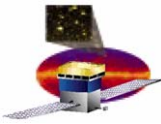


GLAST Large Area Telescope

WBS 4.1.B

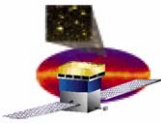
**Instrument Science Operations Center
Monthly Status Review
27 September 2005**

**Rob Cameron
rac@slac.stanford.edu
650-926-2989**

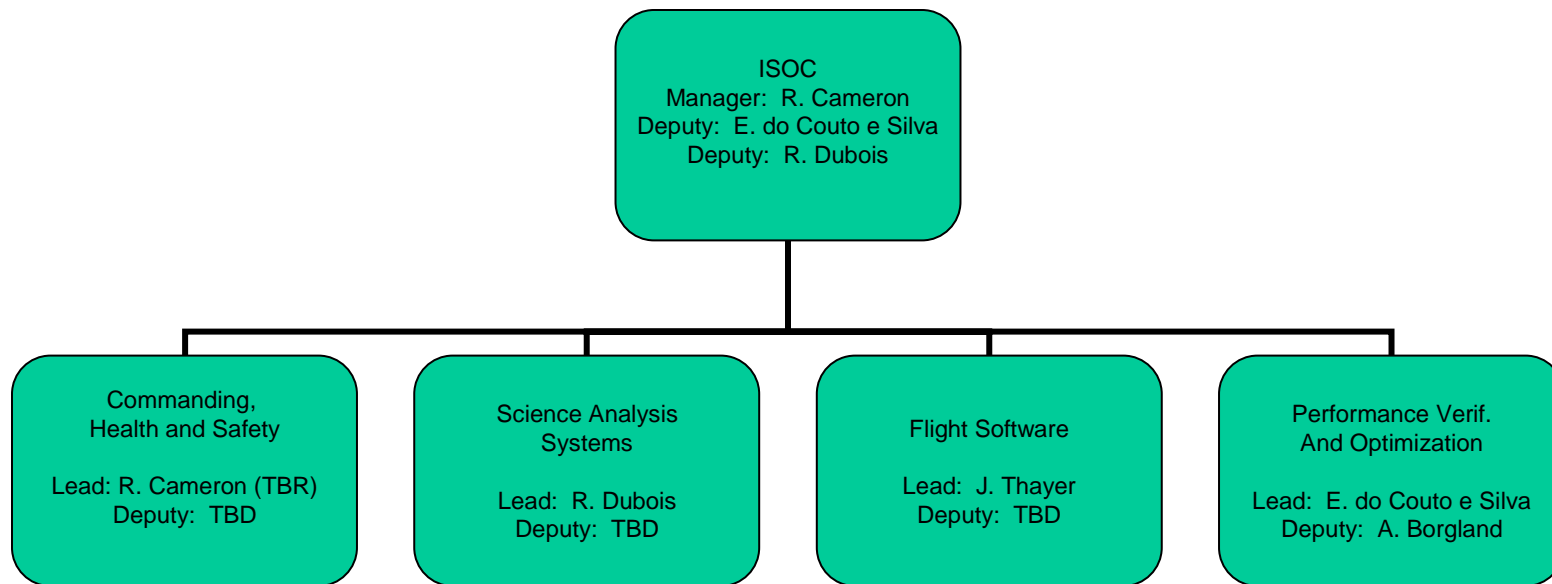


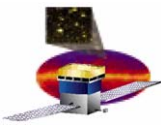
ISOC Management

- ❑ **ISOC Managers**
 - **Richard Dubois and Eduardo do Couto e Silva named as ISOC Deputy Managers**
- ❑ **ISOC Staffing**
 - **Offers for 2 CHS positions going through HR. Starts expected in October.**
 - **Working with ISOC team leaders on team details: tasks, roles, people**
- ❑ **ISOC Operations Facility**
 - **SLAC infrastructure proposal has been submitted for construction of operations facility**
 - **ED&I funds being made available to start design and planning**
 - **Construction expected to follow KIPAC staff move to new Kavli building. To be completed in 2006.**



