Operations Notes

FOS Team @ ESAC

Reported by:

J. Fauste/J.M. Castro Cerón

Topic:

Date:

Issue:

FOS Report for week 27, year 2017

from 03 JUL 2017 to 10 JUL 2017

1.0

1   General Comments

Activities scheduled for this week are those planned for the 27th calendar week of 2017:

```
03 JUL 2017 to 10 JUN 2017 (DOYs 184 to 191).
```

The following routine activities were planned this week (see Gantt chart on next page and CRF 670):

- One Warm NIR Calibration on 05 JUL 2017 (DOY 186) with ETO 06:01:51z (orbit 40321) and with the following expected calibration values:

  ```
  B.T.              =    3.5487°
  R.M.S.            =    0.1428
  Sun Elevation     =    9.9961°
  Moon elevation    =   22.8219°
  R.A.              =  200.82°
  DEC.              =   40.86°
  ```

- One PMS Offset on 06 JUL 2017 (DOY 187), including three Short Calibrations at 07:37:30.0z, 07:38:04.8z, and 07:38:39.6z (orbit 40336).
- Local Oscillator Calibrations every 10 minutes.
- *X* band Passes over ESAC and Svalbard.

2   Mission Planning Deviations

None.

Operations Notes

FOS Team @ ESAC

Reported by:

J. Fauste/J.M. Castro Cerón

Topic: **FOS Report for week 27, year 2017**
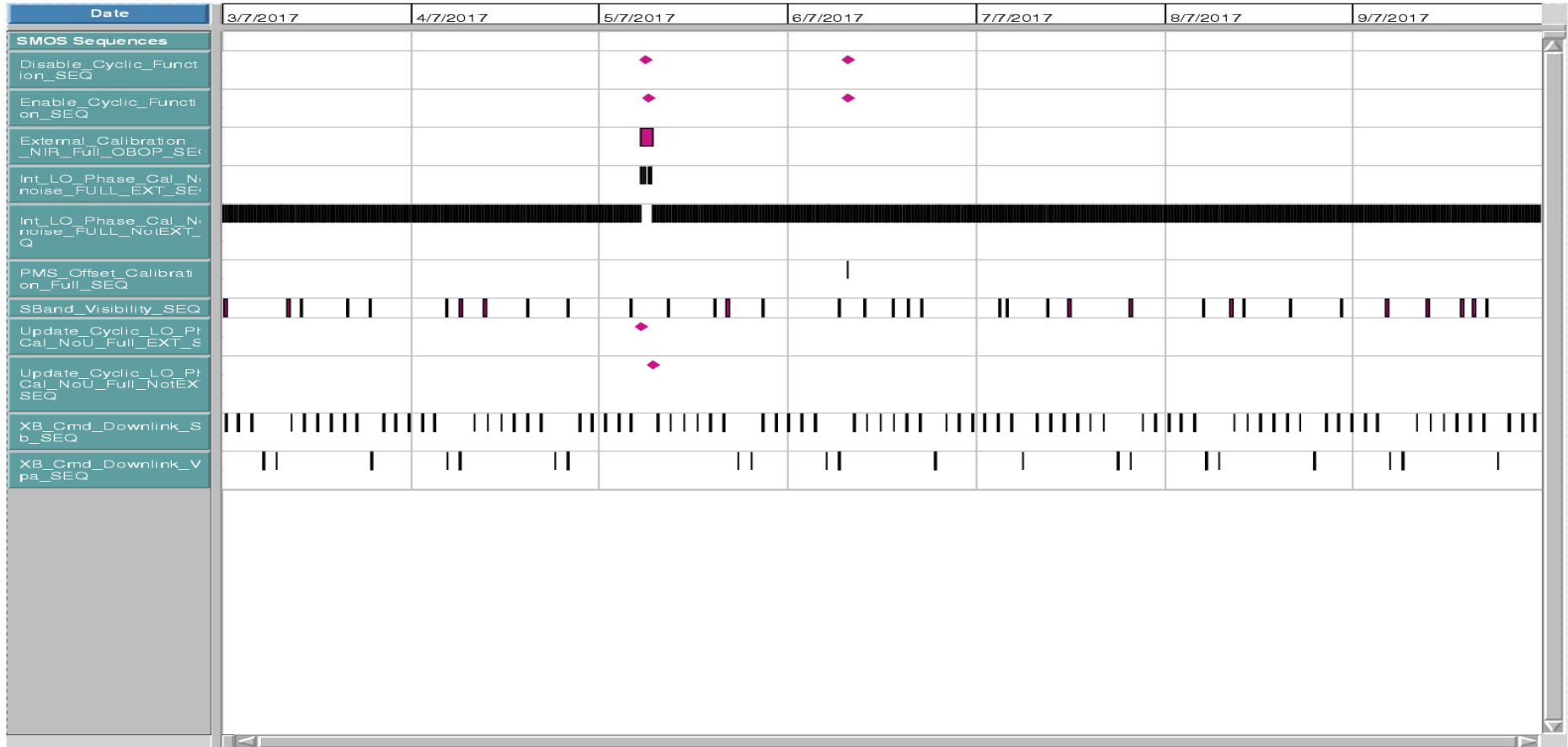Date: from 03 JUL 2017 to 10 JUL 2017
Issue: **1.0**

