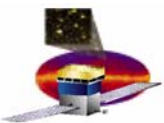


GLAST Large Area Telescope: I & T Input to Monthly Technical/Cost/Schedule Review 12/02/04

**Elliott Bloom
SU-SLAC
Subsystem Manager**

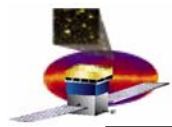
**Ken Fouts
SU-SLAC
Subsystem Engineering Manager**

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



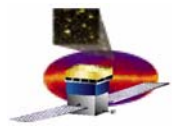
Last Month's Accomplishments

- **Management**
 - Completed I&T IRR on November 18.
 - 34 of 63 I&T documents and procedures in review/approval cycle.
 - Worked through SLAC safety requirements for rigging in I&T.
- **IFCT**
 - Proceeding with Flight Tower procedure preparation and training activities (EM-2).
 - Received flight Grid and successfully completed the first lift operation at SLAC since the safety stand-down.
 - EGSE plan-LAT-MD-01533 in subsystem manager signoff.
- **MGSE**
 - Completed rework to shaft flanges and attachment to the Grid Perimeter Ring.
 - Supporting PAP integration at the subcontractor.
 - 337 MGSE drawings complete or in final release cycle, 15 to go for Integration and Test phase at SLAC.
- **Online**
 - LCB Update to LATTE
 - Released LATTE 4.6.0. Baseline for use in integration and testing.
 - Simple event filtering done.
- **SVAC**
 - SVAC Plan for LAT Integration and Test LAT-MD-00575 signed off
 - Tested SVAC reports using full tower data from Pisa
 - Developed system to automate analysis of results from End-to-End two tower tests
 - Correlated event data with housekeeping i.e. tracker temp vs. number of tracks.
- **Particle Test**
 - VdG has worked reliably for 12 weeks since the last fix.
 - Upgraded Muon Telescope design. Making new scintillators.
 - LAT-TD-04419 Muon Telescope Released.

