Monthly Progress Report

(Month Ending February 2002)

GLAST Large Area Telescope (LAT)

LAT-MR-00656-01

April 11, 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 February, 2002.

2.0 Recent Progress and Status

Tracker: A prototype tower was assembled, using both Italian and SLAC/Hytec assembly techniques. Vibration tests were then carried out; displacements were not different than expected, but the gasket material was determined to be inadequate. Another test is planned for this spring, with a different gasket material.

Calorimeter: Testing was completed on the laboratory model one-layer structure with 12 crystals. Instrumentation & test of the version 4 ASIC was completed; as well as the layout and fabrication of the second verification model circuit card. Flight parts procurements were delayed, awaiting resolution of qualification issues.

ACD: The focus of ACD activity remains on preparation of schedule and cost information for the delta review in June. The planned submission of digital/analog ASICs was not met, due to flaws discovered on both ASICs. The next submission opportunity is in April; this submission will be more fully developed than originally planned, to mitigate schedule loss. A full-scale mockup of the ACD shell was completed, and will be used to trace the routing of fibers from the scintillator tiles to the phototubes.

Electronics: The power supply prototype board has been received, and is being loaded and tested. The TEM prototype has been loaded and testing has commenced. Development of the NRL CPU board has started, with investigation of the 603e processor and memory availability.

Mechanical Systems: A review of the radiator concept was held, resulting in general agreement on the specifications relating to thermal interfaces to the LAT and radiator packaging. The radiator re-design effort (and associated thermal model changes) has subsequently commenced.

3.0 Schedule Status

The status of significant milestones identified in the Project Management Plan (LAT-MD-00054-04, currently in review) 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 favorable cost variance in 4.1.6 ACD is due to invoicing delays. The schedule variances are due to testing on the cables running slower than planned, the late ASIC submission resulting in a reduced level of tech support, and ground support equipment procurements not needed as early as was planned.

The favorable cost variance in 4.1.7 Electronics is caused by a combination of invoicing and hiring delays. Personnel were diverted to other high priority LAT tasks, contributing to the unfavorable schedule variance; a workaround plan is underway.

The favorable cost variance in 4.1.8 Mechanical Systems is due to a delay in staffing, and a delay in subcontractor invoicing. The staffing problem has been addressed, with the hire of a new engineer, and plans to utilize the services of several designers from another SLAC department. The schedule variance is attributed to attention being diverted to preparations for the delta PDR/baseline review.

Actual costs against 4.1.9 I&T are lower than planned due to delayed subcontractor invoicing and outstanding commitments. As with 4.1.6 ACD, a new cost/schedule plan is being developed which will take this into consideration.

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; less travel was undertaken than planned.

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.

6.0 Change Control and Contingency Analysis

Five change requests were submitted during this reporting period. The current contingency pool is $20.4M (relative to the estimate at completion).

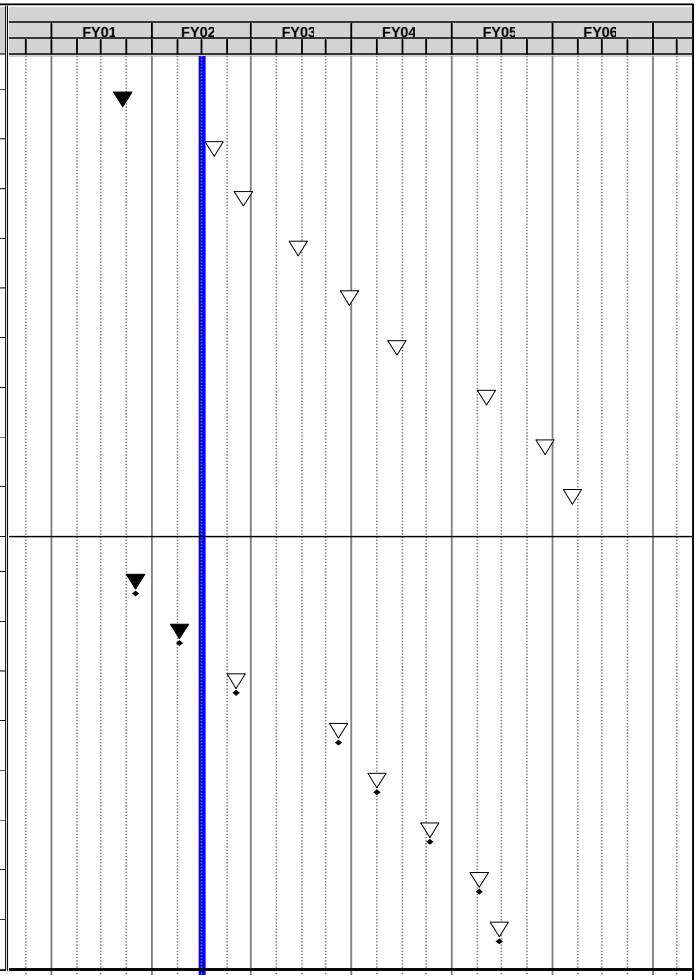
Change Request No.	Description	Submitted By	Submittal Date	Current Status
LAT-XR-00557-01	Re-Baselining of Subsystem Mass Allocations	M. Nordby	2/6/02	Approved
LAT-XR-00558-01	Reduction of LAT Instrument Mass Allocation	W. Althouse	2/6/02	Not Approved (withdrawn)
LAT-XR-00546-01	Tracker Tray Closeout Material Purchase	T. Borden	2/27/02	Approved -$13,000
LAT-XR-00547-01	Tracker Electronics Modules for Systems Electronics Testing	T. Borden	2/27/02	Approved $27,000
LAT-XR-00548-01	Tracker Sidewall Material – Delta Temperature Decrease	T. Borden/ M. Nordby	2/27/02	On Hold (pending further discussion)

