailed report for a specific Subschedule*		

		Execute Telecommand
		
		                              ReportSubSchedule
		
		 Command Parameter(s) :
		                    N_Repetition DH041170
		                    SubscheduleId DH053170
		
		 TC Control Flags :
		                                  GBM IL DSE
		                                  --Y -- ---
		 Subsch. ID : 10
		 Det. descr. : TEMPLATE ReportSubSchedule, TC(11,9)
		 This Telecommand will not be included in the export
			DC84F170
			
			 1 <dec> (Def)
			 SUBSCHID	

3		*Verify that one or more TM(11,10) have been received*		Next Step: 4

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		Verify Packet Reception
		    TM 11-10 Detailed schedule report DetailSchRep
		Packet Details:
		                  APID: 16
		                Type: 11
		            Subtype: 10
		                PI1:
		                PI2:		

		Verify Telemetry **N_Repetition** DE014170		(None)
		The following parameters are repeated N times		
		Verify Telemetry **AbsTime_A** DELA2170		(None)
		Verify Telemetry **SubscheduleId_A** DE075170		(None)
		Verify Telemetry **VarblOctetStr_A** DE080170		(None)
4		*Verify that TM(5,1,105,10) has been received*		Next Step: 14

		Verify Packet Reception
		    CdmuAsw Event 5-1 TM 11-10 Dump Ended D_EvRp_055
		Packet Details:
		                  APID: 16
		                Type: 5
		            Subtype: 1
		                PI1: 26890
		                PI2: 0		

		Verify Packet Telemetry **TM5xEventID** DEZSJ170	= Tm11_10_DmpEnd	(None)
		Verify Packet Telemetry **NrOfTmPktIss** DE100170	**as many as the number of received TM(11,10) in previous step**	(None)
		TC Seq. Name :HFD3027B (Get det MTL part T) *TimeTag Type: N* *Sub Schedule ID:* *Formal Parameter List :* AbsTime ABSTIME1= AbsTime2 ABSTIME2= APID_for_TC_11-x TC_APID= SubscheduleId SUBSCHID=	<abs> <abs> <dec>	
5		*Send TC(11,11) to request a detailed report of all TCs in the MTL over a time period*		Next Step: 6

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		When this request is received, a Detailed Schedule Report (set of TM(11,10) packets) covering the specified time period for the identified subschedule and application Process(es) will be generated. When the dump of TM(11,10) has ended, an Event Report TM(5,1,105,10) indicating the number of reported TM(11,10) is issued.		
		In the TC(11,11) it is necessary to set the following parameters: **- Time Tag 1: All Telecommands selected by APID and Subschedule ID with an execution time equal or larger than Time Tag 1, up to including Time Tag 2, will be part of the report.** **- Time Tag 2: Time Tag 2 determines the latest absolute time for which Telecommandswill be part of the report.** **- Subschedule ID: The Subschedule Identifier allows to identify a set of Telecommands for one or several Applications/users that will be part of the report.** **If Telecommands from all Subschedule shall be included, this field is set to zero.**		
		- N: This field specifies the number of Applications for which a sequence of Telecommands will be part of the report. **If N is set to zero all Telecommands between Time Tag 1 and 2 (for the identified Subschedule) will be part of the report.** **- Application Process ID: The APID is the identification of the destination Application Process from which Telecommands are to be included.**		
		WARNING: the TC used here has variable length according to the value of N. This must be instantiated at procedure run time following the specific needs. The TC included in the sequence has no repeated values.		
		WARNING: the following TCs are intended to be just examples. Only the first one is instantiated in the TC sequence.		
5.1		*Detail report for all Subschedules and for all APID*		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch

		Execute Telecommand
		               Report_TcsOverTimePeriod
		
		 Command Parameter(s) :
		           AbsTime **DHA56170**
		           AbsTime2 **DHA61170**
		          SubscheduleId **DH053170**
		          N_Repetition **DH041170**
		
		 TC Control Flags :
		                         GBM IL DSE
		                         --Y -- ---
		
		 Subsch. ID : 10
		 Det. descr. : TEMPLATE Report MTL TcsOverTimePeriod, TC(11,11)
			DC85F170
			
			 ABSTIME1
			 ABSTIME2
			 0 <dec> (Def)
			 0 <dec>	

5.2		*Detail report for all Subschedules for a specific APID*		

		Execute Telecommand
		               Report_TcsOverTimePeriod
		
		 Command Parameter(s) :
		           AbsTime **DHA56170**
		           AbsTime2 **DHA61170**
		          SubscheduleId **DH053170**
		          N_Repetition **DH041170**
		        APID_for_TC_11-x **DH235170**
		
