



**Gamma-ray  
Large Area Space  
Telescope**



# GLAST LAT PROJECT

Cost & Schedule Information  
for the  
GLAST LAT PDR/Baseline Review  
January 8-11, 2001

4.1.9 Integration & Test  
Subsystem Manager – E. Bloom

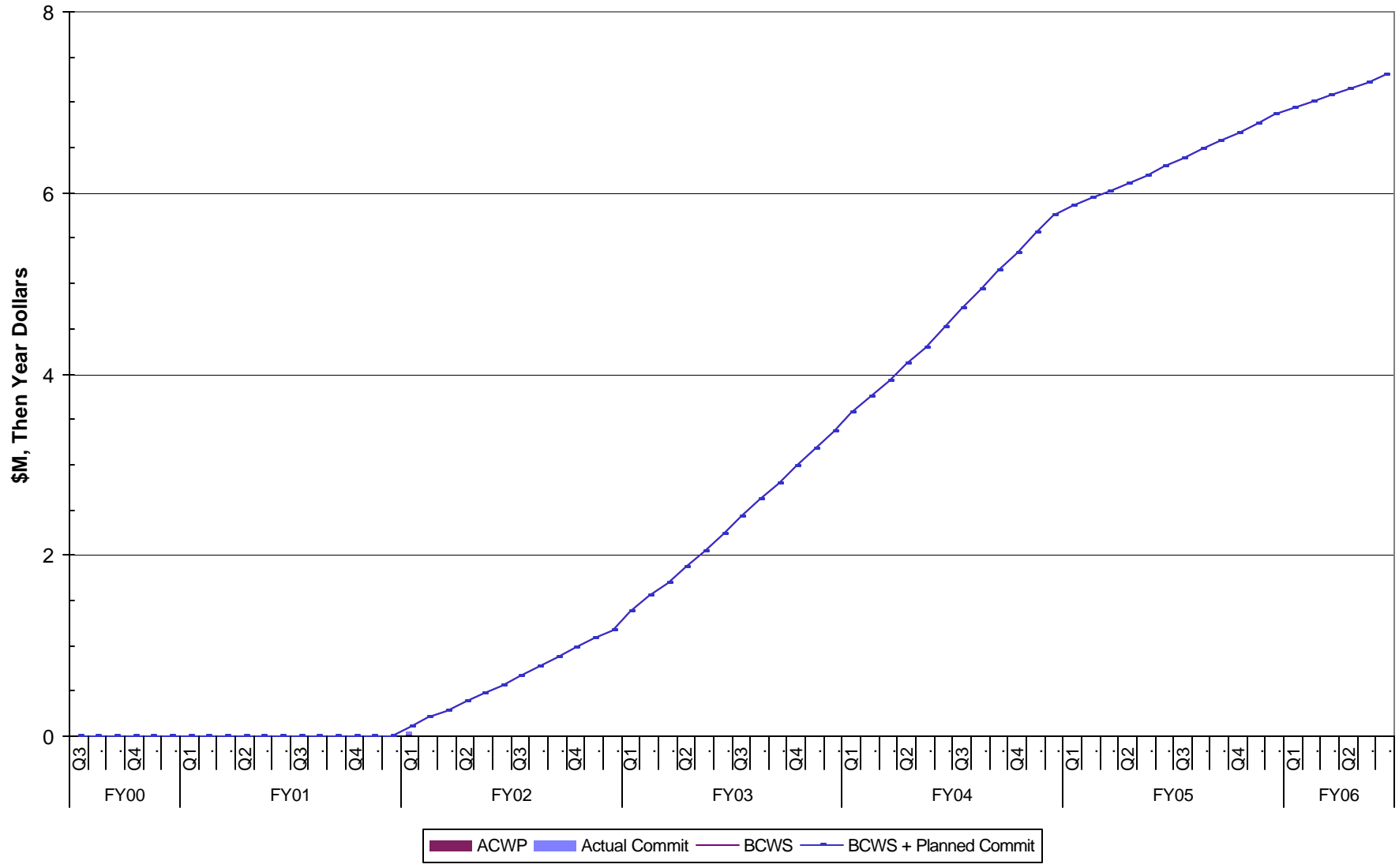


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Telescope**

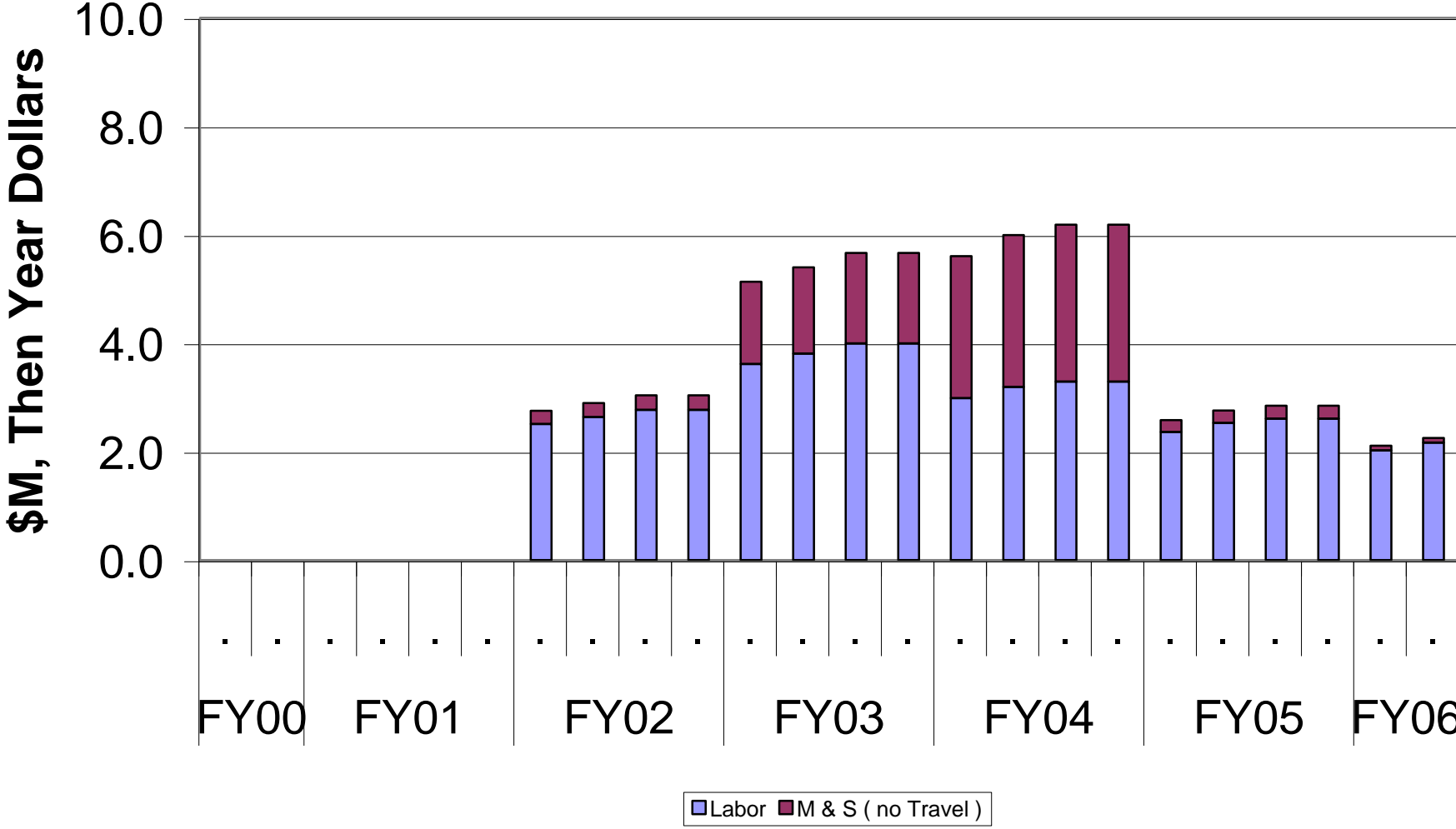


## **Cost & Commitment Profile**

### 4.1.9 Integration and Testing Costs and Commitments



# 4.1.9 Integration and Testing Cost Type





**Gamma-ray  
Large Area Space  
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# **Cost Detail @ Work Package Level**

Program:	1001	Description:	GLAST LAT Project							
Run Date:	12/12/01	Status Date:	10/31/01							
		Approval:	Program Manager Functional Manager Cost Account Manager							

CAPW[4]	OBS	CPN[1]	WP	FY00	FY01	FY02	FY03	FY04	FY05	FY06	Cumulative
4.1.9.1 INTEGRATION & TEST MANAGEMENT											
DL SU-SLAC											
2600084 4.1.9.1 I & T Management											
		CPN[1] Totals:	PLANNED	0	0	598	623	733	692	387	3,033
			BUD+COM	0	0	598	623	733	692	387	3,033
	OBS Totals:		PLANNED	0	0	598	623	733	692	387	3,033
			BUD+COM	0	0	598	623	733	692	387	3,033
CAPW[4] Totals:											
			PLANNED	0	0	598	623	733	692	387	3,033
			BUD+COM	0	0	598	623	733	692	387	3,033
4.1.9.2 RELIABILITY AND QUALITY ASSURANCE											
DL SU-SLAC											
2600085 4.1.9.2 Reliability And Quality Assurance											
		CPN[1] Totals:	PLANNED	0	0	57	58	0	0	0	115
			BUD+COM	0	0	57	58	0	0	0	115
	OBS Totals:		PLANNED	0	0	57	58	0	0	0	115
			BUD+COM	0	0	57	58	0	0	0	115
CAPW[4] Totals:											
			PLANNED	0	0	57	58	0	0	0	115
			BUD+COM	0	0	57	58	0	0	0	115
4.1.9.3 I & T PREPARATION											
DL SU-SLAC											
2600151 4.1.9.3.1 I & T DEVELOPMENT											
		CPN[1] Totals:	PLANNED	0	0	36	0	0	0	0	36
