GLAST Large Area Telescope:

Project Status Overview

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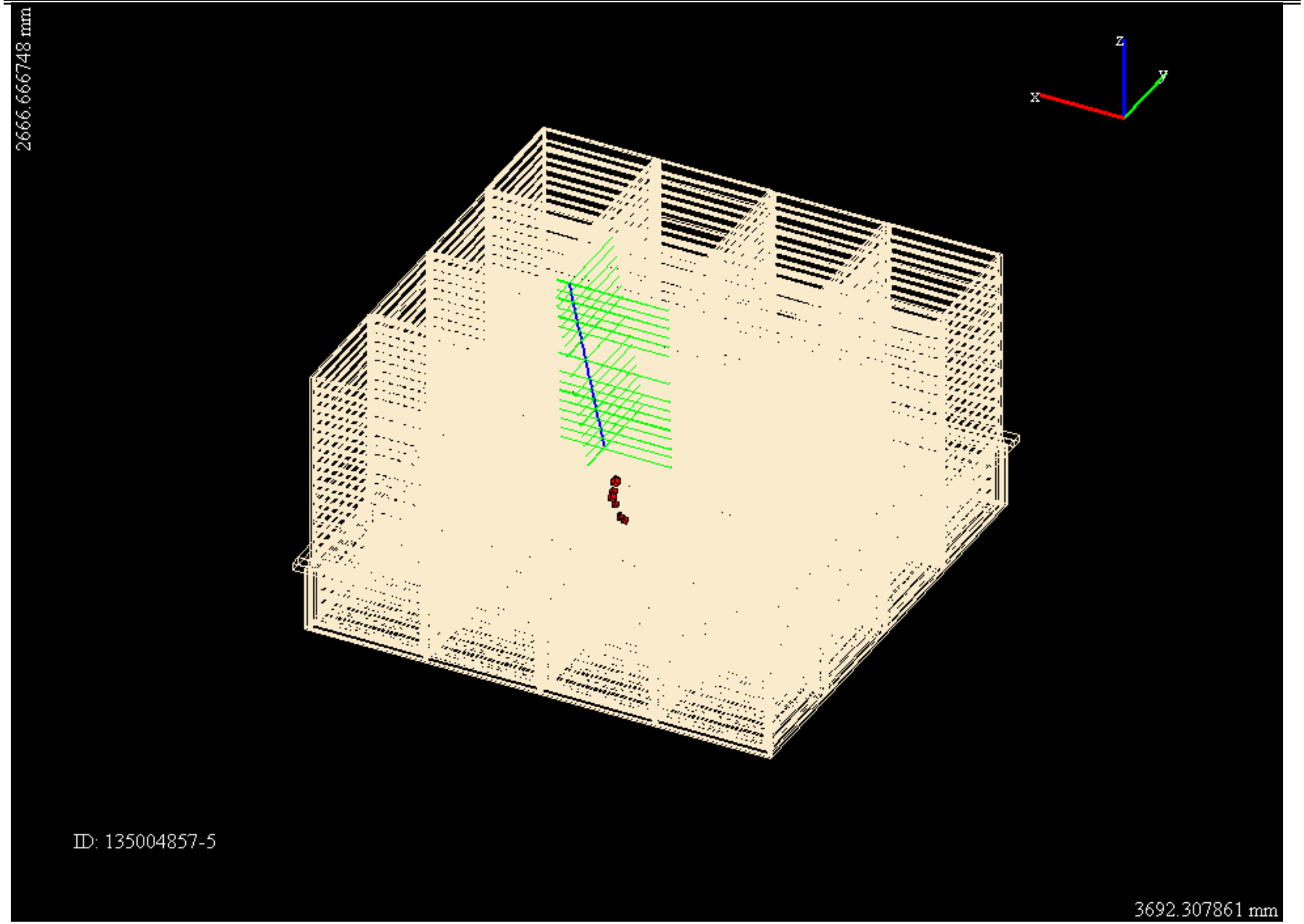
16 Tower Events



