

Monthly Progress Report

(Month Ending December 2001)

GLAST Large Area Telescope (LAT)

LAT-MR-00585-01

February 14, 2002

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 December, 2001.

2.0 Recent Progress and Status

The majority of the LAT team's effort this period was focused on preparations for the joint DOE/NASA review, held January 8-11 at SLAC. Note that SLAC was closed during the last week of December.

Tracker: The front-end and controller ASIC procurements were placed; delivery is expected approximately two weeks ahead of schedule.

Calorimeter: Collaboration issues continue to be discussed with the French participants.

ACD: A GSFC internal review of the ACD was conducted, in preparation for the PDR. A visit was made to Fermilab to inspect the prototype tile detector assemblies, which are progressing well.

Electronics: The Tracker/Calorimeter TEM electronics design for the first pre-engineering model is complete, and the test setup assembled. The test setup is also assembled for the global trigger-CPU interface card and data CPU's for the first pre-engineering model.

Mechanical Systems: The thermal analysis runs were finished, in preparation for the PDR.

3.0 Schedule Status

The status of significant milestones identified in the Project Management Plan for the LAT project is summarized in Attachment 1. Level 3 milestone status is included as Attachment 2.

4.0 Financial Status

Attachment 3 depicts the costs and commitments 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.

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.

The schedule variance in 4.1.8 Mechanical Systems is due to a delay in receiving progress reports from Lockheed Martin, as well as extra effort being expended on radiator repackaging (thus delaying engineering model work).

Reports of actual costs for the past two months were not received from GSFC, resulting in a cost variance in 4.1.6 ACD and contributing to the variance in 4.1.1 Management.

The favorable cost variance in 4.1.7 Electronics is caused by a combination of invoicing delays and the use of existing (rather than purchased) equipment. The favorable cost variance in 4.1.8 Mechanical Systems is due to a delay in staffing one engineering position, and a delay in subcontractor invoicing. Actual costs against 4.1.9 I&T are lower than planned due to delayed subcontractor invoicing. The favorable cost variance in 4.1.A Performance & Safety Assurance is due to the delay in the hire of a part-time parts engineer at NRL, and some work being carried out by existing personnel which was originally planned as subcontracts. The favorable cost variance in 4.1.B Instrument Operations Center is due in part to the delay in NASA funding to Stanford University in turn delaying M&S and travel expenditures, and in part to credit given to more work completed than planned for the month. The favorable cost variance in 4.1.C Education & Public Outreach is due to SSU's not receiving funding in time to correspond with scheduled work. As a consequence, the self-assessment activity has been delayed. The unfavorable cost variance in 4.1.D Science Analysis Software is the result of credit for work performed not being fully recorded, and will be corrected in the next reporting cycle.

6.0 Change Control and Contingency Analysis

There were no change control actions this month.

7.0 Staffing

Attachments 9-12 demonstrate the staffing plan, and reports of actual manpower received.

Attachment 1 Milestones, Levels 1-2

Activity Description	Finish Date	Fiscal Year											
		FY00	FY01	FY02	FY03	FY04	FY05	FY06					
DOE / NASA Headquarters (Level 1)													
Launch Instrument	03/01/06*												▼
Project Office (Level 2)													
Launch Balloon Flight	08/01/01A		▼										
Instrument Preliminary Design Review	01/07/02*			▼									
Instrument Critical Design Review	08/05/02*				▼								
1st Two Towers Ready for Calibration	08/15/03*					▼							
Sat LAT Integration	01/02/04*						▼						
Pre Environmental Testing Review	07/09/04*							▼					
Instrument Pre Ship Review	01/07/05*								▼				
LAT Ready for Integration (RFI) to Spacecraft	03/22/05*									▼			
Run Date		02/06/02 10:59		GLAST-LAT PROJECT Project Milestones (Level 1-2)						Sheet 1 of 1			
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Attachment 2 Level 3 Milestones (One-Year View)

Activity Description	Finish Date	ND	AV	FY 01				FY 02				FY 03
				Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	
Instrument Project Office (Level 3)												
Anticoincidence Detector FDR	07/25/01A	2	6			▼						
Calorimeter FDR	07/27/01A	2	5			▼						
Mechanical Systems FDR	08/15/01A	2	8			▼						
Electronics & DAQ FDR	08/16/01A	2	7			▼						
Flight Software FDR	08/16/01A	2	7			▼						
IOC FDR	08/17/01A	2	B			▼						
Science Analysis Software FDR	08/17/01A	2	D			▼						
Com Card for TKR EM Function Test-Elec to TKR	10/16/01A	4	7				▼					
VME Com Card (TEMSm)-from Elec to CAL	11/05/01A	5	7				▼					
FDR Submittals Due	12/15/01A						▼					
(2) Mini MQMs from Tracker to Elec	02/07/02*	7	4						▼			
(1) Prototype Electronics Module (Elec to ACD)	03/15/02*	6	7						▼			
EGSE Workstation/Software #1 (I&T to ACD)	03/15/02*	6	9						▼			
MGSE Requirements for ACD (from I&T to ACD)	03/22/02*	6	9						▼			
SLAC Facilities Specification (from I&T to ACD)	03/22/02*	6	9						▼			
VME Versions of CALAFFE-CAL to Elec	04/12/02*	7	5							▼		