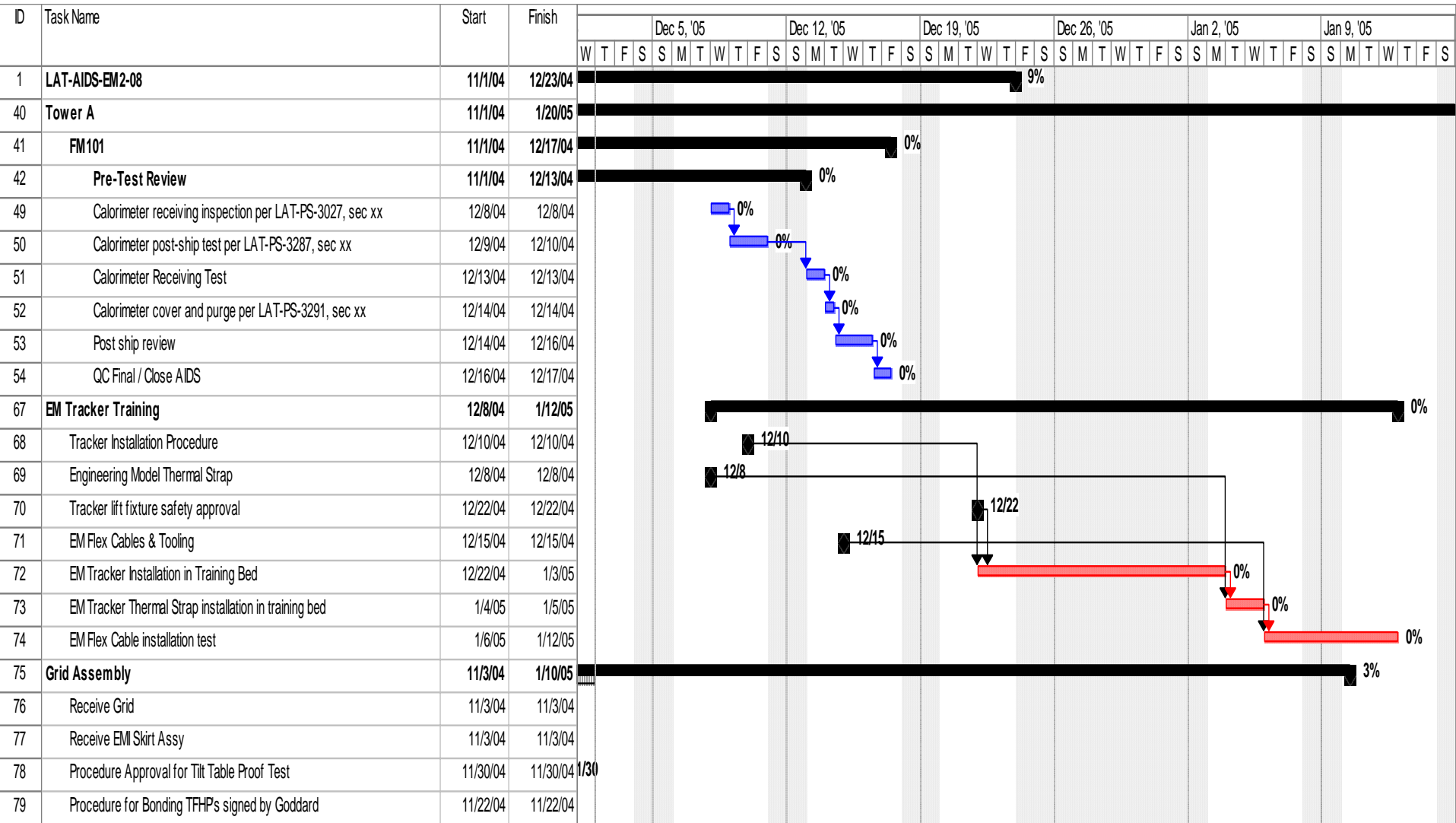


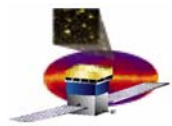
I&T Milestone Overview for December 2004

- **FM101**
 - Receiving inspection completed on FM
 - 12/8/2004
 - Calorimeter Test Stand Validated
 - 12/7/2004
 - Post-ship test completed on FM
 - 12/10/2004
 - Calorimeter CPT Software Validated on EM
 - 12/14/2004
 - Calorimeter receiving CPT completed on FM
 - 12/17/2004
- **TKR-A**
 - Installation procedure validated on EM
 - 12/9/2004
 - Thermal strap procedure validated on EM
 - 12/16/2004
 - Tracker flex cable procedure validated
 - 12/23/2004
 - Tracker CPT software validated
 - 12/23/2004
- **TEM/TPS-A**
 - Tvac chamber installed in cleanroom
 - 12/3/2004
- **Single Tower I&T Validation**
 - Metrology bay I&T validated on EM
 - 12/9/2004
 - Single Bay trigger tests validated on EM
 - 12/16/2004
 - Single Bay data collection validated on EM
 - 12/23/2004
- **Grid Assembly**
 - Tilt table proof test procedure approval
 - 12/2/2004
 - Heat pipe bonding completed
 - 12/9/2004
 - Thermal control system completed
 - 12/21/2004
 - Sell to I&T
 - 12/23/2004
- **Integration Stand**
 - Delivery of GPR to I&T
 - 12/10/2004
 - Earth quaking of base frame
 - 12/20/2004
 - Match GPR to Proof Test Weight 1
 - 12/23/2004