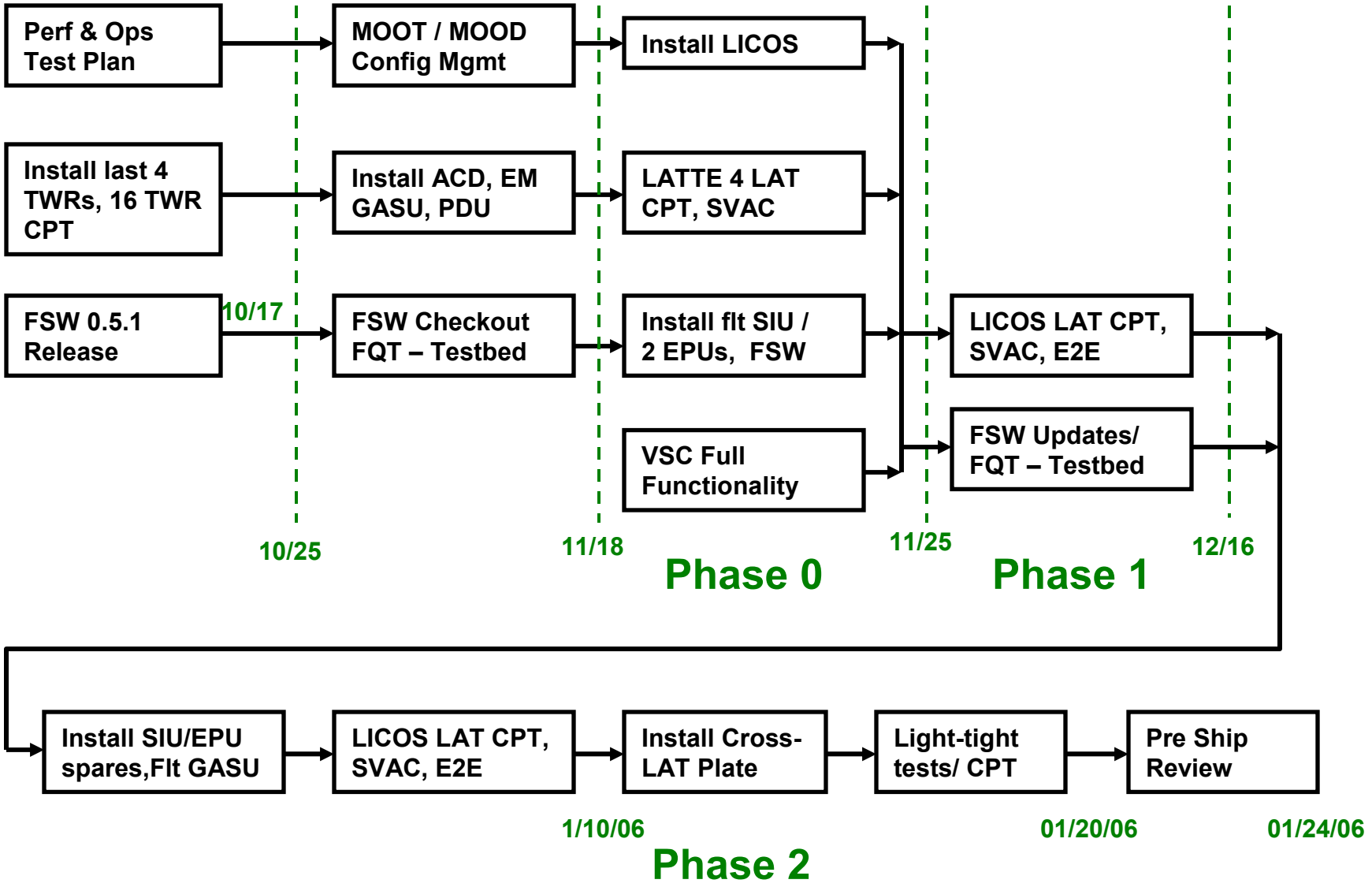
Status Overview

- 16 Towers Integrated and Tested
- Preparing for ACD Installation (Review after this meeting)
  - Downspout heat pipes
  - Accelerometer and Thermal instrumentation
  - Flight PDU
  - EMI Skirt Completion
- Preparing to switch to FSW environment
  - Install flight SIU/EPUs
  - Install GASU (flight like or flight)
  - VSC and associated hardware and software
  - LICOS test executive
  - Configuration database management

Steps to Ship to NRL

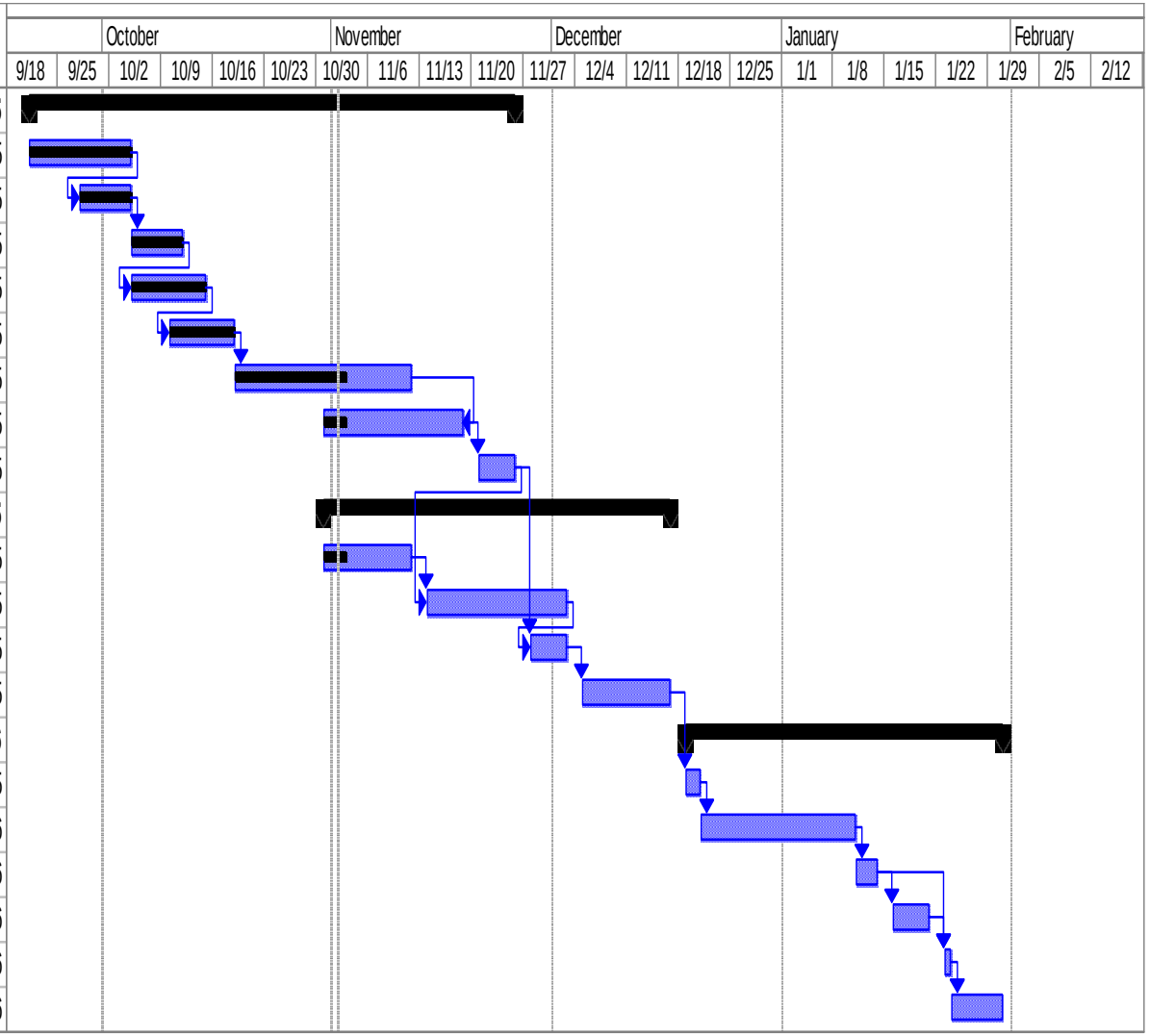
- Phase 0 – Hardware check out
  - Hardware
    - ACD
    - FLT PDU, EM GASU, FLT Cables, EMI Skirt, no SIU/EPU
  - Software
    - LATTE 4
  - Exit
    - Successful LATTE 4 CPT
- Phase 1 – Software check out
  - Hardware
    - FLT PDU, EM GASU, 1 Flt SIU, 2 Flt EPU, VSC, Control/Pwr Racks
  - Software
    - FSW, VSC, LICOS, Configuration Database
  - Exit
    - Successful LICOS CPT
- Phase 2 – Run for the record
  - Hardware
    - Full complement of flight hardware, X-LAT plate
  - Software
    - Flight release of FSW, VSC, LICOS, Configuration Database
  - Exit
    - Successful LICOS CPT, SVAC, E2E, Verification w/SIIS