Run Date

02/06/02 11:11

**GLAST/LAT PROJECT
Project Milestones (Level 3)
1Yr (+/- 6mo)**

Sheet 1 of 2

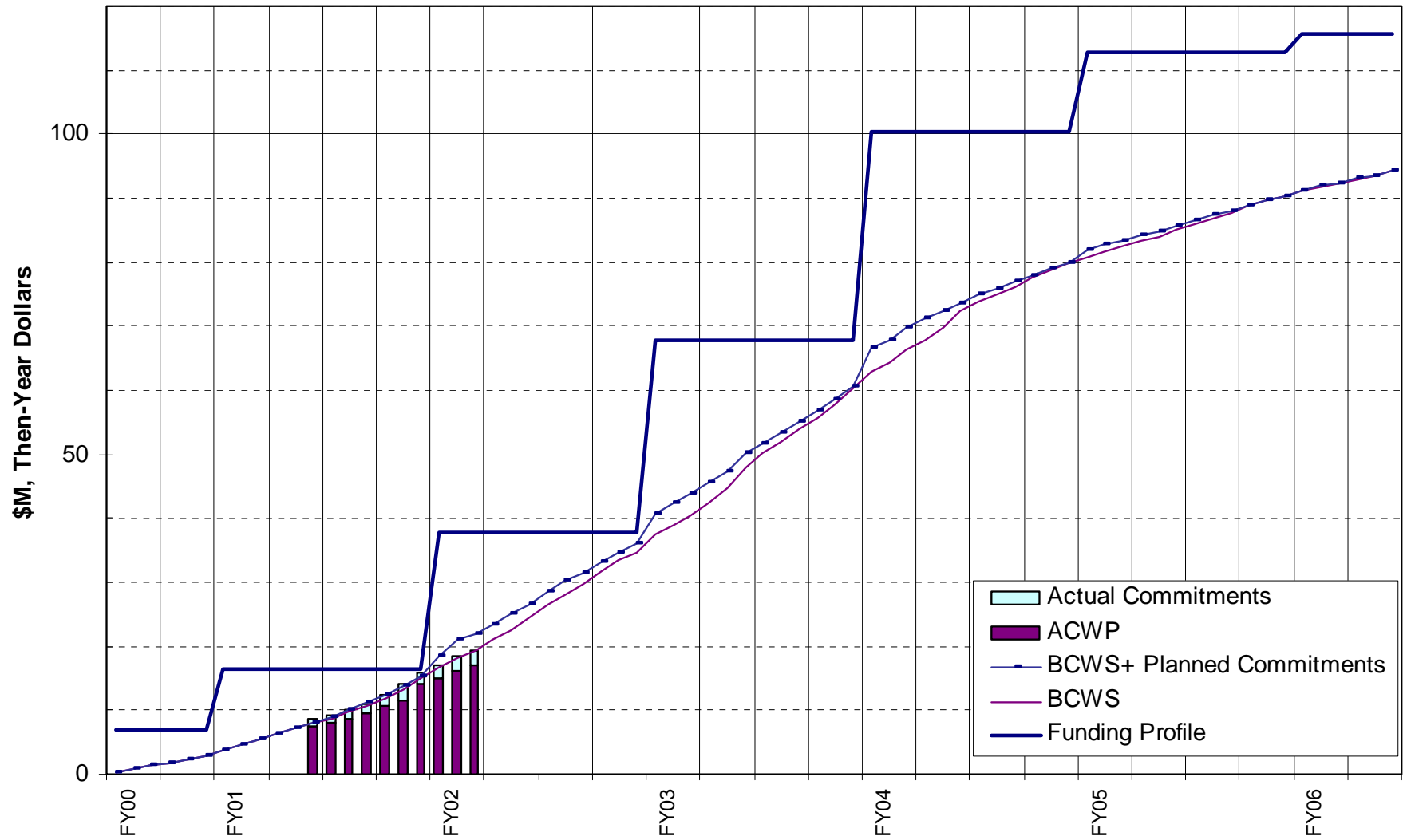
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**Attachment 2, Continued
Level 3 Milestones (One-Year View)**