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
DOE Headquarters (Level 1	
CD-0	06/15/01A
CD-1	05/15/02*
CD-2	09/03/02*
CD-3	03/17/03*
TEM Power Supply Eng. Model 2 Complete	09/22/03*
Flight GRID Complete	03/10/04*
LAT Integrated on Thermal-Vacuum Mount	02/01/05*
LAT Shipment for Observatory Integration	09/01/05*
CD-4	12/15/05*
Project Office (Level 2	
Launch Balloon Flight	08/01/01A
Instrument Preliminary Design Review	01/08/02A
I-CDR (Critical Design Review)	08/05/02*
1st Two Towers Ready for Calibration	08/15/03*
Start LAT Integration	01/02/04*
Pre Environmental Testing Review	07/09/04*
PSR-(Instrument Pre-Ship Review)	01/07/05*
LAT Ready for Integration (RFI) to Spacecraft	03/22/05*



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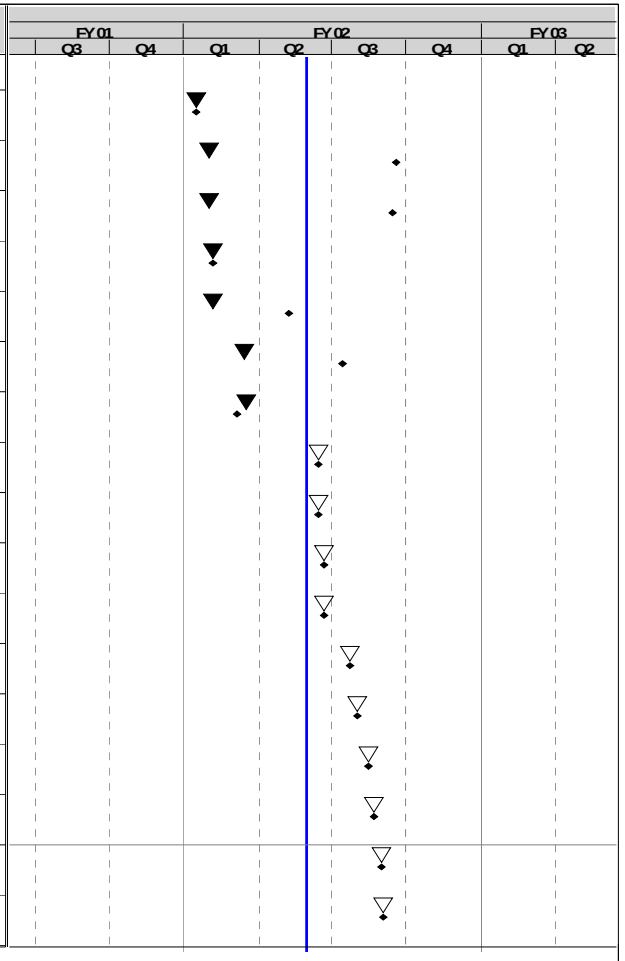
GLAST LAT PROJECT
Project Milestones (Level 1-2)
***** DRAFT *****

LAT1 Sheet 1
LT - MS (L1-2)

Attachment 2
Level 3 Milestones (One-Year View)

Activity Description	Finish Date	ND	AV
Instrument Project Office (Level 3)			
ComCard for TKR EMI Function Test-Elec to TKR	10/16/01A	4	7
Electronics Pre-Eng Model from Elec to Tracker	11/01/01A	4	7
Pre-EM TEM-from Elec to CAL	11/01/01A	5	7
VME ComCard (TEM Sim)-from Elec to CAL	11/05/01A	5	7
(2) Mini MCMs from Tracker to Elec	11/06/01A	7	4
VM Versions of CAL AFPE-CAL to Elec	12/14/01A	7	5
PDR Submittals Due	12/15/01A		
(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
EGSE EM1 HW Release-Elec to I&T	04/22/02*	9	7
Online System Spec from I&T to ICC	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 & Prts)-ACD to Elec	06/03/02*	7	6



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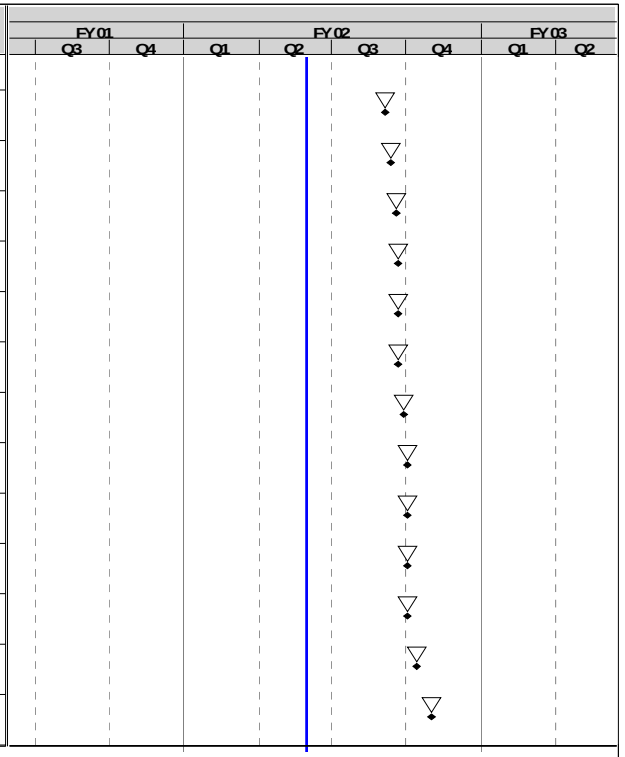
GLAST LAT PROJECT
Project Milestones (Level 3)
1 Year View (+/- 6mo)