System Test Flow



LAT I&T Schedule

ID	Task Name	Start	Finish
1	**Detector Modules Installation and Test**	**9/21/05**	**11/25/05**
2	Receive/prep modules for 4 bays	9/21/05	10/4/05
3	Install bays 10,11,14,15	9/28/05	10/4/05
4	12-bay LAT CPT (TKR & CAL)	10/5/05	10/11/05
5	Receive/prep modules for 4 bays	10/5/05	10/14/05
6	Install bays 6,7,2,3	10/10/05	10/18/05
7	16-bay LAT CPT (TKR & CAL)	10/19/05	11/11/05
8	ACD/GASU/PDU Integration	10/31/05	11/18/05
9	LATTE4 LAT CPT, trigger, SVAC	11/21/05	11/25/05
10	**LICOS/FSW Installation and Test**	**10/31/05**	**12/16/05**
11	Mobile rack assembly & test	10/31/05	11/11/05
12	FSW EGSE installation	11/14/05	12/2/05
13	LICOS installation	11/28/05	12/2/05
14	LICOS LAT CPT, SVAC, E2E	12/5/05	12/16/05
15	**System Test**	**12/19/05**	**1/30/06**
16	Flight SIU installation	12/19/05	12/20/05
17	LICOS LAT CPT, SVAC, E2E	12/21/05	1/10/06
18	Cross-LAT plate installation	1/11/06	1/13/06
19	Light-tight tests	1/16/06	1/20/06
20	Pre-Ship Review	1/23/06	1/23/06
21	Ship to NRL	1/24/06	1/30/06



CCB Actions

September 2005 LAT Baseline

	Thru FY05	FY06	FY07	FY08 (1 mo.)	Total
Funding:	$157,307	$0	$0	$0	$157,307
Budget:	$155,550	$417	$0	$0	$155,967
Contingency $ Initially Available:	$1,757	-$417	$0	$0	$1,340

Impact of Change Requests on Cost Baseline

CR #	Level	Subsystem	Description	Thru FY05	FY06	FY07	FY08 (1 mo.)	Total
LAT-XR-06839-02	2	All	Outyears NASA Cost	$0	$13,761	$8,917	$850	$23,528
LAT-XR-07527-01	3	4.1.B ISOC	4.1.B ISOC Closeout	$0	-$18	$0	$0	-$18
			Total	$0	$13,743	$8,917	$850	$23,510

Impact of Change Requests on Funding Baseline

CR #	Description	Thru FY05	FY06	FY07	FY08 (1 mo.)	Total
LAT-XR-06839-02	Outyears NASA Funding	$0	$18,188	$11,594	$966	$30,748
	Total	$0	$18,188	$11,594	$966	$30,748

Resulting Baseline if Approved at 11/3/05 CCB Meeting

	Thru FY05	FY06	FY07	FY08 (1 mo.)	Total
Funding:	$157,307	$18,188	$11,594	$966	$188,055
Budget:	$155,550	$14,160	$8,917	$850	$179,477
Resulting Contingency $ Available:	$1,757	$4,028	$2,677	$116	$8,578

Status of Stanford Contract Mods

(as of 10/28/05)

- **Mod 45 (from March proposal) received and awaiting signature of Stanford contracting officer. ($2.63M)**
  - Percent distribution an issue at the Stanford Office of Sponsored Research
  - Signoff needed now or project will be costing into Stanford Backstop funding

- **Technical evaluation of rebaseline proposal submitted June 2005 complete. (instrument $30.46M (C,D,E), mission $28.81M(C,D))**
  - Review continues by GSFC contracts & legal offices

- **September 2005 proposal to extend Stellar Solutions/Stellar Aerospace undergoing technical evaluation. ($184.6K)**
  - Ready for Seidleck and Grady signatures

Cost/Schedule Reports for 4.1 LAT Presentation September 2005 Month End

Tanya's Status

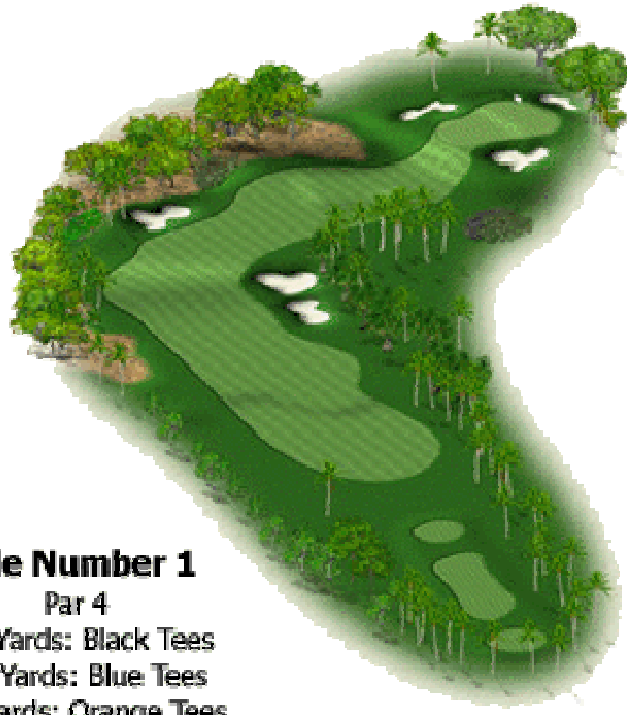
MAUNA KEA BEACH HOTEL
ISLAND OF HAWAII

Thursday
Nov. 3

Mostly Sunny

Hi: 84°

Lo: 71°



Hole Number 1
Par 4
383 Yards: Black Tees
376 Yards: Blue Tees
369 Yards: Orange Tees
345 Yards: White Tees

