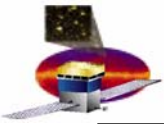


GLAST Large Area Telescope: EM Staffing Plan

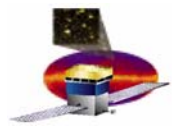
Eduardo do Couto e Silva
SU-SLAC
SVAC I&T Manager

eduardo@slac.stanford.edu
650-926-2698

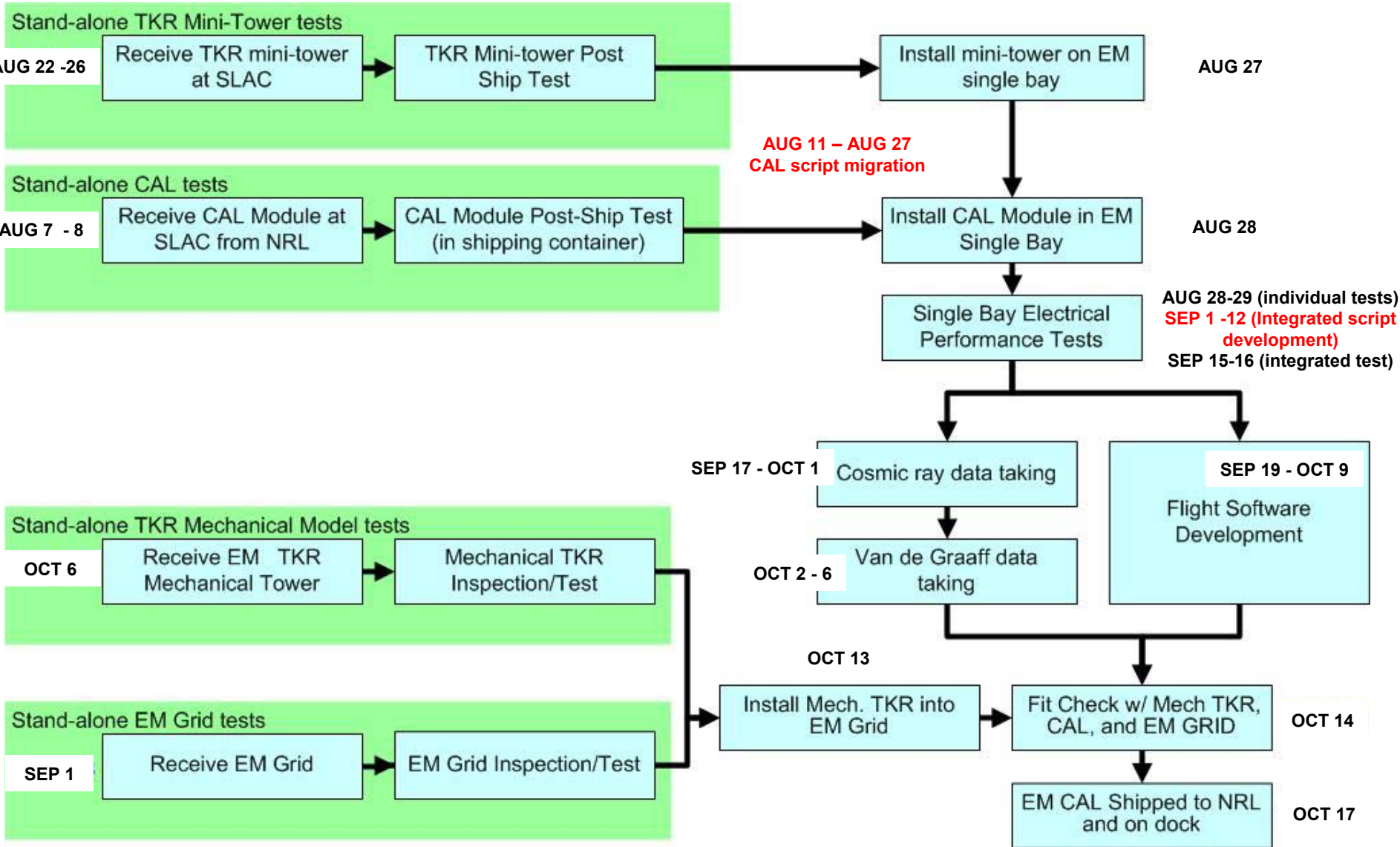


EM Program

- **Mechanical Integration**
 - **Develop I&T procedures for flight integration**
- **Functional Tests**
 - **Develop I&T EGSE framework for flight integration**
 - **Develop test suite for I&T flight integration**
 - **Test functionality of individual hardware**
 - **Test functionality of integrated hardware**
- **Flight Software Development**
 - **Preliminary discussions indicate that any FSW use depends on successful characterization of integrated system during functional tests**
- **Particle Data Taking**
 - **Measure position resolution in CAL using TKR tracks**
 - **Record Photons with TKR trigger**
 - **Measure VDG spectrum in EM CAL with CAL trigger**



EM Test Flow



EM – Mechanical Activities

- Aug 7 – CAL Arrival @ SLAC 1 day
- Aug 22 – TKR Arrival @ SLAC 1 day
- Aug 27 – Install TKR in single bay 1 day
- Aug 28 – Install CAL in single bay 1 day
- Sep 16 – Cosmic Ray Set Up 1 day
- Oct 1 – VDG Set Up 1 day
- Oct 13 – Install Mech. TKR in 1x4 Grid 1 day
- Oct 14 – EM Fit Check in 1x4 grid 1 day
- Oct 17 – Ship CAL to NRL 1 day

The Philosophy:

- Hardware will be handled only by certified people following pre-approved procedures prepared and reviewed in conjunction with subsystems
- At all times there will be monitoring of environmental conditions of hardware and an on-call person assigned to handle emergencies.

The core crew (will work on day and swing shifts):

Larry Wai I&T – Physicist

Eric Gawehn I&T – Mech. Eng.

Mark Molini I&T – Mech. Eng.

Reggie Rogers I&T – Mech. Eng.

Ken Shipp – I&T Technician