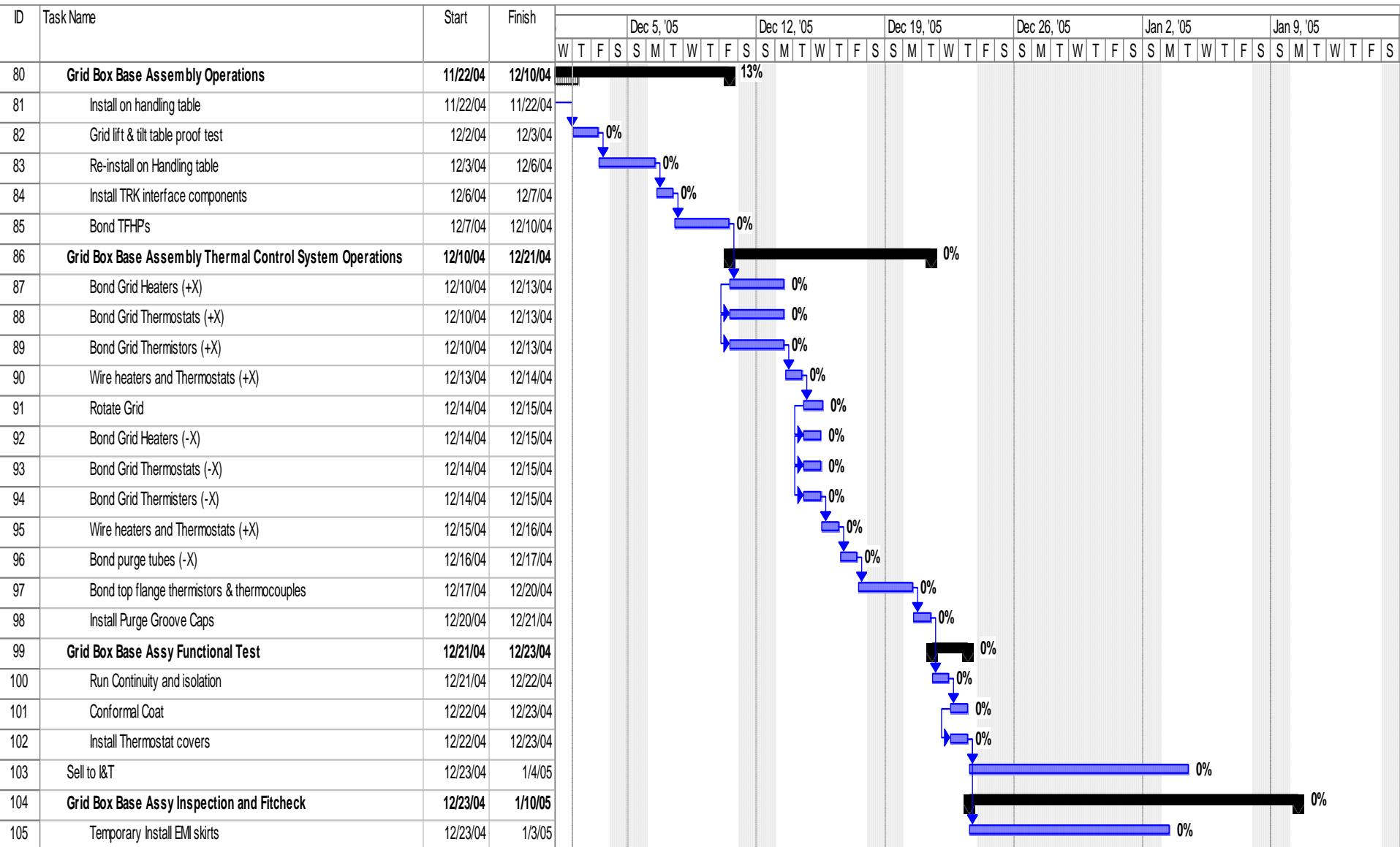


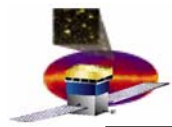
I&T Detailed Schedule





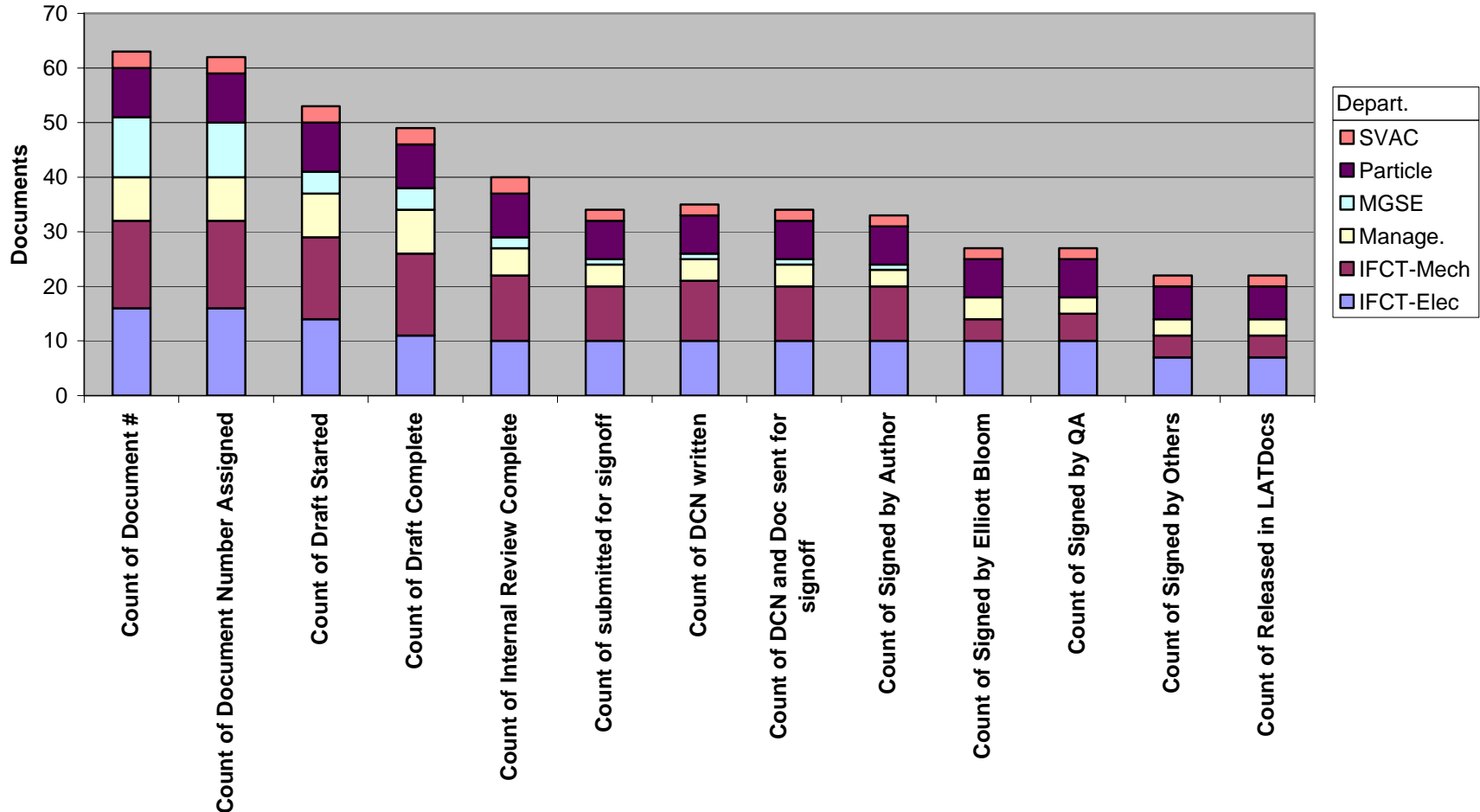
I&T Detailed Schedule

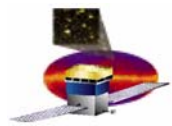




Procedure Status

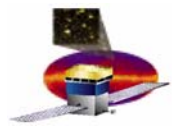
- 63 documents total
- 34 have been submitted for sign-off
- 22 have been released