Activity Description	Finish Date	ND	AV	FY 01			FY 02				FY 03
				Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
Instrument Project Office (Level 3)											
EGSE EM1 H/W Release-Elect I&T	04/22/02*	9	7							▼	
Online System Spec from I&T to IOC	05/01/02*	B	9							▼	
Calorimeter Calibration Prototype Coding SAS I&T	05/15/02*	9	D							▼	
Mechanical Systems CDR	05/22/02*	2	8							▼	
1st Major Release of Sim/Recon (SAS to I&T)	05/31/02*	9	D							▼	
High Voltage Power Supply (Bd & Pnts) -ACD to Elec	06/03/02*	7	6							▼	
Calorimeter CDR	06/05/02*	2	5							▼	
Flight Software CDR	06/12/02*	2	7							▼	
Pre-EMTEM# from Elec to CAL	06/14/02*	5	7							▼	
Tracker CDR	06/18/02*	2	4							▼	
Electronics Pre-Eng Model from Elec to Tracker	06/19/02*	4	7							▼	
Electronics & DAQ CDR	06/20/02*	2	7							▼	
ACD Rise Height Histogram (SAS to I&T)	06/21/02*	9	D							▼	
Tracker Dead/Noisy Strips (SAS to I&T)	06/21/02*	9	D							▼	
Anticoincidence Detector CDR	06/26/02*	2	6							▼	
Run Date	02/06/02 11:11	GLAST/LAT PROJECT Project Milestones (Level 3) 1 Yr (+/- 6mc)					Sheet 2 of 2				
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Attachment 3

Budget vs Actuals vs Funding
DOE + NASA Project Expenditures



Attachment 4
LAT Costs, through December 2001, by WBS

Monthly Contractor Financial Management Report 31-Dec-01								Report for Month Ending: 12/31/01			
To: Liz Citrin, GLAST Project Manager (NASA) Ev Valle, LAT Project Manager (DOE)					From: Tanya Boysen, LAT Project Controls Manager			Budget Value			
					Cost: 0		Fee: 0				
1201 Type:		GLAST LAT Project					Fund Limitation:		0		
Reporting Category		Cost Incurred/Hours Worked				Estimated Cost/Hours to Complete			4/3/00 Billing		
		During Month		Cum. to Date		Detail		Balance of Budget	Estimated Final Cost/Hours		Unfilled Orders Outstanding
		Actual	Planned	Actual	Planned	JAN02	FEB02		Project Estimate	Budget Value	
4.1.1 INSTRUMENT MANAGEMENT		167	175	2,984	3,092	246	164	7,912	11,307	11,307	
4.1.2 SYSTEM ENGINEERING		37	64	1,003	1,097	87	83	2,919	4,092	4,092	
4.1.4 TRACKER		234	130	3,671	3,462	179	194	5,638	9,681	9,681	
4.1.5 CALORIMETER		203	152	2,862	2,966	219	269	10,028	13,378	13,378	
4.1.6 ANTICOINCIDENCE DETECTOR		0	216	1,445	2,156	305	234	7,976	9,960	9,960	
4.1.7 ELECTRONICS		128	167	1,887	2,201	225	174	14,234	16,520	16,520	
4.1.8 MECHANICAL SYSTEMS		171	132	742	1,445	267	222	7,057	8,288	8,288	
4.1.9 INSTRUMENT INTEGRATION AND TE		20	71	51	275	100	90	7,053	7,294	7,294	
4.1.A PERFORMANCE AND SAFETY ASSUR		36	42	312	372	59	54	1,781	2,206	2,206	
4.1.B LAT INSTRUMENT OPERATIONS CEN		14	16	155	182	17	24	3,515	3,711	3,711	
4.1.C EDUCATION AND PUBLIC OUTREAC		12	14	292	309	26	24	2,566	2,908	2,908	
4.1.D SCIENCE ANALYSIS SOFTWARE		23	22	412	372	53	54	3,181	3,700	3,700	
4.1.E SUBORBITAL FLIGHT TEST		0	0	1,305	1,321	0	0	16	1,321	1,321	
Total		1,046	1,202	17,122	19,249	1,783	1,586	73,876	94,366	94,366	

Attachment 5
LAT Costs, through December 2001, by Organization and Cost Code

Monthly Contractor Financial Management Report 31-Dec-01								Report for Month Ending: 12/31/01		
To: Liz Citrin, GLAST Project Manager (NASA) Ev Valle, LAT Project Manager (DOE)				From: Tanya Boysen, LAT Project Controls Manager				Budget Value		
								Cost: 0	Fee: 0	
1201	Type:						Fund Limitation:			
GLAST LAT Project							0			
Reporting Category	Cost Incurred/Hours Worked				Estimated Cost/Hours to Complete			4/3/00	Billing	
	During Month		Cum. to Date		Detail		Balance of Budget	Estimated Final Cost/Hours		Unfilled Orders Outstanding
	Actual	Planned	Actual	Planned	JAN02	FEB02		Project Estimate	Budget Value	
DG *** GSFC	0	240	2,342	3,151	338	266	10,179	13,124	13,124	
DH *** HEPL	78	68	2,039	2,050	93	83	7,287	9,502	9,502	
DL *** SLAC	633	625	7,776	8,676	906	789	37,140	46,611	46,611	
DN *** NRL	280	212	3,855	4,057	309	368	14,826	19,358	19,358	
DS *** SSU	12	14	292	309	26	24	2,516	2,858	2,858	
DT *** Texas A&M	0	0	0	16	0	0	16	16	16	
DU *** UCSC	44	43	818	990	110	55	1,914	2,898	2,898	
Total	1,046	1,202	17,122	19,249	1,782	1,585	73,877	94,366	94,366	