Current Critical Path to Ship LAT to Spectrum Astro

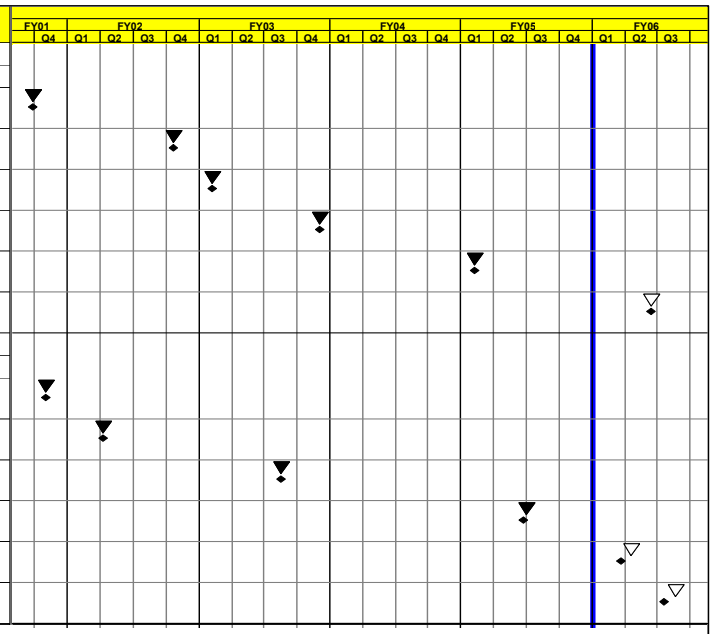
- **1st critical path: Electronics SIU/EPU Components for Installation of LAT-wide Electronics**
  6 days float to Ship LAT to Spectrum Astro

- **2nd critical path: Delivery & Installation of Trackers, 16 Tower Test, ACD Installation and FSW testing**
  13 days float to Ship LAT to Spectrum Astro

- **3rd critical path: LAT Vibration Test Fixture**
  14 days float to Ship LAT to Spectrum Astro

Level 1-2 Milestone List

Activity ID	Activity Description	Baseline Finish	-2m Var	-1m Var	Bsln Var	Early Finish
DOE/NASA Joint Oversight Group (Level 1)						
1M1P000000	DOE Critical Decision (CD) 0 Approval	06/25/01A	0	0	0	06/25/01A
1M1P000010	CD-1 Approval	07/23/02A	0	0	0	07/23/02A
1M1P000020	CD-2 Approval	11/08/02A	0	0	0	11/08/02A
1M1P000030	CD-3 Approval	09/03/03A	0	0	0	09/03/03A
1M1P000060	Flight GRID Complete	11/08/04A	0	0	0	11/08/04A
1M1P000040	CD-4 Approval	03/15/06*	0	0	0	03/15/06*
DOE/NASA Federal Project Managers (Level 2)						
1M1BF00000	Launch Balloon Flight	08/01/01A	0	0	0	08/01/01A
1M1000100	Instrument Preliminary Design Review	01/08/02A	0	0	0	01/08/02A
1M1000110	I-CDR (Critical Design Review)	05/16/03A	0	0	0	05/16/03A
1M1000740	Start LAT Integration	03/23/05	-5	-5	-5	03/30/05A
1M1000700	Pre Environmental Testing Review	12/20/05	-20	-17	-13	01/17/06
1M1000120	PSR-(Instrument Pre-Ship Review)	04/18/06	-28	-28	-25	05/23/06



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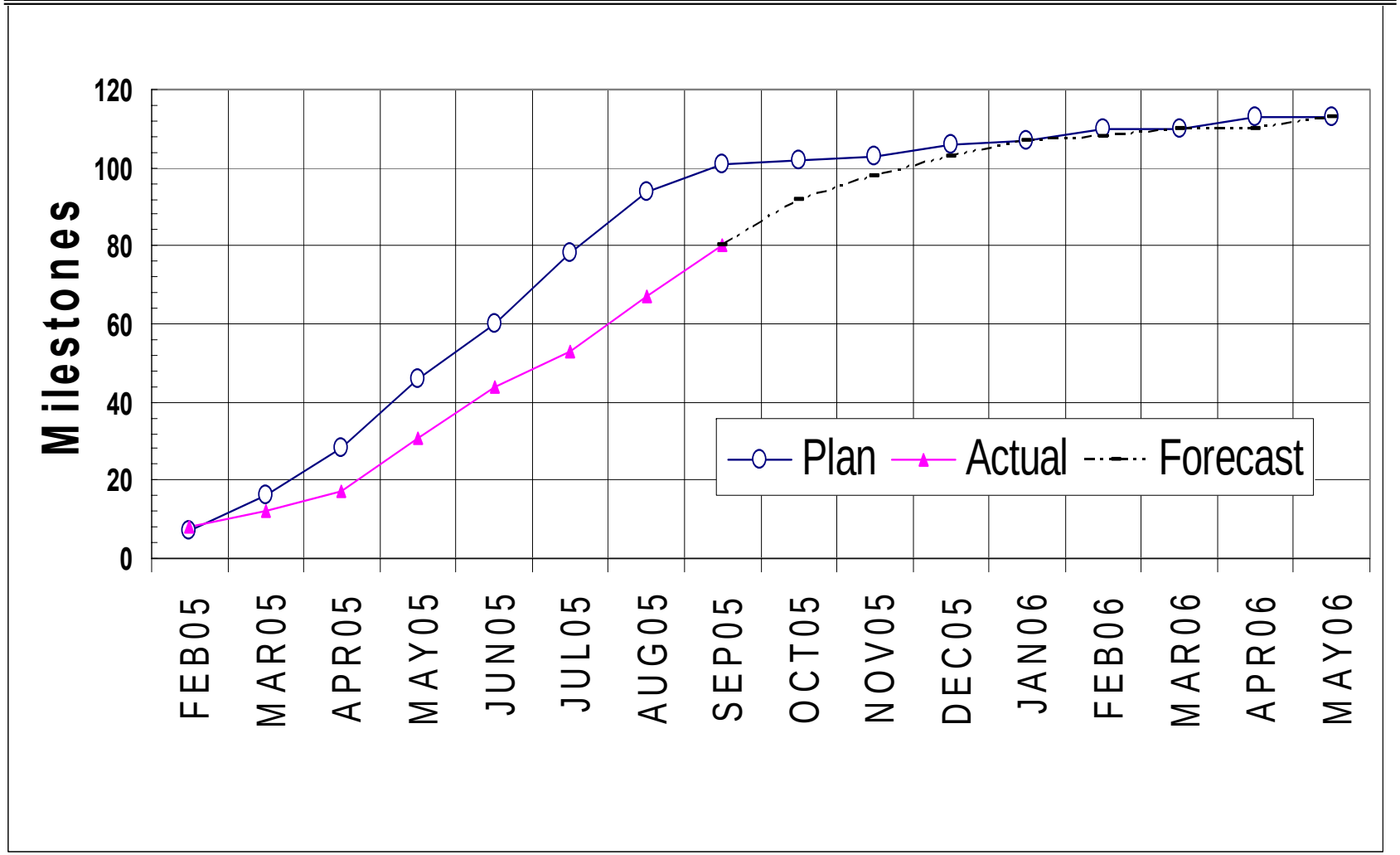
Data Date 10/01/05

