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| Investigation: FIELDS |
| Progress accomplished this period: | June 2013 Reporting Period |
| 1. | Project Management and Product Assurance |
|  | a. | Project Management* Received RFP and new Cost Instructions from SwRI. Prepared and extended corresponding RFPs for the three FIELDS subcontractors (1 Jul).
* Supported EDI GDU tiger team activities including visit to UNH to discuss HVOC fabrication control.
* Supported the following Acceptance Reviews
	+ None
* Supported the following PSRs:
	+ AEB SN5 (1 July)
* Supported the following PERs:
	+ MMS Mission PER at GSFC
	+ SDP SNs 13&14
* Supported the following TRRs:
	+ SDP SNs 13&14 vibration and TV tests
* Supported the following FRBs
	+ Faulty thermal sensor on SDP motor
* Received delivery of the following flight hardware items at UNH
	+ EDI Optics SN6 (from U of Iowa).
	+ AEB SN5 (from LASP)
	+ AEB SN3 (from KTH)
	+ S-BEBs SNs 15&16, probes B1&B2 for SDPs 3&4 (from KTH)
* Delivery of the following flight hardware items from UNH to FIELDS partners
	+ EDI Gun HV&Fil board SN8 (to IWF)
* Delivery of the following flight hardware items from UNH or LASP to the IS and Observatories
	+ AFG Sensor SN11. Returned to GSFC following thermal test.
	+ SS3&4 ADP REs, ship set 4 ADP booms (from LASP). All ADP flight hardware has now been delivered.
* CDRL and contract deliverable submissions this month:
	+ None
* Supported the flight opto-coupler manufacture and test
* Prioritized and coordinated the efforts of the UNH team, subcontractors, foreign partners, outside vendors and in-house workshops to optimize schedule performance. This month’s activities in this regard include:
	+ UNH team
		- The SDP and HVOC efforts, given the shared commitments of key individuals and the critical paths, require constant monitoring and adjustment. SDP will get the resource priority if conflicts arise. This was not an issue in June.
	+ UNH machine shop
		- Completed fabrication of housings and plugs for UNH-built EDI HVOCs
		- Fabricated last flight parts for SDP
	+ UNH electronics shop
		- Completed assembly of the test boards and harnesses for testing the HVOCs
		- Supported for SDP integration
	+ Vendors
		- Coordination of vibration test activities with our vendor, BAE (upcoming tests for GDU and SDP).
		- Surface treatment of FM SDP parts
	+ FIELDS team partners, IS and S/C teams
		- Coordination of UNH support of the EDI Gun test effort on site at IWF. Myers and Singer traveled to IWF in June
		- U of Iowa supported SN6 EDI Optics/Sensor integration at UNH in June
		- Coordination of UNH support for the SDP and AEB activities at KTH. King traveled to KTH/IRFU in June
		- Continue weekly FIELDS team meetings
		- Participate in weekly IS I&T meetings
 |
|  | b. | Product Assurance |
|  |  | Turco / Salwen* Support HVOC assembly
* EDI GDU FM5 outgassing certification
* Support EDI/SDP acceptance reviews
* Support HVOC pre cap inspection.
* EIDP uploads for SDP & CEB
* SDP 13+14 FFT
* SDP motor cable assembly QA support
* SDP 13 + 14 inspect and package for EMI testing
* SDP 13 + 14 TVAC operation and testing
* EDI HV OPTO final cleaning
* EDI HV & Fil board kitting