RL LABOR	546	705	10,979	12,355	1,055	928	43,097	56,059	56,059
<i>FTE</i>	79.6	152.1	1,017.3	1,667.3	169.0	166.0	6,305.8	7,658.1	7,658
<i>HOURS</i>	9,555	18,247	175,478	272,051	28,407	25,206	1,032,886	1,261,977	1,261,977
RT TRAVEL	31	33	376	461	46	42	2,961	3,425	3,425
RM MATERIAL & SERVICES	469	441	5,605	6,171	647	585	26,102	32,939	32,939
RX MPS & LAB TAX	0	24	162	262	34	30	1,718	1,944	1,944
Total (not incl FTE/Hours)	1,046	1,202	17,122	19,249	1,782	1,585	73,877	94,366	94,366

Attachment 6
LAT Performance, through December 2001, by WBS

Cost Performance Report - Work Breakdown Structure											Run Date: 2/6/02		
Contractor: Location:					Contract Type/No:			Project Name/No: GLAST LAT Project		Report Period: 12/1/01 12/31/01			
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 (1)	Current Period					Cumulative to Date					At Completion		
	Budgeted Cost		Actual Cost	Variance		Budgeted Cost		Actual Cost	Variance			Latest Revised Estimate	
	Work Scheduled	Work Performed	Work Performed	Schedule	Cost	Work Scheduled	Work Performed	Work Performed	Schedule	Cost	Budgeted		Variance
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
4.1.1 INSTRUMENT MANAGEMENT	175	164	167	-12	-3	3,092	3,065	2,984	-27	81	11,307	11,307	0
4.1.2 SYSTEM ENGINEERING	64	64	37	0	27	1,097	1,097	1,003	0	94	4,092	4,092	0
4.1.4 TRACKER	130	106	234	-24	-128	3,462	3,371	3,671	-91	-299	9,681	9,681	0
4.1.5 CALORIMETER	152	134	203	-19	-69	2,966	2,944	2,862	-21	82	13,378	13,378	0
4.1.6 ANTICOINCIDENCE DETECTOR	216	115	0	-101	115	2,156	1,990	1,445	-165	545	9,960	9,960	0
4.1.7 ELECTRONICS	167	142	128	-25	13	2,201	2,201	1,887	0	314	16,520	16,520	0
4.1.8 MECHANICAL SYSTEMS	132	35	171	-98	-136	1,445	1,296	742	-149	554	8,288	8,288	0
4.1.9 INSTRUMENT INTEGRATION AND TES	71	71	20	0	51	275	275	51	0	224	7,294	7,294	0
4.1.A PERFORMANCE AND SAFETY ASSUR	42	42	36	0	6	372	372	312	0	60	2,206	2,206	0
4.1.B LAT INSTRUMENT OPERATIONS CEN	16	23	14	8	9	182	189	155	8	34	3,711	3,711	0
4.1.C EDUCATION AND PUBLIC OUTREACH	14	12	12	-3	0	309	330	292	21	37	2,908	2,908	0
4.1.D SCIENCE ANALYSIS SOFTWARE	22	19	23	-3	-5	372	367	412	-5	-44	3,700	3,700	0
4.1.E SUBORBITAL FLIGHT TEST	0	0	0	0	0	1,321	1,321	1,305	0	16	1,321	1,321	0
Undist. Budget											0	0	0
Sub Total	1,202	926	1,046	-277	-121	19,249	18,819	17,122	-430	1,697	94,366	94,366	0
Management Resrv.											0	0	0
Total	1,202	926	1,046	-277	-121	19,249	18,819	17,122	-430	1,697	94,366	94,366	0

Attachment 7
LAT Performance, through December 2001, by Organization

Cost Performance Report - Work Breakdown Structure											Run Date: 2/6/02		
Contractor: Location:					Contract Type/No:			Project Name/No: GLAST LAT Project		Report Period: 12/1/01 12/31/01			
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			
OBS	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			
Item	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
DG *** GSFC	240	138	0	-101	138	3,151	2,986	2,342	-165	645	13,124	13,124	0
DH *** HEPL	68	63	78	-5	-14	2,050	2,035	2,039	-15	-3	9,502	9,502	0
DL *** SLAC	625	492	633	-133	-140	8,676	8,449	7,776	-227	673	46,611	46,611	0
DN *** NRL	212	191	280	-21	-89	4,057	4,037	3,855	-20	182	19,358	19,358	0
DS *** SSU	14	12	12	-3	0	309	330	292	21	37	2,858	2,858	0
DT *** Texas A&M	0	0	0	0	0	16	16	0	0	16	16	16	0
DU *** UCSC	43	28	44	-15	-15	990	966	818	-24	148	2,898	2,898	0
Gen. and Admin.	0	0	0	0	0	0	0	0	0	0	0	0	0
Undist. Budget											0	0	0
Sub Total	1,202	926	1,046	-277	-121	19,249	18,819	17,122	-430	1,697	94,366	94,366	0
Management Resrv.											0	0	0
Total	1,202	926	1,046	-277	-121	19,249	18,819	17,122	-430	1,697	94,366	94,366	0

