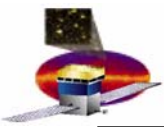


GLAST Large Area Telescope: I & T Input to Monthly Technical/Cost/Schedule Review 01/05/05

Elliott Bloom
SU-SLAC
Subsystem Manager

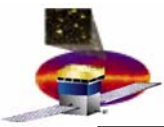
Ken Fouts
SU-SLAC
Subsystem Engineering Manager

elliott@slac.stanford.edu, kfouts@slac.stanford.edu
650-926-2469 650-926-2553



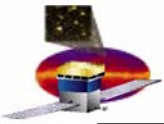
Last Month's Accomplishments

- **Management**
 - 36 of 65 I&T documents and procedures in review/approval cycle.
 - Supported TKR receiving planning meetings and MRB activity.
- **IFCT**
 - Completed spacecraft to grid interface check.
 - Supported CAL receipt of FM101.
 - Completed mini-LAT build with EM CAL.
 - Completed Installation of 4 out of 5 grid heatpipes.
- **MGSE**
 - Received all Integration stand hardware, including PAP.
 - PAP Slides assembled and working.
- **Online**
 - Support update to CAL test scripts.
 - Released LATTE 4.6.3. (For use by subsystems, and test of single subsystem elements)
 - Preparing LATTE 4.7 (For LAT wide use by I&T and ISOC)
- **SVAC**
 - SVAC Pipeline scripts documented.
 - Dry run of SAS code release completed.
- **Particle Test**
 - VdG has worked reliably for 16 weeks since the last fix.
 - New muon telescope completed and ready for use.
 - LAT-TD-04136 Van de Graaff and Cosmic Ray Data Runs updated.



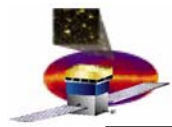
IFCT Accomplishments

- **Mech. Systems**
 - **Spacecraft Drill Template Fit Check**
- **Elec. Systems**
 - **Moved TVAC chamber into position in cleanroom**
 - **Start checkout process for TVAC chamber**
- **TKR Subsystem**
 - **Set-up Work Bench to accommodate TKR-A testing**
- **I&T Test Validation**
 - **Completed integration of EM CAL + Mini-TKR in single bay**
 - **Installed new muon telescope in test configuration**
 - **Started validation process for Trigger Scripts**
 - **Started validation process for TKR Scripts**
 - **Started validation process for data collection scripts**
 - **Updated TEM/TPS Shimming Process for incorporation to LAT-PS-3062**
 - **Started final TKR mechanical integration validation process (configuration of single bay, start installing flex cables on TKR EM)**
- **Computing Systems**
 - **Tape backup process for ODS-MYSQL started by SCS**



MGSE Accomplishments

- **All Integration Stand and PAP hardware received.**
- **Heat Treated SFP 15-5 PH Items at contractor facility due to SLAC's furnaces being down for an indeterminate time.**
- **Pre-proof test Dye Penetrant Inspections completed. All items passed inspections with no observable indications at a resolution of 0.001".**
- **Assembled PAP slides. All slides worked nominally.**
- **Assembled Shaft-Flange Assemblies onto GPR. Installed support bearings onto shafts.**
- **Located and resolved Base Structure interface problems. Bearing support surfaces are now within 0.006" of one another (i.e., flat and coplanar to within 0.006").**
- **Stand assembly has been impacted by crane issues in B750. Start of Proof test has slipped two weeks to 1/20/05 with no impact to Tracker integration in the grid.**



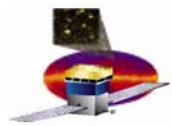
I&T Milestone Overview for January 2005

- **FM101**
 - Receiving inspection completed on FM
 - Complete
 - Calorimeter Test Stand Validated
 - Complete
 - Post-ship test completed on FM
 - Complete
 - Calorimeter CPT Software Validated on EM
 - CAL Script Delivery 1/7/05
 - Calorimeter receiving CPT completed on FM
 - 1/14/05
- **TKR-A**
 - Installation procedure validated on EM
 - In work (ECD 1/14/05)
 - Thermal strap procedure validated on EM
 - 1/14/05
 - Tracker flex cable procedure validated
 - 1/14/05
 - Tracker CPT software validated
 - 1/10/05
- **TEM/TPS-A**
 - Tvac chamber installed in cleanroom
 - Complete
- **Single Tower I&T Validation**
 - Metrology bay I&T validated on EM
 - Complete
 - Single Bay trigger tests validated on EM
 - In work (ECD 1/7/05)
 - Single Bay data collection validated on EM
 - 1/14/05
- **Grid Assembly**
 - Tilt table proof test
 - Complete
 - Heat pipe bonding completed
 - 1/20/05
 - Thermal control system installation
 - Rescheduled due to design change
 - I&T Need
 - 2/25/05
- **Integration Stand**
 - Delivery of GPR to I&T
 - Complete
 - Earth quaking of base frame
 - In Work (ECD TBD)
 - Match GPR to Proof Test Weight 1
 - 1/19/05
 - I&T Need
 - 2/25/05