		 TC Control Flags :
		                         GBM IL DSE
		                         --Y -- ---
		
		 Subsch. ID : 10
		 Det. descr. : TEMPLATE Report MTL TcsOverTimePeriod, TC(11,11)
		
		 This Telecommand will not be included in the export
			DC85F170
			
			 ABSTIME1
			 ABSTIME2
			 0 <dec> (Def)
			 1 <dec> (Def)
			 TC_APID	

5.3		*Detail report for a specific Subschedule*		
5.3.1		*All APIDs*		

		Execute Telecommand
		               Report_TcsOverTimePeriod
		
		 Command Parameter(s) :
		           AbsTime **DHA56170**
		           AbsTime2 **DHA61170**
		          SubscheduleId **DH053170**
		          N_Repetition **DH041170**
		
		 TC Control Flags :
		                         GBM IL DSE
		                         --Y -- ---
		
		 Subsch. ID : 10
		 Det. descr. : TEMPLATE Report MTL TcsOverTimePeriod, TC(11,11)
		 This Telecommand will not be included in the export
			DC85F170
			
			 ABSTIME1
			 ABSTIME2
			 SUBSCHID
			 0 <dec>	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
5.3.2		*A specific APID*		

		Execute Telecommand **Report_TcsOverTimePeriod**
		
		 Command Parameter(s) :
		      AbsTime DHA56170
		      AbsTime2 DHA61170
		      SubscheduleId DH053170
		      N_Repetition DH041170
		      APID_for_TC_11-x DH235170
		
		 TC Control Flags :
		         GBM IL DSE
		         --Y -- ---
		 Subsch. ID : 10
		 Det. descr. : TEMPLATE Report MTL TcsOverTimePeriod, TC(11,11)
		
		 This Telecommand will not be included in the export
			DC85F170
			
			 ABSTIME1
			 ABSTIME2
			 SUBSCHID
			 1 <dec> (Def)
			 TC_APID	

6		*Verify that one or more TM(11,10) have been received*		Next Step: 7

		Verify Packet Reception
		     TM 11-10 Detailed schedule report
		 Packet Details:
		          APID:
		          Type:
		      Subtype:
		          PI1:
		          PI2:
			DetailSchRep
			
			 16
			 11
			 10	

		Verify Telemetry **N_Repetition** DE014170		(None)
		The following parameters are repeated N times		
		Verify Telemetry **AbsTime_A** DELA2170		(None)
		Verify Telemetry **SubscheduleId_A** DE075170		(None)
		Verify Telemetry **VarblOctetStr_A** DE080170		(None)
7		*Verify that TM(5,1,105,10) has been received*		Next Step: 14

		Verify Packet Reception
		     CdmuAsw Event 5-1 TM 11-10 Dump Ended
		 Packet Details:
		          APID:
		          Type:
		      Subtype:
		          PI1:
		          PI2:
			D_EvRp_055
			
			 16
			 5
			 1
			 26890
			 0	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Packet Telemetry **TM5xEventID** DEZSJ170	**= Tm11_10_DmpEnd**	(None)
		Verify Packet Telemetry **NrOfTmPktIss** DE100170	**as many as the number of received TM(11,10) in previous step**	(None)
		TC Seq. Name :HFD3027C (Get summ MTL all T) *TimeTag Type: N* *Sub Schedule ID:* *Formal Parameter List :* SubscheduleId SUBSCHID=	<dec>	
8		*Send TC(11,12) to request a summary report of all TCs in the MTL*		Next Step: 9
		When this request is received, a Summary Schedule Report (set of TM(11,13) packets) will be generated containing all Telecommands of the identified subschedule(s). When the dump of TM(11,13) has ended, an Event Report TM(5,1,105,11) indicating the number of reported TM(11,13) is issued.		
		In the TC(11,12) it is necessary to set the following parameters: **- N: The number of Subschedule-IDs that follow, <=117.** **If N = 0 the TC addresses all subschedules residing on-board.** **- Subschedule-ID: The Subschedule Identifier allows to identify a set of Telecommands for one or several Applications/users, and to distinguish them from the rest of the MTL.**		
		WARNING: the TC used here has variable length according to the value of N. This must be instantiated at procedure run time following the specific needs. The TC included in the sequence has no repeated values.		
		WARNING: the following TCs are intended to be just examples. Only the first one is instantiated in the TC sequence.		
8.1		*Summary report for all Subschedules*		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch

