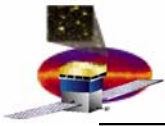


GLAST Large Area Telescope: I & T Input to July Technical/Cost/Schedule Review 08/27/03

**Elliott Bloom
SU-SLAC
Subsystem Manager**

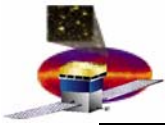
**Brian Grist
SU-SLAC
Subsystem Engineer**

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650-926-2469 650-926-2998**



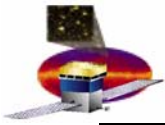
Last Month's Accomplishments

- **August**
 - **Bld 33 Humidity/air, power dist, internet connections, meeting room, tools,**
 - **EGSE V1.7 release – single event display, reporting,**
 - **Finalized 1x1 grid bay to most recent specs.**
 - **Prepare for LAT Calibration review (Ormes - SWG).**
 - **EM CAL module received.**
 - **EM CAL post ship tests completed.**
 - **EM CAL single bay fit check.**
 - **EM CAL script migration mostly complete.**
 - **EM TKR Minitower received.**
 - **EM TKR Minitower post ship tests in process.**
 - **EM CAL and EM TKR installation into 1x1 grid bay mockup in process.**



Summary of issues and concerns

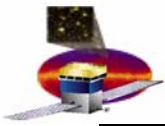
- Time frame and effort needed for rebaselining.
- Need for electronics technician to be under I&T control – currently under electronics and not shown in PMCS. Under projected schedule I&T needs to start hiring to prepare for flight integration before the end of this year. Currently no qualified electronics tech allocated to I&T.
- Impact of CAL plate interface design on flight integration procedures. E.g., will we need to check for voids in epoxy when installing Menning plates.
- Need to implement requirement on visible light and x-ray exposure on tower silicon. (EM testing showed significant degrading of performance with room lights on vs. off for TKR minitower.) I&T believes that protection against light exposure should be solved at the tower level before delivery to I&T.



Status/Closure of action items

- **No action items from last months review meeting**

Open Design/Engineering model/ manufacturing issues and close plan for them



- **Completion of EM Tower I&T program by October 15 (CAL EM on dock at NRL by October 17). See LAT-MD-01137-01 EM Plan.**
- **Work out sharing of EM CAL between CAL and I&T from October 15 until flight integration begins. We expect ~50/50 sharing in this time period.**
- **Fit check of TKR Mechanical model needs to be done with CAL EM and 1x4 grid as early as possible. TKR Mechanical model delivery is now expected in early December. Need CAL EM back in early December to make fit check.**
- **Plan for completion multi tower EGSE that uses GASU is in flux depending on GASU availability. Need date for completion of multi tower EGSE is Dec/Jan for ACD use. Need final plan (SE).**

Status of Subsystem's Parts List and qualification program

- **EGSE EM-1 qualification in progress in EM program. EM-1 used for production of flight TKR and CAL units. Final multi tower EGSE qualification needs to use software test bed. Qualification required for use by ACD in Dec/Jan. For more details of the EGSE qualification plan see, MD-01-533 draft.**
- **MGSE qualification plan discussed in I&T MGSE Development Plan, MD-01-262 draft.**

Near-term Milestones and Status towards them for next 3 months

Milestone ID	Milestone Description	Original Date	Current Date	Major Reqmnts to Achieve Milestone	Notes
9I009448	EM Plan, Procedures, EGSE and MGSE complete	07/31/03	<i>Complete</i>	<i>Waiting for signature from G. Haller and D. Horn</i>	EM Plan sent for signoff
	Decision on location of LAT Environmental Test	08/21/03	09/01/03	Spectrum RFI quote. PSR 8/18 checklist.	Required for planning the Environmental Test. Potential locations are NRL and Spectrum Astro.
9I19500160	Receive Tracker mini-tower	08/22/03	08/22/03 Complete		Hand carried from Italy on 8/20/03
9I006820 9I006822	EM tower functional tests complete	09/18/03	09/16/03		
9I006930 9I006932	EM tower available for use by Flight Software	09/18/03	09/19/03		
	EM Calibration Complete	10/13/03	10/14/03		
9I19500180	Cal EM at NRL Loading dock	10/17/03	10/17/03	Need to ship by 10/15/03	
	I&T replan		10/03/02	Need replan subsystem delivery dates for final I&T schedule.	Begin replan assuming hardware availability dates per Rebaseline Review presented 7/31/03
	Bldg 33 Upgrades (except for humidity)		09/01/03		Complete phone installation requires new trunk line to Bld 33.
	Bldg 33 A/C & humidity control mods		12/15/03		Kingston Chan responsible engineer.



Significant Cost/Schedule Variances

- **Cumulative Cost and Schedule variance “in the green”**
 - **Cumulative Cost Variance: +39k\$ (+2%)**
 - **Cumulative Schedule Variance: -76k\$ (-3%)**
- **July Cost and Schedule Variance**
 - **July Cost Variance: +17k\$ (+13%)**
 - **July Schedule Variance: -46k\$ (-26%)**
 - **\$18k of the July schedule variance was anticipated as the baseline MGSE plan has not been replanned to reflect the expected later MGSE deliveries. This variances to be mitigated by the upcoming rebaselining effort.**



Threats to Maintaining Cost/Schedule

- **Delay in implementation of 3 month schedule extension will leave our MGSE schedule exposed to a very large schedule variance over the next 1-3 months, getting bigger as PMCS reprogramming is delayed longer. This is expected to be mitigated by the upcoming rebaselining effort.**
- **Finalization of all LAT test plan requirements is not complete post CDR. This is resulting in compressed schedule and potential increased cost for I&T. Current estimates are ? for completing all test plans from the Design Team.**
- **When will a decision be made about where to go for Environmental Testing? This will impact preparations and design of Vibration and T/V fixtures.**
- **Spacecraft interface detail uncertainty.**
 - **Environmental test fixtures.**
 - **EGSE interface.**
 - **MGSE handling fixtures.**
 - **SIIS (Spacecraft Instrument Interface Simulator) fidelity uncertainty.**
- **Delivery of flight hardware to I&T may be late.**