Jeff Tyce I&T – Mech. Eng.

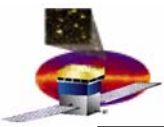
Henry Bui ELX – Elec. Tech.

Tom Borden I&T – Mech. Eng. – **Is this adequate or do we need another TKR person?**

Eric Grove CAL – Physicist (available only during delivery of CAL) - **Is this adequate or do we need another CAL person later?**

Patty Sandora CAL-Technician (available only during delivery of CAL)

Kurt Wolku CAL - Designer (available only during delivery of CAL)



EM – Functional Tests

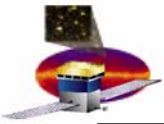
- Aug 7-8 – Test CAL using TEM/PS and CAL EGSE 2 days
- Aug 11-27 – CAL script migration to I&T EGSE system 13 days
- Aug 25-26 – Test TKR using another TEM/PS and I&T EGSE 2 days
- Aug 28-29 – Test TKR/CAL integrated system 2 days
- Sep 1-12 – CAL script migration (if necessary) and script development for integrated system 11 days
- Sep 15-16 – Test TKR/CAL integrated system (set baseline for particle data taking) 2 days

The Philosophy:

- Develop a common EGSE framework for future integration activities and flight production
- Focus on system characterization and electronic calibrations
- At all times there will be at least 2 I&T persons working on script development

The core crew (will work on day and swing shifts):

Luca Baldini TKR – Software Developer
 Xin Chen I&T – Software Developer (offline support)
 Eduardo do Couto e Silva I&T – Physicist
 Ric Claus I&T – Software Developer
 Eric Grove CAL – Physicist (available for a week after CAL delivery) - **Is this adequate or do we need another CAL person later?**
 Mike Huffer ELX – Eng. Physicist
 Luca Latronico TKR – Physicist
 Byron Leas CAL – Software Developer (**Presence at SLAC not confirmed by CAL**)
 Dave Nelson ELX/TKR – Eng. Physicist
 Jim Panetta I&T – Eng. Physicist
 Selim Tuvi I&T – Software Developer
 Larry Wai I&T – Physicist