I&T Detailed Schedule

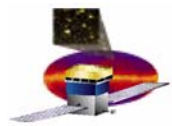
ID	Task Name	Duration	Start	Finish	Schedule																											
					Jan '05					Feb '05					Mar '05					Apr '05				May '05				Ju				
					26	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29					
1	LAT Integration Plan	287.94 days	3/19/04	5/31/05	[Gantt bar from 3/19/04 to 5/31/05]																											
2	Receive Grid	0 days	11/3/04	11/3/04	[Gantt bar from 11/3/04 to 11/3/04]																											
3	X-LAT Thermal Plate RFI	0 days	2/9/05	2/9/05	[Gantt bar from 2/9/05 to 2/9/05]																											
4	Radiators RFI	0 days	5/31/05	5/31/05	[Gantt bar from 5/31/05 to 5/31/05]																											
5	Tracker Receiving	39.94 days	1/13/05	3/14/05	[Gantt bar from 1/13/05 to 3/14/05]																											
6	Tower A	15 days	1/13/05	2/4/05	[Gantt bar from 1/13/05 to 2/4/05]																											
18	Tower B	24 days	2/7/05	3/14/05	[Gantt bar from 2/7/05 to 3/14/05]																											
30	Calorimeter Receiving	44.44 days	11/10/04	1/19/05	[Gantt bar from 11/10/04 to 1/19/05]																											
31	Calorimeter A	36.63 days	11/10/04	1/7/05	[Gantt bar from 11/10/04 to 1/7/05]																											
36	Calorimeter B	5 days	1/12/05	1/19/05	[Gantt bar from 1/12/05 to 1/19/05]																											
42	Electronics Receiving	269.63 days	3/19/04	5/3/05	[Gantt bar from 3/19/04 to 5/3/05]																											
43	Cables	3.75 days	11/15/04	11/19/04	[Gantt bar from 11/15/04 to 11/19/04]																											
62	TEM Assemblies	0 days	2/15/05	2/15/05	[Gantt bar from 2/15/05 to 2/15/05]																											
65	TEM PS Assemblies	0 days	2/15/05	2/15/05	[Gantt bar from 2/15/05 to 2/15/05]																											
68	Electronic Boxes	269.63 days	3/19/04	5/3/05	[Gantt bar from 3/19/04 to 5/3/05]																											
76	Grid Mechanical in I&T	63.75 days	11/3/04	2/9/05	[Gantt bar from 11/3/04 to 2/9/05]																											
77	Receive Grid	0 days	11/3/04	11/3/04	[Gantt bar from 11/3/04 to 11/3/04]																											
78	Receive EMI Skirt Assy	0 days	11/3/04	11/3/04	[Gantt bar from 11/3/04 to 11/3/04]																											
79	Grid Box Base Assembly Operations	40.75 days	11/17/04	1/20/05	[Gantt bar from 11/17/04 to 1/20/05]																											
80	Clean Grid	1 day	11/17/04	11/18/04	[Gantt bar from 11/17/04 to 11/18/04]																											
81	Install in GPR/Stand	1 day	11/18/04	11/19/04	[Gantt bar from 11/18/04 to 11/19/04]																											
82	Bond TFHPs	3 days	11/19/04	11/24/04	[Gantt bar from 11/19/04 to 11/24/04]																											
83	Grid Rework	3 days	1/10/05	1/13/05	[Gantt bar from 1/10/05 to 1/13/05]																											
84	Corner Bracket Rework	5 days	1/10/05	1/17/05	[Gantt bar from 1/10/05 to 1/17/05]																											
85	Grid Fitcheck w/ GPR	2 days	1/17/05	1/19/05	[Gantt bar from 1/17/05 to 1/19/05]																											
86	Bond Final Heatpipe	1 day	1/19/05	1/20/05	[Gantt bar from 1/19/05 to 1/20/05]																											
87	Grid Box Base Assembly Thermal Control System Operations	4 days	1/19/05	1/25/05	[Gantt bar from 1/19/05 to 1/25/05]																											
94	Bakeout Grid	3 days	1/25/05	1/28/05	[Gantt bar from 1/25/05 to 1/28/05]																											
95	Grid Box Base Assy Inspection and Fitcheck	7 days	1/31/05	2/9/05	[Gantt bar from 1/31/05 to 2/9/05]																											
104	Grid RFI	0 days	2/9/05	2/9/05	[Gantt bar from 2/9/05 to 2/9/05]																											
105	MGSE	5 days	1/19/05	1/26/05	[Gantt bar from 1/19/05 to 1/26/05]																											
106	MGSE Proof Test	5 days	1/19/05	1/26/05	[Gantt bar from 1/19/05 to 1/26/05]																											
107	Install Grid in GPR	2 days	2/9/05	2/11/05	[Gantt bar from 2/9/05 to 2/11/05]																											
108	Grid Survey	5 days	2/11/05	2/18/05	[Gantt bar from 2/11/05 to 2/18/05]																											