Schedule Name: 2017_w27_cr   ###   Display start: 03-07-2017 00:00:00.000   ###   Display end: 10-07-2017 00:00:00.000

Date	3/7/2017	4/7/2017	5/7/2017	6/7/2017	7/7/2017	8/7/2017	9/7/2017

SMOS Sequences

- Disable_Cyclic_Function_SEQ
- Enable_Cyclic_Function_SEQ
- External_Calibration_NIR_Full_OBOP_SE(
- Int_LO_Phase_Cal_N noise_FULL_EXT_SE(
- Int_LO_Phase_Cal_N noise_FULL_NotEXT_Q
- PMS_Offset_Calibration_Full_SEQ
- SBand_Visibility_SEQ
- Update_Cyclic_LO_Ph Cal_NoU_Full_EXT_S
- Update_Cyclic_LO_Ph Cal_NoU_Full_NotEX SEQ
- XB_Cmd_Downlink_S b_SEQ
- XB_Cmd_Downlink_V pa_SEQ

Operations Notes

FOS Team @ ESAC

Reported by:

J. Fauste/J.M. Castro Cerón

Topic:

Date:

Issue:

FOS Report for week 27, year 2017

from 03 JUL 2017 to 10 JUL 2017

1.0

3 TC Failures

None.

4 Unforeseen Out of Limits (OOLs)

The only relevant out of limits for this week are the ones related with the H1 CMN Unlock that happened on the 8th of July and the mass memory latch–up of partition P8 that took place on the 7th of July. Further details on this anomaly and their OOLs are included in sections 5 and Appendix-A of this report.

5 On Board Anomalies

- The MIRAS instrument CMN, unit H1, unlocked on 2017-07-08T08:22:11.774z (DOY 189). The anomaly was geolocated over the eastern coast of Brazil:

  > *Latitude   = -16.07°*
  > *Longitude   = 327.15°*

  Both parameters, locking status parameter SPM11167 and output power SPM11162 went out of limits in the FOS PLPC system. The anomaly recovered by itself after a few seconds.

