

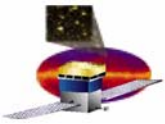
GLAST Large Area Telescope:

Monthly Review

June 30, 2004

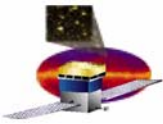
Lowell A. Klaisner
Stanford Linear Accelerator Center
Project Manager

Klaisner@slac.stanford.edu
650-926-2726

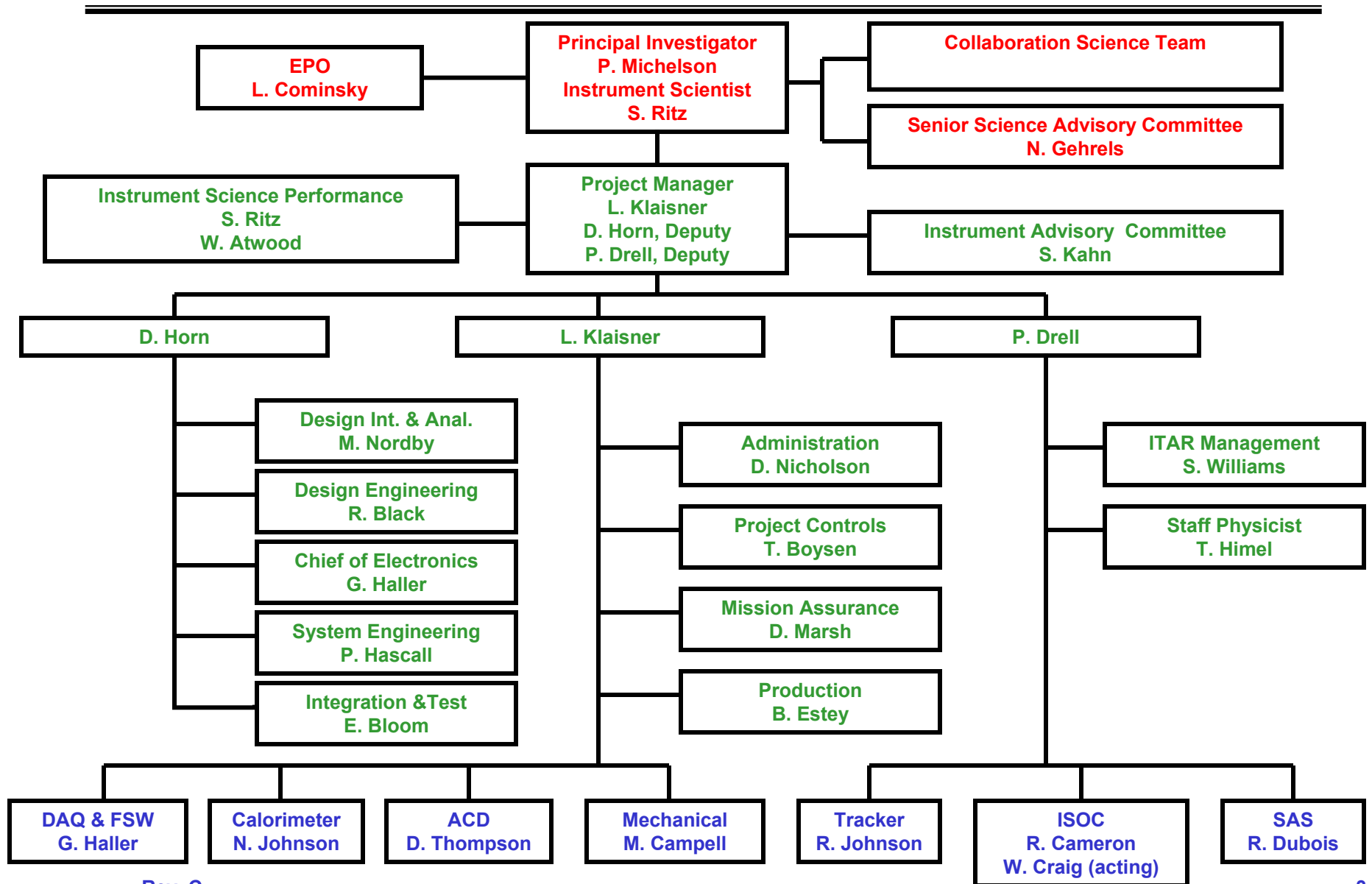


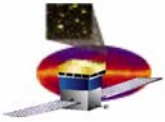
Overview

- **Tracker EM passed vibration test at Qualification Levels!**
- **Grid match drilled with ACD base assembly**
- **New management personnel**
 - **Persis Drell joined the project as Deputy Project Manager**
 - **She will direct Tracker, ISOC, and SAS**
 - **Short term emphasis is on Tracker**
 - **Jeff Fisher has joined as Flight Software Manager**
 - **Ken Fouts will arrive in July as I&T Lead Engineer**
 - **Brigitte Estey will arrive in July as Production Manager**
 - **Rob Cameron arrives in August as ISOC manager**



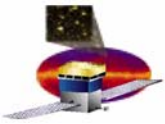
Proposed LAT Organization Chart





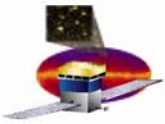
Cost

- **Cash flow is still tight for FY04 but doable**
 - **Lien list for FY04 equals \$2,535K (after today's CCB)**
 - **Arrangements underway to access the Stanford money**
- **Total Liens equal ~\$6.5M and total contingency equals ~\$8M**

