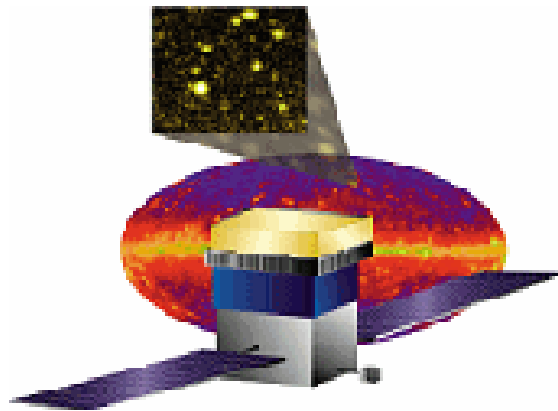


Monthly Progress Report

(Month Ending May 2004)

GLAST Large Area Telescope (LAT)



LAT-MR-04198-01

July 7, 2004

1.0 Introduction

This monthly progress report is submitted to the GLAST Project Office at the Goddard Space Flight Center and the Department of Energy SLAC Site Office. The report summarizes LAT project status as of the end of May, 2004.

2.0 Recent Progress and Status

4.1.4 Tracker

Seventy-six flight multichip modules (MCMs) have been received, and 48 have been burned in and passed final testing. Eleven have been shipped to Italy and passed incoming tests there. Flight bias circuits are in production. Preparations have been made for tray panel bakeout. Tooling for the bottom tray assembly was completed. Preparations have been made for the bottom tray static test. Development testing of the interface hardware was completed, and flight procurement is in progress. Drawings for the top tray panel assembly were released. Final testing of the MCM mounting tooling was completed. Preparations were made for tests of the tray assembly procedure. The procurement of the flex circuit cables has been initiated. Two EGSE systems were received in Italy and are qualified to use with flight MCMs; two more are ready to ship. The procurement of the new vibration fixture is underway. The new design concept for the top-tray alignment features and cable constraint is being detailed. Discussions are in progress to increase the production capacity in Italy.

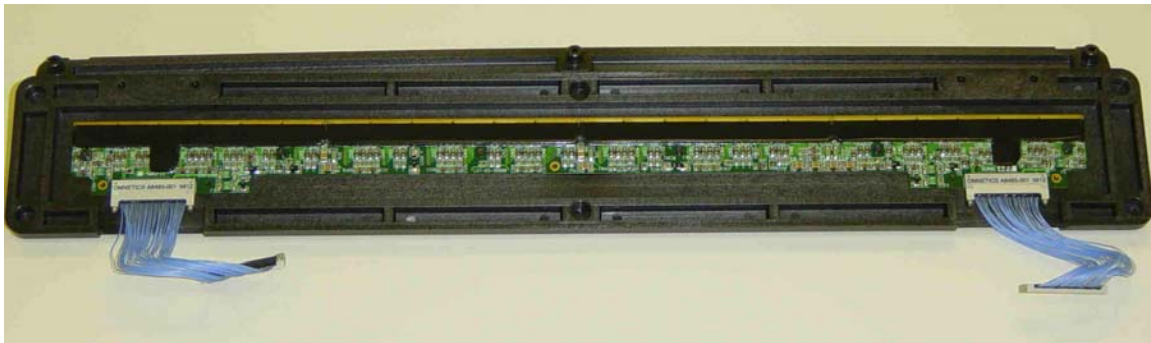


Figure 1: Tracker flight multichip module.

4.1.5 Calorimeter

Over 1,400 (out of 1,950) fully-tested CsI crystals have been delivered to NRL. Approximately 3,300 (out of 4,800) flight PIN photodiode assemblies have been manufactured and tested. Over 860 crystal detector elements (CDEs) have been bonded. Of these, 804 have been wrapped and capped, and 680 have been tested and delivered to NRL. Ten flight composite structures have been manufactured; seven of these have successfully completed strength verification vibration test. The titanium stand-offs for the Tower Electronics Module (TEM) and TEM Power Supply (TPS) have been manufactured and plated. Four Pre-Electronics Modules (PEMs) have been assembled and completed cosmic muon verification testing with the Electronics Ground Support Equipment (EGSE) checkout electronics. ASIC radiation testing was completed; no

issues discovered. The mechanical support and shield for the analog front-end electronics (AFEE) cable have been released for fabrication. Six of each (X and Y) flight AFEE boards have been manufactured at two vendors. Quality control issues are being investigated, and one vendor will be selected for the production run.

4.1.6 Anticoincidence Detector

Ninety-six tile detector assemblies have been received; 80 have been tested and meet performance requirements. The first flight ribbon detector was formed. It meets dimensional requirements; mounting issues are being worked out. Qualification testing was completed on the mechanical structure. Thirty high-voltage bias supplies (HVBSs) have been assembled and functional testing is completed. Fourteen front-end electronics (FREE) boards have been assembled and functional testing completed. Twenty-nine photomultiplier tubes have been assembled, functional testing and conformal coating completed.



Figure 2: ACD mechanical structure.

4.1.7 Electronics, Data Acquisition, and Flight Software

A power distribution unit (PDU) tester-box was tested; one full PDU box was loaded and tested. Ten GASU boards were fabricated. Two full GASU boxes were provided to the Anticoincidence Detector (ACD) group for software development and base electronics assembly testing; a third box for use by the ACD group was assembled and tested. Contracts for the Tower Electronics Module (TEM) and power supply printed circuit boards and loading/assembly were awarded. The flight TEM enclosures are in fabrication. The TEM ASICs were marked and thermal cycled. A minor change was made in the code of one TEM FPGA to improve dataflow to the event builder. The contract for the harness was awarded. Crates for the SIU/EPU (spacecraft interface unit and event processor unit) are being used for flight software development/testing. Sixteen TEM and TEM power supplies are installed and being tested on the test bed, as well as

the GASU, PDU, and SIU. Fourteen electronics ground support equipment test stands are being tested, prior to delivery to other LAT subsystems.

Version 1.1.1 of the primary boot code (PBC) was released and loaded into the RAD750 SUROM. Integration of the LAT communications board driver into the PBC has commenced. The LAT Test Executive unit tests all run successfully on the RAD750 targets. Software and procedures for delivery and acceptance of the spacecraft/instrument interface simulator were prepared. Housekeeping telemetry on the RAD750 was acquired and sent, using the 1553 communications (standard interface bus used between LAT and the spacecraft). The first pass at coding for asynchronous communication with the PDU was made. The LAT configuration package was released. The front-end simulator (FES) test event generator was upgraded to create files of ACD data, as well as Tracker and Calorimeter data. The test bed now has a full complement of the FES boards. After some trouble-shooting, the FES now operates reliably with all boards in synchronization after approximately 50 million events at 10 KHz.

4.1.8 Mechanical Systems

Machining of all bays and Tracker cable chaseways was completed on the first grid. Bending of the variable conductance heat pipes for the radiators was completed. The design and layout of the cross-LAT (X-LAT) cooling pipe was finished. The X-LAT manufacturing readiness review was conducted.

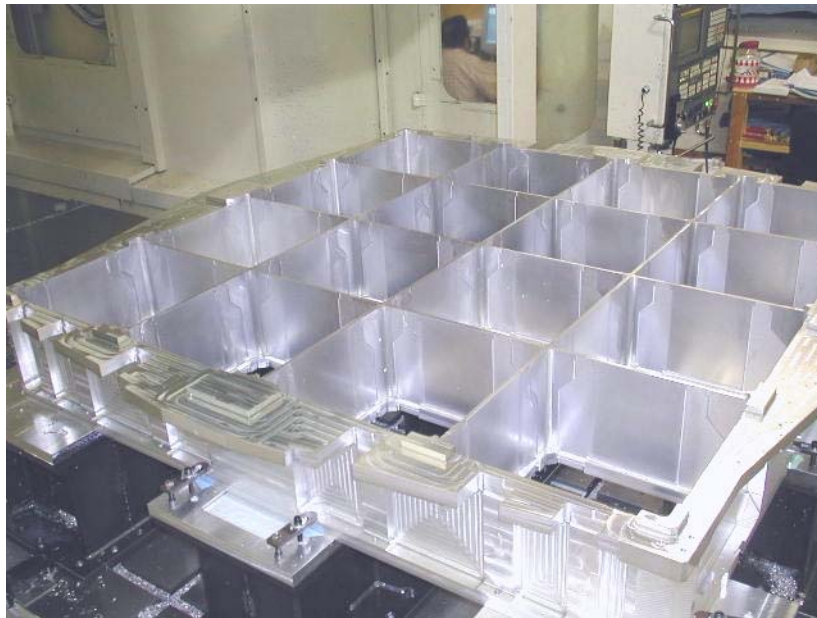


Figure 3: First grid, with all bays and Tracker cable chaseways machined.

