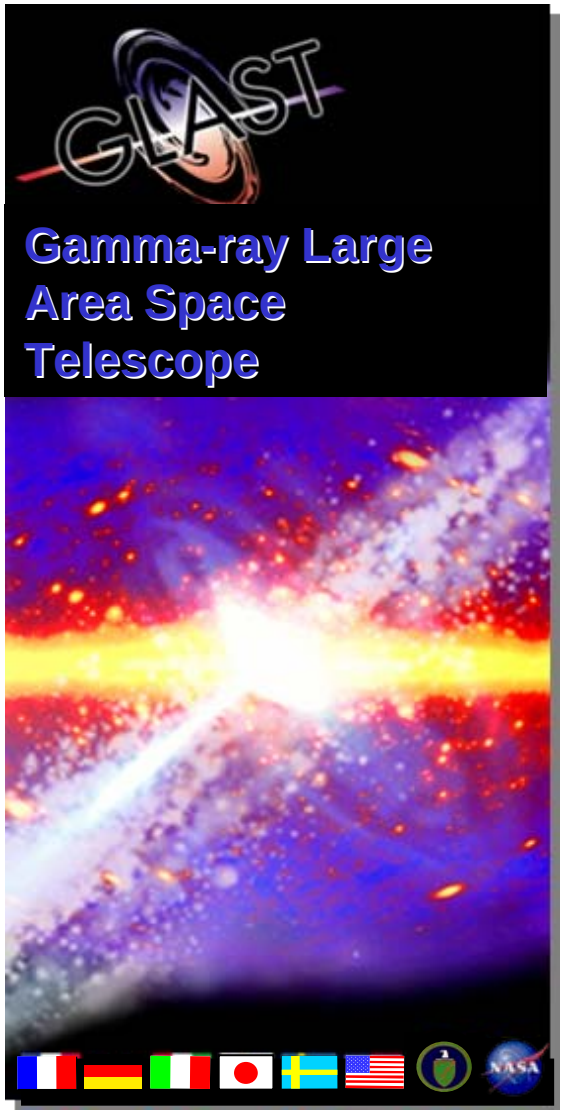

GLAST Large Area Telescope:

Change Control Board

Lowell A. Klaisner
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Project Manager

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650-926-2726

CCB Summary

April 2006 LAT Baseline				Thru FY05	FY06	FY07	FY08 (1 mo.)	Total
			Funding:	$159,454	$16,041	$11,594	$966	$188,055
			Budget:	$155,550	$13,512	$8,924	$851	$178,838
			Contingency $ Initially Available:	$3,904	$2,529	$2,670	$115	$9,217

Impact of Change Requests on Cost Baseline								
CR #	**Level**	**Subsystem**	**Description**	**Thru FY05**	**FY06**	**FY07**	**FY08 (1 mo.)**	**Total**
LAT-XR-08108-01	3	4.1.1,.7,.9,.A	NRL support for LAT integration and test		$657			$657
LAT-XR-08125-01	3	4.1.2,.9	Increase contractor support thru observatory test and launch readiness		$862	$858	$6	$1,725
LAT-XR-08204-01	3	4.1.9	Extend I&T support		$504	$472	$0	$977
LAT-XR-08205-01	3	4.1.A	Extend quality assurance support		$446			$446
LAT-XR-08292-01	3	4.1.1	Reduction in Manpower		-$171	-$849	-$79	-$1,099
LAT-XR-08293-01	3	4.1.7	RAD750		$180			$180
			Total	$0	$2,478	$481	-$73	$2,886

Resulting Baseline if Approved at 6/06 CCB Meeting				Thru FY05	FY06	FY07	FY08 (1 mo.)	Total
			Funding:	$159,454	$16,041	$11,594	$966	$188,055
			Budget:	$155,550	$15,990	$9,406	$778	$181,723
			Resulting Contingency $ Available by FY:	$3,904	$51	$2,188	$188	$6,332
			Resulting Contingency $ Available Cum:	$3,904	$3,955	$6,143	$6,332	

NRL Support for LAT Integration and Test

ORIGINATOR: Neil Johnson	**PHONE:** (202) 767-6817	**DATE:** 6/14/06

CHANGE TITLE: NRL Support for LAT Integration and Test

Change Description: This change request addresses additional responsibilities taken on by NRL in support of the LAT Flight Software and Integration and Test activities and associated environmental testing at NRL.

In the area of Flight Software, it extends the support of Don May and Dan Wood to delivery of LAT to Spectrum Astro (31 Aug 2006) at the aggregate level of 1 FTE.

In the area of LAT I&T, it supports the addition of Jesse Armiger as LAT TVAC Test Director, and the addition of Drew Roberts as LAT I&T electrical test conductor at SLAC and NRL to delivery of LAT to Spectrum Astro (31 Aug 2006).

In the area of LAT Science Preparation, it extends the software support (LICOS, MOOT/MOOD) of Byron Leas to delivery of LAT to Spectrum Astro (31 Aug 2006).