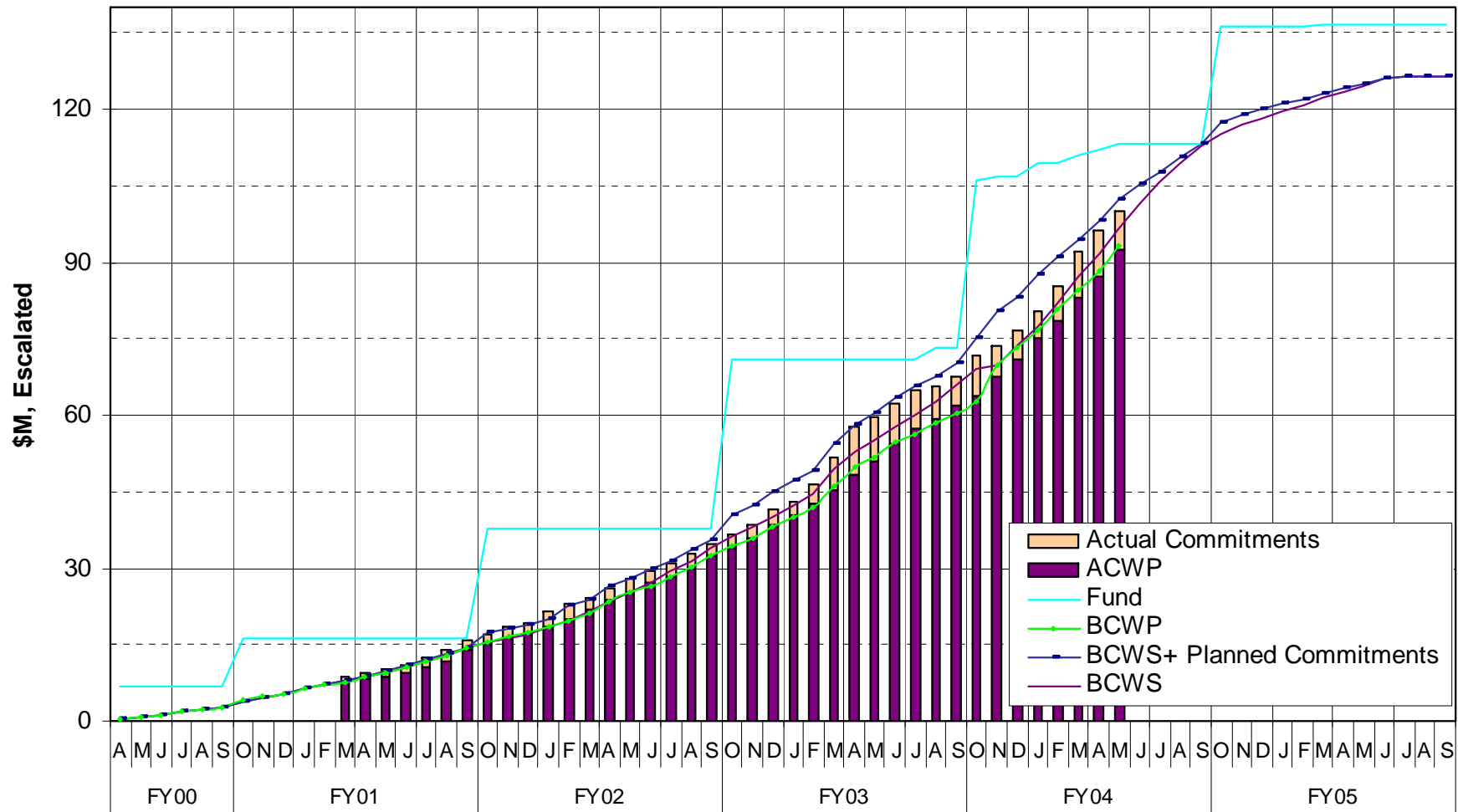


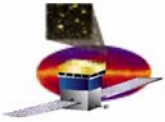
Lien List (after today's CCB action)

		Year		
Subsystem	Item	FY04	FY05	Grand Total
4.1.1 Mgmt Total		80	270	350
4.1.2 Systems Engineering Total		0	180	180
4.1.4 Tracker Total		1,453	360	1,813
4.1.6 ACD Total		38	226	264
4.1.7 Electronics Total		693	863	1,556
4.1.8 Mech Sys Total		203	109	312
4.1.9 I&T Total		57	957	1,014
4.1.A PSA Total		0	870	870
Several Total		11	67	78
TOTAL		2,535	3,902	6,437
	Available Contingency	77	7,906	7,983



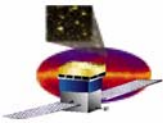
Budget, Cost, Funding, Performance





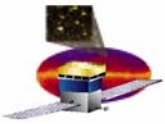
Schedule

- **PMCS schedule as of May '04 shows 4 weeks float to LAT RFI (December 1, 2005)**
 - **Delivery of the first 10 modules supports 7 weeks float**
 - **Need to work Tracker schedule after module 8**
 - **Robert and Persis going to Pisa in July**
 - **System Engineering is preparing a road map for system test**

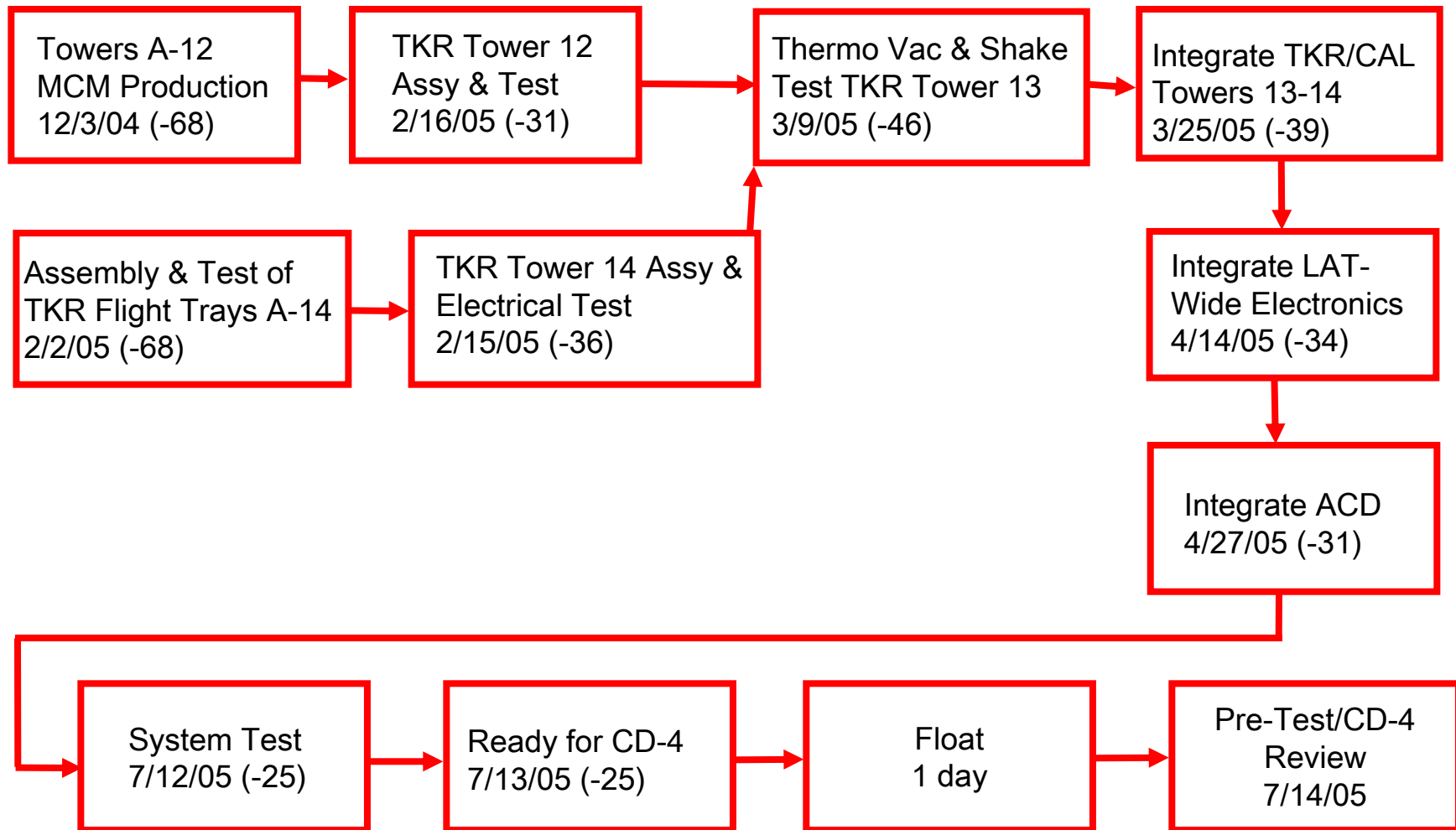


Module Deliveries

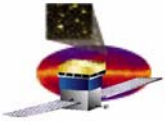
Mod #	I&T Need (3 wk float)	Current Projected AV Dates and Float							
		MECH		TKR		CAL		TEM/TEM PS	
Grid	22-Sep-04	15-Sep-04	20						
A	22-Sep-04			13-Sep-04	22	7-Sep-04	26	15-Sep-04	20
B	13-Oct-04			6-Oct-04	20	6-Oct-04	25	22-Sep-04	35
1	17-Nov-04			2-Nov-04	26	20-Oct-04	30	10-Nov-04	20
2	24-Nov-04			2-Nov-04	31	21-Oct-04	32	17-Nov-04	20
3	1-Dec-04			23-Nov-04	21	28-Oct-04	34	24-Nov-04	20
4	10-Dec-04			23-Nov-04	26	28-Oct-04	37	3-Dec-04	20
5	17-Dec-04			14-Dec-04	18	9-Nov-04	41	10-Dec-04	20
6	3-Jan-05			14-Dec-04	23	9-Nov-04	46	17-Dec-04	20
7	10-Jan-05			10-Jan-05	15	23-Nov-04	41	3-Jan-05	20
8	18-Jan-05			10-Jan-05	20	23-Nov-04	46	10-Jan-05	20
9	25-Jan-05			2-Feb-05	9	23-Dec-04	31	18-Jan-05	20
10	1-Feb-05			2-Feb-05	14	23-Dec-04	36	25-Jan-05	20
11	8-Feb-05			23-Feb-05	5	20-Jan-05	28	1-Feb-05	20
12	15-Feb-05			23-Feb-05	10	19-Jan-05	34	8-Feb-05	20
13	23-Feb-05			16-Mar-05	0	28-Jan-05	32	15-Feb-05	20
14	2-Mar-05			16-Mar-05	5	28-Jan-05	37	23-Feb-05	20
Notes:	I&T need dates based on keeping 15 days of total float in project.								
	CAL and ELEX I&T need dates are slightly later than the TKR need dates.								