Attachment 8 LAT Performance Analysis, December 2001

	WBS	BAC	BCWS	BCWP	ACWP	SV \$	CV \$	% BCWS	% BCWP	% ACWP	SV Trend	CV Trend	SPI	CPI	Cpi_Fcst	3moCpi_Fcst	CpiSpi_Fcst
1	4	94,366	19,249	18,819	17,122	-430	1,697	20.40	19.94	18.14	↓	↓	0.978	1.099	85,856	85,856	87,426
2	4.1	94,366	19,249	18,819	17,122	-430	1,697	20.40	19.94	18.14	↓	↓	0.978	1.099	85,856	85,856	87,426
3	4.1.1	11,307	3,092	3,065	2,984	-27	81	27.35	27.11	26.39	↓	↔	0.991	1.027	11,009	11,009	11,081
4	4.1.2	4,092	1,097	1,097	1,003	0	94	26.80	26.80	24.51	↔	↑	1.000	1.094	3,741	3,741	3,741
5	4.1.4	9,681	3,462	3,371	3,671	-91	-299	35.76	34.82	37.92	↓	↓	0.974	0.918	10,541	10,541	10,726
6	4.1.5	13,378	2,966	2,944	2,862	-21	82	22.17	22.01	21.39	↓	↓	0.993	1.029	13,004	13,004	13,077
7	4.1.6	9,960	2,156	1,990	1,445	-165	545	21.64	19.98	14.51	↓	↑	0.923	1.377	7,231	7,231	7,711
8	4.1.7	16,520	2,201	2,201	1,887	0	314	13.32	13.32	11.42	↓	↔	1.000	1.166	14,167	14,167	14,167
9	4.1.8	8,288	1,445	1,296	742	-149	554	17.44	15.64	8.95	↓	↓	0.897	1.747	4,743	4,743	5,204
10	4.1.9	7,294	275	275	51	0	224	3.78	3.78	0.70	↔	↔	1.000	5.359	1,361	1,361	1,361
11	4.1.A	2,206	372	372	312	0	60	16.86	16.86	14.15	↔	↔	1.000	1.191	1,851	1,851	1,851
12	4.1.B	3,711	182	189	155	8	34	4.90	5.10	4.18	↔	↑	1.041	1.218	3,046	3,046	2,931
13	4.1.C	2,908	309	330	292	21	37	10.62	11.33	10.05	↓	↔	1.067	1.128	2,578	2,578	2,434
14	4.1.D	3,700	372	367	412	-5	-44	10.05	9.93	11.13	↓	↔	0.988	0.893	4,145	4,145	4,192
15	4.1.E	1,321	1,321	1,321	1,305	0	16	100.00	100.00	98.81	↔	↔	1.000	1.012	1,305	1,305	1,305
16	[PMB]	94,366	19,249	18,819	17,122	-430	1,697	20.40	19.94	18.14	↓	↓	0.978	1.099	85,856	85,856	87,426