			BUD+COM	0	0	36	0	0	0	0	36
2600152 4.1.9.3.2 CALIB TEST DEVELOPMENT											
		CPN[1] Totals:	PLANNED	0	0	59	0	0	0	0	59
			BUD+COM	0	0	59	0	0	0	0	59
2600153 4.1.9.3.3 INTEGRATION FACILITIES											
		CPN[1] Totals:	PLANNED	0	0	121	73	75	25	0	294
			BUD+COM	0	0	121	73	75	25	0	294
	OBS Totals:		PLANNED	0	0	216	73	75	25	0	389
			BUD+COM	0	0	216	73	75	25	0	389
CAPW[4] Totals:											
			PLANNED	0	0	216	73	75	25	0	389
			BUD+COM	0	0	216	73	75	25	0	389
4.1.9.4 CALIBRATION UNIT I & T											
DL SU-SLAC											
2600154 4.1.9.4.1 CAL. UNIT ENGINEERING											
		CPN[1] Totals:	PLANNED	0	0	46	129	70	0	0	244
			BUD+COM	0	0	46	129	70	0	0	244
2600155 4.1.9.4.2 CAL UNIT EQUIPMENT & PREP											
		CPN[1] Totals:	PLANNED	0	0	1	133	0	0	0	133
			BUD+COM	0	0	1	133	0	0	0	133
2600156 4.1.9.4.3-4-5 CAL UNIT I&T, BEAM TESTS											
		CPN[1] Totals:	PLANNED	0	0	0	63	122	0	0	184
			BUD+COM	0	0	0	63	122	0	0	184
	OBS Totals:		PLANNED	0	0	46	325	191	0	0	562
			BUD+COM	0	0	46	325	191	0	0	562
CAPW[4] Totals:											
			PLANNED	0	0	46	325	191	0	0	562
			BUD+COM	0	0	46	325	191	0	0	562
4.1.9.6 FLIGHT LAT I & T											
DL SU-SLAC											
2600160 4.1.9.6.1.1 LAT INTEGRATION ENGINEERING											
		CPN[1] Totals:	PLANNED	0	0	232	289	216	0	0	737
			BUD+COM	0	0	232	289	216	0	0	737
2600161 4.1.9.6.1.2 LAT INTEGRATION PREP											
		CPN[1] Totals:	PLANNED	0	0	0	566	0	0	0	566
			BUD+COM	0	0	0	566	0	0	0	566
2600162 4.1.9.6.1.3 LAT INTEGRATION											
		CPN[1] Totals:	PLANNED	0	0	0	0	187	0	0	187
			BUD+COM	0	0	0	0	187	0	0	187
2600164 4.1.9.6.2.1-2 LAT MECH TEST & ENG PREP											
		CPN[1] Totals:	PLANNED	0	0	0	123	40	11	0	174
			BUD+COM	0	0	0	123	40	11	0	174
2600166 4.1.9.6.2.3 LAT MECHANICAL TESTING											
		CPN[1] Totals:	PLANNED	0	0	0	0	330	13	0	344
			BUD+COM	0	0	0	0	330	13	0	344