Current Critical Path

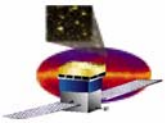


Completion Dates (Baseline Variance)

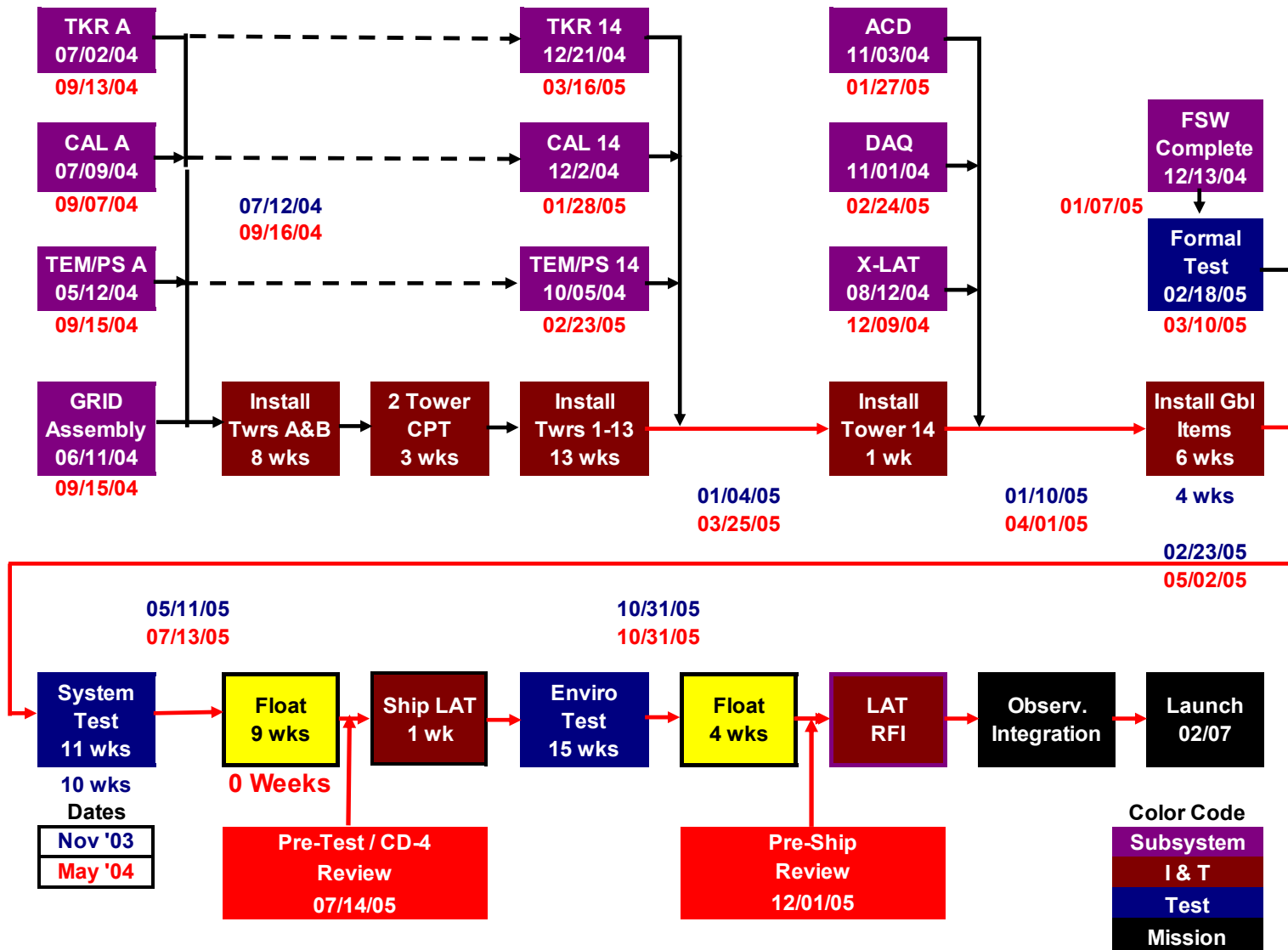


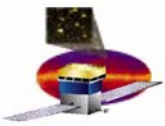
Current Critical Path

- **MCM Production and Assembly of Tracker Flight Tray Panels:**
 - 1 day float to “Ready for CD-4” Review”
 - 4 weeks to LAT pre-ship review
- **Second critical path is driven by the TEM PCC fabrication (impacts delivery of the TEM PS Assembly A to I&T):**
 - 1 month behind the first critical path
 - This is also the critical path to “Module A Integration”
 - 9 weeks to LAT pre-ship review
- **Third critical path is completion of the Mechanical Flight Grid to I&T:**
 - 1 day behind the second critical path