4.1.9 Integration & Test (I&T)

Version 3.2.1 of the LAT Test Executive (LATTE) was released. I&T mechanical technicians have completed crane operational practical training. The clean tent was completed, with particle count and temperature/humidity within specifications. Procurement of the integration stand is well underway. The Calorimeter inversion stand shaft is completed and awaiting a proof test. The Calorimeter installation procedure document was submitted for review. The tower mass simulator drawing was released. Data sets and corresponding software were prepared for a workshop on instrument analysis to be held in June.

3.0 Schedule Status

There are two equal critical paths for the project, driven by the Tracker MCM production and the assembly of Tracker trays. There is one day float to the “ready for CD-4 review” milestone (baseline has five weeks’ float). This is caused by delays in the later Tracker module deliveries. Management changes were made in June to address this, and a road map for system test is being prepared by System Engineering.

The status of significant milestones is summarized in Attachments 1 and 2. Attachment 1 presents the status of the Level 1 and Level 2 milestones. Attachment 2 shows the status of the Level 3 milestones planned to occur during the six months preceding and following the current month. Unfavorable variance projections greater than one week to the future milestones are discussed below.

The start of integration (level 2 milestone 1M1000740) has been delayed by delivery of the Tracker modules, as discussed below.

The delivery of the full Tracker EM (milestone 1M1001430) has been delayed by the issues discovered with the interface during the EM vibration test. A workaround plan is underway, enabling integration planning to continue by supplying other hardware and drawings in the interim. Thermal vacuum testing was completed in March; vibration testing was repeated in June, using a new bottom tray and grid interface. In July, the EM tower will be used to validate the alignment procedure.

Variances to the following milestones are due to delays in the MCM and tray assembly processes, as well as the above-mentioned Tracker/grid interface redesign issues. This is critical path for the project, and workarounds are being assessed.

- Tracker Modules A through 9 RFI (1M1000200, 1M1000201, 1M1000220, 1M1000221, 1M1000250, 1M1000251, 1M1000260, 1M1000261, 1M1000270, 1M1000271, and 1M1000280)

Variances to the following milestones are due to delayed receipt of Calorimeter ASICs and other flight EEE parts. Much of the schedule will be recovered by using parts before completion of screening and qualification. However, continuing problems with the delivery of tantalum capacitors are impacting the schedule. A sufficient number of

alternate capacitors have been found to proceed with the first Calorimeter module electronic cards.

- Calorimeter Modules A through 12 RFI (1M1000210, 1M1500, 1M1000230, 1M1510, 1M1000400, 1M1520, 1M1000390, 1M1530, 1M1000380, 1M1540, 1M1000370, 1M1550, and 1M1560, and 1M1000360)
- EM2 TEM/PS for FM9 through FM16 (return FMA through FM6) from I&T to Calorimeter (1M1001790 through 1M1001860)

There are several factors slowing the development of the ACD Test Scripts (1M1001000). The G3 test stands have been delayed, the underlying LAT Test Executive software continues to evolve, and the translation of scientific requirements into test scripts has been more complex than planned. The online team is planning to deliver the required software to the ACD in mid-July, and the test scripts are expected to be completed by the end of July.

Several technical issues have impacted the delivery date of the ACD (1M1000410). The most notable issues have been the late delivery of the ASICs, flaws in the photomultiplier tubes that cause the glass tube to be much weaker than expected, and the delay of the G3 test stands. The ACD team continues to mitigate these technical issues to minimize the overall schedule impact.

Variances to the following milestones are due to delays in drawing release driving procurement placement. The drawing release process has been improved, and additional staff has been hired.

- Flight TEM Power Supply Assemblies to I&T (1M79002010 through 1M79002180)
- Flight TEM Assemblies to I&T (1M79001010 through 1M79001180)
- Flight Cable Assemblies to I&T (1M79003010 through 1M79003180)

Variances to the following electronics ground support equipment (EGSE) milestones are due to delayed receipt and quality problems with connectors. Effort has been diverted to the installation of Tower Electronics Modules (TEMs) on the Test Bed.

- Updated EGSE Systems (#3-10) to Tracker (1M74000030 through 1M740000100).
- EGSE TEM/TEM PS/CTS w/ FE Electronics #1-3 to I&T (1M7941130, 1M7941150, and 1M7941160)
- Test Stations (5) for AFEE to Calorimeter (1M1001900)
- EGSE TEM/TEM PS/CTS/GASU FE Electronics to I&T (1M7941170)
- EGSE Development H/W/FSW 1st Delivery to I&T (1M7941180)
- EGSE TEM/TEM PS/CTS #1-2 for Bldg. 33 to I&T (1M7941190 and 1M7941420)
- EGSE TEM/TEM PS/CTS w/ GASU for Bldg. 33 to I&T (1M7941430)
- 5 EM2 TEM/PS for AFEE board assy & test: Elec to Cal (1M1001870)

Variances to the following milestones are due to a delay in completion of the Tracker/Calorimeter tower electronics module (TEM) ASIC qualification and screening plan. This is not considered critical path at this time.

- EM2 TEM/PS/CTS for Flight Models A-8 to Calorimeter (1M1001220, 1M1001600, 1M1001660, 1M1001680, 1M1001720, 1M1001760, 1M1001770, 1M1001780)

Fabrication of the following items has been delayed in order to conduct additional system and unit tests, and complete drawing review:

- Flight SIU (1M7941080)
- Flight PDU Box (1M7942000)
- Flight Harness (1M7941110)
- Flight GASU Box (1M7941070)
- Flight Event Processor Units (1M7941090)

(Note: as of publication of this report, Updated EGSE systems 3-5, the 5 AFEE test stations, the 5 EM2 TEM/PS for AFEE board assembly & test, the EGSE TEM/TEM PS/CTS #1 for Bldg 33, and the EM2 TEM/PS/CDS for FMA were completed)

The flight grid (1M1000240) has been delayed due to the modifications made to the Tracker/grid interface, adding several weeks' to the manufacturing effort. The schedule savings from adding a second shift to the grid machining have not compensated for the complexity of the machining operations. In addition, a machine failure resulted in a loss of eleven manufacturing days. The manufacturing sequence is being evaluated to preserve schedule.

The cross-LAT (X-LAT) thermal plate (1M941710) has been delayed due to issues with the electronics box to X-LAT plate interface, the ground cooling design implementation, and heat pipe bending. These have all been resolved, the source control drawing was released and the manufacturing readiness review was held. The vendor has received approval to proceed. This delay is not expected to impact the LAT schedule.

The ISOC CDR date (1M005480) was delayed from March to August. This was a recommendation of the ISOC Peer Review held in March, and aligns the review date with the documentation availability. This has been coordinated with the GLAST project office at Goddard to minimize the impact on LAT ground system readiness.

The dates for the Mission Operations Review (1M1000112), and the Ground System Interface Test Start (1M7941270) have been adjusted to align with the project level ground data system (GDS) preparation on which these reviews are dependent. Given the current GLAST GDS schedule, there is no impact due to the date change and no need for mitigation.

4.0 Financial Status

Attachment 3 depicts the costs, commitments, and performance through the end of the current reporting period.

Attachments 4 and 5 summarize the actual costs through the current period, by WBS level 3 and institution, respectively. The hours worked/FTE lines include only DOE/NASA-funded labor.

5.0 Performance Status (Comparison to Project Baseline)

Attachment 6 is a Cost Performance Report (CPR) for the end of the current reporting period, by WBS level 3. The CPR shows the time-phased budget to date (BCWS), the earned value (BCWP), and the actual costs through the end of the month (ACWP). Attachment 7 shows the same information for each participating DOE- and/or NASA-funded institution. The schedule variance is equal to the difference between the budget-to-date and the earned value and represents a measure of the ahead (positive) or behind (negative) schedule position. The cost variance is equal to the difference between the earned value and the actual costs.

Attachment 8 shows performance analysis (by WBS level 3), including trends in the schedule and cost variances from the previous period. Cumulative cost variances exceeding 10% of the BCWP and cumulative schedule variances exceeding 10% of BCWS (favorable and unfavorable) are discussed below.

4.1.A Performance & Safety Assurance

The favorable cost variance is due to delayed subcontractor invoice payments, and is not a concern at this time.