EDI HV OPTO assembly QASoftware Product Assurance (Heirtzler)* CDPU and EDI SW is stable
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| 2. | Systems Engineering and FIELDS I&T |
|  |  | Rau / Dors* Performed SDP 13/14 In-rush and EMI testing
* Received AEB SN05 from LASP
* Performed AEB SN05 FIELDS level testing (FIT, Acceptance)
* Prepared for and attended MMS Mission PER
* Continued FIELDS verification entry into DOORS
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| 3. | Post-Delivery Support |
|  |  | * Supported functional testing of EDI and SDP on OBS-1
* Supported OBS-1CPT
* Supported installation of SDP 09/10 and GDU-5 onto OBS-2
* Supported magnetometer flight install onto OBS-4 booms including SCM short pigtail PFR resolution
* Supported -Z ADP RE functional test on OBS-2
* Supported OBS-2 mag boom 2nd and 3rd segment deployments and FG magnetometer functional testing
* Integrated Magnetometers and ADP simulator for OBS-3 baseline functional
* Performed SCM electrical testing on OBS-3 to investigate SCM low frequency tones observed in data from previous tests
* Supported Acoustics and EMI TRR
* Worked with CC to prepare EDI soft covers for Acoustics Test
* Supported and reviewed WOA and procedure development at IS/OBS levels
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| 4. | Science activities |
|  |  | SWT and SWG * Supported science activities as needed

Science data processing activities* Support provided as needed.
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| 5. | Magnetometers |
|  | a. | DFG  |  |
|  |  |  | * Checkout of spare sensor with EM electronics
* Repair of DFGE FM3 (spare) electronics
* Remote support of DFG functional testing at Goddard
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|  | b. | AFG |  |
|  |  |  | * Continued data reduction/software development activities, including Hannes Leinweber attending software development meeting at GSFC
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|  | c. | SCM | * SCM FM1 => SENSOR S/N FM1 + PREAMP S/N FM1
	+ - Delivered to UNH, 03 OCT 2011
* SCM FM2 => SENSOR S/N FM2 + PREAMP S/N FM2
	+ - Delivered to UNH, 25 JUL 2012
* SCM FM3 => SENSOR S/N FMS + PREAMP S/N FM4
	+ - Delivered to UNH, 25 JUL 2012
		- FM3 harness delivered to UNH without the outgassing certification
* SCM FM4 => SENSOR S/N FM3 + PREAMP S/N FM5
	+ - Delivered to UNH, 27 FEB 2013
		- FM4 PSR on April 23.
* SCM FMS => SENSOR S/N FM4 + PREAMP S/N FM3
	+ - Sensor environmental testing complete at proto-flight levels
		- NCR (Sensor Vibration) => MMS-SCM-NC-PRE-140 to be written
		- Waiver written by Olivier Le Contel and Roy Torbert ( Higher noise on SCM preamplifier).
		- MMS-SCM-RW-PRE-60 => accepted on April 5 (Waiver-10160-129-CA)
		- Post thermal cycles at LPP done on May 27.
		- Rx Inspection performed on June 4.
		- Alignment measurement complete
		- FMS overall calibration complete
* NCR and alignment measurements report to be completed (MMS-SCM-NC-TRI-623-LPP and MMS-SCM-PR-TRI-622).
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| 6. | EDI |
|  |  | Top Level (GDU)* Integration of FM6 Sensor and Optics

Sensor* Ship set 3 - SN 7
	+ - Parlene coating complete

Gun - UNH efforts* Characterization of refurbished beam generation system SN 3

Gun - IWF efforts* Ship set 4 - Gun SN 4
	+ - Diagnosed problem of DEFL2 board; reflowed HV resistor solder joints;
* Completed board level tests of FM6 Gun

Optics* Delivered optics FM6
* Continued work on ship set 4 and Flight Spare

Software* Tested ambient mode with Tracking Simulator
* Continued impementation and testing of electric field mode
* Loaded FSW build 05 on observatories 2 and 4

Correlator* Diagnosed and identified cause of 60 ns time shift anomaly that was found during GDU T/V testing and confirmed in bench test setup with breadboard test system.

HVOCs (UNH)* Completed assembly of 46 devices.
* Commenced screening per agreement with tiger team and PCB
	+ Conducted partial discharge testing on all devices. 46 of 46 passed, zero counts
	+ Conducted Thermal Cycling, 45 devices.
	+ Bonducted burn-in 1 (Cold) (24 hours -20C, Iin=0ma, HV Diode leads shorted @6KV), 45 devices. Two (2) devices showed excessive leakage current and were removed.  Test continued.
	+ Completed burn-in #2, 40 hours @ 70C, If=0mA, HV Diode leads shorted @ 6KV (Standoff)
	+ Currently in burn-in #3, 160 hours @70C, If=0-15mA peak, Vcc=6KV, 20% duty cycle LED
	+ So far, so good.
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| 7. | SDP/BEB/LVPS  |

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|  | a. | SDP/BEB/LVPS (KTH/IRFU/Oulu)KTH/IRFU SDP BEB’s:* Delivered units FM15-16 to UNH
* All testing completed for units FM17-18.
* Units FM17-18 have been disassembled and prepped for Parylene coating.
* Calibration testing of EM BEB and FM17 was conducted at IRF-U with very positive and deterministic results. Report is presently being complied.

