FOS Team @ ESAC

Reported by:

J. Fauste/J.M. Castro Cerón

Topic: FOS Report for week 14, year 2016 Date:

from 04 APR 2016 to 11 APR 2016

1.0

General Comments

Activities scheduled for this week are those planned for the 14th calendar week of 2016:

Issue:

04 APR 2016 to 11 APR 2016 (DoYs 095 to 102).

The following routine activities were planned this week (see Gantt chart on next page and CRF 561):

• One Warm NIR Calibration on 06 APR 2016 (DoY 097) with ETO 01:28:38z (orbit 33771) and with the following expected calibration values:

> B.T. $= 3.8775^{\circ}$ R.M.S. = 0.6017 $= 01.1671^{\circ}$ Sun Elevation $= -14,5612^{\circ}$ Moon elevation $= 101.76^{\circ}$ R.A. DEC. $= -18,26^{\circ}$

- One PMS Offset on 07 APR 2016 (DoY 098), including three Short Calibrations at 11:08:00,0z, 11:08:34,8z, and 11:09:09,6z (orbit 33791).
- Local Oscillator Calibrations every 10 minutes.
- X band Passes over ESAC and Svalbard.

2 Mission Planning Deviations

None.



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3 TC Failures

None.

4 Unforeseen Out of Limits (OOLs)

Two out of limits were received at the time of the B2 CMN unlock on the 6th of March (see further details in section 5 and Appendix-A of this report)

Issue:

5 On Board Anomalies

• A new CMN unlock on B2 unit happened on 2016-04-06T20:07:18z at that both parameters SPM18167 "B3 LO_Locking" and SPM18162 "B2 LO_Out_Power" went out of limits. The anomaly recovery itself after 14 Epochs and produced 10 minutes of degraded data The geolocation of the event was over Antarctica area at the following geographical coordinates:

> Longitude= 279.374028 Latitude= -78.895982

6 On Board Events Telemetry

No RAM Single Bit Errors befell this week

7 FOS Systems Status

All FOS Systems behaved nominal and the following maintenance activities performed:

- SMTA machine was rebooted after a security patch update on 2016-04-04T10:00:00z.
- A new version of the FOS Rules file (version 401_601) was installed on SPGF-1 and PLPC systems on the 2016-04-06T14:45:00z. New file version is:

The new file version is:

SM_OPER_MPL_RULESF_20160405T000000_20500101T000000 _401_061_1.EEF

and substitutes old file version:

SM_OPER_MPL_RULESF_20101122T000000_20500101T000000 341 057 1.EEF

The new Rules file contains the correct delay of 2.4 seconds in TC sequence AFCAL30A, instead of the incorrect value of 2.8 included in the old file.



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This delay applies between TCs Z1203015 and Z080111 and the sequence is associated to SPGF MP Calibration activity "Long_Calibration_Full_OBOP_SEQ".

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:

• On 2016-04-06 there was a telemetry data gap on GS pass AUS-6 at 17h46. The gap went from 2016-04-06T13:12:47z to 2016-04-06T14:43:02z. This data gap was filled on the SMTA-MUST system using the PXMF X band system.

9 X Band Data Reception in PXMF

Because an issue with the receiving station, S band GS pass AUS-6 (AoS = 2016-04-07T17:46:06z; LoS = 2016-04-07T18:00:31z) contained a PUS TM gap. To achieve completion MIRAS PUS TM was recovered from the X Band PXMF System and ingested into the MUST-SMTA system on 7^{th} of April. The gap filled went from 2016-04-07T13:12:47z to 2016-04-07T14:43:02z

10 Exceptional Activities

None.

11 AOB

None.





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APPENDIX A: OOLs

The following Out of Limits were received at the time of the CMN unlock on the 6th of March:

GS_TIME	OBTIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2016.098.04.06.18.621	2016.097.20.07.25.235	SPM18167	B2 LO_Locking	Unlock	Lock
2016.098.04.06.18.077	2016.097.20.07.18.035	SPM18162	B2 LO_Out_Power	NOT-OK	OK