4.1.C Education & Public Outreach

The favorable cost variance is due to delayed subcontractor invoice payments, and is not a concern at this time.

6.0 Change Control and Contingency Analysis

A summary of change requests approved during this period (Level 3 and above), including the impacts on LAT fabrication phase contingencies, is below.

Change Request No.	Description	Submitted By	Current Status	Contingency Impact
LAT-XR-03442-01	Additional ACTEL Parts	G. Haller	Approved	\$253K
LAT-XR-03443-01	Front-End Simulator	G. Haller	Approved	\$329K
LAT-XR-03444-01	GASU Board Wiring	G. Haller	Approved	\$260K
LAT-XR-03446-01	TEM EM ASIC Design	G. Haller	Approved	\$400K
LAT-XR-03599-01	LAT Flight Software Specification Update	M. DeKlotz	Approved	N/A

The fabrication phase cost baseline is \$126.4M. Funding applicable to that baseline is \$136.6M; the resulting contingency is \$10.2M.

7.0 Staffing

Attachments 9-10 demonstrate the staffing plan, and reports of actual manpower received. Note from Attachment 10 that not all participating organizations are providing manpower data.

The monthly planned FTEs reflect adjustments made so that the cumulative-to-date manpower plan corresponds to the approved changes in that month.

Goddard manpower was not reported in the months of October, November, and December, 2003. The January and February, 2004, incremental FTE report includes the actual manpower for those months, so that the cumulative-to-date actual manpower is correct.

Attachment 1 Milestones, Levels 1-2

Activity ID	Activity Description	Target Finish Date	Variance	Scheduled Finish Date							
					FY01	FY02	FY03	FY04	FY05	FY06	
DOE/NASA Joint Oversight Group (Level 1)											
1M1P000000	DOE Critical Decision (CD) 0 Approval	06/25/01A	0	06/25/01A	▼						
1M1P000010	CD-1 Approval	07/23/02A	0	07/23/02A		▼					
1M1P000020	CD-2 Approval	11/08/02A	0	11/08/02A			▼				
1M1P000030	CD-3 Approval	09/03/03A	0	09/03/03A				▼			
1M1P000060	Flight GRID Complete	09/15/04*	0	09/15/04					▼		
1M1P000040	CD-4 Approval	03/15/06*	0	03/15/06*						▼	
DOE/NASA Federal Project Managers (Level 2)											
1M1BF00000	Launch Balloon Flight	08/01/01A	0	08/01/01A	▼						
1M1000100	Instrument Preliminary Design Review	01/08/02A	0	01/08/02A		▼					
1M1000110	I-CDR (Critical Design Review)	05/16/03A	0	05/16/03A			▼				
1M1000740	Start LAT Integration	08/24/04*	-15	09/15/04					▼		
1M1000700	Pre Environmental Testing Review	07/14/05*	0	07/14/05*						▼	
1M1000120	PSR-(Instrument Pre-Ship Review)	12/01/05*	0	12/01/05*						▼	
Run Date: 06/30/04 15:18					GLAST LAT PROJECT					0623	Sheet 1 of 1
Data Date: 06/01/04					Project Milestones (Level 1 and 2)					LT_MS1-2	
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Attachment 2
Level 3 Milestones (One-Year View)
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Activity ID	Activity Description	Target Finish Date	Variance	Scheduled Finish Date	FY03			FY04			FY05			
					Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3		
Instrument Project Office (Level 3)														
1M74000010	Updated EGSE System 1: Elec to TKR	12/08/03	-80	04/09/04A				▼						
1M76000010	3rd G2 Test Stand: Elec to ACD	12/08/03	0	12/08/03A			▼							
1M7941130	EGSE TEM/TEM PS/CTS w/ FE Elec #1-Elec to I&T	12/08/03	-130	06/21/04			•							
1M76000020	G3 Test Stand (test 2 FREE Cards): Elec to ACD	12/15/03	-84	04/22/04A			•							
1M1001380	Delivery of EM (1X4) Grid to I&T/MSGE	12/19/03	-64	03/31/04A			•							
1M74000020	Updated EGSE System 2: Elec to TKR	12/22/03	-82	04/27/04A			•							
1M7941150	EGSE TEM/TEM PS/CTS w/ FE Elec #2-Elec to I&T	12/22/03	-120	06/21/04			•							
1M1001430	Delv of TKR EM to SLAC I&T/MGSE	01/02/04	-122	06/25/04			•							
1M74000030	Updated EGSE System 3: Elec to TKR	01/07/04	-104	06/04/04			•							
1M7941160	EGSE TEM/TEM PS/CTS w/ FE Elec #3-Elec to I&T	01/07/04	-115	06/21/04			•							
1M1000920	EM2 TEM: Elec to Tracker	01/12/04	-55	03/31/04A			•							
1M1001900	Test Stations (5) for AFEE: Elec to CAL	01/14/04	-100	06/07/04			•							
1M74000040	EGSE System 4: Elec to TKR	01/14/04	-99	06/04/04			•							
1M7941170	EGSE TEM/TEM PS/CTS/GASU FE Elec-Elec to I&T	01/14/04	-110	06/21/04			•							
1M1001870	5 EM2 TEM/PS for AFEE brd ass & tst: Elec to CAL	01/15/04	-99	06/07/04			•							
1M1001220	EM2 TEM/PS/CTS for FMA from Elec to CAL	01/22/04	-101	06/15/04			•							
1M74000050	EGSE System 5: Elec to TKR	01/22/04	-94	06/04/04			•							
1M7941180	EGSE Development Hrdw/FSW 1st Delivr-Elec to I&T	01/22/04	-105	06/21/04			•							
1M1001260	EM2 TEM/PS/CTS for FMB from Elec to CAL	01/29/04	-104	06/25/04			•							
1M74000060	EGSE System 6: Elec to TKR	01/29/04	-104	06/25/04			•							
1M7941190	EGSE TEM/TEM PS/CTS #1 for Bldg 33-Elec to I&T	01/29/04	-104	06/25/04			•							
1M1001600	EM2 TEM/PS/CTS for FM1 from Elec to CAL	02/05/04	-104	07/02/04			•							
1M7941420	EGSE TEM/TEM PS/CTS #2 for Bldg 33-Elec to I&T	02/05/04	-104	07/02/04			•							
Run Date	06/30/04 15:19	GLAST LAT PROJECT			0623			Sheet 1 of 6						
Data Date	06/01/04	Project Milestones (Level 3)			LTX1 - MS (L3)									
		1 Year View (+/- 6mo)			FLX1- MS (L3)									
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Attachment 2
Level 3 Milestones (One-Year View)
Page 2 of 6