KTH/IRFU ADP BEB’s:* AEB FM3 has been retested after LM124 replacement at both KTH and IRF-U and delivered to UNH
* Awaiting LM124 device DPA.

KTH/IRFU SDP Preamp/Boom Cable Assembly:* All testing completed for units FM17-18.

KTH/Oulu/IRFU Sphere / Yo-Yo Mechanism:* Refurbished probes B1 and B2 were tested at KTH and delivered to UNH.

KTH/IRFU/Oulu Management:* Continue to work all issues related to testing, documentation, hardware, shipping and QA/PA and shipping needs (almost done).

KTH Product Assurance (OHB Sweden):* Inspection of SDP HW FM17-18 before Parylene coating.
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|  | b. | SDP/BEB/LVPS (UNH)LVPS:* No activity

A-BEB’s:* Supported reviews pertaining to SN FM5
* Received SN FM5 from LASP to conduct FIT.
* Last item to get done is the coating of LM124 on FM3 before going into storage.

S-BEB’s:* No activity

SDP MGSE:* Stable. No new developments.

UNH SDP EGSE:* Stable. No new developments.

SDP Preamp:* Crimped Probe A3 and A4 to 13-010-42 and 14-011-43 preamp respectively.

SDP Mechanical / Electrical:* Completed Integration of FM's 13 & 14
* Conducted for FM 13, 14… FFT, PER, VIBE, and Post Vibe FFT.
* Perform SDP FM 13, 14 in-rush test
* Reviewing Vibe. test report for FM 13 & 14;
* Completed tapping 2 of the final 4 Outer Cylinders
* Integrated FM15 & 16 major sub-assemblies including:
	+ Front Assembly (Cylinders, Trumpets and Front Panel), Back Plate Assemblies, Motor Thermal Straps.
* Assigned last Back Plate to shop for July machining
* Received last Feeder Rings from PFE.
* Kitting for FM15 & FM16 in process, an on-going activity

SDP Thermal:* Presently conducting TVac testing for FM 13, 14

SDP EMC:* CE01/03 and chassis leakage testing complete for FM 13, 14.

FM SDP * Final assembly of SNs 13 and 14. FFT conducted successfully

SDP QA:* Monitored the assembly and test activities for the flight units

AEB (UNH)* Sent FM 5 to LASP
* Received FM3 from KTH
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|  | c.  | SDP (LASP) (Preamp)* No activity
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| 8. | ADP |
|  | a. | ADP:* Ship set #3 ADP Receiving Elements calibrated with FM5 AEB.
* The remainder of ADP hardware was shipped to GSFC. The shipment included: SS3 and SS4 ADP Receiving Elements, SS4 ADP Booms, and SS4 ADP RE Latches.

ADP I&T activities* Obs #1 – No activity
* Obs #2
	+ Integrated SN06 ADP RE in the –Z position
	+ Performed ADP RE STM, first motion test, and functional test.
	+ Inspected –Z ODS blanket closeout. Found that blankets were touching moving latch mechanism parts. Worked with spacecraft blanket technician to modify the blankets.
* Obs #3
	+ Performed incoming inspection, bench acceptance test, and STM on Boom SN08 and latches SN08 and SN16
	+ Inspected boom MLI blankets
	+ Integrated the –Z ADP Boom and latches
* Obs #4
	+ Performed incoming inspection, bench acceptance test, and STM on Boom SN05 and latches SN05 and SN13
	+ Inspected boom MLI blankets
	+ Integrated the +Z ADP Boom and latches

AEB* SN05 AEB vibration test completed
* SN05 AEB calibrated with the SS3 ADP Receiving Elements
* SN05 AEB thermal-vacuum test completed
* SN05 AEB shipped to UNH
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| 9. | DSP, Thermal, Systems Engineering, Product Assurance and Management (LASP) |
|  |  | DSP* No activities this month.