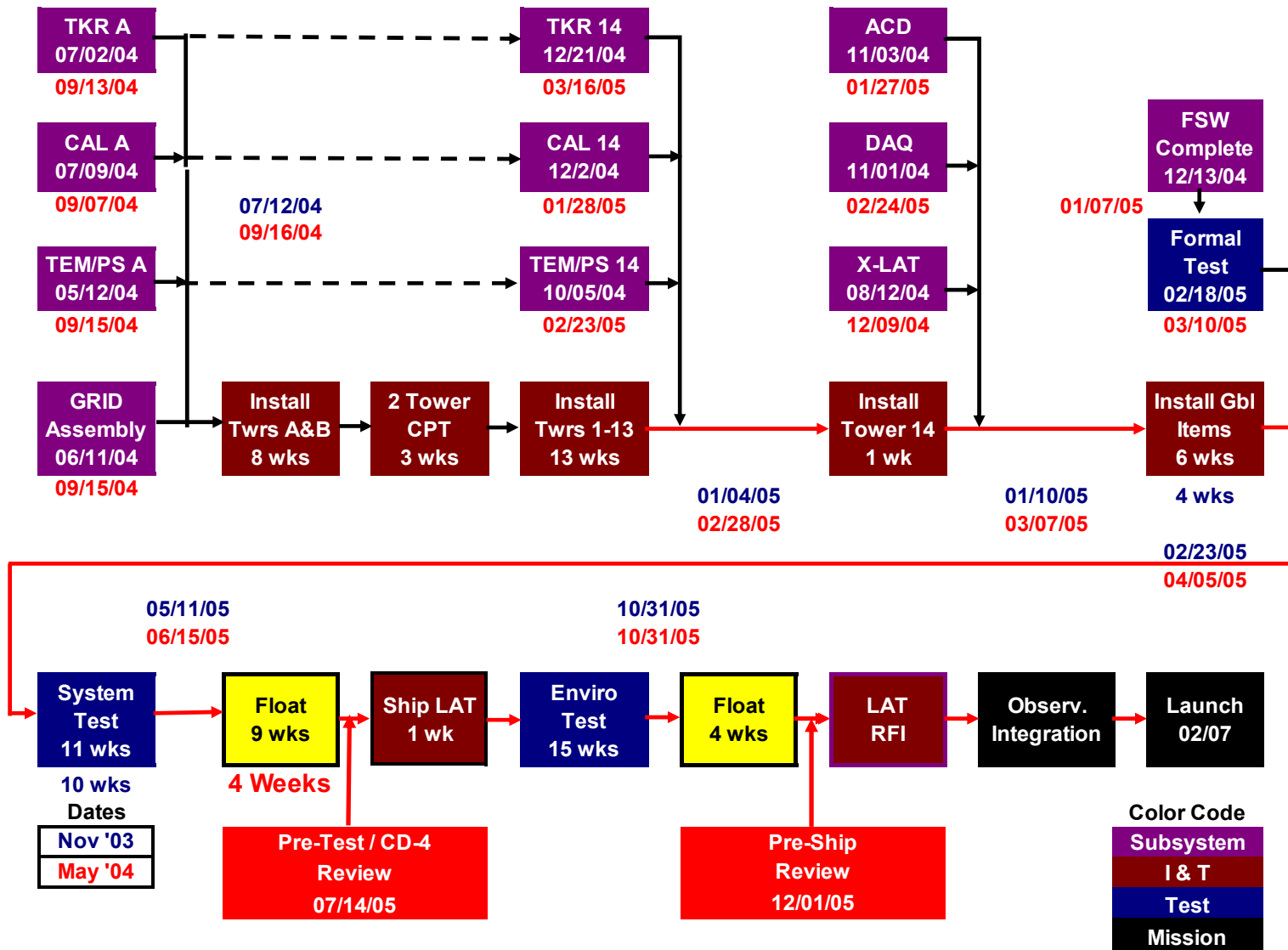


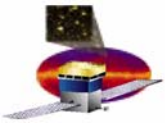
LAT Schedule





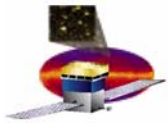
LAT Schedule w/o Tracker Critical Path



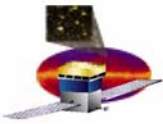


Today's Agenda – Pacific Daylight Time

- 5:00 – 6:00am - ACD I&T Tour
- 6:00 - 6:15am - Project Status Overview - Lowell Klaisner
- 6:15 – 7:00am - ACD – Tom Johnson
- 7:00 – 7:45am - Calorimeter – Neil Johnson
- 7:45 – 8:15am - System Engineering Status & Action items - Pat Hascall
- 8:15 – 8:45am - Design Integration & Analysis – Martin Nordby
- 8:45 – 9:00am - Design Engineering – Rob Black
- 9:00 – 9:30am - Mechanical/thermal Hardware - Marc Campell
- 9:30 – 10:00am - **** Break
- 10:00 – 10:45am - DAQ/EGSE Hardware – Gunther Haller
- 10:45 – 11:15am - FSW/ISIS – Terry Schalk/Eric Hansen
- 11:15 – 11:30am - EPO (Telecon) – Sarah Silva
- 11:30 – 12:15pm - Tracker – Robert Johnson
- 12:15 - 12:30pm - **** Break
- 12:30 – 1:15pm - I&T – Elliott Bloom
- 1:15 – 1:45pm - Performance & Safety Assurance – Darren Marsh
- 1:45 – 2:00pm - SAS – Richard Dubois
- 2:00 – 2:30pm - ISOC - Bill Craig
- 2:30 – CCB Meeting

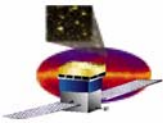


Backup Material



Lien List

		Year		
Subsystem	Item	FY04	FY05	Grand Total
4.1.1 Mgmt	Design Engineering (amount TBD)	80	170	250
	HEPL Science Support	0	100	100
4.1.1 Mgmt Total		80	270	350
4.1.2 Systems Engineering	Extend INFN Support thru Last Delivery	0	180	180
4.1.2 Systems Engineering Total		0	180	180
4.1.4 Tracker	Add'l Engineering/Design Support (amount TBD)	160	0	160
	Aluminum Cores	13	0	13
	Continued TKR Manpower Increase (amount TBD)	0	360	360
	Flex Circuit Cables (flight)	498	0	498
	Flex Circuit Cables (non-flight)	47	0	47
	GTFE Chips	50	0	50
	Prepreg from COI	210	0	210
	Shipping Container	25	0	25
	Tracker MGSE	50	0	50
	Tracker-Grid Interface Hardware (amount TBD)	400	0	400
4.1.4 Tracker Total		1,453	360	1,813
4.1.6 ACD	ACD EAC Exercise		226	226
	ACD PMT Spares	38	0	38
4.1.6 ACD Total		38	226	264
4.1.7 Electronics	Additional EGSE (amount TBD)	500	0	500
	Continued FSW Manpower Increase (amount TBD)	0	685	685
	Two Additional RAD750s	80	0	80
	Online Software, SVAC, ISOC, FSW changes	113	178	291
4.1.7 Electronics Total		693	863	1,556
4.1.8 Mech Sys	Grid Billet #3	32	0	32
	Lockheed Martin Phase II	0	108	108
	Lockheed Rate Increase	23	1	24
	Tapemation "Rapid Response Fund"	32	0	32
	Tracker/Grid Interface Changes	86	0	86
	Tracker/Grid Interface Changes, rev 3	30	0	30
4.1.8 Mech Sys Total		203	109	312
4.1.9 I&T	Additional IFCT Design Support	43	19	62
	Breakout Boxes & Test Cables	45	0	45
	Connector Mate Tool for TEM	40	0	40
	Continued I&T Manpower Increase (amount TBD)	0	408	408
	Engineering Manager	89	209	298
	Integration Start Delay (amount TBD)	0	117	117
	Mechanical Integration Tools & Training	23	0	23
	NRL Environmental Test Support	75	425	500
	Online Software, SVAC, ISOC, FSW changes	-258	-221	-479
4.1.9 I&T Total		57	957	1,014
4.1.A PSA	Continued QA Support (amount TBD)	0	870	870
4.1.A PSA Total		0	870	870
Several	Stanford Benefits Rate Increase	11	67	78
Several Total		11	67	78
TOTAL		2,535	3,902	6,437



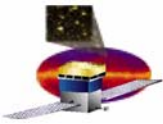
CPR Level 3

Total project schedule variance

Cumulative Variance > +/-10%
(will be reported to DOE/NASA)

Notable current period variances

Cost Performance Report - Work Breakdown Structure													
Contractor: Location:						Contract Type/No:			Project Name/No: LAT		Report Period: 4/30/2004 5/31/2004		
CAPW[3] Item (1)	Current Period					Cumulative to Date					At Completion		
	Budgeted Cost		Actual Cost Work (4)	Variance		Budgeted Cost		Actual Cost Work (9)	Variance		Budgeted (12)	Latest Revised Estimate (13)	Variance (14)
	Work Scheduled (2)	Work Performed (3)		Schedule (5)	Cost (6)	Work Scheduled (7)	Work Performed (8)		Schedule (10)	Cost (11)			
	4.1.1 INSTRUMENT MANAGEMENT	308	308	354	0	-46	12,023	12,023	12,228	0	-205	15,868	15,868
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 ASSURANCE	112	112	129	0	-17	1,843	1,843	1,558	0	285	2,469	2,469	0
4.1.B LAT INSTRUMENT SCIENCE OPERATIONS CENTER	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