Activity ID	Activity Description	Target Finish Date	Variance	Scheduled Finish Date	FY03	FY04				FY05			
					Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	
Instrument Project Office (Level 3)													
1M7941430	EGSE TEM/TEM PS/CTS w/ GASU for B33-Elec to	02/05/04	-104	07/02/04				•	▽				
1M1001650	EM2 TEM/PS/CTS for FM2 from Elec to CAL	02/12/04	-104	07/12/04				•	▽				
1M7400070	EGSE System 7: Elec to TKR	02/12/04	-104	07/12/04				•	▽				
1M7400080	EGSE System 8: Elec to TKR	02/12/04	-104	07/12/04				•	▽				
1M7400090	EGSE System 9: Elec to TKR	02/20/04	-104	07/19/04				•	▽				
1M7400100	EGSE System 10: Elec to TKR	02/20/04	-104	07/19/04				•	▽				
1M7600030	G3 Test Stand (Fit-like I/F): Elec to ACD	02/20/04	-64	05/20/04A				•	▽				
1M1001660	EM2 TEM/PS/CTS for FM3 from Elec to CAL	02/27/04	-104	07/26/04				•	▽				
1M1001680	EM2 TEM/PS/CTS for FM4 from Elec to CAL	02/27/04	-104	07/26/04				•	▽				
1M1001720	EM2 TEM/PS/CTS for FM5 from Elec to CAL	02/27/04	-104	07/26/04				•	▽				
1M1001760	EM2 TEM/PS/CTS for FM6 from Elec to CAL	03/05/04	-104	08/02/04				•	▽				
1M1001770	EM2 TEM/PS/CTS for FM7 from Elec to CAL	03/05/04	-104	08/02/04				•	▽				
1M1001780	EM2 TEM/PS/CTS for FM8 from Elec to CAL	03/05/04	-104	08/02/04				•	▽				
1M005480	ISOC CDR	03/12/04	-109	08/16/04				•	▽				
1M79003010	Flight Cables Assy A: Elec to I&T	05/10/04	-42	07/09/04				•	▽				
1M79003020	Flight Cables Assy B: Elec to I&T	05/10/04	-42	07/09/04				•	▽				
1M79002010	Flight TEM PS Assy A: Elec to I&T	05/12/04	-70	08/20/04				•	▽				
1M79002020	Flight TEM PS Assy B: Elec to I&T	05/19/04	-70	08/27/04				•	▽				
1M79001010	Flight TEM Assy A: Elec to I&T	06/07/04	-70	09/15/04				•	▽				
1M79003030	Flight Cables Assy 1: Elec to I&T	06/10/04	-42	08/10/04				•	▽				
1M79003040	Flight Cables Assy 2: Elec to I&T	06/10/04	-42	08/10/04				•	▽				
1M79003050	Flight Cables Assy 3: Elec to I&T	06/10/04	-42	08/10/04				•	▽				
1M79003060	Flight Cables Assy 4: Elec to I&T	06/10/04	-42	08/10/04				•	▽				
Run Date	06/30/04 15:19	GLAST LAT PROJECT			0623	Sheet 2 of 6							
Data Date	06/01/04	Project Milestones (Level 3)			LTX1 - MS (L3)								
		1 Year View (+/- 6mo)			FLX1 - MS (L3)								
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Attachment 2
Level 3 Milestones (One-Year View)
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Activity ID	Activity Description	Target Finish Date	Variance	Scheduled Finish Date	Gantt Chart														
					FY03 Q4	FY03 Q1	FY03 Q2	FY03 Q3	FY03 Q4	FY04 Q1	FY04 Q2	FY04 Q3	FY04 Q4						
Instrument Project Office (Level 3)																			
1M79001020	Flight TEM Assy B: Elec to I&T	06/14/04	-70	09/22/04															
1M79003070	Flight Cables Assy 5: Elec to I&T	06/28/04	-43	08/27/04															
1M79003080	Flight Cables Assy 6: Elec to I&T	06/28/04	-43	08/27/04															
1M79003090	Flight Cables Assy 7: Elec to I&T	06/28/04	-43	08/27/04															
1M79003100	Flight Cables Assy 8: Elec to I&T	06/28/04	-43	08/27/04															
1M79003110	Flight Cables Assy 9: Elec to I&T	06/28/04	-43	08/27/04															
1M79003120	Flight Cables Assy 10: Elec to I&T	06/28/04	-43	08/27/04															
1M1001000	ACD Test Scripts (from ACD to I&T)	07/01/04	-23	08/04/04															
1M79002030	Flight TEM PS Assy 1: Elec to I&T	07/01/04	-70	10/11/04															
1M1000210	Calorimeter Modules A RFI	07/09/04	-41	09/07/04															
1M1500	Calorimeter Modules B RFI	07/09/04	-62	10/06/04															
1M79002040	Flight TEM PS Assy 2: Elec to I&T	07/09/04	-70	10/18/04															
1M79003130	Flight Cables Assy 11: Elec to I&T	07/15/04	-43	09/15/04															
1M79003140	Flight Cables Assy 12: Elec to I&T	07/15/04	-43	09/15/04															
1M79003150	Flight Cables Assy 13: Elec to I&T	07/15/04	-43	09/15/04															
1M79003160	Flight Cables Assy 14: Elec to I&T	07/15/04	-43	09/15/04															
1M79003170	Flight Cables Assy 15: Elec to I&T	07/15/04	-43	09/15/04															
1M79003180	Flight Cables Assy 16: Elec to I&T	07/15/04	-43	09/15/04															
1M79002050	Flight TEM PS Assy 3: Elec to I&T	07/16/04	-70	10/25/04															
1M1000240	Flight Grid RFI-Mech to I&T	07/22/04	-38	09/15/04															
1M1001790	EM2 TEM/PS for FM9 (return FMA) from I&T to CAL	07/23/04	-41	09/21/04															
1M1001800	EM2 TEM/PS for FM10 (return FMB) from I&T to CAL	07/23/04	-62	10/20/04															
1M79002060	Flight TEM PS Assy 4: Elec to I&T	07/23/04	-70	11/01/04															

Run Date
Data Date

06/30/04 15:19
06/01/04

GLAST LAT PROJECT
Project Milestones (Level 3)
1 Year View (+/- 6mo)

0623
LTX1 - MS (L3)
FLX1 - MS (L3)

Sheet 3 of 6

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Attachment 2
Level 3 Milestones (One-Year View)
Page 4 of 6

Activity ID	Activity Description	Target Finish Date	Variance	Scheduled Finish Date	FY03			FY04				FY05		
					Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3		
Instrument Project Office (Level 3)														
1M1000200	Tracker Modules A RFI	07/28/04	-32	09/13/04						•	▽			
1M1000230	Calorimeter Modules 1 RFI	07/30/04	-57	10/20/04						•	▽			
1M79002070	Flight TEM PS Assy 5: Elec to I&T	07/30/04	-70	11/08/04						•	▽			
1M1510	Calorimeter Modules 2 RFI	08/02/04	-57	10/21/04						•	▽			
1M79001030	Flight TEM Assy 1: Elec to I&T	08/03/04	-70	11/10/04						•	▽			
1M79002080	Flight TEM PS Assy 6: Elec to I&T	08/06/04	-70	11/15/04						•	▽			
1M79001040	Flight TEM Assy 2: Elec to I&T	08/10/04	-70	11/17/04						•	▽			
1M941710	X-LAT Thermal Plate RFI from Mech to I&T	08/12/04	-82	12/09/04						•	▽			
1M1001810	EM2 TEM/PS for FM11 (return FM1) from I&T to CAL	08/13/04	-57	11/03/04						•	▽			
1M79002090	Flight TEM PS Assy 7: Elec to I&T	08/13/04	-70	11/22/04						•	▽			
1M1001820	EM2 TEM/PS for FM12 (return FM2) from I&T to CAL	08/16/04	-57	11/04/04						•	▽			
1M1000400	Flight Calorimeter Tower 3 RFI	08/17/04	-51	10/28/04						•	▽			
1M1520	Flight Calorimeter Tower 4 RFI	08/17/04	-51	10/28/04						•	▽			
1M79001050	Flight TEM Assy 3: Elec to I&T	08/17/04	-70	11/24/04						•	▽			
1M1000201	Tracker Modules B RFI	08/18/04	-34	10/06/04						•	▽			
1M1000220	Tracker Modules 1 RFI	08/18/04	-53	11/02/04						•	▽			
1M79002100	Flight TEM PS Assy 8: Elec to I&T	08/20/04	-70	12/01/04						•	▽			
1M79001060	Flight TEM Assy 4: Elec to I&T	08/24/04	-70	12/03/04						•	▽			
1M79002110	Flight TEM PS Assy 9: Elec to I&T	08/25/04	-70	12/06/04						•	▽			
1M79002120	Flight TEM PS Assy 10: Elec to I&T	08/30/04	-70	12/09/04						•	▽			
1M1001830	EM2 TEM/PS for FM13 (return FM3) from I&T to CAL	08/31/04	-51	11/11/04						•	▽			
1M1001840	EM2 TEM/PS for FM14 (return FM4) from I&T to CAL	08/31/04	-51	11/11/04						•	▽			
1M79001070	Flight TEM Assy 5: Elec to I&T	08/31/04	-70	12/10/04						•	▽			
Run Date	06/30/04 15:19	GLAST LAT PROJECT			0623	Sheet 4 of 6								
Data Date	06/01/04	Project Milestones (Level 3)			LTX1 - MS (L3)									
		1 Year View (+/- 6mo)			FLX1 - MS (L3)									
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Attachment 2
Level 3 Milestones (One-Year View)
Page 5 of 6