0325

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

Activity Description	Finish Date	ND	AV
Instrument Project Office (Level 3)			
Calorimeter CDR	06/05/02*	2	5
Flight Software CDR	06/12/02*	2	7
Tracker CDR	06/18/02*	2	4
Electronics & DAQ CDR	06/20/02*	2	7
ACD Pulse 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
ACD Electronics Module - EM1 (Elec to ACD)	07/01/02*	6	7
Test/Screening Board w/ASIC for EM1 - ACD to Elec	07/01/02*	7	6
EGSE Workstation / Software #2 (I&T to ACD)	07/01/02*	6	9
(9) MCMs from Tracker to Elec	07/02/02*	7	4
CDR Submittals Due	07/12/02*	1	
CAL AFEE Engr Model - CAL to Elec	08/01/02*	7	5



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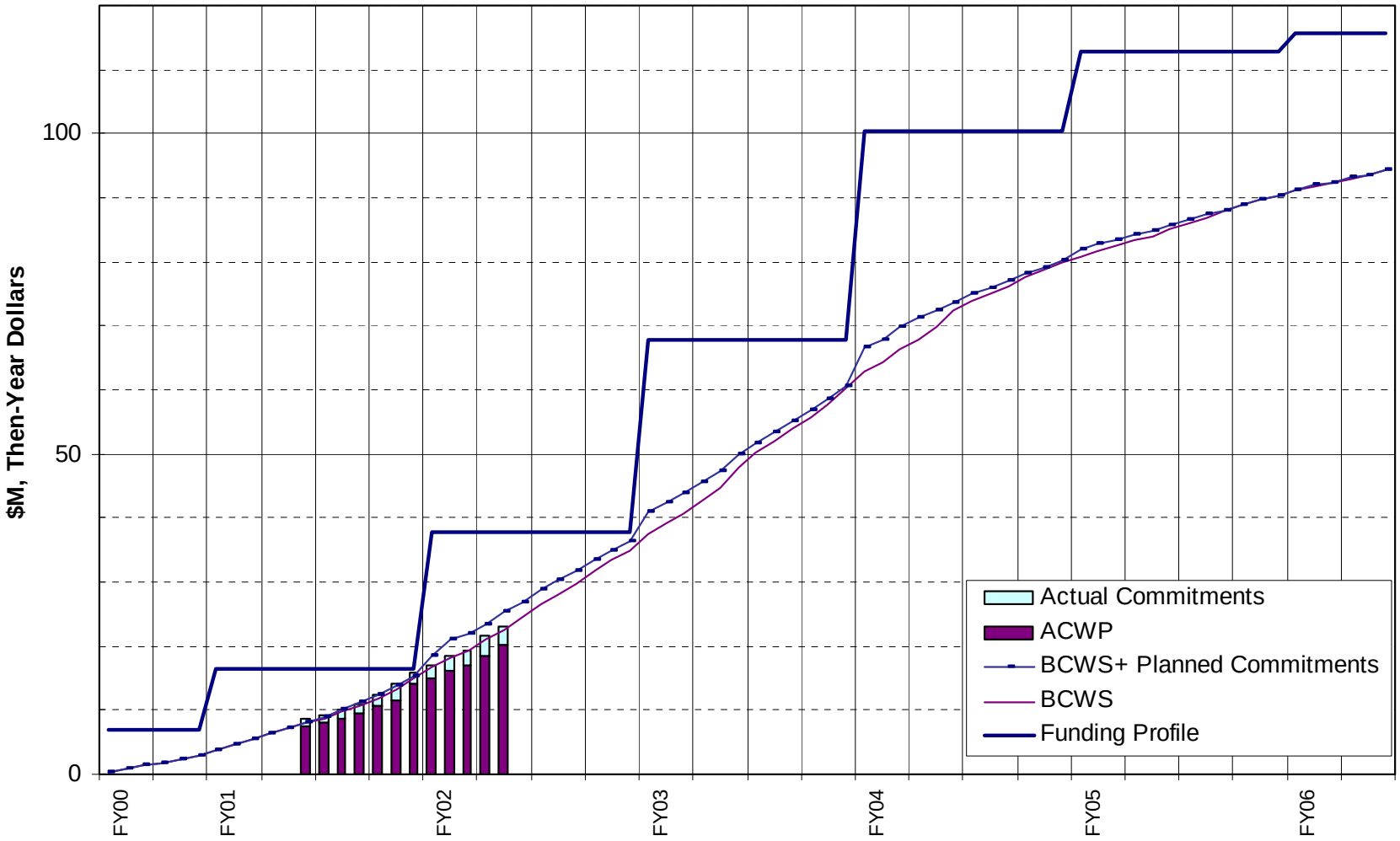
GLAST LAT PROJECT
Project Milestones (Level 3)
1 Year View (+/- 6mo)