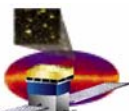
Procedure Status (1 of 6) - Management

Depart.	Document #	Document Title	Author															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 QA	Released by Others	# of Days in signoff			
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	17-Dec-04									31-Dec-04		
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	03-Dec-04								17-Dec-04		
Manage.	LAT-TD-04545-01	Science Analysis Software to LAT I&T Deliverables MOU	Bloom / Bright	✓	✓	✓			N/A	17-Dec-04								31-Dec-04		
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	17-Dec-04								31-Dec-04		
Manage.	LAT-MD-04601-01	LAT I&T E-Logbook Implementation	Kavelaars / Fouts	✓	✓	✓	✓	✓	✓	01-Nov-04	✓	✓	✓					31	13-Dec-04	Incorporating comments



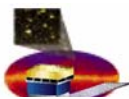
Procedure Status (2 of 6) - MGSE

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 signoff	Completion Date (or expected)	Comments
MGSE	LAT-MD-01462-02	MGSE Development Plan	Gawehn	✓	✓	✓				08-Dec-04								22-Dec-04	Tom and Ken are reviewing the draft
MGSE	LAT-PS-04226-01	1x1 Lift Fixture Installation and Removal	Gawehn / Borden	✓						10-Dec-04								24-Dec-04	
MGSE	LAT-PS-04227-01	GPR onto rotation Stand MGSE	Gawehn / Borden	✓						17-Dec-04								31-Dec-04	
MGSE	LAT-PS-04228-01	4x4 Stand Operations Manual	Gawehn / Borden	✓						23-Dec-04								06-Jan-05	
MGSE	LAT-PS-04229-01	4x4 Lift Fixture Installation and Removal, +Z axis vertical	Gawehn / Borden	✓						17-Dec-04								31-Dec-04	
MGSE	LAT-PS-04230-01	4x4 Lift Fixture Installation and Removal, +Z axis horizontal	Gawehn / Borden	✓						23-Dec-04								06-Jan-05	
MGSE	LAT-PS-04231-01	Grid integration into GPR MGSE	Gawehn / Borden	✓						17-Dec-04								31-Dec-04	
MGSE	LAT-PS-05137-01	Calorimeter Lift Fixture Proof Tests	Gawehn	✓	✓	✓	✓			01-Dec-04								15-Dec-04	"almost ready" (11/22/04)
MGSE	LAT-PS-05172-01	GPR, GPR to Grid Bracket, Support Shaft, and Base Struc. Proof Test	Gawehn	✓	✓	✓				20-Dec-04								03-Jan-05	
MGSE	LAT-PS-05236-01	Tracker Lift Fixture Proof Tests	Borden	✓	✓	✓	✓	✓		22-Nov-04	✓	✓	✓				10	13-Dec-04	
MGSE	LAT-PS-xxxx-01	Calorimeter Alignment Tool Operations	Gawehn							06-Jan-05								20-Jan-05	



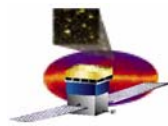
Procedure Status (3 of 6) – IFCT Electrical

Depart.	Document #	Document Title	Author	Progress Indicators													# of Days in signoff	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 QA	Released by Others				
IFCT-Elec	LAT-MD-01533-01	EGSE Plan	Horwitz / Wai	✓	✓	✓	✓	✓	✓	17-Nov-04	✓	✓	✓	✓	✓			15	07-Dec-04	
IFCT-Elec	LAT-PS-03276-01	Two Tower Test Procedure	Horwitz / Canfield	✓						06-Jan-05									20-Jan-05	
IFCT-Elec	LAT-PS-03287-02	Cal Module Test Procedure	Canfield	✓	✓	✓	✓	✓	✓	12-Nov-04	✓	✓	✓	✓	✓			20	07-Dec-04	
IFCT-Elec	LAT-PS-03290-01	Tracker Module Test Procedure	Canfield	✓	✓	✓	✓	✓	✓	12-Nov-04	✓	✓	✓	✓	✓			20	07-Dec-04	
IFCT-Elec	LAT-TD-03875-02	TEM EICIT Procedure	Horwitz	✓	✓	✓	✓	✓	✓	19-Jul-04	✓	✓	✓	✓	✓	✓	✓	101	28-Oct-04	
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	
IFCT-Elec	LAT-TD-04260-01	GASU EICIT Procedure	Horwitz	✓	✓	✓	✓	✓	✓	13-Aug-04	✓	✓	✓	✓	✓	✓	✓	83	04-Nov-04	Version 2 in work
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	✓	✓					03-Dec-04									17-Dec-04	
IFCT-Elec	LAT-TD-04384-01	PDU SVT Procedure	Horwitz	✓						15-Dec-04									29-Dec-04	
IFCT-Elec	LAT-PS-04510-01	LATTE Operators Users Guide	Canfield	✓	✓	✓			✓	23-Dec-04									06-Jan-05	
IFCT-Elec	LAT-PS-04511-01	Data Collection Procedure	Canfield	✓	✓					15-Dec-04									29-Dec-04	
IFCT-Elec	LAT-PS-04512-01	Single Tower Test Procedure	Horwitz / Canfield	✓	✓					23-Dec-04									06-Jan-05	