		Execute Telecommand
		
		          ReptSummaryMtlSubsch
		
		Command Parameter(s) :
		        N_Repetition **DH041170**
		
		TC Control Flags :
		          GBM IL DSE
		          --Y -- ---
		
		Subsch. ID : 10
		Det. descr. : TEMPLATE Report MTL SubSchedule in summary form, TC(11,12)
			DC87F170
			
			0 <dec>	

8.2		*Summary report for a specific Subschedule*		

		Execute Telecommand
		
		          ReptSummaryMtlSubsch
		
		Command Parameter(s) :
		        N_Repetition **DH041170**
		        SubscheduleId **DH053170**
		
		TC Control Flags :
		          GBM IL DSE
		          --Y -- ---
		
		Subsch. ID : 10
		Det. descr. : TEMPLATE Report MTL SubSchedule in summary form, TC(11,12)
		This Telecommand will not be included in the export
			DC87F170
			
			1 <dec>
			SUBSCHID	

9		*Verify that one or more TM(11,13) have been received*		Next Step: 10

		Verify Packet Reception
		       TM 11-13 Summary schedule report SummarSchRep
		Packet Details:
		              APID: **16**
		              Type: **11**
		           Subtype: **13**
		              PI1:
		              PI2:		

		Verify Telemetry **N_Repetition** **DE014170**		(None)
		The following parameters are repeated N times		
		Verify Telemetry **AbsTime_A** **DELA2170**		(None)
		Verify Telemetry **SubscheduleId_A** **DE075170**		(None)
		Verify Telemetry **Apid** **DE053170**		(None)
		Verify Telemetry **Pkt_Seq_Control** **DE002170**		(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
10		*Verify that TM(5,1,105,11) has been received*		Next Step: 14

		Verify Packet Reception
		CdmuAsw Event 5-1 TM 11-13 Dump Ended D_EvRp_7041
		Packet Details:
		                        APID: **16**
		                        Type: **5**
		                  Subtype: **1**
		                           PI1: **26891**
		                           PI2: **0**		

		Verify Packet Telemetry **TM5xEventID** DEZSJ170	**= Tm11_13_DmpEnd**	(None)
		Verify Packet Telemetry **NrOfTmPktIss** DE100170	**as many as the number of received TM(11,13) in previous step**	(None)
		TC Seq. Name :HFD3027D (Get summ MTL part T) *TimeTag Type: N* *Sub Schedule ID:* *Formal Parameter List :* *AbsTime ABSTIME1=* *AbsTime2 ABSTIME2=* *APID_for_TC_11-x TC_APID=* *SubscheduleId SUBSCHID=*	<abs> <abs> <dec>	
11		*Send TC(11,14) to request a summary report of all TCs in the MTL over a time period*		Next Step: 12
		When this request is received, a Summary Schedule Report (set of TM(11,13) packets) covering the specified time period for the identified subschedule and application Process(es) will be generated. When the dump of TM(11,13) has ended, an Event Report TM(5,1,105,11) indicating the number of reported TM(11,13) is issued.		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		In the TC(11,14) it is necessary to set the following parameters: **- <u>Time Tag 1</u>: All Telecommands selected by APID and Subschedule ID with an execution time equal or larger than Time Tag 1, up to including Time Tag 2, will be part of the report.** **- <u>Time Tag 2</u>: Time Tag 2 determines the latest absolute time for which Telecommandswill be part of the report.** **- <u>Subschedule ID</u>: The Subschedule Identifier allows to identify a set of Telecommands for one or several Applications/users that will be part of the report.** **If Telecommands from all Subschedule shall be included, this field is set to zero.**		
		- <u>N</u>: This field specifies the number of Applications for which a sequence of Telecommands will be part of the report. **If N is set to zero all Telecommands between Time Tag 1 and 2 (for the identified Subschedule) will be part of the report.** **- <u>Application Process ID</u>: The APID is the identification of the destination Application Process from which Telecommands are to be included.**		
		WARNING: the TC used here has variable length according to the value of N. This must be instantiated at procedure run time following the specific needs. The TC included in the sequence has no repeated values.		
		WARNING: the following TCs are intended to be just examples. Only the first one is instantiated in the TC sequence.		
11.1		*Summary report for all Subschedules and for all APID*		