I&T Detailed Schedule

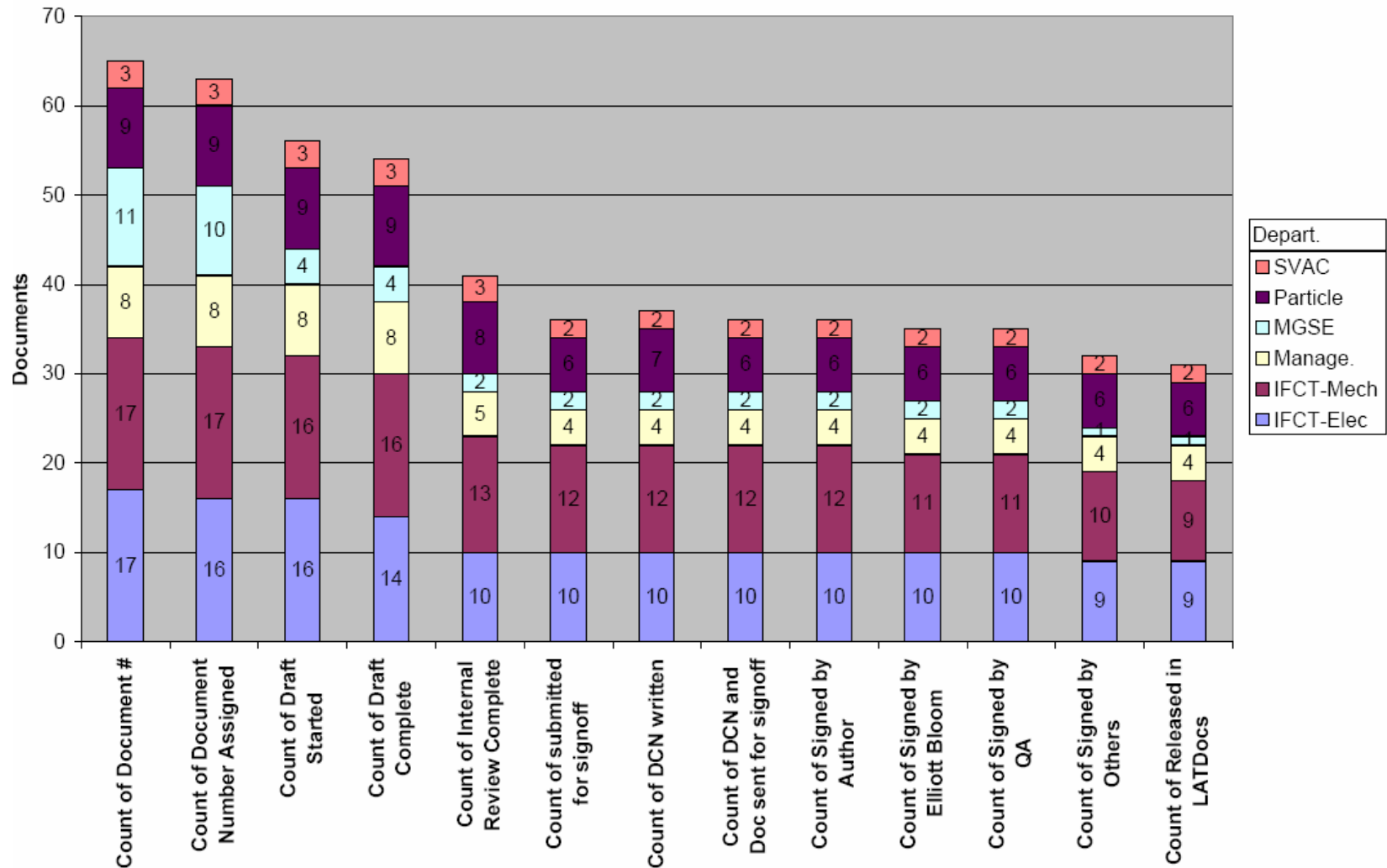
ID	Task Name	Duration	Start	Finish	Schedule Gantt Chart																											
					Jan '05	Feb '05	Mar '05	Apr '05	May '05	Ju																						
109	TEM to Calorimeter	21.63 days	1/14/05	2/16/05	[Gantt bar from 1/14 to 2/16]																											
110	Calorimeter A	2 days	1/14/05	1/18/05	[Gantt bar from 1/14 to 1/18]																											
111	Install Calorimeter into Metrology Bay	1 day	1/14/05	1/17/05	[Gantt bar from 1/14 to 1/17]																											
112	Install EM TEM and Shim	1 day	1/17/05	1/18/05	[Gantt bar from 1/17 to 1/18]																											
113	Calorimeter B	19.63 days	1/18/05	2/16/05	[Gantt bar from 1/18 to 2/16]																											
114	Install Calorimeter into Metrology Bay	1 day	1/18/05	1/19/05	[Gantt bar from 1/18 to 1/19]																											
115	Install TEM and Shim	1 day	2/15/05	2/16/05	[Gantt bar from 2/15 to 2/16]																											
116	Calorimeter/Tracker/TEM/TEM-PS Test	39.94 days	2/4/05	4/5/05	[Gantt bar from 2/4 to 4/5]																											
117	Tower A	15 days	2/4/05	2/28/05	[Gantt bar from 2/4 to 2/28]																											
118	Install Tracker & Cal/TEM/TEM-PS into Single Bay	3 days	2/4/05	2/9/05	[Gantt bar from 2/4 to 2/9]																											
119	Single Tower CPT TRR	1 day	2/9/05	2/10/05	[Gantt bar from 2/9 to 2/10]																											
120	Test TKR/CAL/TEM/TEM-PS	10 days	2/10/05	2/24/05	[Gantt bar from 2/10 to 2/24]																											
121	Sw ap flight TEM on Tow er A	1 day	2/25/05	2/28/05	[Gantt bar from 2/25 to 2/28]																											
122	Tower B	15 days	3/14/05	4/5/05	[Gantt bar from 3/14 to 4/5]																											
123	Install Tracker & Cal/TEM/TEM-PS into Single Bay	3 days	3/14/05	3/17/05	[Gantt bar from 3/14 to 3/17]																											
124	Single Tower CPT TRR	2 days	3/17/05	3/21/05	[Gantt bar from 3/17 to 3/21]																											
125	Test TKR/CAL/TEM/TEM-PS	10 days	3/22/05	4/5/05	[Gantt bar from 3/22 to 4/5]																											
126	Tower Installation	54.31 days	2/25/05	5/17/05	[Gantt bar from 2/25 to 5/17]																											
127	Install Tower A	14 days	2/25/05	3/17/05	[Gantt bar from 2/25 to 3/17]																											
128	Grid/Integration Stand Need Date	0 days	2/25/05	2/25/05	[Gantt bar from 2/25 to 2/25]																											
129	Instal Tracker into Grid	10 days	2/28/05	3/14/05	[Gantt bar from 2/28 to 3/14]																											
130	Install Calorimeter	2 days	2/25/05	3/1/05	[Gantt bar from 2/25 to 3/1]																											
131	Electrical Test	12 days	3/1/05	3/17/05	[Gantt bar from 3/1 to 3/17]																											
132	Install Tower B	19 days	4/5/05	5/3/05	[Gantt bar from 4/5 to 5/3]																											
133	Instal Tracker into Grid	5 days	4/5/05	4/12/05	[Gantt bar from 4/5 to 4/12]																											
134	Install Calorimeter	2 days	4/13/05	4/15/05	[Gantt bar from 4/13 to 4/15]																											
135	Electrical Test	12 days	4/15/05	5/3/05	[Gantt bar from 4/15 to 5/3]																											
136	Two Tower CPT TRR	0 days	5/3/05	5/3/05	[Gantt bar from 5/3 to 5/3]																											
137	2 Tower CPT	21 days	5/3/05	5/17/05	[Gantt bar from 5/3 to 5/17]																											