Program:	1001	Description:	GLAST LAT Project								Approval:	Program Manager		
Run Date:	12/12/01	Status Date:	10/31/01								Functional Manager			
												Cost Account Manager		

CAPW[4]	OBS	CPN[1]	WP	FY00	FY01	FY02	FY03	FY04	FY05	FY06	Cumulative
2600168 4.1.9.6.3.1-2 LAT THERMAL TEST & ENG PREP											
		CPN[1] Totals:	PLANNED	0	0	0	92	624	71	0	787
			BUD+COM	0	0	0	92	624	71	0	787
2600170 4.1.9.6.3.3 LAT THERMAL TESTING											
		CPN[1] Totals:	PLANNED	0	0	0	0	0	39	0	39
			BUD+COM	0	0	0	0	0	39	0	39
2600172 4.1.9.6.5 LAT DELIVERY											
		CPN[1] Totals:	PLANNED	0	0	0	0	0	147	25	172
			BUD+COM	0	0	0	0	0	147	25	172
	OBS Totals:		PLANNED	0	0	232	1,070	1,397	282	25	3,006
			BUD+COM	0	0	232	1,070	1,397	282	25	3,006
CAPW[4] Totals:			PLANNED	0	0	232	1,070	1,397	282	25	3,006
			BUD+COM	0	0	232	1,070	1,397	282	25	3,006
4.1.9.7 MISSION INTEGRATION & TESTING											
DL SU-SLAC											
2600090 4.1.9.7 Mission I & T Support											
		CPN[1] Totals:	PLANNED	0	0	24	38	0	103	24	189
			BUD+COM	0	0	24	38	0	103	24	189
	OBS Totals:		PLANNED	0	0	24	38	0	103	24	189
			BUD+COM	0	0	24	38	0	103	24	189
CAPW[4] Totals:			PLANNED	0	0	24	38	0	103	24	189
			BUD+COM	0	0	24	38	0	103	24	189



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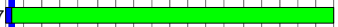
# **Work Package Planning (Resource Loaded Schedule @ Work Package Level)**



Act ID	Activity Description	Dur	Start	Finish	PMT	Budgeted Cost	FY01	FY02	FY03	FY04	FY05	FY06
<b>9 4.1.9 INSTRUMENT INTEGRATION AND TESTING</b>												
Subtotal		1,110	10/01/01A	03/31/06	A	7,294,209.49	7,294,209.49					
<b>91 4.1.9.1 INTEGRATION &amp; TEST MANAGEMENT</b>												
Subtotal		1,110	10/01/01A	03/31/06	A	3,032,788.71	3,032,788.71					
<b>DL SU-SLAC</b>												
Subtotal		1,110	10/01/01A	03/31/06	A	3,032,788.71	3,032,788.71					
<b>+ 2600084 4.1.9.1 I &amp; T Management</b>												
		1,110	10/01/01A	03/31/06	A	3,032,788.71	3,032,788.71					
<b>92 4.1.9.2 RELIABILITY AND QUALITY ASSURANCE</b>												
Subtotal		494	10/01/01A	09/30/03	A	115,119.57				115,119.57		
<b>DL SU-SLAC</b>												
Subtotal		494	10/01/01A	09/30/03	A	115,119.57				115,119.57		
<b>+ 2600085 4.1.9.2 Reliability And Quality Assurance</b>												
		494	10/01/01A	09/30/03	A	115,119.57				115,119.57		
<b>93 4.1.9.3 I &amp; T PREPARATION</b>												
Subtotal		989	10/01/01A	09/29/05	A	389,198.24					389,198.24	
<b>DL SU-SLAC</b>												
Subtotal		989	10/01/01A	09/29/05	A	389,198.24					389,198.24	
<b>+ 2600151 4.1.9.3.1 I &amp; T DEVELOPMENT</b>												
		247	10/01/01A	09/30/02	A	36,430.42				36,430.42		
<b>+ 2600152 4.1.9.3.2 CALIB TEST DEVELOPMENT</b>												
		247	10/01/01A	09/30/02	A	58,653.45				58,653.45		
<b>+ 2600153 4.1.9.3.3 INTEGRATION FACILITIES</b>												
		989	10/01/01A	09/29/05	A	294,114.37					294,114.37	
<b>94 4.1.9.4 CALIBRATION UNIT I &amp; T</b>												
Subtotal		742	10/01/01A	09/30/04	A	562,069.28					562,069.28	
<b>DL SU-SLAC</b>												
Subtotal		742	10/01/01A	09/30/04	A	562,069.28					562,069.28	