IMPACTS (ESTIMATE THE IMPACTS OF IMPLEMENTING OR NOT IMPLEMENTING THE PROPOSED CHANGE):

COST:

WBS No.	Work Pkg No.	Description	Escalated Baseline (K$)	Proposed Escalated Baseline (K$)	Changes (K$)
4.1.1.4	N14	Science Preparation	3,067	3,173	107
4.1.1.5	GL15	Fabrication Engineering	738	608	-130
4.1.7.9	N79	Flight Software	762	902	140
4.1.9.8	GL98	Environmental Test	2,246	2,656	411
4.1.A	GLA	Reliability and Quality Assurance	302	432	130
		TOTAL	**7,114**	**7,771**	**657**

Increase contractor support thru observatory test and launch readiness

ORIGINATOR: Linda Price	**PHONE:** (650) 926-5197	**DATE:** 6/14/06

CHANGE TITLE: Increase contractor support thru observatory test and launch readiness

Change Description: Extends engineering services for the GLAST project. The system engineering support is required to complete test verification through Observatory test program and launch readiness. The MGSE engineer is extended to the end of FY06 to su

IMPACTS (ESTIMATE THE IMPACTS OF IMPLEMENTING OR NOT IMPLEMENTING THE PROPOSED CHANGE):

COST:

WBS No.	Work Pkg No.	Description	Escalated Baseline (K$)	Proposed Escalated Baseline (K$)	Changes (K$)
4.1.2.1	2600011	Requirements Management and Design Integration	3,478	5,069	**1,591**
4.1.9.1	2600084	I&T Management	2,397	2,531	**134**
					0
					0
		TOTAL	**5,875**	**7,600**	**1,725**

Extend Integration and Test support

ORIGINATOR: Ken Fouts	**PHONE:** (650) 926-2553	**DATE:** 5/3/06

CHANGE TITLE: Extend Integration and Test support

Change Description:

FY06: In the approved baseline the LAT was planned to ship to NRL for environmental test in 1/06. While the LAT integration completed 3/28/06, testing is continuing until 5/11/06. Therefore, additional funding is required to support the extended effort for LAT integration at SLAC. The I&T delay at SLAC likewise has impacted the environmental test work at NRL which is now planned to complete in 9/06.

FY07: Additional resources, beyond the approved plan, have been identified for I&T mission support. These additional resources provide technical and engineering support of Observatory I&T through launch and on-orbit check out.

IMPACTS (ESTIMATE THE IMPACTS OF IMPLEMENTING OR NOT IMPLEMENTING THE PROPOSED CHANGE):

COST:

WBS No.	Work Pkg No.	Description	Escalated Baseline (K$)	Proposed Escalated Baseline (K$)	Changes (K$)
4.1.9.A	2600208	I&T Mission Support	1,508	2,485	**977**
					0
					0
		TOTAL	**1,508**	**2,485**	**977**

Extend Quality Assurance Support

ORIGINATOR: Joe Cullinan	**PHONE:** (650) 926-2553	**DATE:** 6/14/06

CHANGE TITLE: Extend Quality Assurance Support

Change Description: In the approved baseline, the LAT was planned to ship to NRL for environmental test in 1/06. While the LAT integration completed 3/28/06, testing is continuing until 5/11/06. Therefore, additional funding is required to support the extended effort for LAT integration at SLAC. The I&T delay at SLAC likewise has impacted the environmental test work at NRL which is now planned to complete in 9/06. This change request adds additional funding for the Performance and Safety Assurance organization to provide quality assurance, inspection, safety, and problem failure reporting through the environmental test. Six contractors are supported.

IMPACTS (ESTIMATE THE IMPACTS OF IMPLEMENTING OR NOT IMPLEMENTING THE PROPOSED CHANGE):

COST:

WBS No.	Work Pkg No.	Description	Escalated Baseline (K$)	Proposed Escalated Baseline (K$)	Changes (K$)
4.1.A.2	2600093	Quality Assurance	3,268	3,713	**446**
					0
					0
		TOTAL	**3,268**	**3,713**	**446**

Reduction in Manpower

ORIGINATOR: Lowell Klaisner	**PHONE:** 650-926-2726	**DATE:** 6/14/06

CHANGE TITLE: Reduction in Manpower

Change Description: Following the successful completion of LAT integration at SLAC and shipment to NRL for environmental testing, Lowell Klaisner, GLAST/LAT Project Manager will continue part time as a project advisor and the Integration and Test Subsystem Manager, Ken Fouts, will take over as Project Manager. Lowell's time will be reduced to 75% for the balance of FY06 and 50% in FY07. The Instrument Design Integration Manager's time is also being reduced to 20% for the balance of FY06 and removed from the budget for FY07. Support from Lockheed Martin will no longer be needed in FY07 since TVAC support is budgeted elsewhere.