0325 Sheet 2 of 2

Attachment 3

Budget vs Actuals vs Funding
DOE + NASA Project Expenditures



Attachment 4
LAT Costs, through February 2002, by WBS

Monthly Contractor Financial Management Report 28-Feb-02									Report for Month Ending: 2/28/02	
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
201 GLAST LAT Project	Type:								Fund Limitation: 0	
Reporting Category	Cost Incurred/Hours Worked				Estimated Cost/Hours to Complete			4/3/00 Estimated Final Cost/Hours	Billing	Unfilled Orders Outstanding
	During Month		Cum. to Date		Detail		Balance of Budget	Project Estimate	Budget Value	
	Actual	Planned	Actual	Planned	MAR02	APR02				
4.1.1 INSTRUMENT MANAGEMENT	240	164	3,562	3,502	172	181	7,392	11,307	11,307	
4.1.2 SYSTEM ENGINEERING	216	83	1,311	1,266	91	96	2,593	4,092	4,092	
4.1.4 TRACKER	185	194	4,014	3,835	326	209	5,147	9,696	9,696	
4.1.5 CALORIMETER	195	269	3,239	3,454	329	272	9,537	13,378	13,378	
4.1.6 ANTICOINCIDENCE DETECTOR	195	234	2,111	2,695	277	397	7,175	9,960	9,960	
4.1.7 ELECTRONICS	119	174	2,150	2,599	184	209	13,977	16,520	16,520	
4.1.8 MECHANICAL SYSTEMS	43	222	832	1,934	267	255	6,934	8,288	8,288	
4.1.9 INSTRUMENT INTEGRATION AND TESTING	70	90	155	465	100	104	6,935	7,294	7,294	
4.1.A PERFORMANCE AND SAFETY ASSURANCE	27	54	370	485	59	62	1,715	2,206	2,206	
4.1.B LAT INSTRUMENT OPERATIONS CENTER	20	24	192	223	26	28	3,466	3,711	3,711	
4.1.C EDUCATION AND PUBLIC OUTREACH	20	20	325	349	31	56	2,496	2,908	2,908	
4.1.D SCIENCE ANALYSIS SOFTWARE	50	54	479	479	58	56	3,107	3,700	3,700	
4.1.E SUBORBITAL FLIGHT TEST	135	0	1,330	1,321	0	0	-9	1,321	1,321	
Total	1,514	1,581	20,070	22,607	1,920	1,925	70,466	94,381	94,381	

Attachment 5
LAT Costs, through February 2002, by Organization and Cost Code

Monthly Contractor Financial Management Report 28-Feb-02								Report for Month Ending: 2/28/02	
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
201 GLAST LAT Project	Type:							Fund Limitation: 0	
Reporting Category	Cost Incurred/Hours Worked				Estimated Cost/Hours to Complete			4/3/00 Estimated Final Cost/Hours	Billing Unfilled Orders Outstanding
	During Month		Cum. to Date		Detail		Balance of Budget	Project Estimate	Budget Value
	Actual	Planned	Actual	Planned	MAR02	APR02			
DG *** GSFC	371	266	3,159	3,756	311	432	9,223	13,124	13,124
DH *** HEPL	101	83	2,239	2,227	92	118	7,052	9,502	9,502
DL *** SLAC	730	789	9,117	10,371	1,009	898	35,601	46,625	46,625
DN *** NRL	249	368	4,328	4,734	435	378	14,217	19,358	19,358
DS *** SSU	20	20	325	349	31	56	2,446	2,858	2,858
DT *** Texas A&M	0	0	0	16	0	0	16	16	16
DU *** UCSC	44	55	902	1,155	42	42	1,912	2,898	2,898
Total	1,514	1,581	20,070	22,607	1,920	1,924	70,467	94,381	94,381
RL LABOR	831	927	12,299	14,664	1,029	1,177	41,889	56,394	56,394
FTE	*83.2*	*165.8*	*1,188.3*	*2,028.5*	*166.0*	*167.0*	*6,163.5*	*7,684.8*	*7,684.8*
HOURS	*12,645*	*25,202*	*202,878*	*330,079*	*27,908*	*29,394*	*1,006,295*	*1,266,475*	*1,266,475*
RT TRAVEL	12	42	408	563	48	53	2,933	3,442	3,442
RM MATERIAL & SERVICES	538	582	6,984	7,054	810	659	24,148	32,601	32,601
RX MPS & LAB TAX	134	30	379	326	34	35	1,496	1,944	1,944
Total (not incl FTE/Hours)	1,514	1,581	20,070	22,607	1,921	1,924	70,466	94,381	94,381

Attachment 6
LAT Performance, through February 2002, by WBS

Cost Performance Report - Work Breakdown Structure												Run Date:	4/9/02
Contractor: Location:					Contract Type/No:			Project Name/No: GLAST LAT Project		Report Period: 1/31/02	2/28/02		
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]	Current Period					Cumulative to Date					At Completion		
	Budgeted Cost		Actual Cost	Variance		Budgeted Cost		Actual Cost	Variance			Latest	
Item	Work Scheduled	Work Performed	Work Performed	Schedule	Cost	Work Scheduled	Work Performed	Work Performed	Schedule	Cost	Budgeted	Revised Estimate	Variance
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
4.1.1 INSTRUMENT MANAGEMENT	164	157	240	-7	-83	3,502	3,475	3,562	-27	-87	11,307	11,307	0
4.1.2 SYSTEM ENGINEERING	83	78	216	-4	-137	1,266	1,261	1,311	-6	-51	4,092	4,092	0
4.1.4 TRACKER	194	220	185	26	35	3,835	3,733	4,014	-102	-281	9,696	9,696	0
4.1.5 CALORIMETER	269	273	195	4	78	3,454	3,404	3,239	-50	164	13,378	13,378	0
4.1.6 ANTICOINCIDENCE DETECTOR	234	336	195	102	142	2,695	2,526	2,111	-169	415	9,960	9,960	0
4.1.7 ELECTRONICS	174	67	119	-107	-53	2,599	2,373	2,150	-227	223	16,520	16,520	0
4.1.8 MECHANICAL SYSTEMS	222	78	43	-144	35	1,934	1,420	832	-514	589	8,288	8,288	0
4.1.9 INSTRUMENT INTEGRATION AND TEST	90	90	70	0	20	465	465	155	0	310	7,294	7,294	0
4.1.A PERFORMANCE AND SAFETY ASSURA	54	54	27	0	27	485	485	370	0	115	2,206	2,206	0
4.1.B LAT INSTRUMENT OPERATIONS CENT	24	11	20	-13	-9	223	231	192	8	39	3,711	3,711	0
4.1.C EDUCATION AND PUBLIC OUTREACH	20	11	20	-9	-9	349	356	325	7	31	2,908	2,908	0
4.1.D SCIENCE ANALYSIS SOFTWARE	54	20	50	-34	-30	479	448	479	-31	-31	3,700	3,700	0
4.1.E SUBORBITAL FLIGHT TEST	0	0	135	0	-135	1,321	1,321	1,330	0	-9	1,321	1,321	0
Gen. and Admin.	0	0	0	0	0	0	0	0	0	0	0	0	0
Undist. Budget											0	0	0
Sub Total	1,581	1,396	1,514	-185	-118	22,607	21,497	20,070	-1,110	1,426	94,381	94,381	0
Management Resrv.											0	0	0
Total	1,581	1,396	1,514	-185	-118	22,607	21,497	20,070	-1,110	1,426	94,381	94,381	0