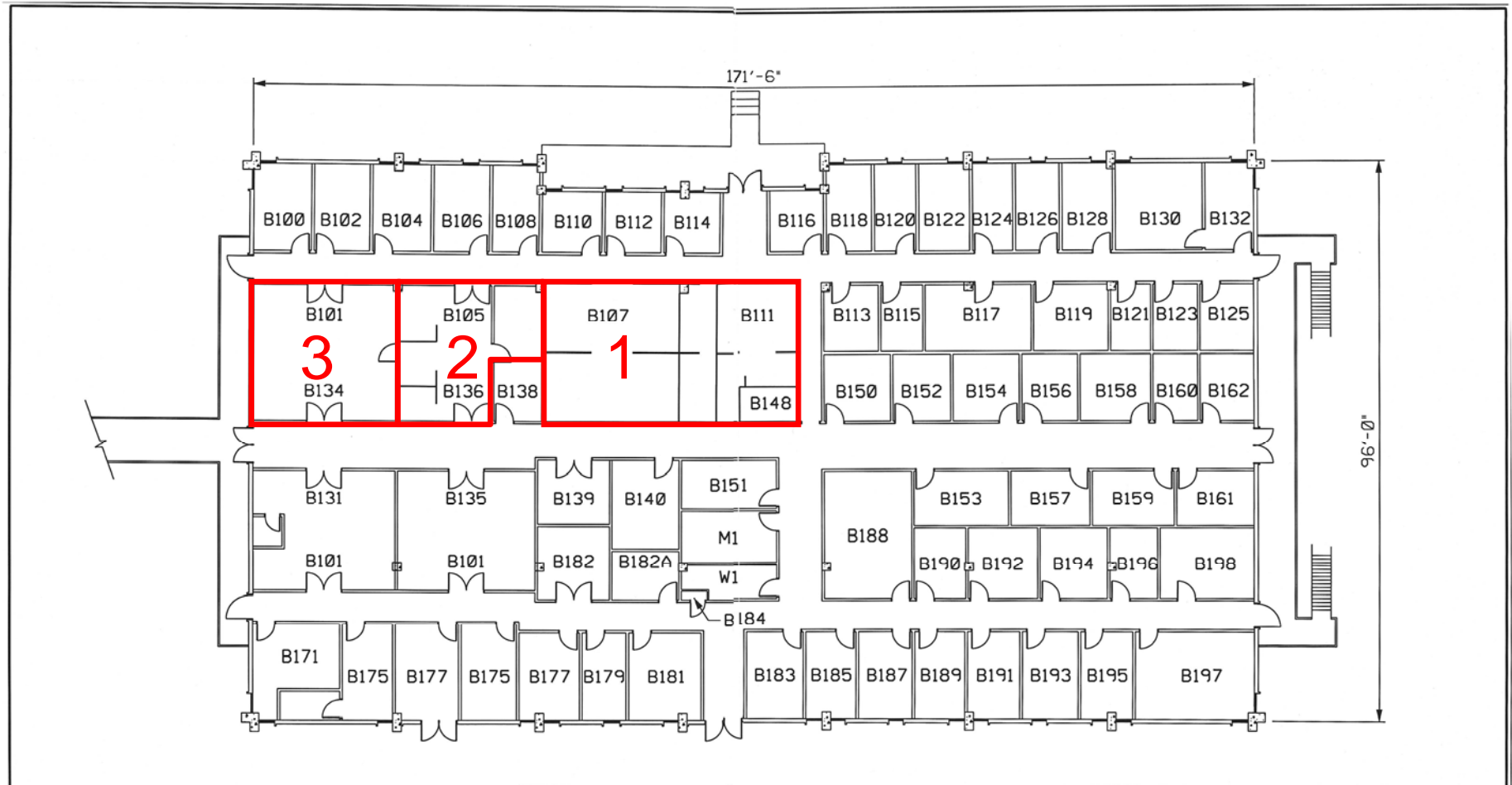
ISOC Organization






GLAST Operations Facility

- 1. Operations Control Room
- 2. Dataflow Lab Expansion
- 3. Existing Dataflow Lab