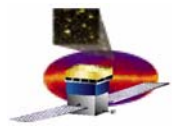
• **Tracker B Delivery is critical path for two tower testing in I&T**
 – **Delivery to I&T by 2/28/05 would minimize impact**



Procedure Status

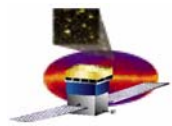
- 65 documents total
- 36 have been submitted for sign-off
- 31 have been released





Procedure Status (1 of 6) - Management

Depart.	Document #	Document Title	Author	Document Number Assigned	Draft Started	Draft Complete	Internal Review Complete	Latest Draft in LATDocs	Draft sent to NASA	Submitted to CM (Natalie) for signoff (or expected date)	DCN written	DCN and Doc sent for signoff	Signed by Author	Signed by Elliott Bloom	Signed by QA	Released by Others	# of Days in LATDocs	Completion Date (or expected)	Comments
Manage.	LAT-MD-01376-01	LAT Integration & Test Plan	Bloom / Fouts / Grist	✓	✓	✓	✓	✓	✓	03-May-04	✓	✓	✓	✓	✓	✓	94	05-Aug-04	Version 2 in work
Manage.	LAT-TD-04542-01	ACD Subsystem to LAT I&T Deliverables MOU	Bloom / Bright	✓	✓	✓	✓		N/A	01-Feb-05								15-Feb-05	
Manage.	LAT-TD-04543-01	CAL Subsystem to LAT I&T Deliverables MOU	Bloom / Bright	✓	✓	✓	✓	✓	N/A	07-Oct-04	✓	✓	✓	✓	✓	✓	41	17-Nov-04	
Manage.	LAT-TD-04544-01	Mechanical and TCS Subsystem to LAT I&T Deliverables MOU	Bloom / Bright	✓	✓	✓			N/A	07-Jan-05								21-Jan-05	
Manage.	LAT-TD-04545-01	Science Analysis Software to LAT I&T Deliverables MOU	Bloom / Bright	✓	✓	✓			N/A	11-Jan-05								25-Jan-05	
Manage.	LAT-TD-04546-01	ELX/T&DF Subsystem to LAT I&T Deliverables MOU	Bloom / Bright	✓	✓	✓	✓	✓	N/A	27-Aug-04	✓	✓	✓	✓	✓	✓	38	04-Oct-04	
Manage.	LAT-TD-04547-01	TKR Subsystem to LAT I&T Deliverables MOU	Bloom / Bright	✓	✓	✓			N/A	07-Jan-05								21-Jan-05	
Manage.	LAT-MD-04601-01	LAT I&T E-Logbook Implementation	Kavelaars / Fouts	✓	✓	✓	✓	✓	✓	01-Nov-04	✓	✓	✓	✓	✓	✓	42	13-Dec-04	