		Execute Telecommand
		                  Rpt_SumMtlOverTimePerio
		
		 Command Parameter(s) :
		              AbsTime DHA56170
		              AbsTime2 DHA61170
		          SubscheduleId DH053170
		          N_Repetition DH041170
		
		 TC Control Flags :
		                          GBM IL DSE
		                          --Y -- ---
		 Subsch. ID : 10
		 Det. descr. : TEMPLATE Report MTL TcsOverTimePeriod in
		 summary form, TC(11,14)
			DC88F170
			
			 ABSTIME1
			 ABSTIME2
			 0 \<dec\> (Def)
			 0 \<dec\>	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
11.2		*Detail report for all Subschedules for a specific APID*		
		Execute Telecommand		
		Rpt_SumMtlOverTimePerio	DC88F170	
		Command Parameter(s) :		
		AbsTime DHA56170	**ABSTIME1**	
		AbsTime2 DHA61170	**ABSTIME2**	
		SubscheduleId DH053170	0 <dec> (Def)	
		N_Repetition DH041170	1 <dec>	
		APID_for_TC_11-x DH235170	**TC_APID**	
		TC Control Flags :		
		GBM IL DSE		
		--Y -- ---		
		Subsch. ID : 10		
		Det. descr. : TEMPLATE Report MTL TcsOverTimePeriod in summary form, TC(11,14)		
		This Telecommand will not be included in the export		
11.3		*Detail report for a specific Subschedule*		
11.3.1		*All APIDs*		
		Execute Telecommand		
		Rpt_SumMtlOverTimePerio	DC88F170	
		Command Parameter(s) :		
		AbsTime DHA56170	**ABSTIME1**	
		AbsTime2 DHA61170	**ABSTIME2**	
		SubscheduleId DH053170	**SUBSCHID**	
		N_Repetition DH041170	0 <dec>	
		TC Control Flags :		
		GBM IL DSE		
		--Y -- ---		
		Subsch. ID : 10		
		Det. descr. : TEMPLATE Report MTL TcsOverTimePeriod in summary form, TC(11,14)		
		This Telecommand will not be included in the export		
11.3.2		*A specific APID*		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch

		Execute Telecommand
		          Rpt_SumMtlOverTimePerio
		
		Command Parameter(s) :
		       AbsTime **DHA56170**
		       AbsTime2 **DHA61170**
		    SubscheduleId **DH053170**
		    N_Repetition **DH041170**
		  APID_for_TC_11-x **DH235170**
		
		TC Control Flags :
		                    GBM IL DSE
		                    --Y -- ---
		Subsch. ID : 10
		Det. descr. : TEMPLATE Report MTL TcsOverTimePeriod in summary form, TC(11,14)
		
		This Telecommand will not be included in the export
			DC88F170
			
			ABSTIME1
			ABSTIME2
			SUBSCHID
			1 <dec>
			TC_APID	

12		*Verify that one or more TM(11,13) have been received*		Next Step: 13

		Verify Packet Reception
		     TM 11-13 Summary schedule report SummarSchRep
		Packet Details:
		                  APID: 16
		                  Type: 11
		             Subtype: 13
		                  PI1:
		                  PI2:		

		Verify Telemetry **N_Repetition** DE014170		(None)
		The following parameters are repeated N times		
		Verify Telemetry **AbsTime_A** DELA2170		(None)
		Verify Telemetry **SubscheduleId_A** DE075170		(None)
		Verify Telemetry **Apid** DE053170		(None)
		Verify Telemetry **Pkt_Seq_Control** DE002170		(None)
13		*Verify that TM(5,1,105,11) has been received*		Next Step: 14

		Verify Packet Reception
		    CdmuAsw Event 5-1 TM 11-13 Dump Ended D_EvRp_7041
		Packet Details:
		                  APID: 16
		                  Type: 5
		             Subtype: 1
		                  PI1: 26891
		                  PI2: 0		

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Step No.	Time	Activity/Remarks		TC/TLM	Display/ Branch
		Verify Packet Telemetry **TM5xEventID**	**DEZSJ170**	**= Tm11_13_DmpEnd**	(None)
		Verify Packet Telemetry **NrOfTmPktIss**	**DE100170**	**as many as the number of received TM(11,13) in previous step**	(None)
		TC Seq. Name :HFD3027E (Dummy) *TimeTag Type:* *Sub Schedule ID:*			
14		*OBQD operation*			Next Step: END
		On the OBQD DUMP MODEL you can now press the RETRIEVE button. The display shall be updated using the last MTL report and the consistency checks shall be performed on the new data.			
		End of Procedure			