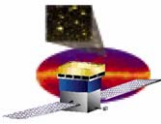


| | | | | |
|------------------------------|---|---|---------------------------------|---------------------|
| FILE_NAME: b084keyp1n.001 | BLDG.084 CENTRAL LAB FIRST FLOOR KEYPLAN AS-BUILT |  | GROSS SQ. FT.: 35216 S.F. | DATE: 05/10/04 |
| DRAWN BY: C.GALAYDA | | | DRAWING SCALE: 1/16" = 1'-0" | SHEET NO. 1 of 3 |



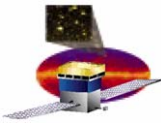
Ground Operations TIM

- ❑ **Successful Ops TIM held 14-15 Sept 05 with MOC, GSSC, GD/SASS, and GBM in attendance**
- ❑ **Ground System Security**
 - **MOC access for pre-launch rehearsals and L&EO**
- ❑ **Review of Space Asset protection recommendations**
 - **Limit public access to spacecraft ephemeris**
 - **Restrict network connectivity**
 - **Secure and protect documentation**
- ❑ **Procedure Development/Validation**
 - **Instrument Operations Engineer from project to assist with development and validation of LAT operations procedures**
 - **Utilize testbed for procedure validation**
 - **ISOC to provide an initial narrative procedure by 14 Oct to aid in finalizing PROC development process**



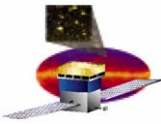
Ground Operations TIM, cont'd

- ❑ **Data Management**
 - Preparing proposed changes to Operations Data Products ICD
 - ISOC will not receive any spacecraft database information or spacecraft housekeeping packets due to ITAR control
 - Require MOC to extract the LAT 96-analog and discrete information from the spacecraft packets before sending to the ISOC
- ❑ **Mission Planning**
 - Demo of Aura mission planning tool for L&EO and on-orbit
 - ISOC requests current data exchange per ICD to reduce impact of tool on current ISOC software
 - RTSs available for instrument use
 - ISOC to identify expected LAT use of RTSs
- ❑ **Data Management**
 - 98% data accountability – identify better estimator of lost science
- ❑ **L&EO Planning**
 - GD/SASS developing 60-day timeline
 - Need to provide GD/SASS with LAT activation detail



Other CHS Activity

- ❑ **Delivered B0-5-0 database update to GD/SASS on 26 Sept**
- ❑ **Revisited diagnostic 1553 data with FSW**
 - **Reviewed updated list of diagnostic data and operational use**
 - **Volume and presence of most diagnostic data packets controllable through ground command**
 - **Diagnostic data sent automatically by FSW is limited to mode changes and EPU reboot**
- ❑ **GOWG meeting**
 - **Reviewed and worked action items from Operations TIM**
 - **Plan to review Mission Operations Agreement (MOA), which defines ground system element roles and responsibilities, on 29 Sept**

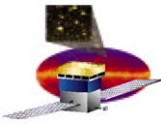


ISOC Ground Test Preparations

- ❑ **Continued Ground Readiness Test Team (GRTT) participation with GSFC and other ground elements**
 - GRT4 test procedure being finalized – currently under review by ISOC and other ground elements
 - GRT3 objectives agreed – requirements and procedures being worked

- ❑ **Next GRT – GRT4**
 - Being moved to early Nov (was 25 Oct) – no definite date yet
 - Will use SW release 1.1
 - No new functionality needed, but will informally verify that previously tested features that are needed in GRT4 still work

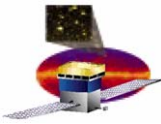
- ❑ **GRT3**
 - Also being moved (was 6 Dec) – no later than 15 Dec
 - New SW release 1.2 to be completed 9 Nov 05
 - Continued acceptance test preparations
 - Enhanced requirements database to support new tests
 - added support of multiple versions of test procedures and multiple test runs per test procedure
 - Started writing 5 new acceptance tests to verify new functionality



ISOC Ground Testing (Cont.)