- The MIRAS instrument MM, partition P8, latched up on 2017-07-07T10:38:26,619z (DOY 188). The following parameters went out of limits in the PLPC system:

  > *2017.188.10.38.26,619z   DMASME04   LU Switch P8*
  > *2017.188.10.38.26,619z   DMASME37   SDD LU Detected*

  This anomaly was geolocated over the Northern Argentina (South Atlantic Anomaly area):

  > *Latitude   = -25.99°*
  > *Longitude   = 294.78°*

  There were no science data losses associated with this anomaly because it affected partition P8, while the Read and Write pointers were both on partition P7. Recovery took place on 10 JUL 2017, at 15:00:00z (CRF 672). At the time of the anomaly the position of the MM pointers were as follows:

  > *Read   = 3284835   (partition P7)*
  > *Write   = 3465537   (partition P7)*

6 On Board Events Telemetry

The following RAM Single Bit errors befell this week:

Operations Notes

FOS Team @ ESAC

Reported by:

J. Fauste/J.M. Castro Cerón

Topic:
Date:
Issue:

FOS Report for week 27, year 2017
from 03 JUL 2017 to 10 JUL 2017
1.0

Event Description	Packet ID	Severity	Event Time	Parameters
RAM single Bit Error	730	WARN	2017-07-03T07:47:21	22D066C
RAM single Bit Error	730	WARN	2017-07-07T15:17:23	2004358

7 FOS Systems Status

- A new version of the FOS Mission Planning system, *FlexPlan* version 4.2, was installed for testing and validation purposes on SPGF-1 validation machine.
- Software patch 26 for PLPC version 2.10, was installed on PLPC system on the 6th of July. This patch included a new script *deleteOldTcPlan.py*, that deletes from */tmp* directory planning files older than 30 days. That script is scheduled to be executed every Friday at 9:00am. It also includes a new check on the SCOS *PRGTgenerator* task in such a way that planning files older than 15 days and located in directory */home/plpcops/OPS/REP_TC_PLAN* are not further validated against its onboard execution.
- CNES-FOS ISDN backup line, went down from the 5th to the 6th of July due to a connectivity problem on the local telephone pair number 80. *Telefonica* operator came on site and in coordination with a switchboard operator, ISDN connection was changed from pair 80 to pair 81.

8 Data Reception from CNES

All *S* band passes were correctly received from CNES and successfully processed by the FOS PLPC system, with the following exception:

- Because an issue with the receiving station, S band GS pass KUX-7 (AOS = 2017-07-05T08:38:46z; LOS = 2017-07-05T08:52:16z) contained 1 PUS TM gap. The gap went: from 2017-07-05T05:10:13,956z to 2017-07-05T08:40:30,878z. To achieve completion MIRAS PUS TM was recovered from the X band PXMF system and ingested into the MUST-SMTA system on 06 JUL 2017. E_HKTM telemetry from 2017-07-05T05:18:56 to 2017-07-05T08:40:32 was lost.

9 *X* Band Data Reception in PXMF

Due to the S band GS pass failure reported in previous step, MIRAS PUS Telemetry gap was processed and recovered from PXMF system.

10 Exceptional Activities

None.

Operations Notes

FOS Team @ ESAC

Reported by:

J. Fauste/J.M. Castro Cerón

Topic:

Date:

Issue:

FOS Report for week 27, year 2017

from 03 JUL 2017 to 10 JUL 2017

1.0

11 AOB

None.

Operations Notes

FOS Team @ ESAC

Reported by:

J. Fauste/J.M. Castro Cerón

Topic: **FOS Report for week 27, year 2017**

Date: from 03 JUL 2017 to 10 JUL 2017

Issue: **1.0**

APPENDIX A: OOLs

At the time of the H1 CMN Unlock that happened on the 8th of July, the following parameters when temporary out of limits on the PLC system.

GS_TIME	OBTIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2017-07-08T09:01:07	2017-07-08T08:22:11	SPM11167	H1 LO_Locking	UNLOCK	LOCK
2017-07-08T09:01:07	2017-07-08T08:22:11	SPM11162	H1 LO_Out_Power	NOT-OK	OK

On the 7th of July, the mass memory latch up of partition P8 produced the two following out of limits on the PLPC system.

GS_TIME	OBTIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2017-07-07T12:23:09	2017-07-07T10:38:26	DMASME37	SDD LU Detected	FALSE	TRUE
2017-07-07T12:23:09	2017-07-07T10:38:26	DMASME04	LU Switch P8	OFF	ON