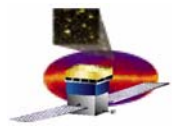
Procedure Status (4 of 6) – IFCT Mechanical

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 (Matalie) for signoff (for expected date)	DCN written	DCN and Doc sent for signoff	Signed by Author	Signed by Elliott Bloom	Signed by OA	Released in LATDocs	# of Days in signoff	Completion Date (or expected)	Comments
IFCT-Mech	LAT-MD-01386-01	LAT Facilities Plan	Borden	✓	✓	✓	✓	✓	29-Oct-04	✓	✓	✓					34	13-Dec-04	
IFCT-Mech	LAT-PS-01586-01	Survey Procedures	Borden	✓	✓	✓		✓	07-Jan-05									21-Jan-05	Waiting for revised Survey Plan to be released
IFCT-Mech	LAT-PS-03027-01	Calorimeter Integration Procedures	Ortiz	✓	✓	✓	✓	✓	06-Aug-04	✓	✓	✓					118	13-Dec-04	Back in signoff 11/23/04
IFCT-Mech	LAT-PS-03059-01	Critical Operations Procedure	Ortiz	✓	✓	✓	✓		23-Dec-04									06-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	✓	✓	✓					128	13-Dec-04	Back in signoff 11/23/04
IFCT-Mech	LAT-PS-03062-01	Tem/TemPS Shimming Procedure	Ortiz	✓	✓	✓	✓	✓	28-Jul-04	✓	✓	✓					127	13-Dec-04	Incorporating comments
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	13-Dec-04	Back in signoff 11/22/04
IFCT-Mech	LAT-PS-03277-01	LAT Test Floor Configuration Procedure	Borden	✓	✓	✓			17-Dec-04									31-Dec-04	
IFCT-Mech	LAT-PS-03291-01	Flight Hardware Bag and Purge Procedure	Borden	✓	✓	✓	✓	✓	28-Oct-04	✓	✓	✓	✓				35	08-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	✓					06-Dec-04									20-Dec-04	
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	✓	✓	✓	✓		03-Dec-04	✓								17-Dec-04	
IFCT-Mech	LAT-PS-04727-01	Tie Mount Bonding Procedure	Ortiz	✓	✓	✓	✓	✓	30-Sep-04	✓	✓	✓	✓	✓	✓	✓	48	17-Nov-04	



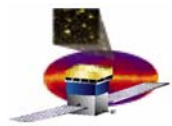
Procedure Status (5 of 6) - Particle

Depart.	Document #	Document Title	Author	Document Number Assigned	Draft Started	Draft Complete	Internal Review Complete	Latest Draft in 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
Particle	LAT-TD-00440-07	LAT Particle Test Plan	Godfrey	✓	✓	✓	✓	✓	✓	17-Nov-04	✓	✓	✓	✓	✓	✓	15	07-Dec-04	
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	✓	✓	✓	✓			08-Dec-04								22-Dec-04	
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	✓	✓					06-Dec-04								20-Dec-04	