EM – Particle Data Taking

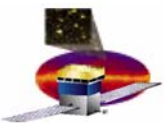
- **Sep 17-26** – Cosmic rays with TKR trigger vertical position **10 days**
- **Sep 29** – Cosmic rays with TKR trigger vertical position (Threshold scan) **1 days**
- **Sep 30** – Cosmic rays with TKR trigger vertical position (Bias scan) **1 days**
- **Oct 1** – Cosmic rays with TKR trigger horizontal position **1 day**
- **Oct 2-3** – VDG Data Taking TKR trigger **2 days**
- **Oct 6** – VDG Data Taking CAL trigger **1 day**

The Philosophy:

- Focus is on calibration of position resolution in CAL using TKR tracks
- Cosmic rays up to Sep 26 are taken on night shift since morning is used for FSW development, remaining activities will occur during day shift (TBR with FSW).
- There will be 4 I&T persons working on data analysis.

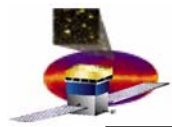
The core crew (will work on day and swing shifts):

Luca Baldini TKR – Software Developer
Xin Chen I&T – Software Developer (offline support and data analysis)
Eduardo do Couto e Silva I&T – Physicist
Ric Claus I&T – Software Developer
Gary Godfrey I&T – Physicist
Luca Latronico TKR – Physicist
Tsunefumi Mizuno I&T – Physicist
Jim Panetta I&T – Eng. Physicist
Hiro Tajima I&T – Physicist
Selim Tuvi I&T – Software Developer
Larry Wai I&T – Physicist



Issues

- How will the CAL group support migration of CAL scripts into I&T framework (presence at SLAC is preferred)?
 - **Action: Will discuss with N. Johnson**
- How does ELX provide support to I&T specially during the debugging phase?
 - **Action: Will discuss with G. Haller**
- Are the FSW/J.J. needs being met under the current plan?
 - **Action: Will discuss with J.J. and G. Haller**
- Since we will NOT be able to fully utilize exercise the ATDP upon hardware delivery, we MUST develop a realistic plan to validate the ATDP as soon as possible.
 - **Action: Ask systems engineering to provide someone take the lead and work at least at a 50% level with I&T to address relevant issues such as**
 - How do we improve the existing procedures and tests plans to demonstrate that the system level requirements (with and without loads) will be met for future tests (post EM integration)?
 - When in the present schedule we will be able to validate the ATDP?
- Since we are not running in “manufacturing” mode, how do we allocate the contributed EM effort from the collaboration in the most efficient way (becomes more important after the first week)?
 - **Action: Will ask individual people how they can best contribute according to their skills and the existing plan presented today**



Available Staff

Bloom, Elliott	I&T – Physicist	Bui, Henry	ELX – Elec. Tech.
Claus, Ric	I&T – Software Prog.	Huffer, Mike	ELX – S/S Engineer
Chen, Xin	I&T – Software Prog.	Nelson, Dave	ELX – S/S Engineer
do Couto e Silva, Eduardo	I&T – Physicist	Sapozhnikov, Leonid	ELX – S/S Engineer
Gawehn, Eric	I&T – Mech. Eng.		
Godfrey, Gary	I&T – Physicist	Bogaert, Gilles	CAL – Physicist
Grist, Brian	I&T – Elec. Eng.	Giebels, Berrie	CAL – Physicist
Kamae, Tune	I&T – Physicist	Graduate Student	CAL – Berrie’s Student
Mizuno, Tsunefumi	I&T – Physicist	Grove, Eric	CAL – S/S Eng./Phys.
Molini, Mark	I&T – Mech. Tech.	Leas, Byron	CAL – Software
Panetta, Jim	I&T – Eng. Physicist		
Rogers, Reggie	I&T – Mech. Tech.	Baldini, Luca	TKR – Software
Tajima, Hiro	I&T – Physicist	Bhatnagar, B.J.	TKR – S/S Eng.
Tice, Jeff (on call for CAL humidity)	I&T – Mech. Tech.	Borden, Tom	TKR – S/S Eng.
Tuvi, Selim	I&T – Software Prog.	Latronico, Luca	TKR – Software Prog.
Wai, Larry	I&T – Physicist	Williams, Roger	TKR – S/S Eng.
		TKR Post-Doc	TKR – Software Prog.