IMPACTS (ESTIMATE THE IMPACTS OF IMPLEMENTING OR NOT IMPLEMENTING THE PROPOSED CHANGE):

COST:

WBS No.	Work Pkg No.	Description	Escalated Baseline (K$)	Proposed Escalated Baseline (K$)	Changes (K$)
4.1.1.1	2600003	Project Management: SLAC	4389	4157	**-232**
4.1.1.5.2	2600232	Mechanical Design Integration	3501	3000	**-501**
4.1.1.5.4	2600234	Thermal Engineering (LM)	1785	1419	**-366**
		TOTAL	**9676**	**8577**	**-1099**

RAD750

ORIGINATOR: Gunther Haller	**PHONE:** 650-926-4257	**DATE:** 6/14/06
CHANGE TITLE: RAD750		

Change Description: Purchase of processor board similar to PO41025 but will be non-flight use. The regular unit price is reduced by return of EEPROMs PO41025. (The EEPROM's are still at BAE since they were supposed to be loaded on boards, but SLAC decided against using those components). The total cost of RAD750 minus the cost of the EEPROMS is $180K.

IMPACTS (ESTIMATE THE IMPACTS OF IMPLEMENTING OR NOT IMPLEMENTING THE PROPOSED CHANGE):

COST:

WBS No.	Work Pkg No.	Description	Escalated Baseline (K$)	Proposed Escalated Baseline (K$)	Changes (K$)
4.1.7.C	2600070	Instrument integration & Test	66	246	**180**
					0
		TOTAL	**66**	**246**	**180**

Project Baseline History

WBS	Item	LAT Project Baseline: Baseline May-02	CDR/CD-3 Mar-03	Rebaseline Nov-03	Jan-04	Aug-04	Rebaseline Feb-05	Nov-05	CRs pending Jun-06	Baseline Change May-02 to June-06	
4.1	**LAT Budget at Completion**	**$99,973**	**$107,462**	**$119,504**	**$123,444**	**$132,202**	**$152,044**	**$179,477**	**$181,723**	**$81,750**	**81.8%**
4.1.1	Instrument Management	11,602	15,357	15,502	15,617	16,911	17,645	26,656	25,534	13,932	120.1%
4.1.2	System Engineering	4,647	6,453	6,588	6,588	7,047	7,647	10,131	12,166	7,519	161.8%
4.1.4	Tracker	9,877	10,915	13,595	14,333	16,573	21,316	22,330	21,486	11,609	117.5%
4.1.5	Calorimeter	17,348	17,830	22,648	22,648	22,022	22,594	21,554	21,554	4,206	24.2%
4.1.6	Anticoincidence Detector	10,280	11,557	13,870	14,020	15,595	17,241	18,329	18,164	7,884	76.7%
4.1.7	Electronics, Data Acquisition, Flight Software	15,738	16,672	18,733	20,195	22,055	28,894	32,135	32,455	16,717	106.2%
4.1.8	Mechanical Systems	11,850	10,373	13,384	13,362	14,179	15,998	18,284	17,463	5,613	47.4%
4.1.9	Integration & Test	6,654	6,588	6,384	6,907	7,764	9,451	13,863	16,130	9,477	142.4%
4.1.A	Performance & Safety Assurance	2,180	1,607	1,486	2,459	2,935	3,846	5,452	6,028	3,848	176.5%
4.1.B	Instrument Science Operations Center	2,552	2,512	326	326	328	334	317	317	(2,235)	-87.6%
4.1.C	Education & Public Outreach	2,598	2,684	2,448	2,448	2,448	2,684	3,988	3,988	1,390	53.5%
4.1.D	Science Analysis Software	3,328	3,595	3,220	3,220	3,019	3,069	5,114	5,114	1,786	53.6%
4.1.E	Suborbital Flight Test	1,321	1,321	1,321	1,321	1,325	1,325	1,325	1,325	4	0.3%
4.1	**Budget at Completion**	**$99,973**	**$107,462**	**$119,504**	**$123,444**	**$132,202**	**$152,044**	**$179,477**	**$181,723**	**$81,749**	**81.8%**
	NASA	67,818	72,577	80,447	84,037	90,842	107,868	134,063	136,309	68,491	101.0%
	DOE	31,156	33,499	37,863	38,213	40,730	43,762	45,000	45,000	13,844	44.4%
	Japan	1,000	1,387	1,194	1,194	630	414	414	414	(586)	-58.6%
4.1	**Contingency**	**$21,266**	**$14,251**	**$14,345**	**$13,386**	**$3,823**	**$3,941**	**$8,578**	**$6,332**	**($14,934)**	**-70.2%**
	NASA	15,422	10,749	10,208	9,599	2,553	2,703	8,578	6,332	(9,090)	-58.9%
	DOE	5,844	3,501	4,137	3,787	1,270	1,238	0	0	(5,844)	-100.0%
	Japan	0	0	0	0	0	0	0	0	0	0.0%
	Contingency as % of Cost to Go	29%	24%	29%	29%	8%	16%	41%	41%		
4.1	**Total Estimated Cost**	**$121,240**	**$121,713**	**$133,849**	**$136,830**	**$136,025**	**$155,985**	**$188,055**	**$188,055**	**$66,815**	**55.1%**
	NASA	83,240	83,326	90,655	93,636	93,395	110,571	142,641	142,641	59,401	71.4%
	DOE	37,000	37,000	42,000	42,000	42,000	45,000	45,000	45,000	8,000	21.6%
	Japan	1,000	1,387	1,194	1,194	630	414	414	414	(586)	-58.6%