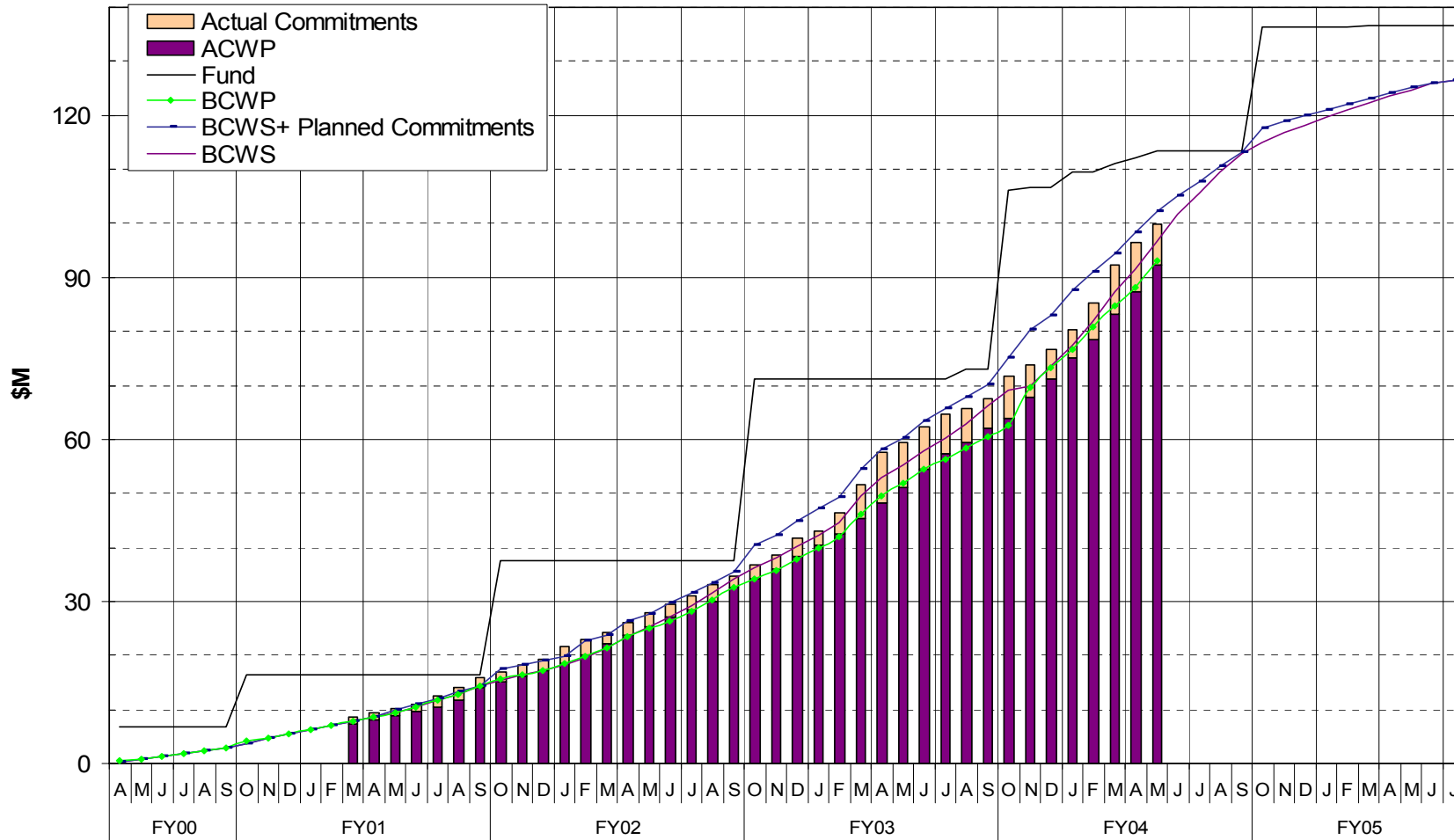
Activity ID	Activity Description	Target Finish Date	Variance	Scheduled Finish Date	FY03			FY04				FY05		
					Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3		
Instrument Project Office (Level 3)														
1M79002130	Flight TEM PS Assy 11: Elec to I&T	09/02/04	-70	12/14/04										▼
1M1000221	Tracker Modules 2 RFI	09/08/04	-39	11/02/04										▼
1M1000250	Flight Tracker Tower 3 RFI	09/08/04	-54	11/23/04										▼
1M79001080	Flight TEM Assy 6: Elec to I&T	09/08/04	-70	12/17/04										▼
1M79002140	Flight TEM PS Assy 12: Elec to I&T	09/08/04	-70	12/17/04										▼
1M79002150	Flight TEM PS Assy 13: Elec to I&T	09/13/04	-70	12/22/04										▼
1M1000390	Flight Calorimeter Tower 5 RFI	09/15/04	-39	11/09/04										▼
1M1530	Flight Calorimeter Tower 6 RFI	09/15/04	-39	11/09/04										▼
1M79001090	Flight TEM Assy 7: Elec to I&T	09/15/04	-70	01/03/05										▼
1M79002160	Flight TEM PS Assy 14: Elec to I&T	09/16/04	-70	01/04/05										▼
1M79002170	Flight TEM PS Assy 15: Elec to I&T	09/21/04	-70	01/07/05										▼
1M79001100	Flight TEM Assy 8: Elec to I&T	09/22/04	-70	01/10/05										▼
1M79002180	Flight TEM PS Assy 16: Elec to I&T	09/24/04	-70	01/12/05										▼
1M1001850	EM2 TEM/PS for FM15 (return FM5) from I&T to CAL	09/29/04	-39	11/23/04										▼
1M1001860	EM2 TEM/PS for FM16 (return FM6) from I&T to CAL	09/29/04	-39	11/23/04										▼
1M79001110	Flight TEM Assy 9: Elec to I&T	09/29/04	-70	01/18/05										▼
1M79001120	Flight TEM Assy 10: Elec to I&T	10/06/04	-70	01/25/05										▼
1M1000380	Flight Calorimeter Tower 7 RFI	10/11/04	-31	11/23/04										▼
1M1540	Flight Calorimeter Tower 8 RFI	10/11/04	-31	11/23/04										▼
1M79001130	Flight TEM Assy 11: Elec to I&T	10/13/04	-70	02/01/05										▼
1M7941080	Flight SIU-Elec to I&T	10/13/04	-79	02/14/05										▼
1M7942000	Flight PDU Box-Elec to I&T	10/13/04	-79	02/14/05										▼
1M1000251	Flight Tracker Tower 4 RFI	10/14/04	-28	11/23/04										▼
Run Date	06/30/04 15:20	GLAST LAT PROJECT							0623			Sheet 5 of 6		
Data Date	06/01/04	Project Milestones (Level 3)							LTX1 - MS (L3)					
		1 Year View (+/- 6mo)							FLX1 - MS (L3)					
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**Attachment 2
Level 3 Milestones (One-Year View)
Page 6 of 6**

Activity ID	Activity Description	Target Finish Date	Variance	Scheduled Finish Date	FY03			FY04			FY05				
					Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3			
Instrument Project Office (Level 3)															
1M1000260	Flight Tracker Tower 5 RFI	10/14/04	-41	12/14/04									•	▽	
1M79001140	Flight TEM Assy 12: Elec to I&T	10/20/04	-70	02/08/05									•	▽	
1M7941110	Flight Harness-Elec to I&T	10/20/04	-40	12/17/04									•	▽	
1M7941070	Flight GASU Box-Elec to I&T	10/25/04*	-75	02/18/05									•	▽	
1M79001150	Flight TEM Assy 13: Elec to I&T	10/27/04	-70	02/15/05									•	▽	
1M7941090	Flight Event Processor Units-Elec to I&T	11/01/04	-73	02/24/05									•	▽	
1M1000370	Flight Calorimeter Tower 9 RFI	11/02/04	-35	12/23/04									•	▽	
1M1550	Flight Calorimeter Tower 10 RFI	11/02/04	-35	12/23/04									•	▽	
1M1000410	ACD Flight Unit at SLAC, Tested/Inspected & RFI	11/03/04	-52	01/27/05									•	▽	
1M79001160	Flight TEM Assy 14: Elec to I&T	11/03/04	-70	02/23/05									•	▽	
1M1000261	Flight Tracker Tower 6 RFI	11/05/04	-25	12/14/04									•	▽	
1M1000270	Flight Tracker Tower 7 RFI	11/05/04	-38	01/10/05									•	▽	
1M1000112	Mission Operations Review (L-21mo.)	11/10/04	-13	12/01/04									•	▽	
1M79001170	Flight TEM Assy 15: Elec to I&T	11/10/04	-70	03/02/05									•	▽	
1M7941270	Ground System Interface Test start	11/10/04	-13	12/01/04									•	▽	
1M1560	Flight Calorimeter Tower 12 RFI	11/15/04	-38	01/19/05									•	▽	
1M1000360	Flight Calorimeter Tower 11 RFI	11/16/04	-38	01/20/05									•	▽	
1M79001180	Flight TEM Assy 16: Elec to I&T	11/17/04	-70	03/09/05									•	▽	
1M1000271	Flight Tracker Tower 8 RFI	11/24/04	-25	01/10/05									•	▽	
1M1000280	Flight Tracker Tower 9 RFI	11/24/04	-41	02/02/05									•	▽	
Run Date 06/30/04 15:20 Data Date 06/01/04					GLAST LAT PROJECT Project Milestones (Level 3) 1 Year View (+/- 6mo)					0623 LTX1 - MS (L3) FLX1 - MS (L3)			Sheet 6 of 6		
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Attachment 3