Procedure Status (2 of 6) - MGSE

Depart.	Document #	Document Title	Author	Process Flow												Completion Date (or expected)	Comments			
				Document Number Assigned	Draft Started	Draft Complete	Internal Review Complete	Latest Draft in LATDocs	Draft sent to NASA	Submitted to CM (Natalie) for signoff (or expected date)	DCN written	DCN and Doc sent for signoff	Signed by Author	Signed by Elliott Bloom	Signed by OA			Released by Others	# of Days in signoff	
MGSE	LAT-MD-01462-02	MGSE Development Plan	Gawehn	✓	✓	✓				07-Jan-05									21-Jan-05	Tom and Ken are reviewing the draft
MGSE	LAT-PS-04226-01	1x1 Lift Fixture Installation and Removal	Gawehn / Borden	✓						07-Jan-05									21-Jan-05	
MGSE	LAT-PS-04227-01	GPR onto rotation Stand MGSE	Gawehn / Borden	✓						07-Jan-05									21-Jan-05	
MGSE	LAT-PS-04228-01	4x4 Stand Operations Manual	Gawehn / Borden	✓						07-Jan-05									21-Jan-05	
MGSE	LAT-PS-04229-01	4x4 Lift Fixture Installation and Removal, +Z axis vertical	Gawehn / Borden	✓						07-Jan-05									21-Jan-05	
MGSE	LAT-PS-04230-01	4x4 Lift Fixture Installation and Removal, +Z axis horizontal	Gawehn / Borden	✓						07-Jan-05									21-Jan-05	
MGSE	LAT-PS-04231-01	Grid integration into GPR MGSE	Gawehn / Borden	✓						07-Jan-05									21-Jan-05	
MGSE	LAT-PS-05137-01	Calorimeter Lift Fixture Proof Tests	Gawehn	✓	✓	✓	✓	✓	✓	09-Dec-04	✓	✓	✓	✓	✓	✓	✓	4	13-Dec-04	
MGSE	LAT-PS-05172-01	GPR, GPR to Grid Bracket, Support Shaft, and Base Struc. Proof Test	Gawehn	✓	✓	✓				07-Jan-05									21-Jan-05	
MGSE	LAT-PS-05236-01	Tracker Lift Fixture Proof Tests	Borden	✓	✓	✓	✓	✓		22-Nov-04	✓	✓	✓	✓	✓			43	09-Jan-05	Martin has comments. Drawings are being updated.
MGSE	LAT-PS-xxxx-01	Calorimeter Alignment Tool Operations	Gawehn							06-Jan-05									20-Jan-05	