Attachment 7
LAT Performance, through February 2002, by Organization

Cost Performance Report - Work Breakdown Structure												Run Date:	4/9/02
Contractor: Location:				Contract Type/No:			Project Name/No: GLAST LAT Project		Report Period: 1/31/02	2/28/02			
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	Current Period					Cumulative to Date					At Completion		
	Budgeted Cost		Actual Cost	Variance		Budgeted Cost		Actual Cost	Variance			Latest	
Item	Work Scheduled	Work Performed	Work Performed	Schedule	Cost	Work Scheduled	Work Performed	Work Performed	Schedule	Cost	Budgeted	Revised Estimate	Variance
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
DG *** GSFC	266	366	371	100	-4	3,756	3,585	3,159	-171	426	13,124	13,124	0
DH *** HEPL	83	58	101	-26	-43	2,227	2,212	2,239	-15	-27	9,502	9,502	0
DL *** SLAC	789	605	730	-185	-125	10,371	9,648	9,117	-723	531	46,625	46,625	0
DN *** NRL	368	320	249	-47	71	4,734	4,608	4,328	-126	279	19,358	19,358	0
DS *** SSU	20	11	20	-9	-9	349	356	325	7	31	2,858	2,858	0
DT *** Texas A&M	0	0	0	0	0	16	16	0	0	16	16	16	0
DU *** UCSC	55	36	44	-19	-8	1,155	1,072	902	-82	171	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	1,581	1,396	1,514	-185	-118	22,607	21,497	20,070	-1,110	1,426	94,381	94,381	0
Management Resrv.											0	0	0
Total	1,581	1,396	1,514	-185	-118	22,607	21,497	20,070	-1,110	1,426	94,381	94,381	0

Attachment 8
LAT Performance Analysis, February 2002

	WBS	BAC	BCWS	BCWP	ACWP	SV $	CV $	% BCWS	% BCWP	% ACWP	SV Trend	CV Trend	SPI	CPI	Cpi_Fcst	3moCpi_Fcst	CpiSpi_Fcst
1	4	94,381	22,607	21,497	20,070	-1,110	1,426	23.95	22.78	21.27	↓	↓	0.951	1.071	88,118	88,118	91,633
2	4.1	94,381	22,607	21,497	20,070	-1,110	1,426	23.95	22.78	21.27	↓	↓	0.951	1.071	88,118	88,118	91,633
3	4.1.1	11,307	3,502	3,475	3,562	-27	-87	30.97	30.73	31.50	↓	↓	0.992	0.975	11,591	11,591	11,653
4	4.1.2	4,092	1,266	1,261	1,311	-6	-51	30.95	30.81	32.05	↓	↓	0.995	0.961	4,256	4,256	4,270
5	4.1.4	9,696	3,835	3,733	4,014	-102	-281	39.55	38.50	41.40	↑	↑	0.973	0.930	10,426	10,426	10,602
6	4.1.5	13,378	3,454	3,404	3,240	-50	164	25.82	25.44	24.22	↑	↑	0.985	1.051	12,732	12,732	12,872
7	4.1.6	9,960	2,695	2,526	2,111	-169	415	27.05	25.36	21.19	↑	↑	0.937	1.197	8,324	8,324	8,740
8	4.1.7	16,520	2,599	2,373	2,150	-227	223	15.73	14.36	13.01	↓	↓	0.913	1.104	14,969	14,969	16,193
9	4.1.8	8,288	1,934	1,420	832	-514	589	23.34	17.14	10.04	↓	↔	0.734	1.708	4,854	4,854	6,308
10	4.1.9	7,294	465	465	155	0	310	6.38	6.38	2.13	↔	↓	1.000	2.996	2,435	2,435	2,435
11	4.1.A	2,206	485	485	370	0	115	21.98	21.98	16.77	↔	↑	1.000	1.311	1,683	1,683	1,683
12	4.1.B	3,711	223	231	192	8	39	6.00	6.21	5.17	↓	↓	1.036	1.203	3,085	3,085	2,985
13	4.1.C	2,908	349	356	325	7	31	12.01	12.24	11.17	↓	↓	1.019	1.095	2,655	2,655	2,611
14	4.1.D	3,700	479	448	479	-31	-31	12.95	12.12	12.95	↓	↓	0.936	0.935	3,956	3,956	4,193
15	4.1.E	1,321	1,321	1,321	1,330	0	-9	100.00	100.00	100.67	↔	↓	1.000	0.993	1,330	1,330	1,330
16	[PMB]	94,381	22,607	21,497	20,070	-1,110	1,426	23.95	22.78	21.27	↓	↓	0.951	1.071	88,118	88,118	91,633