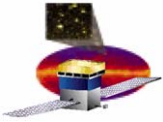
- ❑ **GRT2 follow-up**
 - ISOC reported 3 discrepancies with MOC data products in GRT2 (June 05)
 - All 3 data products were changed by MOC as needed, and resubmitted and verified by ISOC this month
 - All 3 were closed by the Ground System Discrepancy Review Board in 12 Sept GSDRB meeting

- ❑ **Test Automation**
 - Need to automate since manual testing (as was done in GRT2) will become too slow as # of tested reqts increases (especially with GRT5 ~Mar 2006)
 - Simplest approach appears to be to exercise ISOC software command line and web interfaces using python scripts
 - Ran proof-of-concept python script this month → worked well
 - Next step: automate a full GRT2 manual script



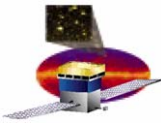
Software Development

- ❑ **Next release scheduled for 29 September 2005**
 - Interim release to bring production installation up to head of development tree (release # 1.1)
- ❑ **Continued co-development with I&T Online software**
 - Ported telemetry portions of ISOC Oracle T&C database to PostgreSQL for Online / mobile rack use.
 - Developed common class hierarchy for telemetry engineering-unit conversion software / database retrieval
 - Imported Online EU conversions to Oracle T&C database
- ❑ **Updated ITOS ← → VSC adapter program to latest VSC API**
 - Developed rudimentary STOL proc for starting up the LAT testbed
 - Began checkout of ITOS file loads to testbed (SIU ramdisk only)



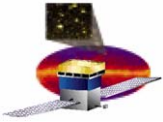
Software Development (cont'd.)

- ❑ **Continued development of JSP / JAIDA web-based trending system**
 - **Demonstrated to various user groups and began implementing feature requests from feedback**
 - **Updated underlying database table structure to provide more convenient handling of multiple T&C database versions / time evolution of telemetry database definitions**



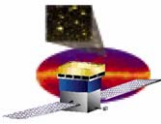
ISOC Database Activities

- ❑ **LAT Command and Telemetry database**
 - **Updating LAT T&C DB for housekeeping trending, as updates occur in conjunction with FSW releases**
 - **Working with I&T on control of telemetry limits and cal curves to be shared between LICOS for (SLAC and NRL testing) and dbx files (for SASS testing and flight ops).**
- ❑ **LAT Configuration database**
 - **MOOT/MOOD interface to LICOS being defined**
 - **Expected capability in mid October**
 - **Delivery and tracking of config files to LICOS**
 - **Manual construction of new config files**