Act ID	Activity Description	Dur	Start	Finish	PMT	Budgeted Cost						
							FY01	FY02	FY03	FY04	FY05	FY06
<b>+ 2600154 4.1.9.4.1 CAL. UNIT ENGINEERING</b>												
		742	10/01/01A	09/30/04	A	244,172.94						244,172.94
<b>+ 2600155 4.1.9.4.2 CAL UNIT EQUIPMENT &amp; PREP</b>												
		494	10/01/01A	09/30/03	A	133,405.40						133,405.40
<b>+ 2600156 4.1.9.4.3-4-5 CAL UNIT I&amp;T, BEAM TESTS</b>												
		495	10/01/02	09/30/04	A	184,490.94						184,490.94
<b>96 4.1.9.6 FLIGHT LAT I &amp; T</b>												
Subtotal		1,110	10/01/01A	03/31/06	A	3,006,384.12	3,006,384.12					
<b>DL SU-SLAC</b>												
Subtotal		1,110	10/01/01A	03/31/06	A	3,006,384.12	3,006,384.12					
<b>+ 2600160 4.1.9.6.1.1 LAT INTEGRATION ENGINEERING</b>												
		742	10/01/01A	09/30/04	A	736,958.71						736,958.71
<b>+ 2600161 4.1.9.6.1.2 LAT INTEGRATION PREP</b>												
		247	10/01/02	09/30/03	A	566,326.59						566,326.59
<b>+ 2600162 4.1.9.6.1.3 LAT INTEGRATION</b>												
		248	10/01/03	09/30/04	A	187,221.33						187,221.33
<b>+ 2600164 4.1.9.6.2.1-2 LAT MECH TEST &amp; ENG PREP</b>												
		743	10/01/02	09/30/05	A	173,502.58						173,502.58
<b>+ 2600166 4.1.9.6.2.3 LAT MECHANICAL TESTING</b>												
		496	10/01/03	09/30/05	A	343,731.23						343,731.23
<b>+ 2600168 4.1.9.6.3.1-2 LAT THERMAL TEST &amp; ENG PREP</b>												
		743	10/01/02	09/30/05	A	787,360.55						787,360.55
<b>+ 2600170 4.1.9.6.3.3 LAT THERMAL TESTING</b>												
		248	10/01/04	09/30/05	A	39,299.03						39,299.03
<b>+ 2600172 4.1.9.6.5 LAT DELIVERY</b>												
		368	10/01/04	03/31/06	A	171,984.10						171,984.10
<b>97 4.1.9.7 MISSION INTEGRATION &amp; TESTING</b>												
Subtotal		1,110	10/01/01A	03/31/06	A	188,649.57	188,649.57					
<b>DL SU-SLAC</b>												
Subtotal		1,110	10/01/01A	03/31/06	A	188,649.57	188,649.57					

Act ID	Activity Description	Dur	Start	Finish	PMT	Budgeted Cost	FY01	FY02	FY03	FY04	FY05	FY06
+ 2600090	4.1.9.7 Mission I & T Support	1,110	10/01/01A	03/31/06	A	188,649.57	188,649.57					