Thermal* No activities this month

Systems Engineering & Project Management* Provided inputs toms PER package

Quality Assurance, Parts, and Materials Engineering* Shipped ADP contamination witness foils to MMS IS contamination engineer.
* Supported program as needed
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| 10. | CEB  |
|  | a. | Hardware |
|  |  |  | CEB (Rau, Dors, Bodet, Nolin)* No activity. CEB hardware activities are complete.
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|  | b. | CDPU Software, Support for Operations, I&T and Post-Delivery activities (Needell) |
|  |  |  | * Supported OBS1 CPT
* Supported OBS2 SDP/EDI integration and Functional testing
* Supported OBS1 and OBS2 ADP RE Functional Testing.
* Supported other Post delivery activities as needed.
* Continued participation in Commissioning Planning
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| 11. | GSE (Mello, Chutter, Bodet) |
|  |  | GSE Hardware* No activity

FIELDS Simulator* No activity

GSEOS & GSE Software* Telemetry screen improvements
* Strip chart improvements
* SOC testing
* Expanded remote client connectivity
* Keep repository up to date
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| 12. Problems encountered (some resolved) and updates this period |

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|  |  | AEB* Out of Family Noise on Bias Voltage DAC (AEB FM3, ADP5 Side, TV cold) (PFR-10160.53-94-IP)
	+ After analyzing data from FM4 AEB TV testing, it was found that during FM3 AEB TV testing, out of family noise levels were found at the -30C plateau on the Bias Voltage DAC line.
	+ UPDATE
		- Parylene removal, inspection and rework (part removal and replacement) were successfully completed. Retest of the board at KTH, including testing at -30C, demonstrated that the rework was successful. Test of the removed part demonstrated that it was the cause of the problem. AEB3 will now go to IRFU for testing.
		- Continue testing of SN3 AEB with the intention that it become the flight spare. This will include tests at IRF-U, final checkout at KTH, return to UNH for acceptance test. SN3 (now the spare) will not undergo environmental testing unless needed for flight. SN5 AEB is now designated for use with FIELDS ship set 3.
		- Tests at IRF-U and KTH of the reworked SN3 AEB were completed successfully. SN3 AEB is now designated as the flight spare.
		- OPEN WORK: DPA on the failed part.

SDP* Wire deploy stopped during FFT-gearbox jam (SDP FM10) (open work: SNs 3,4,7,8) (PFR-10160.53-86-IP)
	+ Closed for SDP SNs 5&6, 9-18
	+ Open work for units yet to be returned to UNH includes acoustic noise measurements.
* Fine wire disconnected - crimp slip (SDP FM8), Open rework (SNs 3, 4) (PFR-10160.53-75-IP)
	+ Inspection revealed the fine wire from the probe/yo-yo assembly had come completely out of the crimp ferrule inside the preamplifier during the TV test.
	+ TV test of SDP SNs 7&8 was completed.
	+ Root cause investigation revealed inadequate control of the crimping process. FRB defined rework and retest activities.
	+ Crimp process redefined and approved
	+ Impact to other units:
		- SNs 3-6 will be reworked
		- New process applied successfully to 7-12
		- New process applies for all subsequent units
	+ NCR to remain open until rework is complete on units already delivered: SNs 3-6. A plan for this rework was presented and agreed at the PSR for SNs 7-10.
	+ UPDATE: The probes were removed from SNs 5&6. Prescribed rework and retest was performed at UNH in April and early May 2013.