GLAST LAT PROJECT
Level 1&&2 Milestones

LT-T1: Level 1 && 2 Milestones
FL-T1: Level 1 && 2 Milestones

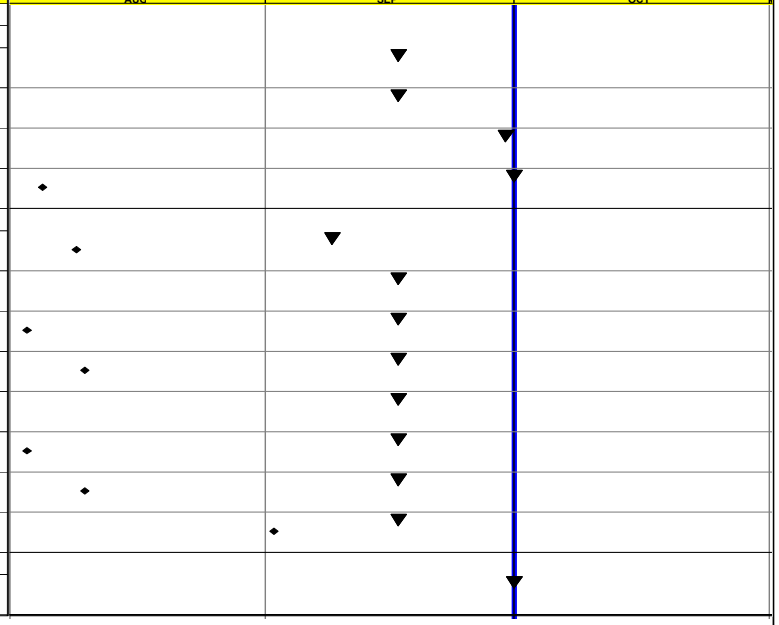
Sheet 1

Level 3 Milestone Count



Level 3 Milestones Completed in September 2005

AV	Activity ID	ND	Activity Description	Baseline Finish	BsIn Var	Early Finish
Instrument Project Office (Level 3)						
4.1.4 Tracker						
4	1M1000270	9	Flight Tracker Tower 7 RFI	06/27/05	-57	09/16/05A
4	1M1000280	9	Flight Tracker Tower 9 RFI	07/15/05	-44	09/16/05A
4	1M1000281	9	Flight Tracker Tower 10 RFI	07/26/05	-46	09/29/05A
4	1M1000290	9	Flight Tracker Tower 11 RFI	08/04/05	-40	09/30/05A
4.1.7 Electronics						
7	1M79510		Science Test Data Output	08/08/05	-22	09/08/05A
7	1M79001160	9	Flight TEM Assy 14: Elec to I&T	07/26/05	-37	09/16/05A
7	1M79001170	9	Flight TEM Assy 15: Elec to I&T	08/02/05	-32	09/16/05A
7	1M79001180	9	Flight TEM Assy 16: Elec to I&T	08/09/05	-27	09/16/05A
7	1M79002160	9	Flight TEM PS Assy 14: Elec to I&T	07/26/05	-37	09/16/05A
7	1M79002170	9	Flight TEM PS Assy 15: Elec to I&T	08/02/05	-32	09/16/05A
7	1M79002180	9	Flight TEM PS Assy 16: Elec to I&T	08/09/05	-27	09/16/05A
7	1M79550		FQT Readiness Review	09/01/05	-10	09/16/05A
4.1.8 Mechanical						
8	1M941720	9	Radiators ready for I&T (from Mech to I&T)	07/22/05	-49	09/30/05A



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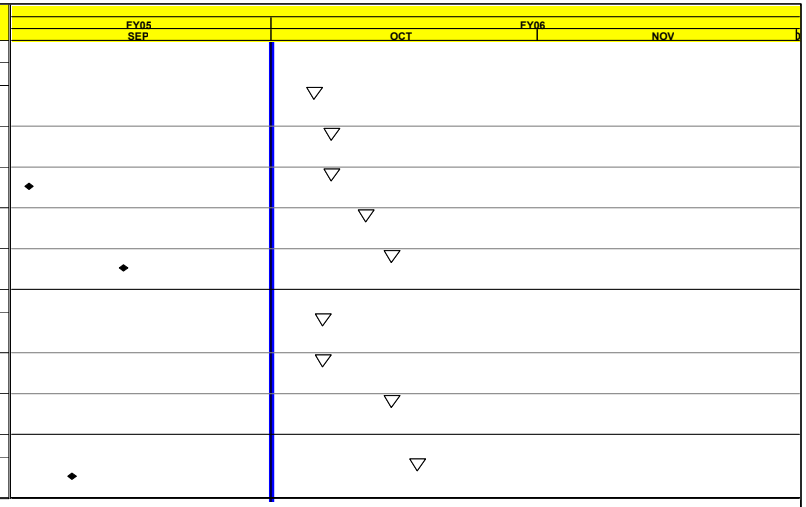
GLAST LAT PROJECT
Completed Level 3 Milestones
in Reporting Month
Sort by Subsystem

LT-TB: Completed Level 3 by Subsystem
FL-TB: Level 3 Milestones compl. last month

Sheet 1

Level 3 Milestones Completed in October 2005

AV	Activity ID	ND	Activity Description	Baseline Finish	Bsln Var	Early Finish
Instrument Project Office (Level 3)						
4.1.4 Tracker						
4	1M1000291	9	Flight Tracker Tower 12 RFI	08/15/05	-36	10/05/05
4	1M1000300	9	Flight Tracker Tower 13 RFI	08/24/05	-31	10/07/05
4	1M1000301	9	Flight Tracker Tower 14 RFI	09/02/05	-24	10/07/05
4	1M1000271	9	Flight Tracker Tower 8 RFI	07/06/05	-68	10/11/05
4	1M1000310	9	Flight Tracker Tower 15 RFI	09/13/05	-23	10/14/05
4.1.7 Electronics						
7	1M7942000	9	Flight PDU Box-Elec to I&T	07/01/05	-67	10/06/05
7	1M7R050	7	LCB Flight Units - Elec to Elec	07/20/05	-55	10/06/05
7	1M7941110	9	Flight Harness-Elec to I&T	07/05/05	-72	10/14/05
4.1.9 I&T						
9	1M99040	9	Start 16 Tower Comprehensive Performance Test	09/07/05	-28	10/17/05