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## **Subsystem Milestones**

Act ID	Activity Description	Start	Finish	FY00 FY01 FY02 FY03 FY04 FY05 FY06																			
<b>4.1.9 INSTRUMENT INTEGRATION AND TESTING</b>																							
<b>Subsystem Managers ( Level 4)</b>																							
9I19500000	ND: EM from Calorimeter to I&T		08/29/03																				
9I000020	Calibration unit Beam Test complete		03/15/04																				
9I011300	IA: TKR Flight Modules 1, 2 RFI into LAT		04/12/04																				
9I011302	IA: CAL Flight Modules 1, 2 RFI into LAT		04/13/04																				
9I018500	AV: LAT Ready for Environmental Testing		07/07/04																				
9I023350	LAT Ready to Ship		02/22/05																				
9I001700	Ready for I-PDR	12/03/01*																					
9I004610	AV: MGSE Requirements for ACD		03/22/02*																				
9I004620	AV: SLAC Facilities Spec to ACD		03/22/02*																				
9I001710	AV: Online System Spec from I&T to IOC		03/28/02																				
9I016460	ND: EGSE EM1 H/W Release for I&T		04/22/02																				
9I001800	Ready for I-CDR	06/05/02*																					
9I006910	ND: Doc of Requirements for Backsplash Tst	01/06/03*																					
9I016450	ND: EGSE EM2 Release for I&T		01/15/03																				
9I016500	IA: Int.Clean Room Ready for LAT Integration	05/30/03																					
9I009210	ND: EGSE Qual Unit Release for I&T		06/06/03*																				
9I019800	Vibe Test Contract in Place		07/30/03																				
9I009030	ND: EM2 TEM Assy A, B		08/15/03																				
9I009040	ND: EM 2 TEM PS Assy A,B		08/15/03																				
9I009100	ND: TKR Modules A and B RFI		08/15/03																				
9I009102	ND: CAL Modules A and B RFI		08/15/03																				
9I021800	Thermal-Vac Test Contract in Place		10/24/03																				
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Act ID	Activity Description	Start	Finish	FY00 FY01 FY02 FY03 FY04 FY05 FY06																		
9I009500	ND: TKR Modules 1 and 2		11/03/03										▼									
9I009502	ND: CAL Modules 1 and 2		11/03/03										▼									
9I017650	ND: Flight TEM PS Assy 1,2		11/03/03										▼									
9I010010	IN: SLAC Beamline Available	12/01/03*											▼									
9I000025	ND: Flight Grid ready for Integration-Mech		01/02/04										▼									
9I000075	LAT Assembly Readiness Review		01/02/04										▼									
9I017640	ND: Flight TEM Assy 1,2		01/14/04										▼									
9I001720	AV: Calibration Unit Beam Test from I&T to IOC	01/16/04											▼									
9I016804	ND: Flight Tkr Towers 3, 4		01/16/04										▼									
9I016808	ND: Flight Cal. Towers 3, 4		01/16/04										▼									
9I016810	ND: EGSE Flight Unit Release for I&T		01/16/04										▼									
9I016910	ND: Flight TEM Assy 3,4		01/16/04										▼									
9I016920	ND: Flight TEM PS Assy 3,4		01/16/04										▼									
9I016904	ND: Flight Tkr.. Towers 5,6		02/02/04										▼									
9I016908	ND: Flight Cal. Towers 5,6		02/02/04										▼									
9I017020	ND: Flight TEM PS Assy 5,6		02/02/04										▼									
9I017110	ND: Flight TEM Assy 7,8		02/17/04										▼									
9I017120	ND: Flight TEM PS Assy 7,8		02/17/04*										▼									
9I017010	ND: Flight TEM Assy 5,6		02/20/04										▼									
9I017210	ND: Flight TEM Assy 9,10		03/02/04*										▼									
9I017220	ND: Flight TEM PS Assy 9,10		03/02/04*										▼									
9I017004	ND: Flight Tkr Towers 7,8		03/05/04										▼									
9I017008	ND: Flight Cal Towers 7,8		03/05/04										▼									
9I017310	ND: Flight Tem Assy 11,12		03/12/04*										▼									
Run Date 12/12/01 14:43				GLAST LAT PROJECT Subsystem Milestones												Sheet 36						
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Act ID	Activity Description	Start	Finish														
				FY00	FY01	FY02	FY03	FY04	FY05	FY06							
9I017320	ND: Flight TEM PS Assy 11,12		03/12/04														
9I017104	ND: Flight Tkr Towers 9, 10		03/19/04														
9I017108	ND: Flight Cal Towers 9, 10		03/19/04														
9I017410	ND: Flight TEM Assy 13,14		03/26/04														
9I017420	ND: Flight TEM PS Assy 13,14		03/26/04														
9I017204	ND: Flight Tkr Towers 11, 12		03/31/04														
9I017208	ND: Flight Cal Towers 11, 12		03/31/04														
9I07418	ND: Flight TEM Assy 15,16		04/01/04														
9I07428	ND: Flight TEM PS Assy15,16		04/01/04														
9I017304	ND: Flight Tkr Towers 13, 14		04/14/04														
9I017308	ND: Flight Cal Towers 13, 14		04/14/04														
9I07404	ND: Flight Tkr Towers 15, 16		04/20/04														
9I07408	ND: Flight Cal Towers 15, 16		04/20/04														
9I016930	ND: Flight Harness		04/26/04														
9I017660	ND: Flight ICM/GLT from (Electronics)		04/26/04														
9I017670	ND: Flight SIU from (Electronics)		04/26/04														
9I017680	ND: Flight Event Process Units from Elec		04/26/04														
9I017800	ND: Flight ACD from 4.1.5		04/26/04														
9I017810	ND: Flight ACD (Electronics) Module		04/26/04														
9I017900	ND: Thermal Blanket from 4.1.5		04/26/04														
9I018200	ND: X-LAT Thermal Plate		04/26/04*														
9I017504	ND: Flight Tkr Towers 1, 2		05/03/04														
9I017508	ND: Flight CAL Towers 1, 2		05/03/04														
9I018330	System Test Readiness Review-incl Safety - I&T		06/22/04														
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Act ID	Activity Description	Start	Finish	FY00 FY01 FY02 FY03 FY04 FY05 FY06													
9I001730	AV: LAT EMI/EMC Test from I&T to IOC	06/23/04															
9I018410	Pre-Environmental Readiness Review/Safety-I&T		07/07/04														
9I001740	AV: LAT Vib/Acoustic Test from I&T to IOC	08/30/04															
9I001760	AV: LAT Performance Test from I&T to IOC	09/02/04															
9I001750	AV: LAT Thermal Test from I&T to IOC	09/22/04															
9I018310	ND: Radiators ready for Mission I&T-Mech		12/01/04														
9I023110	Pre-Ship Review-incl Safety-I&T		12/09/04														
9I001900	ready for I-PSR	01/10/05															
9I002000	AV: LAT RFI to SC		03/22/05*														
9I023600	LAT Turnover		03/22/05														
9I002100	Launch		03/01/06*														
9I025600	Launch	03/02/06*															





**Gamma-ray  
Large Area Space  
Telescope**



## **Critical Activities with Total Float Less Than 80 Days**

Act ID	Activity Description	Dur	Start	Finish	Total Float										
						FY01	FY02	FY03	FY04	FY05	FY06				
<b>4.1.9 INSTRUMENT INTEGRATION AND TESTING</b>															
<b>0</b>															
<b>4.1.9 INSTRUMENT INTEGRATION AND TESTING</b>															
91000025	ND: Flight Grid ready for Integration-Mech	0		01/02/04	0										
91000075	LAT Assembly Readiness Review	0		01/02/04	0										
<b>4.1.9.1 INTEGRATION &amp; TEST MANAGEMENT</b>															
91001700	Ready for I-PDR	0	12/03/01*		0										
91001800	Ready for I-CDR	0	06/05/02*		0										
91001720	AV: Calibration Unit Beam Test from I&T to IOC	0	01/16/04		0										
91001750	AV: LAT Thermal Test from I&T to IOC	0	09/22/04		0										
91002000	AV: LAT RFI to SC	0		03/22/05*	0										
<b>4.1.9.3 I &amp; T PREPARATION</b>															
91004500	Prep I&T I-PDR Material	43*	10/01/01A	11/30/01	0										
91004920	AV: Prototype EGSE to ACD	1	03/15/02*	03/15/02	0										
91004610	AV: MGSE Requirements for ACD	0		03/22/02*	0										
91004620	AV: SLAC Facilities Spec to ACD	0		03/22/02*	0										
91004930	AV: EM1 EGSE to ACD	1	07/01/02*	07/01/02	0										
91004940	AV: EM2 EGSE to ACD	1	03/03/03*	03/03/03	0										
<b>4.1.9.4 CALIBRATION UNIT I &amp; T</b>															
91009500	ND: TKR Modules 1 and 2	0		11/03/03	0										
91009502	ND: CAL Modules 1 and 2	0		11/03/03	0										
91009600	Integrate TKR, CAL Flight Modules 1, 2	15	11/04/03	11/24/03	0										
91009700	Functional/EMI Test Cal. Unit	14	11/25/03	12/16/03	0										
91009800	Prep Cal. Unit for Transport	5	12/17/03	12/23/03	0										
91010200	Install Cal. Unit on Beamline at SLAC	10	01/02/04	01/15/04	0										
91010300	Beam Test Cal. Unit at SLAC	40	01/16/04	03/15/04	0										