Procedure Status (3 of 6) – IFCT Electrical

Depart.	Document #	Document Title	Author															Comments		
				Document Number Assigned	Draft Started	Draft Complete	Internal Review Complete	Latest Draft in LATDocs	Draft sent to NASA	Submitted to CM (Natalie) for signoff (or expected date)	DCN written	DCN and Doc sent for signoff	Signed by Author	Signed by Elliott Bloom	Signed by QA	Released by Others	# of Days in LATDocs		Completion Date (or expected)	
IFCT-Elec	LAT-MD-01533-01	EGSE Plan	Horwitz / Wai	✓	✓	✓	✓	✓	✓	17-Nov-04	✓	✓	✓	✓	✓	✓	✓	27	14-Dec-04	
IFCT-Elec	LAT-PS-03276-01	Two Tower Test Procedure	Canfield	✓						28-Jan-05									11-Feb-05	
IFCT-Elec	LAT-PS-03287-02	Cal Module Test Procedure	Canfield	✓	✓	✓	✓	✓	✓	12-Nov-04	✓	✓	✓	✓	✓	✓	✓	26	08-Dec-04	Version 3 in work
IFCT-Elec	LAT-PS-03290-01	Tracker Module Test Procedure	Canfield	✓	✓	✓	✓	✓	✓	12-Nov-04	✓	✓	✓	✓	✓			53	09-Jan-05	Last signature is R. Johnson
IFCT-Elec	LAT-TD-03875-02	TEM EICIT Procedure	Horwitz	✓	✓	✓	✓	✓	✓	19-Jul-04	✓	✓	✓	✓	✓	✓	✓	101	28-Oct-04	Version 3 in work
IFCT-Elec	LAT-TD-04097-02	TEM SVT Procedure	Horwitz	✓	✓	✓	✓	✓	✓	19-Jul-04	✓	✓	✓	✓	✓	✓	✓	102	29-Oct-04	
IFCT-Elec	LAT-TD-04098-01	TPS SVT Procedure	Horwitz	✓	✓	✓	✓	✓	✓	19-Jul-04	✓	✓	✓	✓	✓	✓	✓	102	29-Oct-04	
IFCT-Elec	LAT-TD-04099-01	TPS EICIT Procedure	Horwitz	✓	✓	✓	✓	✓	✓	15-Jul-04	✓	✓	✓	✓	✓	✓	✓	106	29-Oct-04	Version 2 in signoff.
IFCT-Elec	LAT-TD-04260-02	GASU EICIT Procedure	Horwitz	✓	✓	✓	✓	✓	✓	14-Dec-04	✓	✓	✓	✓	✓	✓	✓	3	17-Dec-04	
IFCT-Elec	LAT-TD-04325-01	Acceptance Test Procedure, Break out Boxes and Cables	Horwitz	✓	✓	✓	✓	✓	✓	12-Nov-04	✓	✓	✓	✓	✓	✓	✓	4	16-Nov-04	
IFCT-Elec	LAT-TD-04332-01	PDU EICIT Procedure	Horwitz	✓	✓	✓	✓	✓	✓	13-Aug-04	✓	✓	✓	✓	✓	✓	✓	76	28-Oct-04	Version 2 in work
IFCT-Elec	LAT-TD-04382-01	GASU SVT Procedure	Horwitz	✓	✓	✓				14-Jan-05									28-Jan-05	
IFCT-Elec	LAT-TD-04384-01	PDU SVT Procedure	Horwitz	✓	✓	✓				14-Jan-05									28-Jan-05	
IFCT-Elec	LAT-PS-04510-01	LATTE Operators Users Guide	Canfield	✓	✓	✓		✓		14-Jan-05									28-Jan-05	
IFCT-Elec	LAT-PS-04511-01	Data Collection Procedure	Horwitz	✓	✓					07-Jan-05									21-Jan-05	
IFCT-Elec	LAT-PS-04512-01	Single Tower Test Procedure	Horwitz	✓	✓	✓				07-Jan-05									21-Jan-05	
IFCT-Elec	LAT-PS-xxxxx-01	Computing Infrastructure	Canfield		✓					07-Jan-05									21-Jan-05	