Budget vs Actuals vs Performance DOE + NASA Project Expenditures 4.1 LAT



Attachment 4
LAT Costs, through May 2004, by WBS

Monthly Contractor Financial Management Report								Report for Month Ending: 5/31/2004		
To: Kevin Grady, GLAST Project Manager (NASA) Ev Valle, LAT Project Manager (DOE)				From: Tanya Boysen, LAT Project Controls Manager				Budget Value		
								Cost: 0	Fee: 0	
LAT3 GLAST LAT Project		Type:						Fund Limitation: 0		
Reporting Category	Cost Incurred				Estimated Cost			4/3/2000	Billing	
	During Month		Cum. to Date		Detail		Balance of Budget	Estimated Final Cost		Unfilled Orders Outstanding
	Actual	Planned	Actual	Planned	JUN04	JUL04		Project Estimate	Budget Value	
4.1.1 INSTRUMENT MANAGEMENT	354	308	12,228	12,023	356	359	2,925	15,868	15,868	
4.1.2 SYSTEM ENGINEERING	59	140	4,732	4,993	151	146	1,572	6,601	6,601	
4.1.4 TRACKER	1,260	451	13,112	13,121	350	345	1,238	15,046	15,046	
4.1.5 CALORIMETER	666	749	15,462	16,906	960	701	4,980	22,103	22,103	
4.1.6 ANTICOINCIDENCE DETECTOR	666	153	12,625	12,763	117	206	969	13,918	13,918	
4.1.7 ELECTRONICS	907	2,160	14,626	16,279	1,688	919	4,452	21,685	21,685	
4.1.8 MECHANICAL SYSTEMS	739	632	9,209	9,258	824	636	3,437	14,106	14,106	
4.1.9 INTEGRATION & TEST	233	262	3,876	4,057	253	296	2,949	7,373	7,373	
4.1.A PERFORMANCE AND SAFETY ASSURANCE	129	112	1,558	1,843	123	117	671	2,469	2,469	
4.1.B LAT INSTRUMENT OPERATIONS CENTER	0	3	295	282	4	3	25	328	328	
4.1.C EDUCATION AND PUBLIC OUTREACH	23	67	1,388	1,694	74	71	915	2,448	2,448	
4.1.D SCIENCE ANALYSIS SOFTWARE	40	65	1,903	2,078	83	81	1,049	3,117	3,117	
4.1.E SUBORBITAL FLIGHT TEST	0	0	1,325	1,325	0	0	0	1,325	1,325	
Gen. and Admin.	0	0	0	0	0	0	0	0	0	
Total	5,076	5,103	92,340	96,621	4,982	3,881	25,183	126,387	126,387	

Attachment 5
LAT Costs, through May 2004, by Organization and Cost Code

Monthly Contractor Financial Management Report								Report for Month Ending: 5/31/2004	
To: Kevin Grady, GLAST Project Manager (NASA) Ev Valle, LAT Project Manager (DOE)				From: Tanya Boysen, LAT Project Controls Manager				Budget Value	
								Cost: 0	Fee: 0
LAT3		Type:				Fund Limitation:			
GLAST LAT Project						0			
Reporting Category	Cost Incurred				Estimated Cost			4/3/2000	Billing
	During Month		Cum. to Date		Detail		Balance of Budget	Estimated Final Cost	Unfilled Orders Outstanding
	Actual	Planned	Actual	Planned	JUN04	JUL04			
DG *** GSFC	666	188	13,771	14,299	155	242	1,776	15,944	15,944
DH *** HEPL	152	177	5,052	5,440	204	219	1,693	7,168	7,168
DL *** SLAC	3,389	3,770	51,166	52,587	3,432	2,469	14,165	71,233	71,233
DN *** NRL	802	861	18,647	20,186	1,073	838	6,027	26,585	26,585
DO *** Financial Plan Transfer/Sub Ou	0	0	59	54	0	0	-5	54	54
DS *** SSU	23	65	1,383	1,666	71	68	878	2,401	2,401
DT *** Texas A&M	0	0	15	16	0	0	0	16	16
DU *** UCSC	39	34	2,121	2,230	38	36	531	2,726	2,726
DW *** UW	6	8	125	142	9	9	117	260	260
Total	5,076	5,103	92,340	96,621	4,982	3,881	25,183	126,387	126,387

Reporting Category	Cost Incurred/Hours Worked				Estimated Cost/Hours to Complete			Estimated Final Cost/Hours		Unfilled Orders Outstanding
	During Month		Cum. to Date		Detail		Balance of Budget	Project Estimate	Budget Value	
	Actual	Planned	Actual	Planned	JUN04	JUL04				
RL LABOR	1,837	2,629	46,712	47,826	1,934	1,892	13,832	64,370	64,370	
<i>FTE (DOE/NASA)</i>	<i>196.1</i>	<i>221.0</i>	<i>4,311.6</i>	<i>4,080.6</i>	<i>148.0</i>	<i>154.0</i>	<i>790.3</i>	<i>5,403.9</i>	<i>5,403.9</i>	
<i>HOURS (DOE/NASA)</i>	<i>31,370</i>	<i>35,355</i>	<i>715,900</i>	<i>674,312</i>	<i>26,118</i>	<i>25,847</i>	<i>127,103.0</i>	<i>894,968</i>	<i>894,968</i>	
RT TRAVEL	32	50	1,162	1,863	62	63	1,422	2,709	2,709	
RM MATERIAL & SERVICES	3,207	2,421	42,159	44,430	2,982	1,923	9,614	56,678	56,678	
RX MPS & LAB TAX	0	3	2,307	2,501	4	3	315	2,629	2,629	
Total (not incl FTE/Hours)	5,076	5,103	92,340	96,621	4,982	3,881	25,183	126,387	126,387	

**Attachment 6
LAT Performance, through May 2004, by WBS**

Cost Performance Report - Work Breakdown Structure													
Contractor:					Contract Type/No:			Project Name/No:		Report Period:			
Location:								GLAST LAT Project		4/30/2004 5/31/2004			
Quantity	Negotiated Cost		Est. Cost Authorized Unpriced Work		Tgt. Profit/ Fee %		Tgt. Price	Est Price	Share Ratio	Contract Ceiling	Estimated Contract Ceiling		
1	0		0		0		0	0		0	0		
CAPW[3] Item	Current Period					Cumulative to Date					At Completion		
	Budgeted Cost		Actual Cost	Variance		Budgeted Cost		Actual Cost	Variance		Budgeted	Latest Revised Estimate	Variance
	Work Scheduled	Work Performed	Work Performed	Schedule	Cost	Work Scheduled	Work Performed	Work Performed	Schedule	Cost			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
4.1.1 INSTRUMENT MANAGEMENT	308	308	354	0	-46	12,023	12,023	12,228	0	-205	15,868	15,868	0
4.1.2 SYSTEM ENGINEERING	140	140	59	0	81	4,993	4,993	4,732	0	262	6,601	6,601	0
4.1.4 TRACKER	451	459	1,260	8	-801	13,121	12,417	13,112	-704	-696	15,046	15,046	0
4.1.5 CALORIMETER	749	589	666	-160	-77	16,906	15,979	15,462	-927	517	22,103	22,103	0
4.1.6 ANTICOINCIDENCE DETECTOR	153	325	666	171	-341	12,763	12,315	12,625	-448	-310	13,918	13,918	0
4.1.7 ELECTRONICS	2,160	1,967	907	-194	1,060	16,279	15,120	14,626	-1,159	494	21,685	21,685	0
4.1.8 MECHANICAL SYSTEMS	632	549	739	-83	-190	9,258	9,145	9,209	-113	-64	14,106	14,106	0
4.1.9 INTEGRATION & TEST	262	239	233	-22	7	4,057	3,873	3,876	-183	-2	7,373	7,373	0
4.1.A PERFORMANCE AND SAFETY ASSESSMENT	112	112	129	0	-17	1,843	1,843	1,558	0	285	2,469	2,469	0
4.1.B LAT INSTRUMENT OPERATIONS	3	3	0	0	3	282	282	295	0	-13	328	328	0
4.1.C EDUCATION AND PUBLIC OUTREACH	67	63	23	-4	40	1,694	1,670	1,388	-24	281	2,448	2,448	0
4.1.D SCIENCE ANALYSIS SOFTWARE	65	65	40	0	25	2,078	2,078	1,903	0	175	3,117	3,117	0
4.1.E SUBORBITAL FLIGHT TEST	0	0	0	0	0	1,325	1,325	1,325	0	0	1,325	1,325	0
Gen. and Admin.	0	0	0	0	0	0	0	0	0	0	0	0	0
Undist. Budget											0	0	0
Sub Total	5,103	4,820	5,076	-283	-257	96,621	93,063	92,340	-3,558	723	126,387	126,387	0
Contingency											10,202	10,202	0
Total	5,103	4,820	5,076	-283	-257	96,621	93,063	92,340	-3,558	723	136,589	136,589	0