EDI* Board-level test failure SN6 Gun Beam Board - damaged LVDS chip (PFR-10160.53-110-OP)
	+ The LVDS driver chip was damaged during board-level test on the SN6 Beam board due to a missing EGSE ground.
	+ Proposed Actions/Corrections:
		- Replace the part and inspect. DONE.
		- Correct the test setup and confirm. DONE.
		- Resume board level testing of the Beam Board, DONE.
		- Provide analysis assessing risk, if any, to other components on the board.
	+ UPDATE:
		- The LVDS part was replaced and inspected. The test setup was corrected and board level testing was completed successfully. The board was integrated into Gun SN6.
		- Awaiting NCR details and analysis from IWF.
* EDI GDU SN2 open work (PFR-10160.53-101-IP)
	+ GDU SN2 exhibited problems during the Gun calibration and component level TV test. See PFR-10160.53-56 [Thermal Vacuum Com Locks and Fold-Backs (EDI GDU SN2)] and PFR-10160.53-47 [GDE fold-back during SN2 Gun Calibration]. The unit was delivered to GSFC to participate in I&T, but needs to be returned to UNH and IWF for rework.
	+ Rework plan:
		- -Install new UNH-built optocouplers on DEFL1 and DEFL2 board and in any other gun HV amplifiers that have exhibited LED current trends.
		- -Remove 27 Ohm resistor from GUN25V supply line in GDE/Gun harness
		- -Install 20 Ohm resistor on HV-FIL board in Gun
	+ Retest plan:
		- -Gun calibration at IWF
		- Sensor stand-alone vacuum testing at UNH
		- GDU integration and environmental testing
* EDI GDU SN3 open work (PFR-10160.53-103-IP)
	+ GDU SN3 exhibited problems during the component level TV and vacuum tests. See PFR-10160.53-81 [GDE Converter Fold Back and Comm Locks observed during TV test (GDU SN FM3)] and PFR-10160.53-83 [Sensor FPGA reset (EDI GDU FM3)]. The unit was delivered to GSFC to participate in I&T, but needs to be returned to UNH and IWF for rework.
	+ Rework plan: Install new UNH-built optocouplers on DEFL1 and DEFL2 board and in any other gun HV amplifiers that have exhibited LED current trends.
	+ Retest plan:
		- Gun calibration at IWF
		- Sensor stand-alone vacuum testing at UNH
		- GDU integration and environmental testing
* EDI GDU SN5 open work (PFR-10160.53-106-IP)
	+ GDU SN5 exhibited problems during the component level TV and vacuum tests. PFR-10160.53-105 [Red Limit Violations on GDU SN5] and PFR-10160.53-96 [Converter Foldbacks (GDU FM5)]. The unit was delivered to GSFC to participate in I&T, but needs to be returned to UNH and IWF for rework.
	+ Rework plan: Install new UNH-built optocouplers on DEFL1 and DEFL2 board and in any other gun HV amplifiers that have exibited LED current trends.
	+ Retest plan:
		- Gun calibration at IWF
		- Sensor stand-alone vacuum testing at UNH
		- GDU integration and environmental testing
* UPDATE: Anomalously low LED current of channel D5 in Gun FM4 (PFR-10160.53-104-IP)
	+ At IWF: performed test of assembled Gun; deflection channel 5 (DEFL2 board) exhibited a failure: HV output does not work below 1500V. The electronics board stack was disassembled and the following tests were performed
	+ The DEFL2 board was tested on the bench with no problems.
	+ Nothing was found during a visual inspection of the board under a microscope.
	+ During a test in a thermal chamber between -30C and +70C (four cycles), one out of approximately 65 tests (near 50C) showed the problem
	+ Further testing in the temperature range 50C to 60C (approximately 190 tests) did not show the problem
	+ The board stack was reassembled
	+ The problem re-occurred when testing the assembled board stack. Putting a small amount of pressure on the board made the problem disappear. Removing that pressure made it re-appear.
	+ UPDATE:
		- 26-Jun-2013: Problem traced to one of two solder joints on the HV resistor. Reflowing the two solder joints of HV resistor for channel D5 was successful.
* [UPDATE, CLOSED] Revised: HV amplifier failure during Gun/GDE calibration at IWF (S/N1 EDI Gun) (PFR-10160.53-89-AP)
	+ This record replaces that previously recorded in (PFR-10160.53-51-CL. The earlier record had erroneous data and was marked void.
	+ Problem with deflection channel 2 on Gun SN1 reported during Gun/GDE SN1 calibration at IWF.
	+ Conducted DPA of damaged parts.
	+ Cause: Likely a discharge event that propagated within the GUN.
	+ Replaced transistor Q33
	+ Replaced op amp U14
	+ Retest successful. Closure awaits paperwork.
	+ UPDATE: This unit, SN1, successfully completed environmental testing, characterization and PSR, and was delivered to the IS. Given that root cause is uncertain, a residual risk is warranted. UVF tracked as IS residual risk #134
* [UPDATE] Negative Current spikes seen on Plate 7 Optocoupler during calibration (GUN SN4) (PFR-10160.53-85-AP)
	+ HK data analysis done at IWF indicates problems with several optocouplers. OC7 shows the isolated downward spikes. Manfred (IWF) is confident that replacing the positive side optocoupler will solve the issue. For OC6 the case is not as clear as we do not understand the behavior, so we may have to replace both optocouplers and maybe also the drive circuit for the LEDs.
	+ An FRB, conducted 4 Jan 2013, defined additional diagnostic steps. Another FRB will be conducted to review the diagnostic results prior to any disassembly
	+ Screening of optocouplers: all optocouplers in Gun FM4 were screened. It is pretty obvious that our screening process is not helping us to identify bad parts. Lack of being able to use elevated temperatures may be the most likely factor.
	+ Further activity with SN4 Gun awaits tiger team recommendation.
	+ 1 Apr 2013: UNH has identified screened IWF HVOCs to use for the rework of this Gun and has provided them to IWF.
	+ Replacement parts have been integrated at IWF, board level testing was successful.
	+ UPDATE: Goddard has provided the DPA reports for 2 of the 3 opto-couplers. These have been attached to the NCR record. We await the report on the 3rd HVOC and a partial report on the transistor.
* [UPDATE] Failure to set the Wehnelt voltage (EDI Gun SN4, Q4 on HV-FIL board SN4) (PFR-10160.53-78-IP)
	+ During inital tests in vacuum preparing for the calibration of Gun S/N 4 a failure to set the wehnelt voltage occurred (at IWF).
	+ The failure mode could be explained by a damaged transistor on the HV-FIL board.
	+ The HV-FIL board was replaced in SN4 Gun. The suspect board was returned to UNH for test and DPA of the suspected part, Q4.
	+ 8 May 2013
		- The DPA revealed electrical overstress (excessive voltage) applied to the Emitter.
		- Q4 was replaced in HV&Fil board SN4 and the board retest was successful.
		- Since the exact location of HV discharge is unknown it is hard to know if other parts may have been stressed.
		- Clarify the configuration at the time the problem was noticed. Determine what other boards and components might have been overstressed.
	+ UPDATE: 31 May 2013
		- Configuration was the fully assembled gun board stack. The arc path cannot be determined.