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

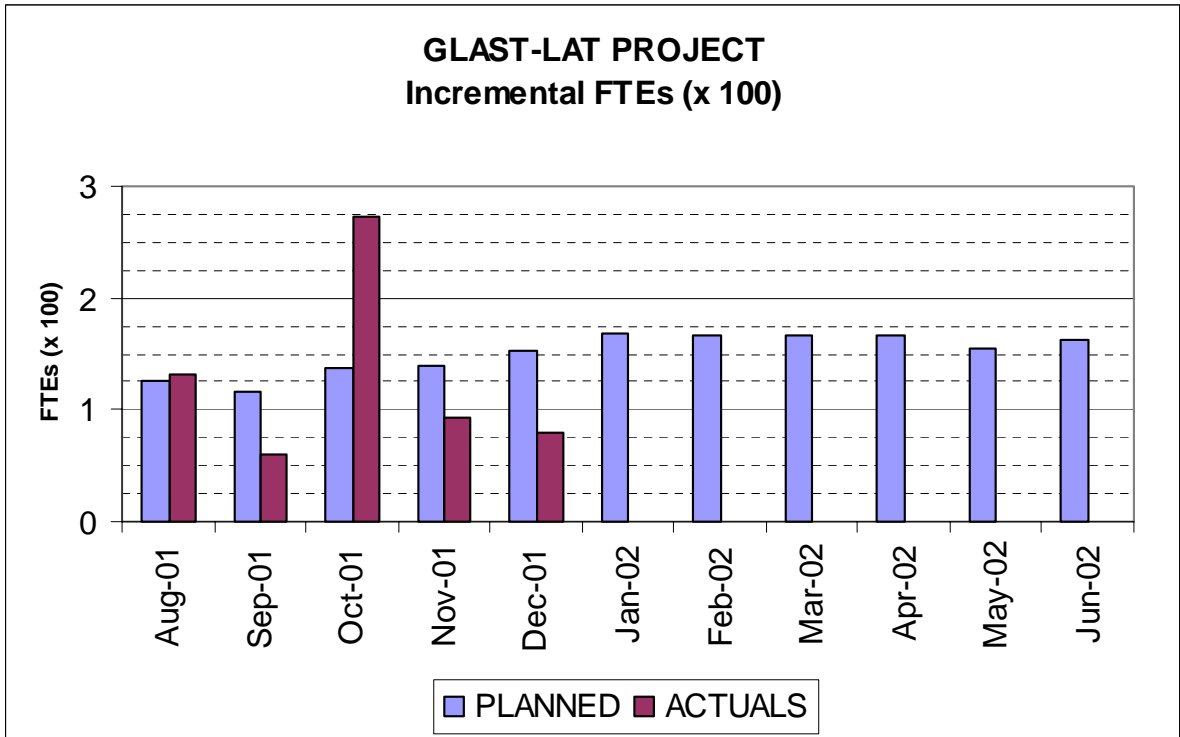
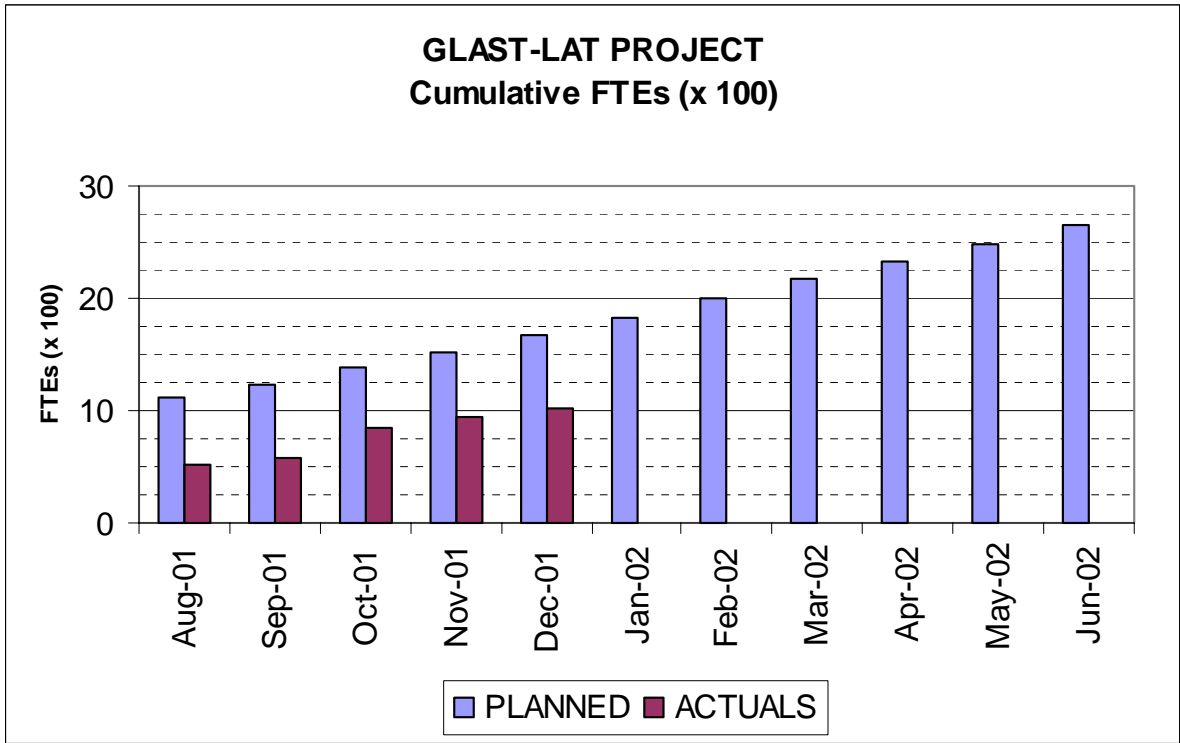
Cpi_Fcst: CPI (to date) EAC Forecast = BAC / CPI

3MoCpi_Fcst: 3 Month Moving Avg. EAC Forecast = $ACWP + [ACWP(\text{last 3 mo.}) / BCWP(\text{last 3 mo.})] * (BAC - BCWP)$

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

	Worse than -15%		Between -5% and 10%
	Between -15% and -5%		Better than 10%
Change Threshold: 10%			