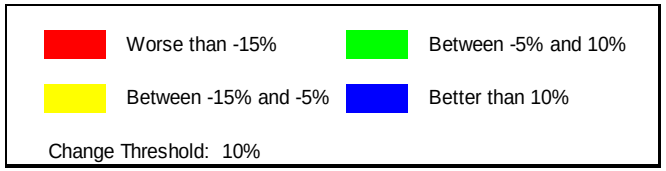
LEGEND

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)

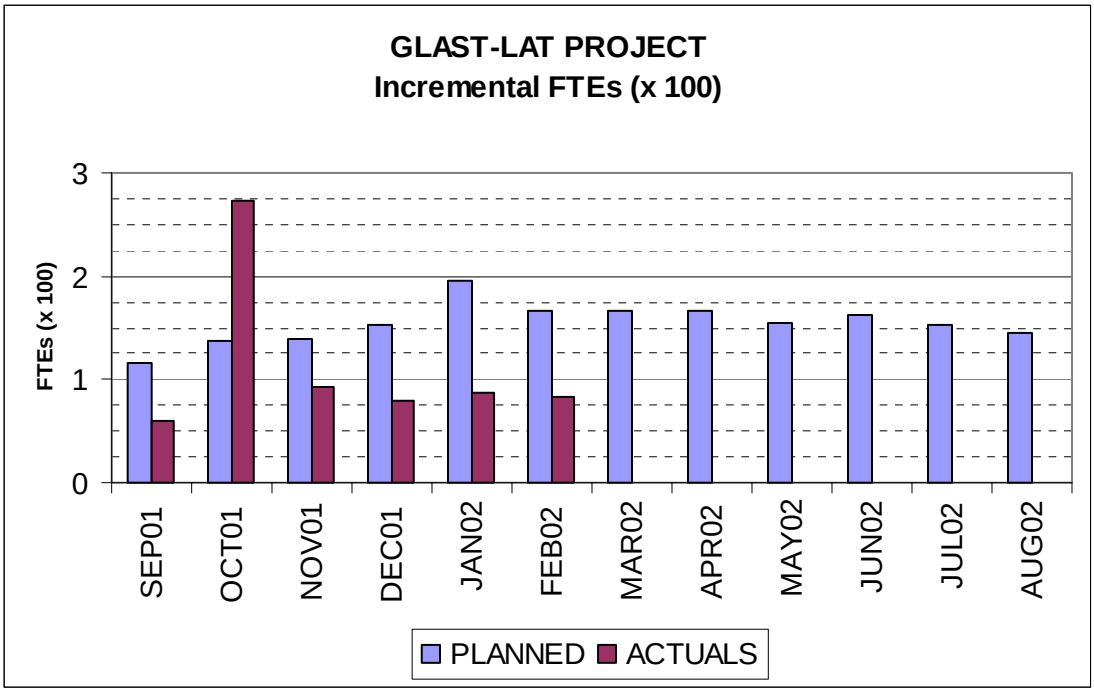
SV $: Schedule Variance = BCWP - BCWS
CV $: Cost Variance = BCWP - ACWP
SPI: Schedule Performance Index = BCWP/BCWS
CPI: Cost Performance Index = BCWP/ACWP

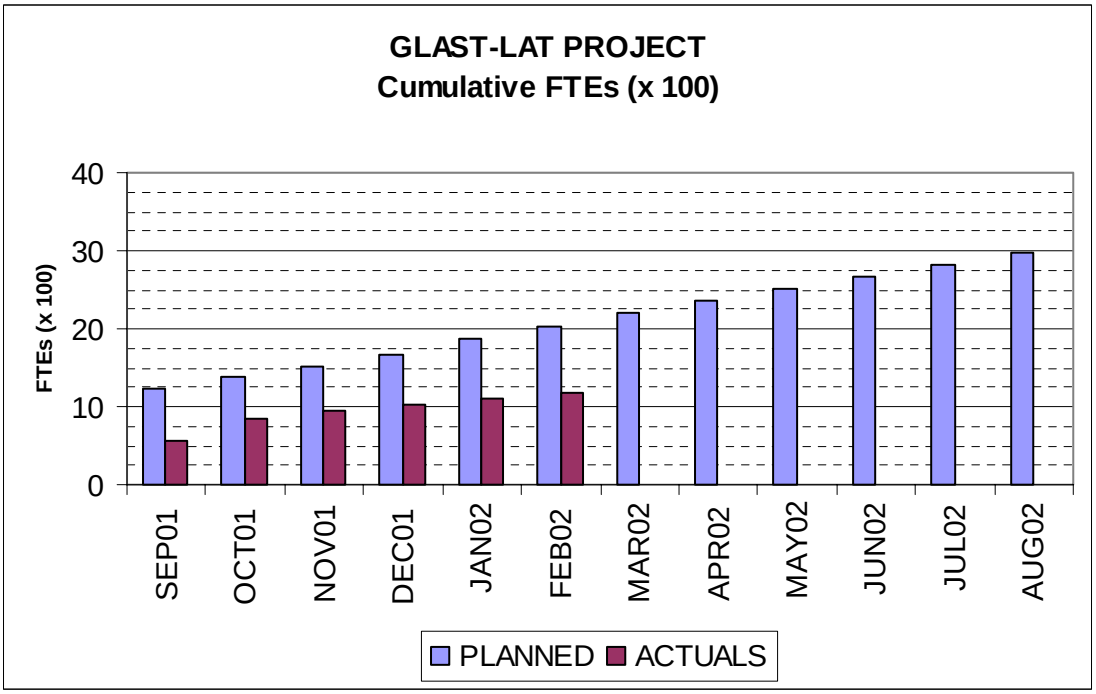
% BCWS: Percent Scheduled = BCWS/BAC
% BCWP: Percent Complete = BCWP/BAC
% ACWP: Percent Spent = ACWP/BAC