Act ID	Activity Description	Dur	Start	Finish	Total Float	FY01		FY02		FY03		FY04		FY05		FY06	
<b>4.1.9.6 FLIGHT LAT I &amp; T</b>																	
9I017010	ND: Flight TEM Assy 5,6	0		02/20/04	0								▼				
9I017000	Integrate Flight Tkr/Cal Towers 5, 6	10	02/23/04	03/05/04	0												
9I017004	ND: Flight Tkr Towers 7,8	0		03/05/04	0								▼				
9I017008	ND: Flight Cal Towers 7,8	0		03/05/04	0								▼				
9I017100	Integrate Flight Tkr/Cal Towers 7, 8	10	03/08/04	03/19/04	0												
9I017104	ND: Flight Tkr Towers 9, 10	0		03/19/04	0								▼				
9I017108	ND: Flight Cal Towers 9, 10	0		03/19/04	0								▼				
9I017200	Integrate Flight Tkr/Cal Towers 9, 10	8	03/22/04	03/31/04	0												
9I017204	ND: Flight Tkr Towers 11, 12	0		03/31/04	0								▼				
9I017208	ND: Flight Cal Towers 11, 12	0		03/31/04	0								▼				
9I017300	Integrate Flight Tkr/Cal Towers 11, 12	10	04/01/04	04/14/04	0												
9I017304	ND: Flight Tkr Towers 13, 14	0		04/14/04	0								▼				
9I017308	ND: Flight Cal Towers 13, 14	0		04/14/04	0								▼				
9I017400	Integrate Flight Tkr/Cal Towers 13, 14	4	04/15/04	04/20/04	0												
9I07404	ND: Flight Tkr Towers 15, 16	0		04/20/04	0								▼				
9I07408	ND: Flight Cal Towers 15, 16	0		04/20/04	0								▼				
9I017500	Integrate Flight Tkr/Cal Towers 15, 16	9	04/21/04	05/03/04	0												
9I017504	ND: Flight Tkr Towers 1, 2	0		05/03/04	0								▼				
9I017508	ND: Flight CAL Towers 1, 2	0		05/03/04	0								▼				
9I017600	Integrate Flight Tkr/Cal Towers 1, 2	10	05/04/04	05/17/04	0												
9I017700	Survey LAT	5	05/18/04	05/24/04	0												
9I018000	Integrate Flight ACD on Grid	10	05/25/04	06/08/04	0												
9I018100	Integrate Thermal Blanket on Grid	5	06/09/04	06/15/04	0												
9I018300	Test Integrate Radiators on Grid, Remove	5	06/16/04	06/22/04	0												

Act ID	Activity Description	Dur	Start	Finish	Total Float	Fiscal Year									
						FY01	FY02	FY03	FY04	FY05	FY06				
<b>4.1.9.6 FLIGHT LAT I &amp; T</b>															
91018330	System Test Readiness Review-incl Safety - I&T	0		06/22/04	0										
91018400	Functional/EMI Test Flight Unit	10	06/23/04	07/07/04	0										
91018410	Pre-Environmental Readiness Review/Safety-I&T	0		07/07/04	0										
91018500	AV: LAT Ready for Environmental Testing	0		07/07/04	0										
91020100	Integrate LAT on Vibe Mount	3	07/08/04	07/12/04	0										
91020200	Prep LAT for Shipping	4	07/13/04	07/16/04	0										
91020300	Ship LAT to Vibe Test Contractor	10	07/19/04	07/30/04	0										
91020400	(PR) Vibe, Acoustic Test Flight Unit	1	08/02/04	08/02/04	0										
91020410	(REC) Vibe, Acoustic Test Flight Unit	1	08/30/04	08/30/04	0										
91020500	Transport LAT	2	08/31/04	09/01/04	0										
91020600	Functional/EMI Re-Test Flight Unit	5	09/02/04	09/09/04	0										
91021910	Integrate LAT on Thermal-Vac Mount	3	09/10/04	09/14/04	0										
91022200	Prep LAT for Shipping	4	09/15/04	09/20/04	0										
91022300	Transport LAT	2	09/21/04	09/22/04	0										
91022400	Thermal-Vac Test LAT	40	09/23/04	11/17/04	0										
91022500	Ship LAT Back to SLAC	9	11/18/04	12/02/04	0										
91022600	Functional/EMI Re-Test LAT	5	12/03/04	12/09/04	0										
91023200	Prep LAT for Transport	5	12/10/04	12/16/04	0										
91023300	Instrument Schedule Contingency	40	12/17/04	02/22/05	0										
91023350	LAT Ready to Ship	0		02/22/05	0										
91023400	Ship LAT to S/C I&T	5	02/23/05	03/01/05	0										
91023500	Unpack, Inspect LAT at S/C I&T	15	03/02/05	03/22/05	0										
91023600	LAT Turnover	0		03/22/05	0										