Performance Analysis

	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

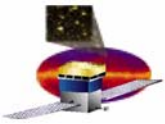
% BCWP: Percent Complete = BCWP/BAC

% ACWP: Percent Spent = ACWP/BAC

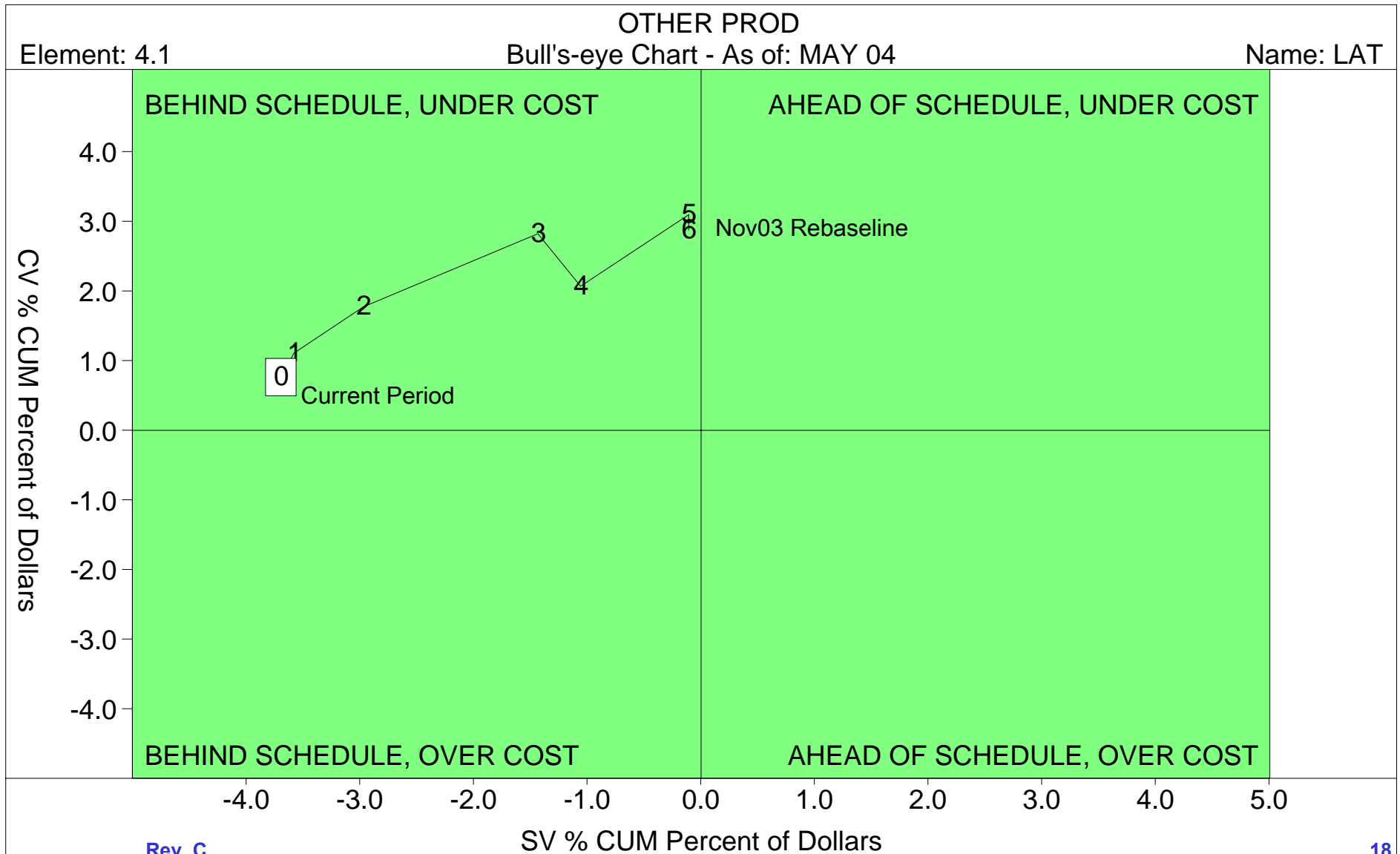
Cpi_Fcst: CPI (to date) EAC Forecast = BAC / CPI

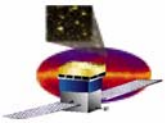
CpiSpi_Fcst: Combination CPI and SPI EAC Forecast = ACWP + (BAC - BCWP) / (CPI * SPI)

CPI and SPI Change Thresholds	
■	Worse than 0.85
■	Between 0.85 and 0.95
■	Between 0.95 and 1.10
■	Better than 1.10

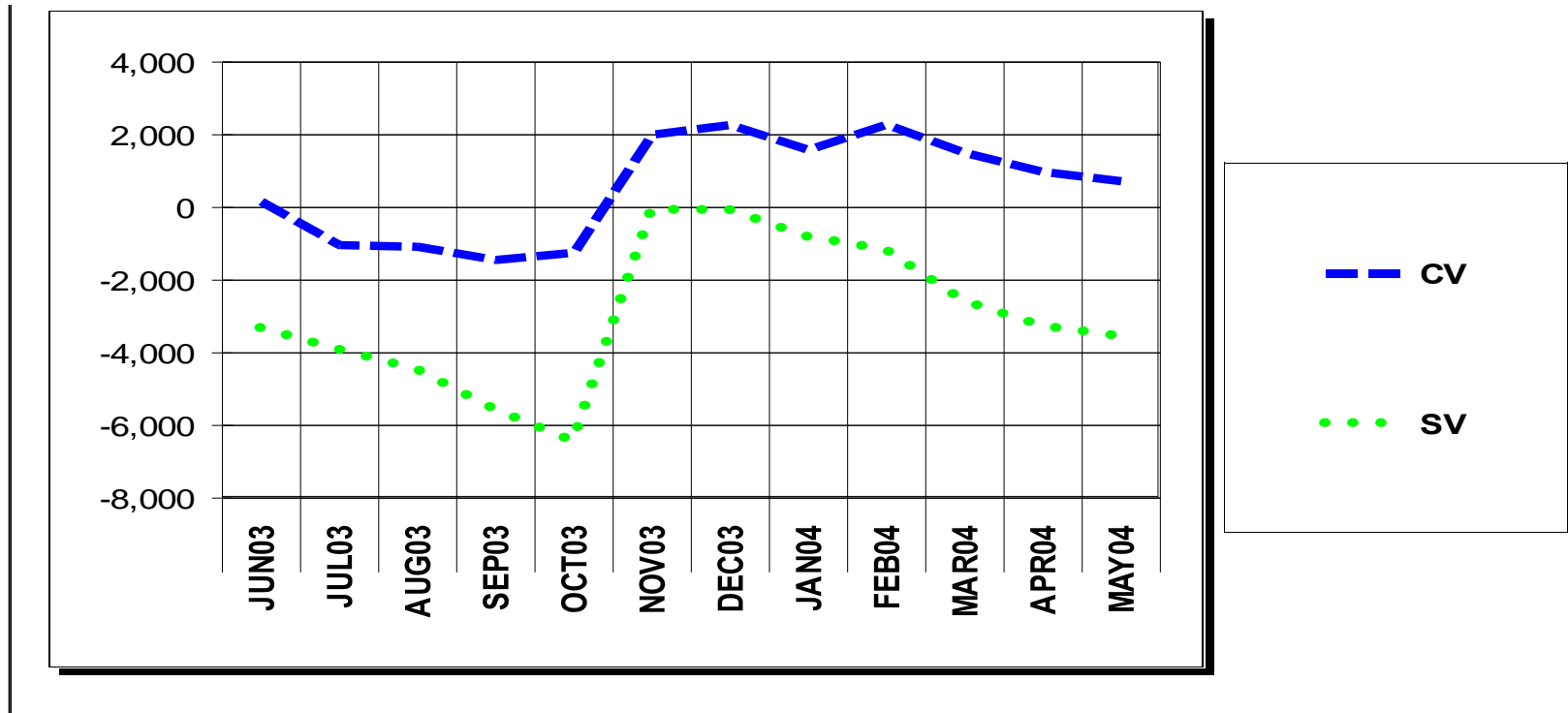


Variance Analysis

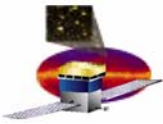




CV and SV Chart

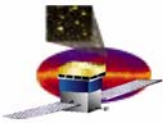


	JUN03	JUL03	AUG03	SEP03	OCT03	NOV03	DEC03	JAN04	FEB04	MAR04	APR04	MAY04
BCWS	57,895	60,155	62,818	66,122	69,093	69,801	73,433	77,394	81,916	87,277	91,518	96,621
BCWP	54,564	56,229	58,348	60,548	62,648	69,724	73,353	76,574	80,742	84,687	88,243	93,063
ACWP	54,402	57,264	59,429	61,990	63,894	67,721	71,081	74,989	78,460	83,184	87,264	92,340
CV	162	-1,035	-1,081	-1,443	-1,246	2,003	2,271	1,585	2,281	1,503	979	723
SV	-3,331	-3,926	-4,469	-5,574	-6,445	-76	-80	-820	-1,175	-2,590	-3,274	-3,558



Level 1-2 Milestones

Activity ID	Activity Description	Baseline Finish	Bsln Var	Early Finish	Fiscal Year						
					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)											
1M1BF000000	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: 06/25/04 12:10					GLAST LAT PROJECT Level 1&&2 Milestones			LT-T1: Level 1 && 2 Milestones (tb)		Sheet 1	
Data Date: 06/01/04								FL-T2: Level 1 && 2 Milestones (tb)			
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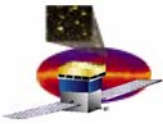
Level 3 Milestones by Subsystem