Cpi_Fcst: CPI (to date) EAC Forecast = BAC / CPI
3MoCpi_Fcst: 3 Month Moving Avg. EAC Forecast = ACWP + [ACWP(last 3 mo.) / BCWP(last 3 mo.)] * (BAC - BCWP)
CpiSpi_Fcst: Combination CPI and SPI EAC Forecast = ACWP + (BAC - BCWP) / (CPI *SPI)



Attachment 9
LAT Manpower





Attachment 10
LAT Manpower Data, through February 2002, by WBS

Program:	Description:		
201	GLAST LAT Project	Program Manager	
Run Date:	Status Date:	Functional Manager	
4/9/02	2/28/02	Cost Account Manager	

CAPW[3]		PRIOR	SEP01	OCT01	NOV01	DEC01	JAN02	FEB02	**Cum-to Date**	MAR02	APR02	MAY02	JUN02	JUL02	AUG02
4.1.1 INSTRUMENT MANAGEMENT															
FTE	PLANNED	73.4	5.9	10.2	10.6	10.6	10.6	10.6	**131.7**	10.2	10.2	10.2	10.2	10.6	10.6
	ACTUALS	45.5	4.2	22.7	16.3	8.0	9.9	10.2	**116.8**	0.0	0.0	0.0	0.0	0.0	0.0
4.1.2 SYSTEM ENGINEERING															
FTE	PLANNED	15.3	2.1	1.7	1.7	1.7	1.5	1.8	**25.8**	1.8	1.8	1.8	1.8	2.1	2.1
	ACTUALS	7.6	0.5	0.5	0.5	0.4	0.7	2.0	**12.2**	0.0	0.0	0.0	0.0	0.0	0.0
4.1.4 TRACKER															
FTE	PLANNED	225.9	23.0	23.9	24.9	25.4	25.8	25.0	**373.9**	23.1	23.4	24.5	25.3	27.2	24.9
	ACTUALS	159.7	-22.0	105.3	26.1	24.4	23.2	22.3	**339.0**	0.0	0.0	0.0	0.0	0.0	0.0
4.1.5 CALORIMETER															
FTE	PLANNED	339.3	36.4	39.1	38.9	38.5	47.0	46.4	**585.6**	48.0	47.5	47.6	48.1	47.5	47.7
	ACTUALS	108.4	16.1	-1.5	12.0	13.9	10.1	12.3	**171.3**	0.0	0.0	0.0	0.0	0.0	0.0
4.1.6 ANTICOINCIDENCE DETECTOR															
FTE	PLANNED	89.9	11.7	22.9	21.6	27.5	25.1	23.6	**222.3**	21.6	21.1	13.9	20.0	18.3	17.2
	ACTUALS	0.0	16.8	29.5	0.0	0.0	15.8	7.6	**69.7**	0.0	0.0	0.0	0.0	0.0	0.0
4.1.7 ELECTRONICS															
FTE	PLANNED	84.0	10.7	15.0	11.7	17.2	42.5	14.9	**196.0**	14.3	16.2	12.0	10.9	10.2	8.8
	ACTUALS	38.3	15.7	46.5	7.2	11.3	8.4	8.4	**135.7**	0.0	0.0	0.0	0.0	0.0	0.0
4.1.8 MECHANICAL SYSTEMS															
FTE	PLANNED	37.2	5.0	5.0	9.3	4.3	10.7	7.9	**79.4**	8.1	10.1	10.8	9.2	3.7	4.5
	ACTUALS	29.2	4.5	4.7	3.8	3.8	3.3	3.4	**52.7**	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	7.3	7.3	7.3	7.3	7.3	**36.5**	7.3	7.3	7.3	7.3	7.3	7.3
	ACTUALS	0.0	0.0	0.8	2.1	2.6	2.8	2.1	**10.4**	0.0	0.0	0.0	0.0	0.0	0.0
4.1.A PERFORMANCE AND SAFETY ASSURANCE															
FTE	PLANNED	19.4	1.5	2.6	2.6	2.6	2.6	2.6	**33.8**	2.6	2.6	2.6	2.6	2.6	2.6
	ACTUALS	12.1	1.0	1.8	1.9	3.6	2.0	2.0	**24.5**	0.0	0.0	0.0	0.0	0.0	0.0
4.1.B LAT INSTRUMENT OPERATIONS CENTER															
FTE	PLANNED	10.5	0.8	0.8	0.8	1.1	0.9	1.4	**16.3**	1.4	1.4	1.4	1.4	0.9	0.3
	ACTUALS	0.0	0.0	5.2	9.0	1.2	1.4	1.6	**18.3**	0.0	0.0	0.0	0.0	0.0	0.0
4.1.C EDUCATION AND PUBLIC OUTREACH															
FTE	PLANNED	22.5	1.9	1.4	1.4	1.4	1.4	1.4	**31.3**	1.5	1.5	1.5	1.5	4.2	1.5
	ACTUALS	18.5	3.2	0.0	5.6	1.9	1.4	0.9	**31.5**	0.0	0.0	0.0	0.0	0.0	0.0
4.1.D SCIENCE ANALYSIS SOFTWARE															
FTE	PLANNED	104.5	6.8	6.9	8.7	14.4	20.2	23.0	**184.4**	26.2	24.0	21.0	24.4	17.9	17.7
	ACTUALS	64.3	4.2	26.7	7.9	8.5	9.1	10.4	**131.1**	0.0	0.0	0.0	0.0	0.0	0.0
4.1.E SUBORBITAL FLIGHT TEST															
FTE	PLANNED	101.8	9.7	0.0	0.0	0.0	0.0	0.0	**111.5**	0.0	0.0	0.0	0.0	0.0	0.0
	ACTUALS	29.1	15.6	30.8	0.0	0.0	-0.2	0.0	**75.3**	0.0	0.0	0.0	0.0	0.0	0.0
Grand Totals:															
	PLANNED	1123.7	115.4	136.8	139.4	152.1	195.4	165.8	**2028.5**	166.1	167.0	154.6	162.7	152.4	145.1
	ACTUALS	512.6	59.7	273.0	92.5	79.6	87.8	83.2	**1188.3**	0.0	0.0	0.0	0.0	0.0	0.0