SDP* [NEW, CLOSED] Wire deployment stopped during post vibe FFT (SDP SNs 13&14) (PFR-10160.53-109-AP)
* Occurrence was coincident with severe thunderstorm. UPS added to test setup. Subsequent testing successful. Awaiting closure.
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| 13. Issues and concerns |
|  |  | From FIELDS PM* The pace of Gun assembly and Gun/GDE test and calibration activity is slow given that a key engineer for this effort at IWF has left the institute and that another program is tapping IWF resources. This is the critical path for GDU and FIELDS. UNH will provide support of testing and assembly activities on site at IWF as requested. Steve Turco will support Gun board assembly at IWF in July.

From LASP PM* GSFC spacecraft mechanical has indicated that the 50 to 100 Hz sine vibration environments could be a problem even with analytical notches. GSFC mechanical has recommended that Obs #1 vibration test results be evaluated prior to performing any other risk mitigation activities.
* PM continues to watch ADP overspending resulting for ADP RE Latch FRB, AEB FM3 DAC noise issue, and underestimated post-delivery support needs.
* MLI blankets were touching the –Z launch latches on Obs#2. With LASP’s direction the blankets were modified to have acceptable clearances. The templates should get changed. UNH and LASP need to watch this going forward and inspect every observatory closely.
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NCR Summary: Provided separately (Excel file)