AV	Activity ID	ND	Activity Description	Baseline Finish	Bsln Var	Early Finish	FY04				FY05						
							Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
Instrument Project Office (Level 3)																	
4.1.1 Instrument Management																	
1	1M1001920		Ready for CD-4 Review	06/07/05	-25	07/13/05										▽	
4.1.4 Tracker																	
4	1M1001430	9	Delv of TKR EM to SLAC I&T/MGSE	01/02/04	-122	06/25/04	◆			▽							
4	1M1000200	9	Tracker Modules A RFI	07/28/04	-32	09/13/04				◆	▽						
4	1M1000201	9	Tracker Modules B RFI	08/18/04	-34	10/06/04				◆	▽						
4	1M1000220	9	Tracker Modules 1 RFI	08/18/04	-53	11/02/04				◆	▽						
4	1M1000221	9	Tracker Modules 2 RFI	09/08/04	-39	11/02/04				◆	▽						
4	1M1000250	9	Flight Tracker Tower 3 RFI	09/08/04	-54	11/23/04				◆	▽						
4	1M1000251	9	Flight Tracker Tower 4 RFI	10/14/04	-28	11/23/04				◆	▽						
4	1M1000260	9	Flight Tracker Tower 5 RFI	10/14/04	-41	12/14/04				◆	▽						
4	1M1000261	9	Flight Tracker Tower 6 RFI	11/05/04	-25	12/14/04				◆	▽						
4	1M1000270	9	Flight Tracker Tower 7 RFI	11/05/04	-38	01/10/05				◆	▽						
4	1M1000271	9	Flight Tracker Tower 8 RFI	11/24/04	-25	01/10/05				◆	▽						
4	1M1000280	9	Flight Tracker Tower 9 RFI	11/24/04	-41	02/02/05				◆	▽						
4	1M1000281	9	Flight Tracker Tower 10 RFI	12/17/04	-26	02/02/05				◆	▽						

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GLAST LAT PROJECT
Level 3 Milestones
Sort by Subsystem

LT-T3: Level 3 sort by Subsystem (tb)
 FL-T3: L3 Milestones from Oct03 on
 Sheet 1



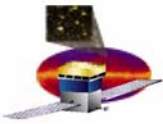
Level 3 Milestones by Subsystem

AV	Activity ID	ND	Activity Description	Baseline Finish	Bsln Var	Early Finish	FY04				FY05			
							Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
4.1.4 Tracker														
4	1M1000290	9	Flight Tracker Tower 11 RFI	12/17/04	-40	02/23/05								
4	1M1000291	9	Flight Tracker Tower 12 RFI	01/11/05	-29	02/23/05								
4	1M1000300	9	Flight Tracker Tower 13 RFI	01/11/05	-44	03/16/05								
4	1M1000301	9	Flight Tracker Tower 14 RFI	01/25/05	-35	03/16/05								
4	1M1000310	9	Flight Tracker Tower 15 RFI	01/25/05	-51	04/07/05								
4	1M1000311	9	Flight Tracker Tower 16 RFI	02/08/05	-41	04/07/05								
4.1.5 Calorimeter														
5	1M1000210	9	Calorimeter Modules A RFI	07/09/04	-41	09/07/04								
5	1M1500	9	Calorimeter Modules B RFI	07/09/04	-62	10/06/04								
5	1M1000230	9	Calorimeter Modules 1 RFI	07/30/04	-57	10/20/04								
5	1M1510	9	Calorimeter Modules 2 RFI	08/02/04	-57	10/21/04								
5	1M1000400	9	Flight Calorimeter Tower 3 RFI	08/17/04	-51	10/28/04								
5	1M1520	9	Flight Calorimeter Tower 4 RFI	08/17/04	-51	10/28/04								
5	1M1000390	9	Flight Calorimeter Tower 5 RFI	09/15/04	-39	11/09/04								
5	1M1530	9	Flight Calorimeter Tower 6 RFI	09/15/04	-39	11/09/04								
5	1M1000380	9	Flight Calorimeter Tower 7 RFI	10/11/04	-31	11/23/04								

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 Data Date 06/01/04
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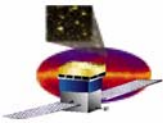
GLAST LAT PROJECT
Level 3 Milestones
Sort by Subsystem

LT-T3: Level 3 sort by Subsystem (tb)
 FL-T3: L3 Milestones from Oct03 on
 Sheet 2



Level 3 Milestones by Subsystem

AV	Activity ID	ND	Activity Description	Baseline Finish	Bsln Var	Early Finish	FY04				FY05			
							Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
4.1.5 Calorimeter														
5	1M1540	9	Flight Calorimeter Tower 8 RFI	10/11/04	-31	11/23/04					◆	▽		
5	1M1000370	9	Flight Calorimeter Tower 9 RFI	11/02/04	-35	12/23/04					◆	▽		
5	1M1550	9	Flight Calorimeter Tower 10 RFI	11/02/04	-35	12/23/04					◆	▽		
5	1M1560	9	Flight Calorimeter Tower 12 RFI	11/15/04	-38	01/19/05					◆	▽		
5	1M1000360	9	Flight Calorimeter Tower 11 RFI	11/16/04	-38	01/20/05					◆	▽		
5	1M1000350	9	Flight Calorimeter Tower 13 RFI	12/02/04	-34	01/28/05					◆	▽		
5	1M1570	9	Flight Calorimeter Tower 14 RFI	12/02/04	-34	01/28/05					◆	▽		
5	1M1000340	9	Flight Calorimeter Tower 15 RFI (Spare)	01/06/05	-18	02/02/05					◆	▽		
5	1M1580	9	Flight Calorimeter Tower 16 RFI (Spare)	01/06/05	-18	02/02/05					◆	▽		
4.1.6 ACD														
6	1M1001000	9	ACD Test Scripts (from ACD to I&T)	07/01/04	-23	08/04/04					◆	▽		
6	1M1000990	9	ACD Calibration Test Unit at SLAC, Tested & RFI	01/18/05	0	01/18/05						▽	◆	
6	1M1000410	9	ACD Flight Unit at SLAC, Tested/Inspected & RFI	11/03/04	-52	01/27/05					◆	▽		
4.1.7 Electronics														
7	1M76000010	6	3rd G2 Test Stand: Elec to ACD	12/08/03	0	12/08/03A	◆							
7	1M1000920	4	EM2 TEM: Elec to Tracker	01/12/04	-55	03/31/04A		◆	▽					
Run Date 06/24/04 13:58							GLAST LAT PROJECT				LT-T3: Level 3 sort by Subsystem (tb)			
Data Date 06/01/04							Level 3 Milestones				FL-T3: L3 Milestones from Oct03 on			
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Level 3 Milestones by Subsystem

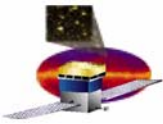
AV	Activity ID	ND	Activity Description	Baseline Finish	Bsln Var	Early Finish	FY04				FY05			
							Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
4.1.7 Electronics														
7	1M74000010	4	Updated EGSE System 1: Elec to TKR	12/08/03	-80	04/09/04A	◆		▼					
7	1M76000020	6	G3 Test Stand (test 2 FREE Cards): Elec to ACD	12/15/03	-84	04/22/04A	◆		▼					
7	1M74000020	4	Updated EGSE System 2: Elec to TKR	12/22/03	-82	04/27/04A	◆		▼					
7	1M76000030	6	G3 Test Stand (Fit-like I/F): Elec to ACD	02/20/04	-64	05/20/04A		◆	▼					
7	1M74000030	4	Updated EGSE System 3: Elec to TKR	01/07/04	-104	06/04/04		◆	▽					
7	1M74000040	4	EGSE System 4: Elec to TKR	01/14/04	-99	06/04/04		◆	▽					
7	1M74000050	4	EGSE System 5: Elec to TKR	01/22/04	-94	06/04/04		◆	▽					
7	1M1001870	5	5 EM2 TEM/PS for AFEE brd ass & tst: Elec to CAL	01/15/04	-99	06/07/04		◆	▽					
7	1M1001900	5	Test Stations (5) for AFEE: Elec to CAL	01/14/04	-100	06/07/04		◆	▽					
7	1M1001220	5	EM2 TEM/PS/CTS for FMA from Elec to CAL	01/22/04	-101	06/15/04		◆	▽					
7	1M7941130	9	EGSE TEM/TEM PS/CTS w/ FE Elec #1-Elec to I&T	12/08/03	-130	06/21/04	◆		▽					
7	1M7941150	9	EGSE TEM/TEM PS/CTS w/ FE Elec #2-Elec to I&T	12/22/03	-120	06/21/04	◆		▽					
7	1M7941160	9	EGSE TEM/TEM PS/CTS w/ FE Elec #3-Elec to I&T	01/07/04	-115	06/21/04	◆		▽					
7	1M7941170	9	EGSE TEM/TEM PS/CTS/GASU FE Elec-Elec to I&T	01/14/04	-110	06/21/04	◆		▽					
7	1M7941180	9	EGSE Development Hrdw/FSW 1st Delivr-Elec to I&T	01/22/04	-105	06/21/04	◆		▽					
7	1M1001260	5	EM2 TEM/PS/CTS for FMB from Elec to CAL	01/29/04	-104	06/25/04	◆		▽					