**Attachment 9
LAT Manpower**



Attachment 10
LAT Manpower Data, through December 2001, by WBS

Program: 1201		Description: GLAST LAT Project		Approval: Program Manager													
Run Date: 2/6/02		Status Date: 12/31/01		Functional Manager													
				Cost Account Manager													
				Cum to													
				PRIOR	JUL01	AUG01	SEP01	OCT01	NOV01	DEC01	Date	JAN02	FEB02	MAR02	APR02	MAY02	JUN02
CAPW[3]																	
4.1.1 INSTRUMENT MANAGEMENT																	
FTE	PLANNED	61.7	5.9	5.9	5.9	10.2	10.6	10.6	110.6	10.6	10.6	10.2	10.2	10.2	10.2	10.2	10.2
	ACTUALS	168.4	-127.2	4.3	4.2	22.7	16.3	8.0	96.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.1.2 SYSTEM ENGINEERING																	
FTE	PLANNED	10.8	2.3	2.3	2.1	1.7	1.7	1.7	22.5	1.5	1.8	1.8	1.8	1.8	1.8	1.8	1.8
	ACTUALS	28.1	-21.3	0.7	0.5	0.5	0.4	0.4	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.1.4 TRACKER																	
FTE	PLANNED	188.1	18.4	19.4	23.0	23.9	24.9	25.4	323.2	25.8	25.0	23.1	23.4	24.5	25.3	25.3	25.3
	ACTUALS	284.8	-132.5	7.5	-22.0	105.3	26.1	24.4	293.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.1.5 CALORIMETER																	
FTE	PLANNED	265.4	36.9	37.1	36.4	39.1	38.9	38.5	492.3	47.0	46.4	48.0	47.5	47.6	48.1	48.1	48.1
	ACTUALS	43.8	3.8	60.8	16.1	-1.5	12.0	13.9	148.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.1.6 ANTICOINCIDENCE DETECTOR																	
FTE	PLANNED	73.4	8.2	8.2	11.7	22.9	21.6	27.5	173.6	25.1	23.6	21.6	21.1	13.9	20.0	20.0	20.0
	ACTUALS	0.0	0.0	0.0	16.8	29.5	0.0	0.0	46.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.1.7 ELECTRONICS																	
FTE	PLANNED	65.2	8.7	10.2	10.7	15.0	11.7	17.2	138.6	16.1	14.9	14.3	16.2	12.0	10.9	10.9	10.9
	ACTUALS	52.1	-22.6	8.8	15.7	46.5	7.2	11.3	118.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.1.8 MECHANICAL SYSTEMS																	
FTE	PLANNED	27.1	5.7	4.3	5.0	5.0	9.3	4.3	60.8	10.7	7.9	8.1	10.1	10.8	9.2	9.2	9.2
	ACTUALS	90.7	-65.9	4.3	4.5	4.7	3.8	3.8	46.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.1.9 INSTRUMENT INTEGRATION AND TESTING																	
FTE	PLANNED	0.0	0.0	0.0	0.0	7.3	7.3	7.3	21.9	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
	ACTUALS	0.0	0.0	0.0	0.0	0.8	2.1	2.6	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.1.A PERFORMANCE AND SAFETY ASSURANCE																	
FTE	PLANNED	16.5	1.5	1.5	1.5	2.6	2.6	2.6	28.7	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
	ACTUALS	47.0	-35.8	0.9	1.0	1.8	1.9	3.6	20.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.1.B LAT INSTRUMENT OPERATIONS CENTER																	
FTE	PLANNED	9.7	0.4	0.5	0.8	0.8	0.8	1.1	14.0	0.9	1.4	1.4	1.4	1.4	1.4	1.4	1.4
	ACTUALS	0.0	0.0	0.0	0.0	5.2	9.0	1.2	15.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.1.C EDUCATION AND PUBLIC OUTREACH																	
FTE	PLANNED	17.6	2.5	2.4	1.9	1.4	1.4	1.4	28.6	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
	ACTUALS	1.8	0.0	16.7	3.2	0.0	5.6	1.9	29.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.1.D SCIENCE ANALYSIS SOFTWARE																	
FTE	PLANNED	90.5	6.6	7.4	6.8	6.9	8.7	14.4	141.2	20.2	23.0	26.2	24.0	21.0	24.4	24.4	24.4
	ACTUALS	0.0	59.2	5.0	4.2	26.7	7.9	8.5	111.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.1.E SUBORBITAL FLIGHT TEST																	
FTE	PLANNED	68.5	7.5	25.8	9.7	0.0	0.0	0.0	111.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	ACTUALS	0.1	7.2	21.8	15.6	30.8	0.0	0.0	75.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grand Totals:																	
	PLANNED	894.4	104.4	124.9	115.4	136.8	139.4	152.1	1667.3	169.1	165.8	166.0	167.0	154.5	162.7	162.7	162.7
	ACTUALS	716.8	-335.1	130.8	59.7	273.0	92.5	79.6	1017.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Attachment 11
LAT Manpower Data, through December 2001, by Organization