Act ID	Activity Description	Dur	Start	Finish	Total Float	Fiscal Year					
						FY01	FY02	FY03	FY04	FY05	FY06
<b>1</b>											
<b>4.1.9.1 INTEGRATION &amp; TEST MANAGEMENT</b>											
91001740	AV: LAT Vib/Acoustic Test from I&T to IOC	0	08/30/04		1						
<b>2</b>											
<b>4.1.9.1 INTEGRATION &amp; TEST MANAGEMENT</b>											
91003100	Travel for LV I&T	19	03/02/06	03/28/06	2						
<b>4.1.9.6 FLIGHT LAT I &amp; T</b>											
91023700	De-Commission Integration Facilities	19	03/02/06	03/28/06	2						
<b>4.1.9.7 MISSION INTEGRATION &amp; TESTING</b>											
91025600	Launch	0	03/02/06*		2						
91025800	Finish	1	03/29/06	03/29/06	2						
<b>5</b>											
<b>4.1.9.6 FLIGHT LAT I &amp; T</b>											
91019300	Support Mech Testing	30	07/13/04	08/23/04	5						
91023110	Pre-Ship Review-incl Safety-I&T	0		12/09/04	5						
<b>6</b>											
<b>4.1.9.3 I &amp; T PREPARATION</b>											
91004600	Conceptual Design of I&T GSE After I-PDR	35	12/03/01	01/30/02	6						
<b>4.1.9.4 CALIBRATION UNIT I &amp; T</b>											
91006900	Develop Cal Unit I&T Procedures, GSE	38	01/31/02	03/26/02	6						
91007000	Detail Cal. Unit Grid Support	14	03/27/02	04/15/02	6						
91007100	Detail Cal. Unit Grid Mounting Stand	19	04/16/02	05/10/02	6						
91007200	Prep Cal Unit I&T Plans for I-CDR	10	05/13/02	05/24/02	6						
<b>4.1.9.6 FLIGHT LAT I &amp; T</b>											
91018310	ND: Radiators ready for Mission I&T-Mech	0		12/01/04	6						
<b>7</b>											
<b>4.1.9.3 I &amp; T PREPARATION</b>											
91004900	Prep I&T I-CDR Material	10	05/10/02	05/23/02	7						