**Attachment 7
LAT Performance, through May 2004, by Organization**

Cost Performance Report - Work Breakdown Structure													
Contractor: Location:				Contract Type/No:				Project Name/No: GLAST LAT Project		Report Period: 4/30/2004 5/31/2004			
Quantity	Negotiated Cost		Est. Cost Authorized Unpriced Work		Tgt. Profit/ Fee %	Tgt. Price	Est Price	Share Ratio	Contract Ceiling	Estimated Contract Ceiling			
1	0		0		0	0	0	0	0	0			
OBS[1] Item	Current Period					Cumulative to Date					At Completion		
	Budgeted Cost		Actual Cost	Variance		Budgeted Cost		Actual Cost	Variance			Latest Revised	
	Work Scheduled	Work Performed	Work Performed	Schedule	Cost	Work Scheduled	Work Performed	Work Performed	Schedule	Cost	Budgeted	Estimate	Variance
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
DG *** GSFC	188	379	666	191	-286	14,299	13,851	13,771	-448	80	15,944	15,944	0
DH *** HEPL	177	177	152	0	25	5,440	5,434	5,052	-6	382	7,168	7,168	0
DL *** SLAC	3,770	3,498	3,389	-272	109	52,587	50,488	51,166	-2,099	-679	71,233	71,233	0
DN *** NRL	861	663	802	-198	-140	20,186	19,225	18,647	-961	578	26,585	26,585	0
DO *** Financial Plan	0	0	0	0	0	54	54	59	0	-5	54	54	0
DS *** SSU	65	60	23	-4	37	1,666	1,642	1,383	-24	258	2,401	2,401	0
DT *** Texas A&M	0	0	0	0	0	16	16	15	0	0	16	16	0
DU *** UCSC	34	34	39	0	-5	2,230	2,211	2,121	-19	90	2,726	2,726	0
DW *** UW	8	8	6	0	3	142	142	125	0	17	260	260	0
Gen. and Admin.	0	0	0	0	0	0	0	0	0	0	0	0	0
Undist. Budget											0	0	0
Sub Total	5,103	4,820	5,076	-283	-257	96,621	93,063	92,340	-3,558	723	126,387	126,387	0
Contingency											10,202	10,202	0
Total	5,103	4,820	5,076	-283	-257	96,621	93,063	92,340	-3,558	723	136,589	136,589	0

Attachment 8 LAT Performance Analysis, May 2004

	WBS	BAC	BCWS	BCWP	ACWP	SV \$	CV \$	% BCWS	% BCWP	% ACWP	SPI Trend	CPI Trend	SPI	CPI	Cpi_Fcst	CpiSpi_Fcst
1	4.1	126,387	96,621	93,063	92,340	-3,558	723	76.45	73.63	73.06	↔	↓	0.963	1.008	125,405	126,669
2	4.1.1	15,868	12,023	12,023	12,228	0	-205	75.77	75.77	77.06	↔	↓	1.000	0.983	16,139	16,139
3	4.1.2	6,601	4,993	4,993	4,732	0	262	75.64	75.64	71.68	↔	↑	1.000	1.055	6,255	6,255
4	4.1.4	15,046	13,121	12,417	13,112	-704	-696	87.21	82.53	87.15	↔	↓	0.946	0.947	15,889	16,046
5	4.1.5	22,103	16,906	15,979	15,462	-927	517	76.49	72.29	69.96	↓	↓	0.945	1.033	21,388	21,732
6	4.1.6	13,918	12,763	12,315	12,625	-448	-310	91.71	88.49	90.72	↑	↓	0.965	0.975	14,268	14,328
7	4.1.7	21,685	16,279	15,120	14,626	-1,159	494	75.07	69.72	67.45	↔	↑	0.929	1.034	20,977	21,464
8	4.1.8	14,106	9,258	9,145	9,209	-113	-64	65.63	64.83	65.29	↓	↓	0.988	0.993	14,205	14,266
9	4.1.9	7,373	4,057	3,874	3,876	-183	-2	55.02	52.53	52.56	↔	↑	0.955	0.999	7,377	7,543
10	4.1.A	2,469	1,843	1,843	1,558	0	285	74.62	74.62	63.10	↔	↓	1.000	1.183	2,088	2,088
11	4.1.B	328	282	282	295	0	-13	86.07	86.07	90.14	↔	↑	1.000	0.955	343	343
12	4.1.C	2,448	1,694	1,670	1,388	-24	281	69.17	68.19	56.70	↓	↑	0.986	1.203	2,036	2,045
13	4.1.D	3,117	2,078	2,078	1,903	0	175	66.68	66.68	61.07	↔	↑	1.000	1.092	2,854	2,854
14	4.1.E	1,325	1,325	1,325	1,325	0	0	100.00	100.00	99.98	↔	↔	1.000	1.000	1,325	1,325

LEGEND

BAC: Budget At Complete

BCWS: Budgeted Cost of Work Scheduled (to date)

BCWP: Budgeted Cost of Work Performed (to date)

ACWP: Actual Cost of Work Performed (to date)