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GLAST LAT PROJECT
Level 3 Milestones
Sort by Subsystem

LT-T3: Level 3 sort by Subsystem (tb)
 FL-T3: L3 Milestones from Oct03 on

Sheet 4



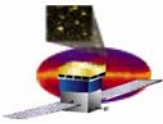
Level 3 Milestones by Subsystem

AV	Activity ID	ND	Activity Description	Baseline Finish	Bsln Var	Early Finish	FY04				FY05					
							Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
4.1.7 Electronics																
7	1M74000060	4	EGSE System 6: Elec to TKR	01/29/04	-104	06/25/04		◆		▽						
7	1M7941190	9	EGSE TEM/TEM PS/CTS #1 for Bldg 33-Elec to I&T	01/29/04	-104	06/25/04		◆		▽						
7	1M1001600	5	EM2 TEM/PS/CTS for FM1 from Elec to CAL	02/05/04	-104	07/02/04		◆		▽						
7	1M7941420	9	EGSE TEM/TEM PS/CTS #2 for Bldg 33-Elec to I&T	02/05/04	-104	07/02/04		◆		▽						
7	1M7941430	9	EGSE TEM/TEM PS/CTS w/ GASU for B33-Elec to I&T	02/05/04	-104	07/02/04		◆		▽						
7	1M79003010	9	Flight Cables Assy A: Elec to I&T	05/10/04	-42	07/09/04			◆		▽					
7	1M79003020	9	Flight Cables Assy B: Elec to I&T	05/10/04	-42	07/09/04			◆		▽					
7	1M1001650	5	EM2 TEM/PS/CTS for FM2 from Elec to CAL	02/12/04	-104	07/12/04		◆		▽						
7	1M74000070	4	EGSE System 7: Elec to TKR	02/12/04	-104	07/12/04		◆		▽						
7	1M74000080	4	EGSE System 8: Elec to TKR	02/12/04	-104	07/12/04		◆		▽						
7	1M74000090	4	EGSE System 9: Elec to TKR	02/20/04	-104	07/19/04		◆		▽						
7	1M74000100	4	EGSE System 10: Elec to TKR	02/20/04	-104	07/19/04		◆		▽						
7	1M1001660	5	EM2 TEM/PS/CTS for FM3 from Elec to CAL	02/27/04	-104	07/26/04		◆		▽						
7	1M1001680	5	EM2 TEM/PS/CTS for FM4 from Elec to CAL	02/27/04	-104	07/26/04		◆		▽						
7	1M1001720	5	EM2 TEM/PS/CTS for FM5 from Elec to CAL	02/27/04	-104	07/26/04		◆		▽						
7	1M1001760	5	EM2 TEM/PS/CTS for FM6 from Elec to CAL	03/05/04	-104	08/02/04		◆		▽						

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GLAST LAT PROJECT
Level 3 Milestones
Sort by Subsystem

LT-T3: Level 3 sort by Subsystem (tb)
 FL-T3: L3 Milestones from Oct03 on
 Sheet 5



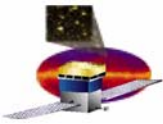
Level 3 Milestones by Subsystem

AV	Activity ID	ND	Activity Description	Baseline Finish	Bsln Var	Early Finish	FY04				FY05					
							Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
4.1.7 Electronics																
7	1M1001770	5	EM2 TEM/PS/CTS for FM7 from Elec to CAL	03/05/04	-104	08/02/04		◆		▽						
7	1M1001780	5	EM2 TEM/PS/CTS for FM8 from Elec to CAL	03/05/04	-104	08/02/04		◆		▽						
7	1M79003030	9	Flight Cables Assy 1: Elec to I&T	06/10/04	-42	08/10/04			◆	▽						
7	1M79003040	9	Flight Cables Assy 2: Elec to I&T	06/10/04	-42	08/10/04			◆	▽						
7	1M79003050	9	Flight Cables Assy 3: Elec to I&T	06/10/04	-42	08/10/04			◆	▽						
7	1M79003060	9	Flight Cables Assy 4: Elec to I&T	06/10/04	-42	08/10/04			◆	▽						
7	1M79002010	9	Flight TEM PS Assy A: Elec to I&T	05/12/04	-70	08/20/04			◆	▽						
7	1M79002020	9	Flight TEM PS Assy B: Elec to I&T	05/19/04	-70	08/27/04			◆	▽						
7	1M79003070	9	Flight Cables Assy 5: Elec to I&T	06/28/04	-43	08/27/04				◆	▽					
7	1M79003080	9	Flight Cables Assy 6: Elec to I&T	06/28/04	-43	08/27/04				◆	▽					
7	1M79003090	9	Flight Cables Assy 7: Elec to I&T	06/28/04	-43	08/27/04				◆	▽					
7	1M79003100	9	Flight Cables Assy 8: Elec to I&T	06/28/04	-43	08/27/04				◆	▽					
7	1M79003110	9	Flight Cables Assy 9: Elec to I&T	06/28/04	-43	08/27/04				◆	▽					
7	1M79003120	9	Flight Cables Assy 10: Elec to I&T	06/28/04	-43	08/27/04				◆	▽					
7	1M79001010	9	Flight TEM Assy A: Elec to I&T	06/07/04	-70	09/15/04				◆	▽					
7	1M79003130	9	Flight Cables Assy 11: Elec to I&T	07/15/04	-43	09/15/04					◆	▽				

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GLAST LAT PROJECT
Level 3 Milestones
Sort by Subsystem

LT-T3: Level 3 sort by Subsystem (tb)
 FL-T3: L3 Milestones from Oct03 on
 Sheet 6



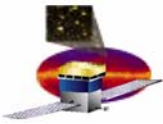
Level 3 Milestones by Subsystem

AV	Activity ID	ND	Activity Description	Baseline Finish	Bsln Var	Early Finish	FY04				FY05					
							Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
4.1.7 Electronics																
7	1M79003140	9	Flight Cables Assy 12: Elec to I&T	07/15/04	-43	09/15/04										
7	1M79003150	9	Flight Cables Assy 13: Elec to I&T	07/15/04	-43	09/15/04										
7	1M79003160	9	Flight Cables Assy 14: Elec to I&T	07/15/04	-43	09/15/04										
7	1M79003170	9	Flight Cables Assy 15: Elec to I&T	07/15/04	-43	09/15/04										
7	1M79003180	9	Flight Cables Assy 16: Elec to I&T	07/15/04	-43	09/15/04										
7	1M79001020	9	Flight TEM Assy B: Elec to I&T	06/14/04	-70	09/22/04										
7	1M79002030	9	Flight TEM PS Assy 1: Elec to I&T	07/01/04	-70	10/11/04										
7	1M79002040	9	Flight TEM PS Assy 2: Elec to I&T	07/09/04	-70	10/18/04										
7	1M79002050	9	Flight TEM PS Assy 3: Elec to I&T	07/16/04	-70	10/25/04										
7	1M79002060	9	Flight TEM PS Assy 4: Elec to I&T	07/23/04	-70	11/01/04										
7	1M79002070	9	Flight TEM PS Assy 5: Elec to I&T	07/30/04	-70	11/08/04										
7	1M79001030	9	Flight TEM Assy 1: Elec to I&T	08/03/04	-70	11/10/04										
7	1M79002080	9	Flight TEM PS Assy 6: Elec to I&T	08/06/04	-70	11/15/04										
7	1M79001040	9	Flight TEM Assy 2: Elec to I&T	08/10/04	-70	11/17/04										
7	1M79002090	9	Flight TEM PS Assy 7: Elec to I&T	08/13/04	-70	11/22/04										
7	1M79001050	9	Flight TEM Assy 3: Elec to I&T	08/17/04	-70	11/24/04										