Program: 1201		Description: GLAST LAT Project		Approval: Program Manager												
Run Date: 2/6/02		Status Date: 12/31/01		Functional Manager												
				Cost Account Manager												
			PRIOR	JUL01	AUG01	SEP01	OCT01	NOV01	DEC01	Cum to Date	JAN02	FEB02	MAR02	APR02	MAY02	JUN02
OBS[1]																
DG *** GSFC	FTE	PLANNED	105.2	11.2	29.0	12.9	25.6	24.3	29.7	237.8	28.2	27.0	24.8	24.4	17.0	23.2
		ACTUALS	0.0	0.0	0.0	30.7	42.6	0.0	0.0	73.3	0.0	0.0	0.0	0.0	0.0	0.0
DH *** HEPL	FTE	PLANNED	104.4	5.6	6.0	13.5	5.3	4.9	6.4	146.0	6.5	5.9	6.5	8.0	6.0	6.4
		ACTUALS	0.0	0.0	0.0	0.0	98.5	22.6	7.4	128.5	0.0	0.0	0.0	0.0	0.0	0.0
DL *** SLAC	FTE	PLANNED	214.9	28.4	28.5	27.6	35.2	41.5	46.5	422.7	54.3	51.6	52.9	53.4	50.1	51.8
		ACTUALS	561.2	-353.7	25.0	22.2	25.8	27.9	28.3	336.7	0.0	0.0	0.0	0.0	0.0	0.0
DN *** NRL	FTE	PLANNED	115.6	10.6	12.3	9.3	18.0	15.3	15.0	196.0	14.0	14.7	16.2	15.3	15.1	15.3
		ACTUALS	47.7	13.3	87.5	28.9	2.3	15.8	20.6	216.0	0.0	0.0	0.0	0.0	0.0	0.0
DS *** SSU	FTE	PLANNED	17.6	2.5	2.4	1.9	1.4	1.4	1.4	28.6	1.4	1.4	1.4	1.4	1.4	1.4
		ACTUALS	1.8	0.0	16.7	3.2	0.0	5.6	1.9	29.2	0.0	0.0	0.0	0.0	0.0	0.0
DU *** UCSC	FTE	PLANNED	81.4	5.9	6.1	5.7	7.0	5.6	5.8	117.3	5.9	5.0	5.0	4.7	4.7	4.7
		ACTUALS	42.9	5.4	1.7	5.2	59.5	7.8	8.1	130.6	0.0	0.0	0.0	0.0	0.0	0.0
DW *** UW	FTE	PLANNED	15.8	1.0	1.0	1.0	1.0	1.0	1.0	21.6	0.9	1.6	0.8	0.9	0.9	0.9
		ACTUALS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FF *** France	FTE	PLANNED	172.0	28.0	28.0	28.6	28.6	28.7	28.0	341.9	34.1	35.6	36.2	36.4	37.2	36.9
		ACTUALS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FI *** Italy	FTE	PLANNED	39.6	9.1	9.5	12.5	12.5	14.7	16.1	114.0	16.6	15.9	15.0	15.2	14.9	14.9
		ACTUALS	63.3	0.0	0.0	-30.6	14.5	10.9	11.6	69.6	0.0	0.0	0.0	0.0	0.0	0.0
FJ *** Japan	FTE	PLANNED	28.0	2.3	2.3	2.3	2.3	2.3	2.3	41.5	2.7	2.7	2.7	2.7	2.7	2.7
		ACTUALS	0.0	0.0	0.0	0.0	29.8	1.9	1.8	33.5	0.0	0.0	0.0	0.0	0.0	0.0
FK *** Sweden	FTE	PLANNED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	4.5	4.5	4.5	4.5	4.5
		ACTUALS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grand Totals:		PLANNED	894.4	104.4	124.9	115.4	136.8	139.4	152.1	1667.3	169.1	165.8	166.1	167.0	154.5	162.7
		ACTUALS	716.8	-335.0	130.8	59.7	273.0	92.5	79.6	1017.3	0.0	0.0	0.0	0.0	0.0	0.0

4.1 GLAST LAT																
Contributer	FTE	PLANNED	301.9	44.0	45.4	47.1	47.6	51.3	56.9	594.2	69.5	71.5	74.0	72.5	71.6	74.0
		ACTUALS	63.4	0.0	0.0	-28.7	46.8	12.8	13.3	107.6	0.0	0.0	0.0	0.0	0.0	0.0
Funded	FTE	PLANNED	592.5	60.4	79.4	68.3	89.3	88.1	95.1	1073.1	99.6	94.4	92.0	94.5	83.0	88.7
		ACTUALS	653.5	-335.1	130.8	88.4	226.2	79.7	66.3	909.8	0.0	0.0	0.0	0.0	0.0	0.0
Grand Totals:		PLANNED	894.4	104.4	124.9	115.4	136.8	139.4	152.1	1667.3	169.1	165.8	166.0	167.0	154.5	162.7
		ACTUALS	716.8	-335.0	130.8	59.7	273.0	92.5	79.6	1017.3	0.0	0.0	0.0	0.0	0.0	0.0