Attachment 11
LAT Manpower Data, through February 2002, by Organization

Program:	Description:	Approval:
201	GLAST LAT Project	Program Manager
Run Date:	Status Date:	Functional Manager
4/9/02	2/28/02	Cost Account Manager

OBS		PRIOR	SEP01	OCT01	NOV01	DEC01	JAN02	FEB02	**Cum-to-Date**	MAR02	APR02	MAY02	JUN02	JUL02	AUG02
DG *** GSFC															
FTE	PLANNED	145.3	12.9	25.6	24.3	29.7	28.2	27.0	**292.9**	24.8	24.4	17.0	23.2	20.6	19.5
	ACTUALS	0.0	30.7	42.6	0.0	0.0	14.8	8.6	**96.7**	0.0	0.0	0.0	0.0	0.0	0.0
DH *** HEPL															
FTE	PLANNED	116.0	13.5	5.3	4.9	6.4	6.5	5.9	**158.4**	6.5	8.0	6.0	6.4	6.2	4.8
	ACTUALS	0.0	0.0	98.5	22.6	7.4	8.3	7.4	**144.3**	0.0	0.0	0.0	0.0	0.0	0.0
DL *** SLAC															
FTE	PLANNED	271.9	27.6	35.2	41.5	46.5	54.3	51.6	**528.6**	52.9	53.4	50.1	51.8	41.0	40.9
	ACTUALS	232.5	22.2	25.8	27.9	28.3	30.7	30.8	**398.2**	0.0	0.0	0.0	0.0	0.0	0.0
DN *** NRL															
FTE	PLANNED	138.5	9.3	18.0	15.3	15.0	40.4	14.7	**251.1**	16.2	15.3	15.1	15.3	15.3	14.6
	ACTUALS	148.4	28.9	2.3	15.8	20.6	13.5	16.4	**245.9**	0.0	0.0	0.0	0.0	0.0	0.0
DS *** SSU															
FTE	PLANNED	22.5	1.9	1.4	1.4	1.4	1.4	1.4	**31.3**	1.5	1.5	1.5	1.5	4.2	1.5
	ACTUALS	18.5	3.2	0.0	5.6	1.9	1.4	0.9	**31.5**	0.0	0.0	0.0	0.0	0.0	0.0
DU *** UCSC															
FTE	PLANNED	93.3	5.7	7.0	5.6	5.8	5.9	5.0	**128.2**	5.0	4.7	4.7	4.7	4.7	4.7
	ACTUALS	49.9	5.2	59.5	7.8	8.1	7.1	6.4	**144.0**	0.0	0.0	0.0	0.0	0.0	0.0
DW *** UW															
FTE	PLANNED	17.7	1.0	1.0	1.0	1.0	0.9	1.6	**24.1**	0.8	0.9	0.9	0.9	0.9	0.9
	ACTUALS								**0.0**						
FF *** France															
FTE	PLANNED	227.9	28.6	28.6	28.7	28.0	34.1	35.6	**411.5**	36.2	36.4	37.2	36.9	35.6	36.2
	ACTUALS								**0.0**						
FI *** Italy															
FTE	PLANNED	58.2	12.5	12.5	14.7	16.1	16.6	15.9	**146.4**	15.0	15.2	14.9	14.9	16.7	14.9
	ACTUALS	63.3	-30.6	14.5	10.9	11.6	10.3	10.9	**90.8**	0.0	0.0	0.0	0.0	0.0	0.0
FJ *** Japan															
FTE	PLANNED	32.5	2.3	2.3	2.3	2.3	2.7	2.7	**46.9**	2.7	2.7	2.7	2.7	2.7	2.7
	ACTUALS	0.0	0.0	29.8	1.9	1.8	1.8	1.8	**37.0**	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	4.5	4.5	**9.0**	4.5	4.5	4.5	4.5	4.5	4.5
	ACTUALS								**0.0**						
Grand Totals:															
	PLANNED	1123.7	115.4	136.8	139.4	152.1	195.4	165.8	**2028.5**	166.1	167.0	154.6	162.7	152.4	145.1
	ACTUALS	512.6	59.7	273.0	92.5	79.6	87.8	83.2	**1188.3**	0.0	0.0	0.0	0.0	0.0	0.0

4.1 GLAST LAT															
Contributed	PLANNED	405.1	47.8	48.3	52.0	57.6	70.2	72.1	**753.0**	74.7	73.2	72.3	74.7	70.7	68.8
	ACTUALS	63.4	-28.7	46.8	12.8	13.3	11.9	12.6	**132.0**	0.0	0.0	0.0	0.0	0.0	0.0
Funded	PLANNED	718.6	67.6	88.6	87.4	94.4	125.2	93.7	**1275.5**	91.4	93.9	82.3	88.0	81.7	76.3
	ACTUALS	449.2	88.4	226.2	79.7	66.3	75.9	70.6	**1056.3**	0.0	0.0	0.0	0.0	0.0	0.0
Grand Totals:	PLANNED	1123.7	115.4	136.8	139.4	152.1	195.4	165.8	**2028.5**	166.1	167.0	154.6	162.7	152.4	145.1
	ACTUALS	512.6	59.7	273.0	92.5	79.6	87.8	83.2	**1188.3**	0.0	0.0	0.0	0.0	0.0	0.0