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Data Date 10/01/05

GLAST LAT PROJECT
Level 3 Milestones Completed in May
Sort by Subsystem

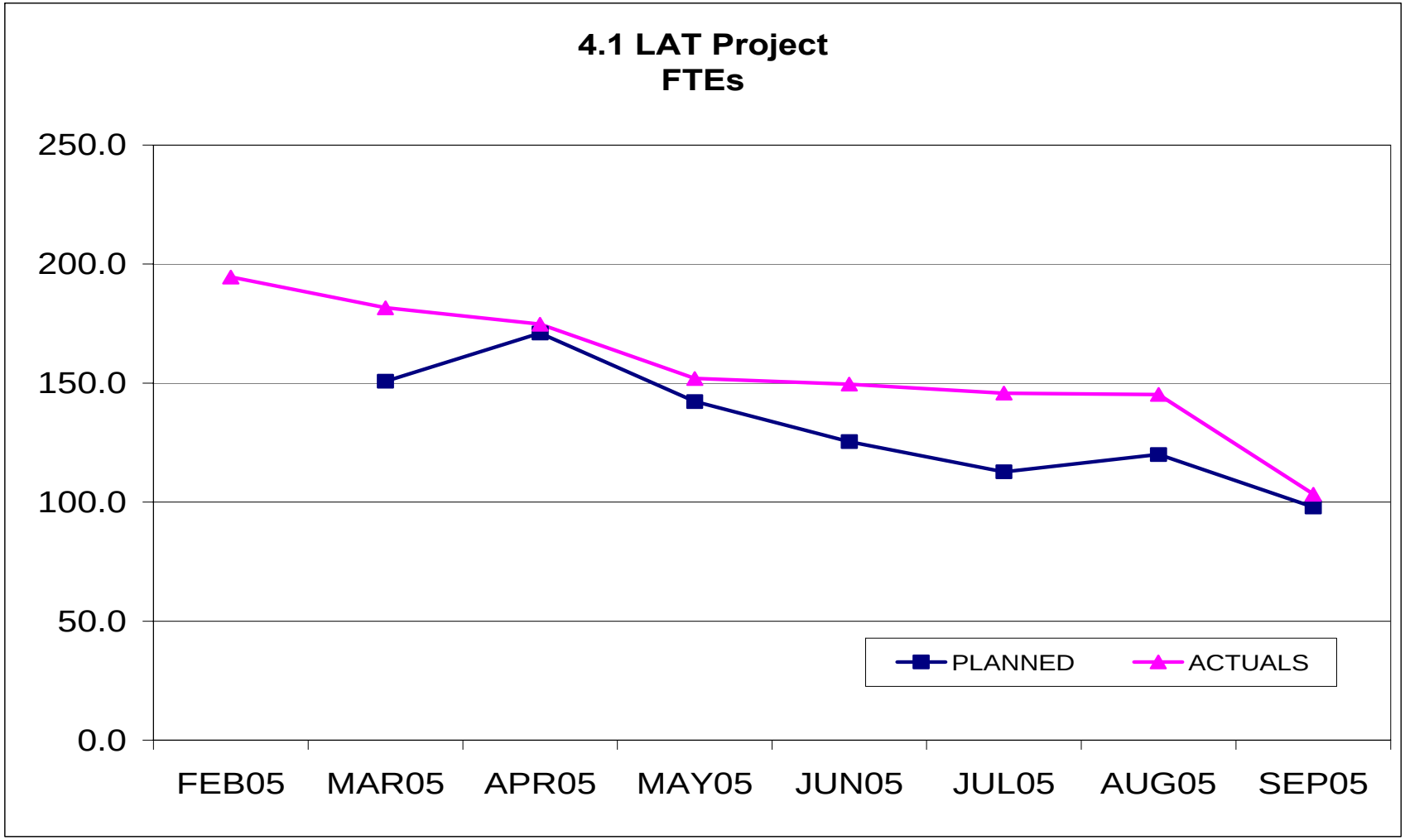
LT-T9: L3 MS Completed Curr Mo (tb)
FL-T2: L3 Milestones Completed Current Month

Sheet 1

CPR Level 3

Cost Performance Report - Work Breakdown Structure													
Contractor: Location:					Contract Type/No:			Project Name/No: LAT		Report Period: 8/31/2005	9/30/2005		
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	0.00	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	508	508	128	0	380	17,812	17,812	17,364	0	448	17,812	17,812	0
4.1.2 SYSTEM ENGINEERING	416	416	353	0	63	8,070	8,070	7,972	0	98	8,070	8,070	0
4.1.4 TRACKER	188	368	173	180	195	22,048	21,891	21,035	-157	855	22,048	22,048	0
4.1.5 CALORIMETER	-869	-767	0	102	-767	21,554	21,554	21,554	0	0	21,554	21,554	0
4.1.6 ANTICOINCIDENCE DETECTOR	100	102	0	2	102	18,329	18,329	17,933	0	396	18,329	18,329	0
4.1.7 ELECTRONICS	417	382	503	-35	-121	29,703	28,818	28,428	-885	390	29,703	29,703	0
4.1.8 MECHANICAL SYSTEMS	755	694	615	-61	80	17,406	17,049	17,119	-356	-70	17,406	17,406	0
4.1.9 INTEGRATION & TEST	749	317	317	-432	0	9,451	8,915	8,545	-537	370	9,451	9,451	0
4.1.A PERFORMANCE AND SAFETY ASSURANCE	136	136	150	0	-15	3,897	3,897	4,031	0	-134	3,897	3,897	0
4.1.B LAT INSTRUMENT SCIENCE OPERATIONS CENTER	2	2	2	0	0	334	334	317	0	18	334	334	0
4.1.C EDUCATION AND PUBLIC OUTREACH	70	70	42	0	28	2,684	2,684	2,305	0	***378***	2,684	2,684	0
4.1.D SCIENCE ANALYSIS SOFTWARE	75	75	41	0	34	2,936	2,936	2,805	0	131	2,936	2,936	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	2,547	2,304	2,324	-243	-20	155,550	153,615	150,733	-1,935	2,882	155,550	155,550	0
Contingency											1,757	1,757	0
Total	2,547	2,304	2,324	-243	-20	155,550	153,615	150,733	-1,935	2,882	157,307	157,307	0