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| Activities planned for next reporting period |
|  |  | Management |
|  |  |  | * Prepare and submit FIELDS cost change proposal per RFP received in June.
* Continue to support the GDU tiger team.
* Continue to push open RFAs and NCRs to closure
* Continue to prioritize and coordinate the work of the UNH team and its FIELDS partners. Similarly, prioritize and schedule work in the UNH electronics and machine shops and with outside vendors. Note the following.
	+ FIELDS Team, IS and S/C Partners:
		- Continue to use the weekly FIELDS meeting for coordination of near-term activities. Post-delivery support activities are increasingly the subjects of these meetings. Dave Rau and Scott Tucker are key players in coordinating this support.
		- Coordinate UNH support of the EDI Gun effort at IWF. Turco will travel to IWF in July
		- Coordinate U of Iowa support of Optics/Sensor integration
		- Coordinate delivery of flight spare SCM from LPP
	+ UNH team
		- Completion of the SDP I&T activities will get priority if conflicts of resources, particularly with EDI HVOCs, are encountered.
		- UNH will work with IWF to support its Gun testing and assembly efforts.
	+ UNH Machine Shop:
		- EDI HVOC fabrication
	+ UNH Electronics Shop:
		- EDI Sensor stack boards
	+ BAE:
		- Vibration services for SDP
* Closely monitor status and schedule performance of team members. Identify schedule risks and provide assistance for mitigation if warranted. Work to minimize schedule slippage.
* Coordinate problem investigations and associated resolution.
* Support FRBs;
* Support/staff T/V testing as needed
* Update the Gun and GDE schedule.
* Support the flight opto-coupler manufacture/test;
* Receive delivery of the following items at UNH
	+ Screened LEDs and HV Diodes for EDI HVOCs (from ATC)
	+ SDP BEBs and Preamp/Cable assemblies SNs 17&18 (from KTH)
	+ EDI Gun/GDE SN6 (fromIWF)
	+ EDI Optics SN7 (from U of Iowa)
	+ Flight spare SCM Sensor and Preamp (from LPP)
* Make delivery of the following items from UNH to FIELDS partners
	+ Screened flight HVOCs (to IWF)
	+ Flight BGS (to IWF)
* Prepare and conduct the following PERs and associated TRRs
	+ SDP SNs 15 &16
* Prepare for and conduct following PSRs or Acceptance Reviews.
	+ PSR: SDP SNs 11&12, 13&14
* Make or coordinate delivery of the following to GSFC IS or S/C teams
	+ AEB SN5
	+ SDP SNs 13&14
* CDRL and contract deliverable submissions:
	+ None planned
* Support/staff T/V testing as needed
* Update the Gun and GDE schedule
 |
|  |  | Product Assurance, Configuration Management, Parts, Materials, Facilities |
|  |  |  | Turco/Salwen* Ongoing SDP TV test support
* Support HVOC assembly & inspection
* Deliver screened UNH HVOCs to IWF. Provide instruction on handling and installation.
* SDP FM13/14 cleanliness and bagging activities

Software Product Assurance (Heirtzler)* Continue support for EDI and/or CDPU software testing as needed
 |
|  |  | Systems Engineering & FIELDS I&T |
|  |  |  | Rau / Dors* Finish SDP 13/14 FIELDS level testing (Magnetics, Acceptance, CPT)
* Support SDP 13/14 PSR
* Finish FIELDS level testing of AEB SN05 (Magnetics)
* Support AEB SN05 PSR
* Continue submitting FIELDS verification material for closure
 |
|  |  | Post-Delivery Support |
|  |  |  | IS and Observatory Support FIELDS* Delivery and integration of SDP 13/14 onto OBS-4
* Delivery and integration of AEB SN05 onto OBS-4
* Support ADP +Z RE install on OBS-4
* Support 2nd and 3rd motion and functional testing on OBS-4 mag booms
* Support OBS-1 Acoustics and EMI testing
* Support OBS-2 CPT
* Support OBS-3 Functional Test
* De-Integrate Magnetometers and ADP simulator from OBS-3 functional test
 |
|  |  | Science |
|  |  |  | SWT and SWG* Support science telecons as needed