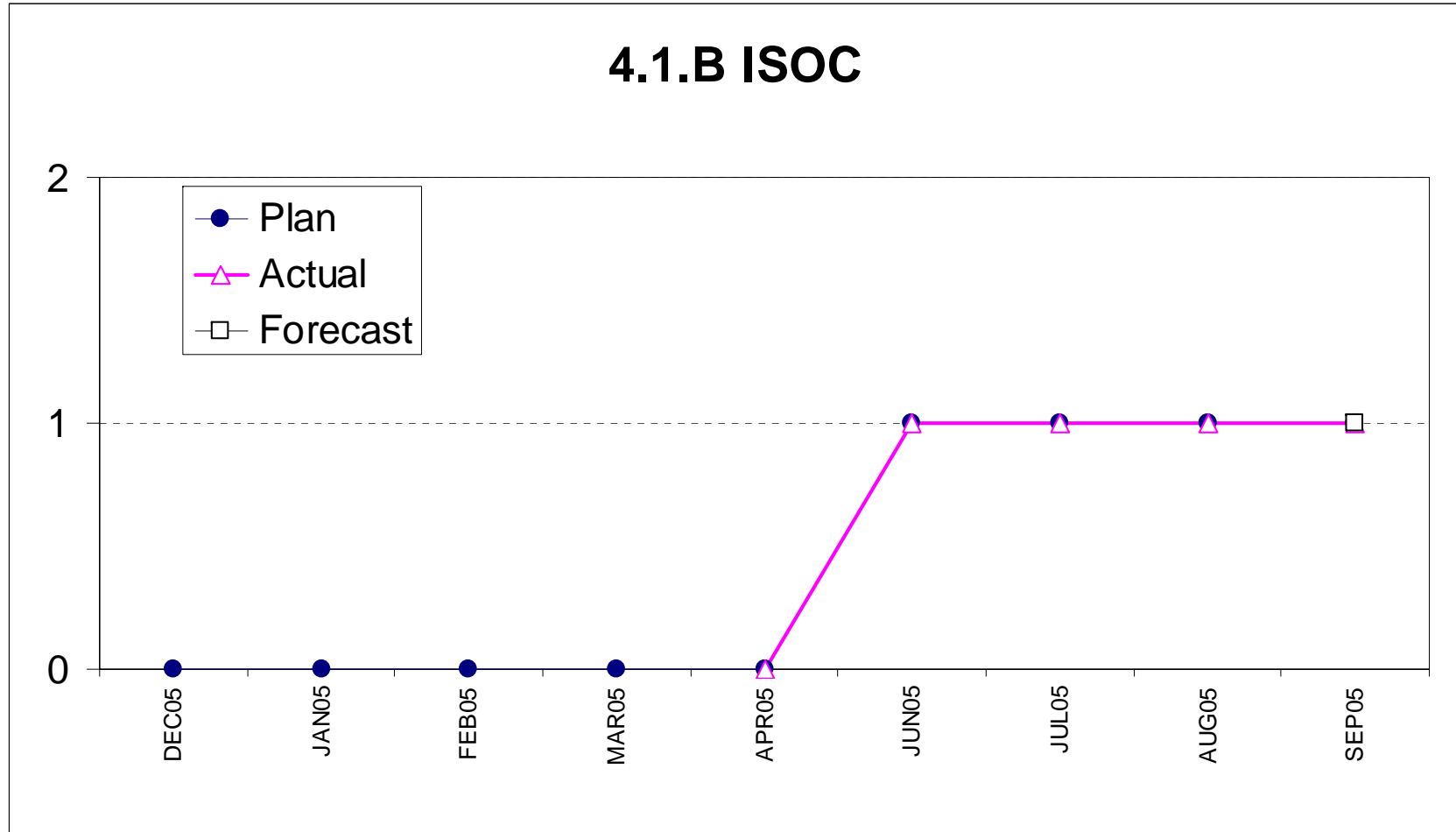


Future Activities

- ❑ **GRT4 – early November 2005**
- ❑ **GRT3 – no later than 15 December 2005**
- ❑ **MOR – 15-16 March 2006**



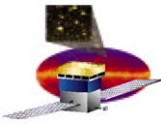
Level 3 Milestone Count





Milestone Variance Explanation

- Schedule Impact**
- Cost Impact**
- Corrective Action**
 - **None Required**



Cost Report

| Monthly Contractor Financial Management Report 31-Aug-05 | | | | | | | NASA form 533M Approved OMB # 2700-0 | | Report for Month Ending: 8/31/2005 | |
|---|---------------|----------|--------------|------------|----------------|----------|---|-------------------------|---------------------------------------|-----------------------------------|
| Reporting Category | Cost Incurred | | | | Estimated Cost | | | Estimated Final Cost | | Unfilled Orders Outstanding |
| | During Month | | Cum. to Date | | Detail | | Balance of Contract | Contractor Estimate | Contract Value | |
| | Actual | Planned | Actual | Planned | AT COMPL | 0 | | | | |
| 4.1.B LAT INSTRUMENT SCIENCE OPERATIONS CENTER | | | | | | | | | | |
| 4.1.B.1 PROJECT MANAGEMENT | 2 | 5 | 174 | 185 | 2 | 0 | 12 | 188 | 188 | 0 |
| 4.1.B.2 PERFORMANCE ASSURANCE | 0 | 0 | 0 | 6 | 0 | 0 | 6 | 6 | 6 | 0 |
| 4.1.B.3 MISSION & OPERATIONS PLANNING | 0 | 0 | 101 | 101 | 0 | 0 | 0 | 101 | 101 | 0 |
| 4.1.B.4 LAT OPERATIONS FACILITY | 0 | 0 | 16 | 16 | 0 | 0 | 0 | 16 | 16 | 0 |
| 4.1.B.5 IOC TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4.1.B.6 LAT PERFORMANCE VERIFICATION | 0 | 0 | 24 | 24 | 0 | 0 | 0 | 24 | 24 | 0 |
| CAPW[3]Totals: | 2 | 5 | 314 | 332 | 2 | 0 | 17 | 334 | 334 | 0 |