FTE Report (DOE/NASA-funded only)



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	155,550	155,550	153,615	150,733	-1,935	2,882	100.00	98.76	96.90	↓	↔	0.988	1.019	152,632	152,656
2	4.1.1	17,812	17,812	17,812	17,364	0	448	100.00	100.00	97.48	↔	↑	1.000	1.026	17,364	17,364
3	4.1.2	8,070	8,070	8,070	7,972	0	98	100.00	100.00	98.78	↔	↑	1.000	1.012	7,972	7,972
4	4.1.4	22,048	22,048	21,891	21,035	-157	855	100.00	99.29	95.41	↑	↑	0.993	1.041	21,186	21,187
5	4.1.5	21,554	21,554	21,554	21,554	0	0	100.00	100.00	100.00	↑	↓	1.000	1.000	21,554	21,554
6	4.1.6	18,329	18,329	18,329	17,933	0	396	100.00	100.00	97.84	↑	↑	1.000	1.022	17,933	17,933
7	4.1.7	29,703	29,703	28,818	28,428	-885	390	100.00	97.02	95.71	↔	↓	0.970	1.014	29,301	29,328
8	4.1.8	17,406	17,406	17,049	17,119	-356	-70	100.00	97.95	98.35	↓	↑	0.980	0.996	17,477	17,484
9	4.1.9	9,451	9,451	8,915	8,545	-537	370	100.00	94.32	90.41	↓	↔	0.943	1.043	9,059	9,090
10	4.1.A	3,897	3,897	3,897	4,031	0	-134	100.00	100.00	103.43	↔	↔	1.000	0.967	4,031	4,031
11	4.1.B	334	334	334	317	0	18	100.00	100.00	94.71	↔	↔	1.000	1.056	317	317
12	4.1.C	2,684	2,684	2,684	2,305	0	378	100.00	100.00	85.90	↔	↔	1.000	1.164	2,305	2,305
13	4.1.D	2,936	2,936	2,936	2,805	0	131	100.00	100.00	95.52	↔	↑	1.000	1.047	2,805	2,805
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: Budgetd Cost of Work Scheduled (to date)
BCWP: Budgeted Cost of Work Performed (to date)
ACWP: Actual Cost of Work Performed (to date)

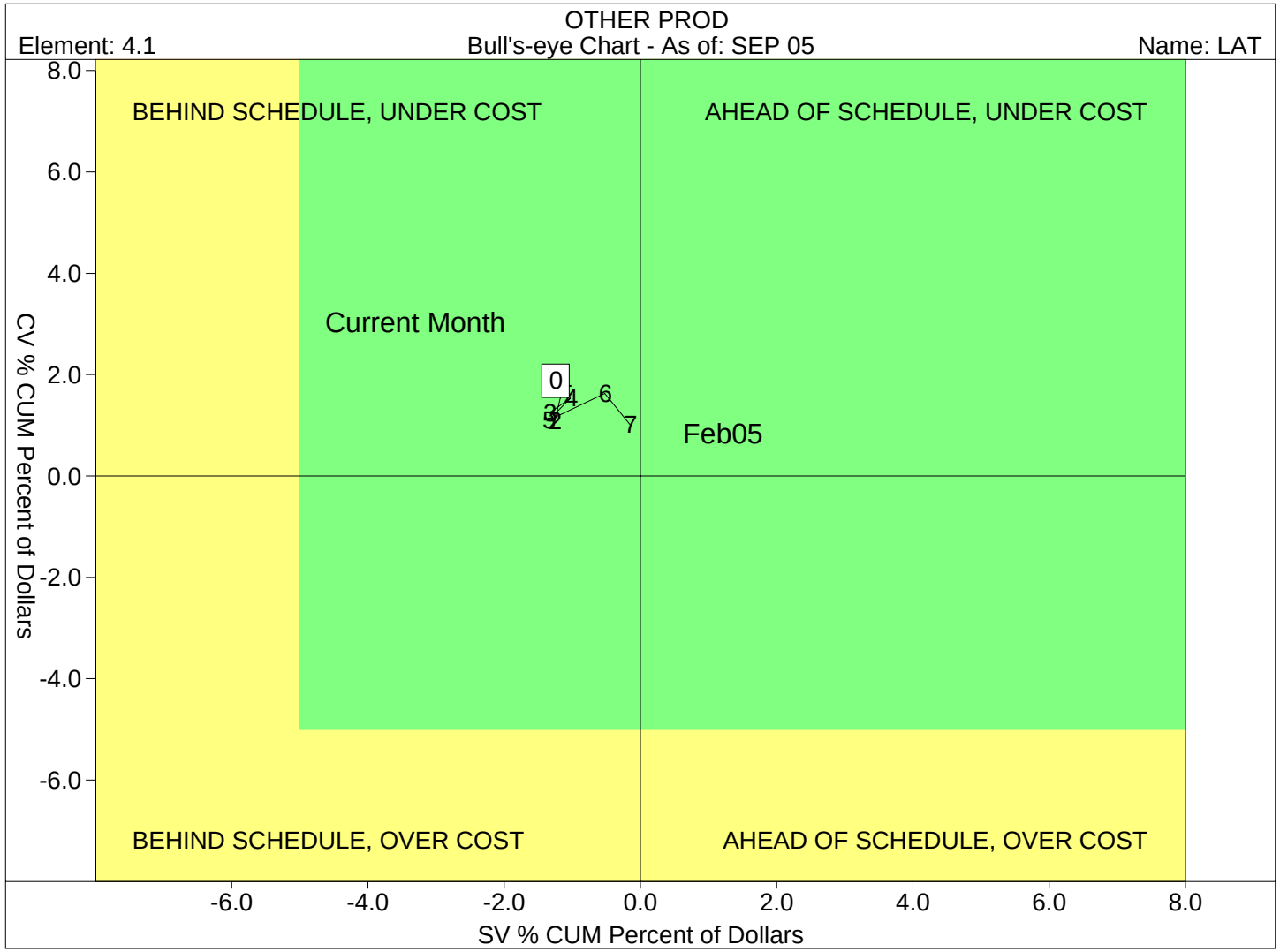
SV $: Schedule Variance = BCWP - BCWS
CV $: Cost Variance = BCWP - ACWP
SPI: Schedule Performance Index = BCWP/BCWS
CPI: Cost Performance Index = BCWP/ACWP