Act ID	Activity Description	Dur	Start	Finish	Total Float	Fiscal Year																	
						FY01	FY02	FY03	FY04	FY05	FY06												
<b>8</b>																							
<b>4.1.9.6 FLIGHT LAT I &amp; T</b>																							
9I011700	Develop LAT I&T Procedures, GSE	25	12/03/01	01/15/02	8		■																
9I012200	Detail Integration Support Stand	25	01/16/02	02/21/02	8		■																
9I012300	Detail Cart	15	02/22/02	03/14/02	8		■																
9I012400	Detail Lifting Rigging	15	03/15/02	04/04/02	8		■																
9I012600	Detail Staging Table	9	04/05/02	04/17/02	8		■																
9I012700	Detail Misc Equip and Fixtures	10	04/18/02	05/01/02	8		■																
9I012720	Prep LAT I&T Plans for I-CDR	15	05/02/02	05/22/02	8		■																
<b>10</b>																							
<b>4.1.9.6 FLIGHT LAT I &amp; T</b>																							
9I017660	ND: Flight ICM/GLT from (Electronics)	0		04/26/04	10									▼									
9I017670	ND: Flight SIU from (Electronics)	0		04/26/04	10									▼									
9I017630	Integrate Data CPU'S	5	04/27/04	05/03/04	10									■									
<b>13</b>																							
<b>4.1.9.6 FLIGHT LAT I &amp; T</b>																							
9I016800	Prep Flight Grid for Integration	10	01/05/04	01/16/04	13									■									
9I016804	ND: Flight Tkr Towers 3, 4	0		01/16/04	13									▼									
9I016808	ND: Flight Cal. Towers 3, 4	0		01/16/04	13									▼									
9I016810	ND: EGSE Flight Unit Release for I&T	0		01/16/04	13									▼									
9I016910	ND: Flight TEM Assy 3,4	0		01/16/04	13									▼									
9I016920	ND: Flight TEM PS Assy 3,4	0		01/16/04	13									▼									
9I016900	Integrate Flight Tkr/Cal Towers 3, 4	10	01/20/04	02/02/04	13									■									
9I016904	ND: Flight Tkr.. Towers 5,6	0		02/02/04	13									▼									
9I016908	ND: Flight Cal. Towers 5,6	0		02/02/04	13									▼									
9I017020	ND: Flight TEM PS Assy 5,6	0		02/02/04	13									▼									
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Act ID	Activity Description	Dur	Start	Finish	Total Float	FY01		FY02		FY03		FY04		FY05		FY06	
<b>4.1.9.6 FLIGHT LAT I &amp; T</b>																	
9I017110	ND: Flight TEM Assy 7,8	0		02/17/04	13								▼				
9I017120	ND: Flight TEM PS Assy 7,8	0		02/17/04*	13								▼				
9I017210	ND: Flight TEM Assy 9,10	0		03/02/04*	13								▼				
9I017220	ND: Flight TEM PS Assy 9,10	0		03/02/04*	13								▼				
9I017310	ND: Flight Tem Assy 11,12	0		03/12/04*	13								▼				
9I017320	ND: Flight TEM PS Assy 11,12	0		03/12/04	13								▼				
9I017410	ND: Flight TEM Assy 13,14	0		03/26/04	13								▼				
9I017420	ND: Flight TEM PS Assy 13,14	0		03/26/04	13								▼				
9I07418	ND: Flight TEM Assy 15,16	0		04/01/04	13								▼				
9I07428	ND: Flight TEM PS Assy15,16	0		04/01/04	13								▼				
<b>14</b>																	
<b>4.1.9.4 CALIBRATION UNIT I &amp; T</b>																	
9I009220	ND: ACD Calibration Test Unit Delvd RFI	1	11/04/03*	11/04/03	14												
9I010400	Break Down Beam Test, Prep for Shipping	8	03/16/04	03/25/04	14												
9I011100	Prep Cal. Unit for Dis-Integration	5	03/26/04	04/01/04	14												
9I011200	Remove CAL, TKR Modules A, B, 1, 2	8	04/02/04	04/13/04	14												
9I011302	IA: CAL Flight Modules 1, 2 RFI into LAT	0		04/13/04	14								▼				
<b>15</b>																	
<b>4.1.9.4 CALIBRATION UNIT I &amp; T</b>																	
9I011300	IA: TKR Flight Modules 1, 2 RFI into LAT	0		04/12/04	15								▼				
<b>4.1.9.6 FLIGHT LAT I &amp; T</b>																	
9I016930	ND: Flight Harness	0		04/26/04	15								▼				
9I017680	ND: Flight Event Process Units from Elec	0		04/26/04	15								▼				
<b>17</b>																	
<b>4.1.9.4 CALIBRATION UNIT I &amp; T</b>																	
9I009030	ND: EM2 TEM Assy A, B	0		08/15/03	17								▼				
Run Date 12/12/01 13:58						GLAST - LAT PROJECT Critical Activities (TF < 80 days)						Sheet 109					
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Act ID	Activity Description	Dur	Start	Finish	Total Float	Fiscal Year																	
						FY01	FY02	FY03	FY04	FY05	FY06												
<b>4.1.9.4 CALIBRATION UNIT I &amp; T</b>																							
91009040	ND: EM 2 TEM PS Assy A,B	0		08/15/03	17																		
91009100	ND: TKR Modules A and B RFI	0		08/15/03	17																		
91009102	ND: CAL Modules A and B RFI	0		08/15/03	17																		
91009200	Integrate TKR/CAL Modules A and B	19	08/18/03	09/12/03	17																		
91009300	Functional/EMI Test Cal. Towers A and B	15	09/15/03	10/03/03	17																		
91009400	Prep Cal Grid for Integrating Flight Towers	4	10/06/03	10/09/03	17																		
91010010	IN: SLAC Beamline Available	0	12/01/03*		17																		
<b>20</b>																							
<b>4.1.9.6 FLIGHT LAT I &amp; T</b>																							
91017800	ND: Flight ACD from 4.1.5	0		04/26/04	20																		
91017810	ND: Flight ACD (Electronics) Module	0		04/26/04	20																		
91017900	ND: Thermal Blanket from 4.1.5	0		04/26/04	20																		
<b>4.1.9.7 MISSION INTEGRATION &amp; TESTING</b>																							
91025700	Post-Launch Engineering Support	1	03/02/06	03/02/06	20																		
<b>24</b>																							
<b>4.1.9.1 INTEGRATION &amp; TEST MANAGEMENT</b>																							
91001710	AV: Online System Spec from I&T to IOC	0		03/28/02	24																		
<b>4.1.9.3 I &amp; T PREPARATION</b>																							
91005200	Prototype, Test Calibration Fixtures	40	01/31/02	03/28/02	24																		
<b>30</b>																							
<b>4.1.9.1 INTEGRATION &amp; TEST MANAGEMENT</b>																							
91001900	ready for I-PSR	0	01/10/05		30																		
<b>4.1.9.6 FLIGHT LAT I &amp; T</b>																							
91021400	Write Thermal-Vac Test Report	18	11/18/04	12/15/04	30																		
91023100	Prep for I-PSR	11	12/16/04	01/07/05	30																		
Run Date						12/12/01 13:58						GLAST - LAT PROJECT Critical Activities (TF < 80 days)						Sheet 110					
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Act ID	Activity Description	Dur	Start	Finish	Total Float						
						FY01	FY02	FY03	FY04	FY05	FY06
<b>33</b>											
<b>4.1.9.1 INTEGRATION &amp; TEST MANAGEMENT</b>											
91001730	AV: LAT EMI/EMC Test from I&T to IOC	0	06/23/04		33						
<b>35</b>											
<b>4.1.9.6 FLIGHT LAT I &amp; T</b>											
91018200	ND: X-LAT Thermal Plate	0		04/26/04*	35						
<b>38</b>											
<b>4.1.9.1 INTEGRATION &amp; TEST MANAGEMENT</b>											
91001760	AV: LAT Performance Test from I&T to IOC	0	09/02/04		38						
<b>4.1.9.7 MISSION INTEGRATION &amp; TESTING</b>											
91024300	Oversee S/C Integration	38	03/23/05	05/13/05	38						
91024400	Inspect, Test Flight Instrument	10	05/16/05	05/27/05	38						
91024500	Oversee S/C Testing	30	05/31/05	07/12/05	38						
91024600	Inspect, Test Flight Instrument	40	07/13/05	09/07/05	38						
91024700	Prepare Instrument for Transport	9	09/08/05	09/20/05	38						
91025100	Oversee LV I&T	30	09/21/05	11/01/05	38						
91025200	Inspect, Test LAT on LV	20	11/02/05	12/01/05	38						
91025400	Oversee Launch Preparation	10	12/02/05	12/15/05	38						
91025500	Prep for and Witness Launch	10	12/16/05	01/06/06	38						
<b>42</b>											
<b>4.1.9.6 FLIGHT LAT I &amp; T</b>											
91011800	Develop Integration Procedures, Dwg's	40	01/16/02	03/14/02	42						
<b>57</b>											
<b>4.1.9.1 INTEGRATION &amp; TEST MANAGEMENT</b>											
91002900	Travel for LAT Env Testing	20	08/02/04	08/27/04	57						
<b>76</b>											
<b>4.1.9.6 FLIGHT LAT I &amp; T</b>											
91017640	ND: Flight TEM Assy 1,2	0		01/14/04	76						



**Gamma-ray  
Large Area Space  
Telescope**



**FTEs**

Program: 1001	Description: GLAST LAT Project	Approval: Program Manager Functional Manager Cost Account Manager
Run Date: 12/13/01	Status Date: 10/31/01	

CAPW[3]	OBS[3]	START	FY00	FY01	FY02	FY03	FY04	FY05	FY06	Cumulative	
4.1.9 INSTRUMENT INTEGRATION AND TESTING											
DL SU-SLAC											
	FY_FTE	PLANNED	0.0	0.0	0.0	7.3	10.0	8.0	6.1	2.5	33.8
CAPW[3] Totals:		PLANNED	0.0	0.0	0.0	7.3	10.0	8.0	6.1	2.5	33.8