SV \$: Schedule Variance = BCWP - BCWS

CV \$: Cost Variance = BCWP - ACWP

SPI: Schedule Performance Index = BCWP/BCWS

CPI: Cost Performance Index = BCWP/ACWP

% BCWS: Percent Scheduled = BCWS/BAC

% BCWP: Percent Complete = BCWP/BAC

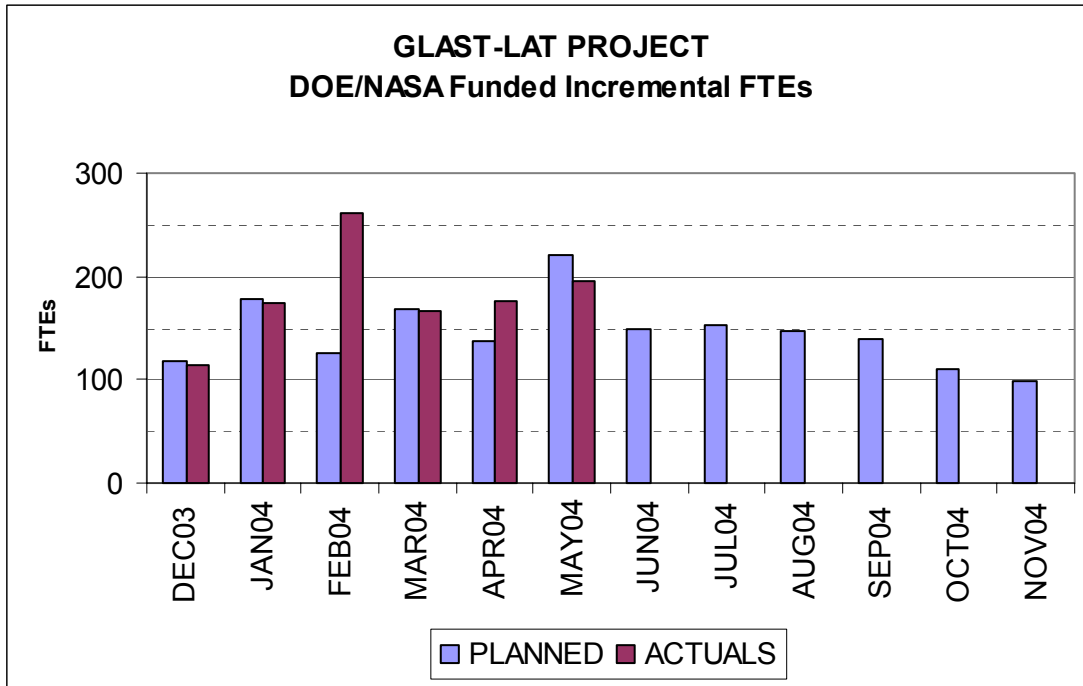
% ACWP: Percent Spent = ACWP/BAC

Cpi_Fcst: CPI (to date) EAC Forecast = BAC / CPI

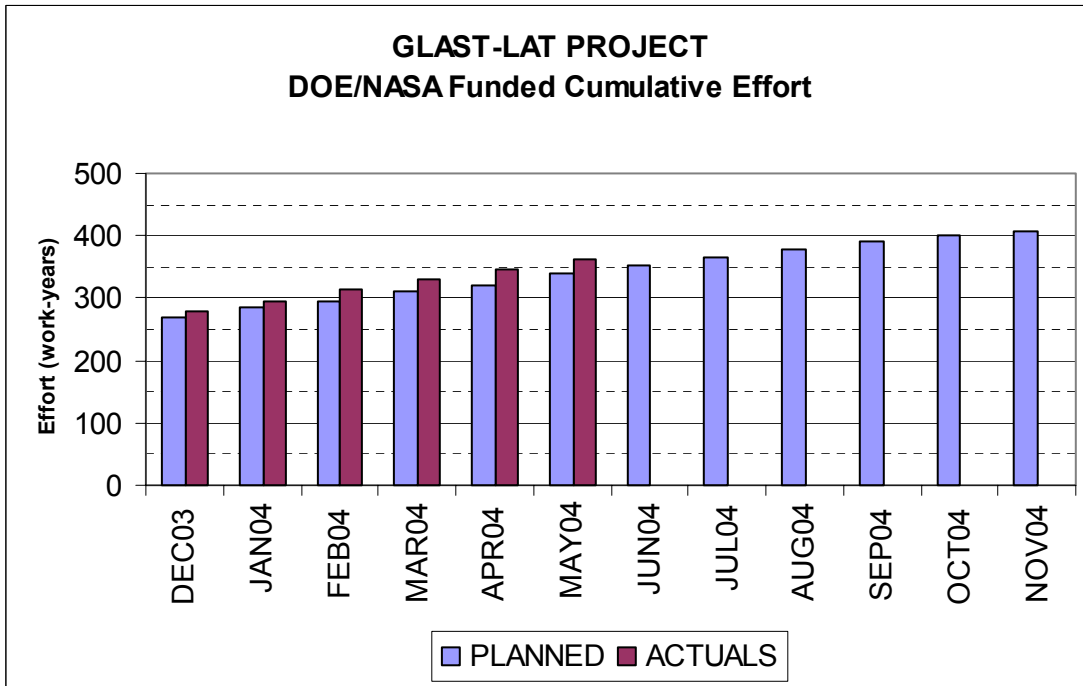
CpiSpi_Fcst: Combination CPI and SPI EAC Forecast = ACWP + (BAC - BCWP) / (CPI * SPI)

	Worse than .85		Between .95 and 1.10
	Between .85 and .95		Better than 1.10
SPI and CPI Change Thresholds			

**Attachment 9
LAT Manpower (DOE/NASA-Funded)**



Note: Monthly planned manpower reflects adjustments so that the cumulative-to-date plan corresponds to the approved changes for that month.



Attachment 10
LAT Manpower Data, through May 2004, by Organization

Program: LAT3		Description: GLAST LAT Project		Approval: Program Manager Functional Manager Cost Account Manager												
Run Date: 6/30/2004		Status Date: 5/31/2004														
				Cum-to- Date												
		PRIOR	DEC03	JAN04	FEB04	MAR04	APR04	MAY04	JUN04	JUL04	AUG04	SEP04	OCT04	NOV04		
OBS																
DG *** GSFC	FTE	PLANNED	696.5	21.2	27.8	29.9	61.0	58.3	28.6	923.3	21.4	23.6	25.8	27.8	13.3	17.8
		ACTUALS	694.9	0.0	65.6	153.4	48.7	45.4	61.1	1069.1	0.0	0.0	0.0	0.0	0.0	0.0
DH *** HEPL	FTE	PLANNED	247.4	5.3	0.0	3.2	3.2	2.4	3.4	264.9	4.5	4.9	4.9	4.9	3.8	3.8
		ACTUALS	229.5	13.6	11.7	-2.5	4.0	2.7	3.6	262.6	0.0	0.0	0.0	0.0	0.0	0.0
DL *** SLAC	FTE	PLANNED	1609.6	64.2	117.4	77.1	79.7	78.1	158.4	2184.5	89.7	91.4	82.3	81.3	71.1	64.1
		ACTUALS	1543.2	63.0	69.1	77.5	84.7	91.0	95.2	2023.5	0.0	0.0	0.0	0.0	0.0	0.0
DN *** NRL	FTE	PLANNED	756.3	36.5	37.6	22.2	36.9	17.1	49.4	956.1	51.0	44.3	41.9	32.5	29.7	21.0
		ACTUALS	763.8	38.3	30.1	34.8	35.0	35.4	42.6	980.0	0.0	0.0	0.0	0.0	0.0	0.0
DS *** SSU	FTE	PLANNED	76.5	2.4	4.8	3.2	3.2	3.2	3.2	96.4	3.2	3.2	3.2	3.2	2.0	2.0
		ACTUALS	90.2	3.5	5.1	3.3	3.0	6.0	3.4	114.4	0.0	0.0	0.0	0.0	0.0	0.0
DU *** UCSC	FTE	PLANNED	222.1	4.6	6.3	6.9	4.7	4.4	4.4	253.4	4.4	4.4	4.4	4.4	4.4	4.4
		ACTUALS	275.0	5.8	4.7	5.2	3.3	6.7	1.0	301.8	0.0	0.0	0.0	0.0	0.0	0.0
DW *** UW	FTE	PLANNED	37.7	0.4	0.4	0.4	0.4	0.4	0.4	40.1	0.4	0.4	0.4	0.4	0.4	0.4
		ACTUALS	9.6	1.0	0.0	1.7	0.9	1.0	1.1	15.2	0.0	0.0	0.0	0.0	0.0	0.0
FF *** France	FTE	PLANNED	1051.8	10.9	14.8	15.2	15.2	15.2	15.2	1138.1	15.2	15.2	15.2	15.2	14.2	13.9
		ACTUALS								0.0						
FI *** Italy	FTE	PLANNED	362.5	9.1	9.1	9.1	9.4	15.6	15.2	430.0	14.9	12.8	14.6	15.2	9.1	9.1
		ACTUALS	321.5	10.9	10.9	10.9	10.9	10.9	10.9	386.6	0.0	0.0	0.0	0.0	0.0	0.0
FJ *** Japan	FTE	PLANNED	95.2	1.2	1.0	1.0	0.9	0.5	0.5	100.1	0.5	0.5	0.5	0.5	0.5	0.5
		ACTUALS	73.7	1.8	1.8	1.8	1.8	1.8	1.8	84.2	0.0	0.0	0.0	0.0	0.0	0.0
FK *** Sweden	FTE	PLANNED	109.7	3.8	3.5	3.6	3.6	3.6	3.6	131.3	3.6	3.6	3.6	3.6	3.6	3.6
		ACTUALS								0.0						
Grand Totals:		PLANNED	5265.3	159.7	222.6	171.6	218.1	198.6	282.1	6518.1	208.6	204.1	196.7	188.9	152.0	140.7
		ACTUALS	4001.3	137.8	198.9	286.0	192.2	200.8	220.5	5237.4	0.0	0.0	0.0	0.0	0.0	0.0
4.1 GLAST LAT																
Contributed	PLANNED	2132.4	42.4	45.1	45.9	49.8	60.8	61.1	2437.5	60.2	50.2	49.5	50.1	42.6	42.8	
	ACTUALS	777.9	23.8	24.1	24.3	26.4	24.8	24.5	925.8	0.0	0.0	0.0	0.0	0.0	0.0	
Funded	PLANNED	3132.9	117.4	177.5	125.7	168.3	137.8	221.0	4080.6	148.4	153.8	147.2	138.8	109.4	97.8	
	ACTUALS	3223.3	114.0	174.8	261.7	165.8	176.0	196.1	4311.6	0.0	0.0	0.0	0.0	0.0	0.0	
Grand Totals:	PLANNED	5265.4	159.7	222.6	171.6	218.1	198.6	282.1	6518.1	208.6	204.1	196.7	188.9	152.0	140.7	
	ACTUALS	4001.3	137.8	198.9	286.0	192.2	200.8	220.6	5237.4	0.0	0.0	0.0	0.0	0.0	0.0	