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

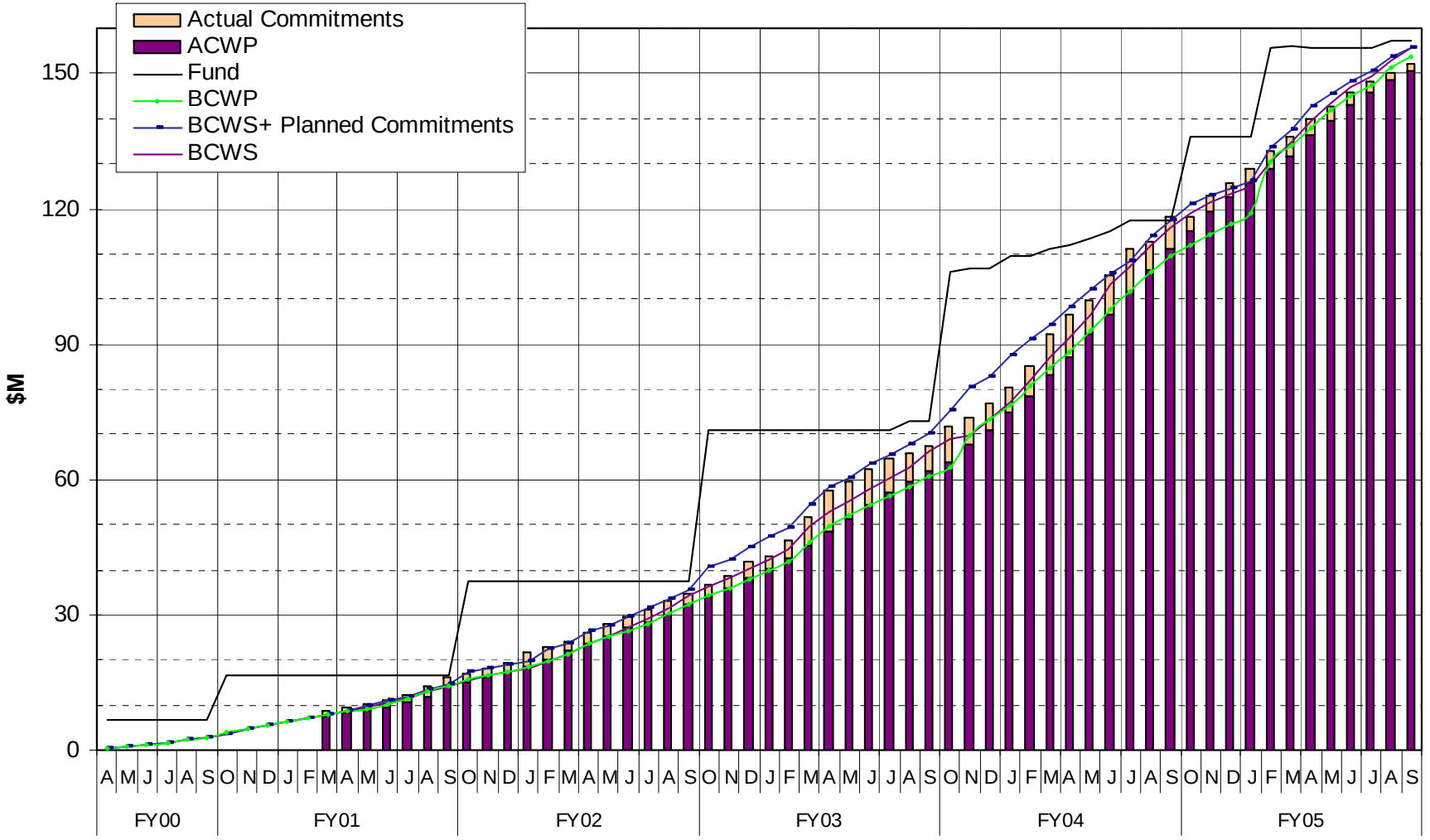
Cpi_Fcst: CPI (to date) EAC Forecast = BAC / CPI
CpiSpi_Fcst: Combination CPI and SPI EAC Forecast = ACWP + (BAC - BCWP) / (CPI *SPI)

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

Variance Analysis



Budget, Cost, Funding, Performance



Cost Report

Reporting Category	Cost Incurred/Hours Worked				Estimated Cost/Hours to Complete		4/3/2000 Estimated Final Cost/Hours		Unfilled Orders Outstanding
	During Month		Cum. to Date		Detail	Balance of Contract	Contractor Estimate	Contract Value	
	Actual	Planned	Actual	Planned	OCT05				
4.1.1 INSTRUMENT MANAGEMENT	128	508	17,364	17,812		448	17,812	17,812	30
4.1.2 SYSTEM ENGINEERING	353	416	7,972	8,070		98	8,070	8,070	0
4.1.4 TRACKER	173	188	21,035	22,048		1,012	22,048	22,048	261
4.1.5 CALORIMETER	0	-869	21,554	21,554		0	21,554	21,554	2
4.1.6 ANTICOINCIDENCE DETECTOR	0	100	17,933	18,329		396	18,329	18,329	138
4.1.7 ELECTRONICS	503	417	28,428	29,703		1,275	29,703	29,703	563
4.1.8 MECHANICAL SYSTEMS	615	755	17,119	17,406		287	17,406	17,406	76
4.1.9 INTEGRATION & TEST	317	749	8,545	9,451		907	9,451	9,451	155
4.1.A PERFORMANCE AND SAFETY ASSURANCE	150	136	4,031	3,897		-134	3,897	3,897	0
4.1.B LAT INSTRUMENT SCIENCE OPERATIONS CEN	2	2	317	334		18	334	334	0
4.1.C EDUCATION AND PUBLIC OUTREACH	42	70	2,305	2,684		378	2,684	2,684	202
4.1.D SCIENCE ANALYSIS SOFTWARE	41	75	2,805	2,936		131	2,936	2,936	117
4.1.E SUBORBITAL FLIGHT TEST	0	0	1,325	1,325		0	1,325	1,325	0
Gen. and Admin.	0	0	0	0		0	0	0	0
Total	2,324	2,547	150,733	155,550		4,817	155,550	155,550	1,543