Science data processing activities* Support data processing activities as needed.
 |
|  |  | AFG |
|  |  |  | * Follow up on LM6142 concerns
* Submit revised FY13 to EOM budget in response to RFP UNH 13-01-07
* Clean up documentation, etc., for flight hardware deliveries
* Continue data reduction/software development activities
 |
|  |  |  |  |
|  |  | DFG |
|  |  |  | * Tuning and calibration tests with FM3 (spare) electronics and spare sensor
* Support of in-flight calibration prearrangements at UCLA and Goddard
* Remote support of DFG functional testing at Goddard
 |
|  |  |  |  |
|  |  | SCM |
|  |  |  | * FMS overall bake-out in July.
* FMS ready for delivery at the end of July
 |
|  |  | EDI |
|  |  |  | Top Level (GDU)* Integration of FM7 Sensor and Optics
* Start Assembly of GDU SN 6

Sensor * Ship set 3 - SN 7
	+ - MCP module assembly, final sensor assembly and vacuum test
* Ship set 3 - SN 8
	+ - Thermal test
		- Send boards out for parylening
* Ship set 1 - SN 9
	+ - DC Beta Test of HV Capacitor and Preamplifier Board
		- MCP Supply Board BLT

Gun - UNH efforts* Board level test of HV-FIL board SN 9

Gun - IWF efforts* Ship set 4 - Gun SN 4
	+ - Re-assemble and test Gun
* Ship set 4 - SN 6
	+ - Assemble Gun
		- Calibrate Gun
* Ship set 3 - SN 7
	+ - Install UNH optocouplers on boards

Optics* Continue work on ship set 4 and Flight Spare

Software* Continue implementation and testing of electric field mode

HVOCs (UNH)* Complete 160 hours @ 70C Dynamic testing followed up by. PD testing.
* Select those opto's to be ship to IWF.
* Begin assembly of next batch of HVOC devices
 |
|  |  |  |  |

|  |  |  |
| --- | --- | --- |
|  |  | SDP/LVPS/BEBs/Preamp/Probe (KTH/ Oulu/IRFU) |
|  |  |  | SDP:* Prepare, distribute and review with double probe team the report of high-resolution calibration data taken in June at IRFU.

S-BEB’s & Preamp & Probe:* Deliver SDP BEBs for SDPs 17-18 to UNH
* Prepare the test reports for the all shipped units.

A-BEBs and LVPS:* No activity planned

KTH Management and Product Assurance:* Write the inspection report of the repaired AEB FM3 BEB5
* Inspection of new SDP HW FM17-18
* Submission of Final inspection report for SDP FM13-18
* Acceptance data package preparation for all delivered hardware
 |
|  |  | SDP/LVPS/BEBs/Preamp/Probe (UNH) |
|  |  |  | UNH SDP:* FFT, PER, TRR, vibration test for SNs FM15 & FM16

LVPS and BEBs* No activity planned
 |

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  | ADP/SDP/DSP (LASP) |
|  |  |  | QA/Parts/Materials* Support the project as necessary.

DSP* No engineering activities planned

ADP* Support MMS I&T activities as needed

AEB* No activity planned

SDP* Support SDP integration activities as requested by UNH.

Thermal* No activity planned

Systems and Program Management* Focus on EIDP and verification tasks
* Submit cost change proposal per RFP received from UNH
 |
|  |  |  |
|  |  | CEB Hardware |
|  |  |  | FM4 and FS CEB* Flight spare kits are complete. No further activity is planned.
 |
|  |  | CDPU Software, Support for Operations, I&T and Post-Delivery activities (Needell) |
|  |  |  | * Support OBS2 CPT
* Support OBS3 Functional
* Support OBS1 Acoustics and EMI Test
 |
|  |  |  |  |
|  |  | GSE (Mello, Chutter, Bodet) |
|  |  |  | GSE hardware* No planned activity

GSEOS & GSE Software* Support TV
* Support OBS/IS FIELDS testing
* Telemetry screen improvements
* CPT cur/volt logging improvements
* SOC testing
* Keep repository up to date

 FIELDS Simulator (FS)* No planned activity
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|  |  |  |

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