Procedure Status (4 of 6) – IFCT Mechanical

Depart.	Document #	Document Title	Author															Comments		
				Document Number Assigned	Draft Started	Draft Complete	Internal Review Complete	Latest Draft in LATDocs	Draft sent to NASA	Submitted to CM (Natalie) for signoff (or expected date)	DCN written	DCN and Doc sent for signoff	Signed by Author	Signed by Elliott Bloom	Signed by QA	Released by Others	# of Days in LATDocs		Completion Date (or expected)	
IFCT-Mech	LAT-MD-01386-01	LAT Facilities Plan	Borden	✓	✓	✓	✓	✓	✓	29-Oct-04	✓	✓	✓	✓	✓	✓	✓	49	17-Dec-04	
IFCT-Mech	LAT-PS-01586-01	Survey Procedure	Borden	✓	✓	✓		✓		07-Jan-05									21-Jan-05	
IFCT-Mech	LAT-PS-03027-01	Calorimeter Integration Procedures	Ortiz	✓	✓	✓	✓	✓	✓	06-Aug-04	✓	✓	✓	✓	✓	✓	✓	125	09-Dec-04	
IFCT-Mech	LAT-PS-03059-01	Critical Operations Procedure	Ortiz	✓	✓	✓	✓			07-Jan-05									21-Jan-05	
IFCT-Mech	LAT-PS-03058-01	Tracker Integration Procedures	Borden	✓	✓	✓		✓		07-Jan-05									21-Jan-05	
IFCT-Mech	LAT-PS-03060-01	Room 104, Ingress and Egress of Large Equipment Procedure	Ortiz	✓	✓	✓	✓	✓	✓	27-Jul-04	✓	✓	✓	✓	✓	✓	✓	142	16-Dec-04	
IFCT-Mech	LAT-PS-03062-01	Tem/TemPS Shimming Procedure	Ortiz	✓	✓	✓	✓		✓	28-Jul-04	✓	✓	✓					160	15-Jan-05	Ortiz incorporating more comments. Expect back in signoff by 12/23/04.
IFCT-Mech	LAT-PS-03259-01	Shear Plate Shim Procedure	Ortiz	✓	✓	✓	✓	✓	✓	02-Sep-04	✓	✓	✓	✓	✓	✓	✓	81	22-Nov-04	
IFCT-Mech	LAT-PS-03263-01	Fastener Installation and Torquing Procedure	Borden	✓	✓	✓	✓	✓	✓	13-Oct-04	✓	✓	✓	✓	✓	✓	✓	50	02-Dec-04	
IFCT-Mech	LAT-PS-03277-01	LAT Test Floor Configuration Procedure	Borden	✓	✓	✓				07-Jan-05									21-Jan-05	
IFCT-Mech	LAT-PS-03291-01	Flight Hardware Bag and Purge Procedure	Borden	✓	✓	✓	✓	✓	✓	28-Oct-04	✓	✓	✓	✓	✓	✓	✓	47	14-Dec-04	
IFCT-Mech	LAT-PS-03481-02	GLAST LAT Integration Facility Emergency Plan	Borden	✓	✓	✓	✓	✓	✓	01-Oct-04	✓	✓	✓	✓	✓	✓	✓	42	12-Nov-04	
IFCT-Mech	LAT-PS-04244-01	Load Mass simulators into GRID MGSE	Ortiz	✓						07-Jan-05									21-Jan-05	
IFCT-Mech	LAT-PS-04436-01	AeroGo Air Bearing Reference Guide	Ortiz	✓	✓	✓	✓	✓	✓	02-Sep-04	✓	✓	✓	✓	✓	✓	✓	63	04-Nov-04	
IFCT-Mech	LAT-PS-04459-01	Connector Mate and Demate	Manger / Horwitz	✓	✓	✓	✓	✓	✓	16-Dec-04	✓	✓	✓	✓	✓			19	09-Jan-05	Remaining signatures: Haller, Johnson, Johnson, Thompson
IFCT-Mech	LAT-PS-04727-01	Tie Mount Bonding Procedure	Ortiz	✓	✓	✓	✓	✓	✓	30-Sep-04	✓	✓	✓	✓	✓	✓	✓	48	17-Nov-04	
IFCT-Mech	LAT-PS-05487-01	Mobile Hydraulic Unit (MHU) Operations Procedure	Manger	✓	✓	✓	✓	✓	✓	17-Dec-04	✓	✓	✓	✓	✓	✓		3	20-Dec-04	

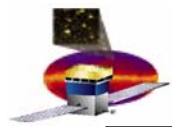
Procedure Status (5 of 6) - Particle

Depart.	Document #	Document Title	Author	Document Number Assigned	Draft Started	Draft Complete	Internal Review Complete	Latest Draft in LAT Docs	Draft sent to NASA	Submitted to CM (Natalie) for signoff (or expected date)	DCN written	DCN and Doc sent for signoff	Signed by Author	Signed by Elliott Bloom	Signed by QA	Released by Others	# of Days in signoff	Completion Date (or expected)	Comments
Particle	LAT-TD-00440-07	LAT Particle Test Plan	Godfrey	✓	✓	✓	✓	✓	07-Jan-05	✓								21-Jan-05	Pulled from signoff, needs changes.
Particle	LAT-TD-01396-01	Calibration of the Van de Graaff Photon Flux	Godfrey	✓	✓	✓	✓	✓	06-Aug-04	✓	✓	✓	✓	✓	✓	✓	103	17-Nov-04	
Particle	LAT-TD-01805-02	Van de Graaff Accelerator Safety/Operations Handbook	Godfrey	✓	✓	✓	✓	✓	30-Sep-04	✓	✓	✓	✓	✓	✓	✓	14	14-Oct-04	
Particle	LAT-PS-04133-01	Procedure to Take Simultaneous BGO and LAT Data	Godfrey	✓	✓	✓	✓	✓	06-Aug-04	✓	✓	✓	✓	✓	✓	✓	103	17-Nov-04	
Particle	LAT-TD-04134-01	Procedure for Setting the LAT Timing Registers	Godfrey	✓	✓	✓	✓	✓	06-Aug-04	✓	✓	✓	✓	✓	✓	✓	104	18-Nov-04	
Particle	LAT-TD-04135-01	Procedure for Measuring the LAT Trigger Jitter using the Muon Telescope	Godfrey	✓	✓	✓	✓	✓	06-Aug-04	✓	✓	✓	✓	✓	✓	✓	104	18-Nov-04	
Particle	LAT-TD-04136-01	Van de Graaff and Cosmic Data Runs for LAT Integration	Godfrey	✓	✓	✓	✓		03-Jan-05									05-Jan-05	
Particle	LAT-TD-04419-02	Muon Telescope	Godfrey	✓	✓	✓	✓	✓	04-Nov-04	✓	✓	✓	✓	✓	✓	✓	14	18-Nov-04	
Particle	LAT-TD-04980-01	Use of an Am241 Source for High Rate Triggering	Godfrey	✓	✓	✓			14-Jan-05									28-Jan-05	