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GLAST LAT PROJECT
Level 3 Milestones
Sort by Subsystem

LT-T3: Level 3 sort by Subsystem (tb)
 FL-T3: L3 Milestones from Oct03 on
 Sheet 7



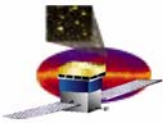
Level 3 Milestones by Subsystem

AV	Activity ID	ND	Activity Description	Baseline Finish	Bsln Var	Early Finish	FY04				FY05					
							Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
4.1.7 Electronics																
7	1M79002100	9	Flight TEM PS Assy 8: Elec to I&T	08/20/04	-70	12/01/04										
7	1M79001060	9	Flight TEM Assy 4: Elec to I&T	08/24/04	-70	12/03/04										
7	1M79002110	9	Flight TEM PS Assy 9: Elec to I&T	08/25/04	-70	12/06/04										
7	1M79002120	9	Flight TEM PS Assy 10: Elec to I&T	08/30/04	-70	12/09/04										
7	1M79001070	9	Flight TEM Assy 5: Elec to I&T	08/31/04	-70	12/10/04										
7	1M79002130	9	Flight TEM PS Assy 11: Elec to I&T	09/02/04	-70	12/14/04										
7	1M79001080	9	Flight TEM Assy 6: Elec to I&T	09/08/04	-70	12/17/04										
7	1M79002140	9	Flight TEM PS Assy 12: Elec to I&T	09/08/04	-70	12/17/04										
7	1M7941110	9	Flight Harness-Elec to I&T	10/20/04	-40	12/17/04										
7	1M79002150	9	Flight TEM PS Assy 13: Elec to I&T	09/13/04	-70	12/22/04										
7	1M79001090	9	Flight TEM Assy 7: Elec to I&T	09/15/04	-70	01/03/05										
7	1M79002160	9	Flight TEM PS Assy 14: Elec to I&T	09/16/04	-70	01/04/05										
7	1M79002170	9	Flight TEM PS Assy 15: Elec to I&T	09/21/04	-70	01/07/05										
7	1M7941440	9	Final EGSE incl S/C Sim, FSW-Elec to I&T	12/13/04	-13	01/07/05										
7	1M79001100	9	Flight TEM Assy 8: Elec to I&T	09/22/04	-70	01/10/05										
7	1M79002180	9	Flight TEM PS Assy 16: Elec to I&T	09/24/04	-70	01/12/05										

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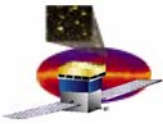
GLAST LAT PROJECT
Level 3 Milestones
Sort by Subsystem

LT-T3: Level 3 sort by Subsystem (tb)
 FL-T3: L3 Milestones from Oct03 on
 Sheet 8



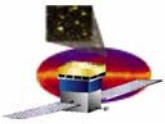
Level 3 Milestones by Subsystem

AV	Activity ID	ND	Activity Description	Baseline Finish	Bsln Var	Early Finish	FY04				FY05			
							Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
4.1.7 Electronics														
7	1M79001110	9	Flight TEM Assy 9: Elec to I&T	09/29/04	-70	01/18/05								
7	1M79001120	9	Flight TEM Assy 10: Elec to I&T	10/06/04	-70	01/25/05								
7	1M79001130	9	Flight TEM Assy 11: Elec to I&T	10/13/04	-70	02/01/05								
7	1M79001140	9	Flight TEM Assy 12: Elec to I&T	10/20/04	-70	02/08/05								
7	1M7941080	9	Flight SIU-Elec to I&T	10/13/04	-79	02/14/05								
7	1M7942000	9	Flight PDU Box-Elec to I&T	10/13/04	-79	02/14/05								
7	1M79001150	9	Flight TEM Assy 13: Elec to I&T	10/27/04	-70	02/15/05								
7	1M7941070	9	Flight GASU Box-Elec to I&T	10/25/04*	-75	02/18/05								
7	1M79001160	9	Flight TEM Assy 14: Elec to I&T	11/03/04	-70	02/23/05								
7	1M7941090	9	Flight Event Processor Units-Elec to I&T	11/01/04	-73	02/24/05								
7	1M79001170	9	Flight TEM Assy 15: Elec to I&T	11/10/04	-70	03/02/05								
7	1M79001180	9	Flight TEM Assy 16: Elec to I&T	11/17/04	-70	03/09/05								
4.1.8 Mechanical														
8	1M1001380	9	Delivery of EM (1X4) Grid to I&T/MSGE	12/19/03	-64	03/31/04A								
8	1M1000240	9	Flight Grid RFI-Mech to I&T	07/22/04	-38	09/15/04								
8	1M941710	9	X-LAT Thermal Plate RFI from Mech to I&T	08/12/04	-82	12/09/04								
Run Date 06/24/04 13:58							GLAST LAT PROJECT				LT-T3: Level 3 sort by Subsystem (tb)			
Data Date 06/01/04							Level 3 Milestones				FL-T3: L3 Milestones from Oct03 on			
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Level 3 Milestones by Subsystem

AV	Activity ID	ND	Activity Description	Baseline Finish	Bsln Var	Early Finish	FY04				FY05				
							Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
4.1.8 Mechanical															
8	1M941720	9	Radiators ready for I&T (from Mech to I&T)	03/17/05	-25	04/21/05								▼	
4.1.9 I&T															
9	1M1001520	5	EM CAL Returned to NRL (arrives on dock)	10/16/03	-1	10/17/03A	▼								
9	1M1001790	5	EM2 TEM/PS for FM9 (return FMA) from I&T to CAL	07/23/04	-41	09/21/04				◆	▼				
9	1M1001800	5	EM2 TEM/PS for FM10 (return FMB) from I&T to CAL	07/23/04	-62	10/20/04				◆	▼				
9	1M1001810	5	EM2 TEM/PS for FM11 (return FM1) from I&T to CAL	08/13/04	-57	11/03/04				◆	▼				
9	1M1001820	5	EM2 TEM/PS for FM12 (return FM2) from I&T to CAL	08/16/04	-57	11/04/04				◆	▼				
9	1M1001830	5	EM2 TEM/PS for FM13 (return FM3) from I&T to CAL	08/31/04	-51	11/11/04				◆	▼				
9	1M1001840	5	EM2 TEM/PS for FM14 (return FM4) from I&T to CAL	08/31/04	-51	11/11/04				◆	▼				
9	1M1001850	5	EM2 TEM/PS for FM15 (return FM5) from I&T to CAL	09/29/04	-39	11/23/04				◆	▼				
9	1M1001860	5	EM2 TEM/PS for FM16 (return FM6) from I&T to CAL	09/29/04	-39	11/23/04				◆	▼				
9	1M1000130	2	LAT Ready to Ship to NRL for Env Test	06/08/05	-25	07/14/05								◆	▼
4.1.B ISOC															
B	1M005480	B	ISOC CDR	03/12/04	-109	08/16/04		◆			▼				
B	1M1000112	B	Mission Operations Review (L-21mo.)	11/10/04	-13	12/01/04					◆	▼			
B	1M7941270	B	Ground System Interface Test start	11/10/04	-13	12/01/04					◆	▼			
Run Date 06/24/04 13:58							GLAST LAT PROJECT				LT-T3: Level 3 sort by Subsystem (tb)				Sheet 10
Data Date 06/01/04							Level 3 Milestones				FL-T3: L3 Milestones from Oct03 on				
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LAT Schedule – April Data