Procedure Status (6 of 6) - SVAC

Depart.	Document #	Document Title	Author	Document Number Assigned	Draft Started	Draft Complete	Internal Review Complete	Latest Draft in LATDocs	Draft sent to NASA	Submitted to CM (Natalie) for signoff (or expected date)	DCN written	DCN and Doc sent for signoff	Signed by Author	Signed by Elliott Bloom	Signed by QA	Released in LATDocs	# of Days in signoff	Completion Date (or expected)	Comments
SVAC	LAT-MD-00446-06	SVAC Plan	do Couto e Silva	✓	✓	✓	✓	✓	24-Aug-04	✓	✓	✓	✓	✓	✓	✓	67	30-Oct-04	
SVAC	LAT-MD-00575-01	SVAC Plan for LAT Integration at SLAC	do Couto e Silva	✓	✓	✓	✓	✓	04-Nov-04	✓	✓	✓	✓	✓	✓	✓	12	16-Nov-04	
SVAC	LAT-MD-00613-02	SVAC Contributed Manpower	do Couto e Silva	✓	✓	✓	✓	✓	07-Jan-05									21-Jan-05	



Cost and Schedule Status

	WBS	Description	BAC	BCWS	BCWP	ACWP	SV \$	CV \$	%BCWS	%BCWF	%ACWF	SPI	CPI	SPI	CPI	Cpi_Fcst	CpiSpi_Fcst
65	4.1.9	I&T	8,013	5,944	5,330	5,576	-614	-246	74.18	66.51	69.59	↔	↓	0.897	0.956	8,383	8,707

- **Cumulative Schedule Variance (end of November)**

- **Work Scheduled: 5944 k\$; Work Performed: 5576 k\$**
- **Schedule Variance: -614 k\$ (-10.3%)**

- **-141 k\$ in MGSE**

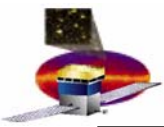
- Receive LAT Gnd Tst Heat Exchanger, Receive LAT Misc Equip and Fixtures, Receive LAT Vibration Test Fixture, Receive Misc LAT Transport Containers, Receive LAT Low Humidity Tent, Proof Test-LAT 4x4 Stand, Receive Rad & X-LAT Plate Lift Fixtures, Receive Ship Cont for LAT Vibe Test Equip, Prep and Proof Test 1 X 4, 1x1 Grid Lift Fixture

- **-474 k\$ in IFCT department**

- Receive/Inspect Grid, Receive/Inspect TKR Tower A,B,1,2,3,4,5,6,7,8,9, Receive/Inspect CAL Module A,B,1,2,3,4,5,6,7,8, 9,10,11,12, Receive/Inspect Tower Electronics A,B,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16, Integrate Flight TKR/CAL Towers A,B,1,2,3,4,5,6,7,8, Functional Test Tower A,B,1,2,3,4,5,6,7,8, Receive/Inspect Flight ACD, Receive/Inspect LAT-wide electronics, Receive/Inspect Cross-LAT Thermal Plate, Break Out Cables, Comprehensive Test procedure development, Custom Connector Mate Tool – Fab, Power Supplies & Bus Protection Unit, Tools, Install Stands/Tables in Int. Room, Prep Flight Grid for Integration, Survey and Alignment Support of Inspection, Test As-Installed Stands, Tower Integration & System Test Support, Training - Tower Integration

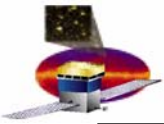
- **Cumulative Cost Variance (end of November)**

- **Work Performed: 5129 k\$; Actual Cost: 5258 k\$**
- **Cost Variance: -128 k\$ (-2.4%)**



Zero Schedule Variance Actions

- **Complete MGSE tasks that are in flow for two tower and LAT build.**
- **Zero baseline variance requires matching I&T schedule to hardware deliveries. Current baseline PMCS schedule calls for tower A and Grid work having begun in June. This will be taken care of by the rebaseline**
- **Training using mockups, and EM-2 activities, replacing actual integration. This allows I&T considerable risk reduction for flight integration.**
- **TIMs with TKR, CAL and ELX to take advantage of lessons learned by subsystems prior to delivery.**



Issues & concerns

ISSUES

- Hardware delivery dates and requirements to I&T continue to be in flux

CONCERNS

- Pipeline is capable of processing data for two towers, however, debugging of specific issues is still in progress.
 - Scheduler issue identified. Not yet resolved (add latency of 5 minutes per task).
 - Pipeline reporting not accurate for some jobs.
- MGSE Delivery Schedule
 - MGSE Proof test (ECD 1/26)
- I&T Procedure Development
 - Behind schedule due to Tower 1 Integration Readiness activities.
 - Timely coordination of inputs from subsystems.