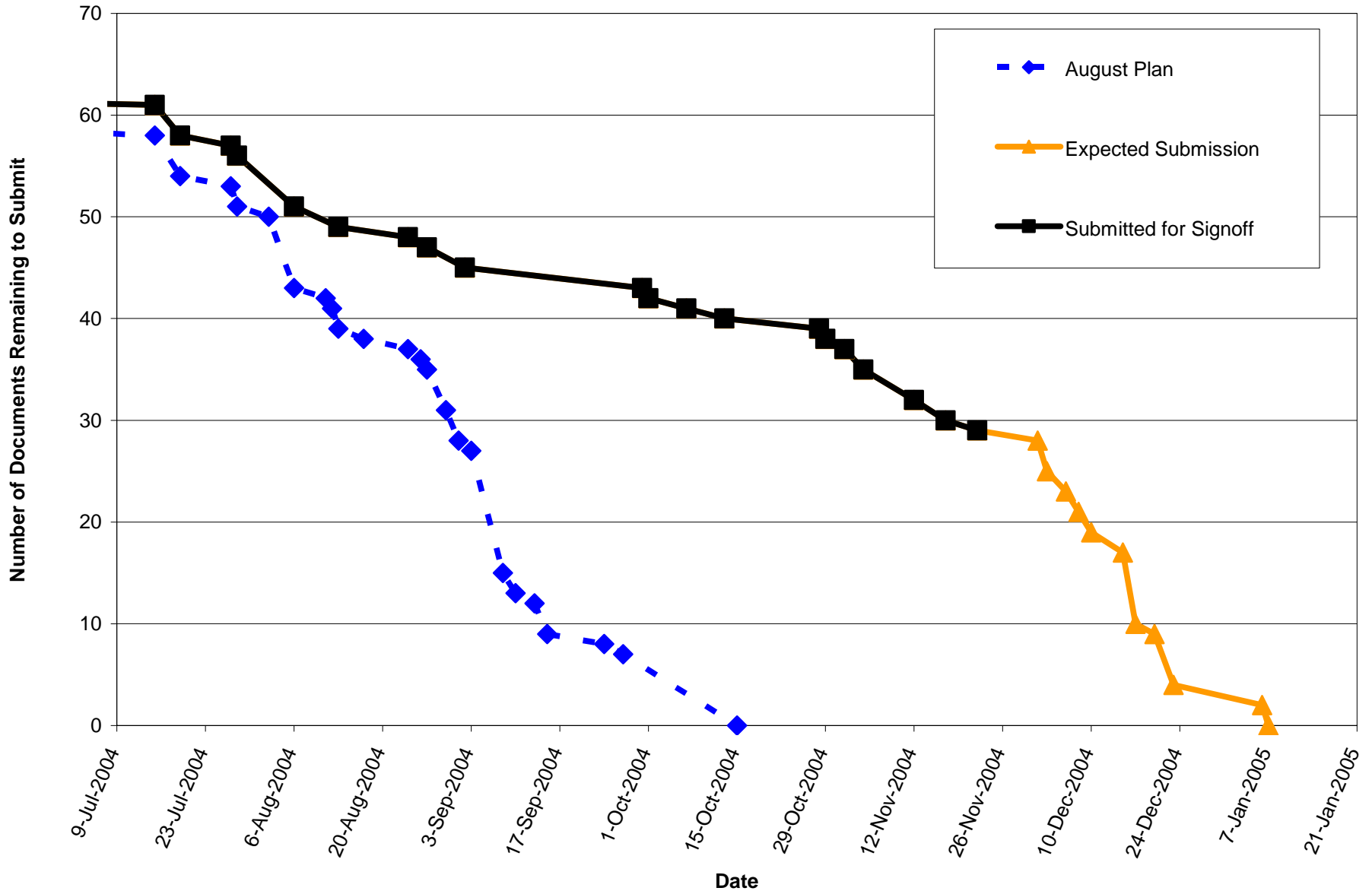


Procedure Status (6 of 6) - SVAC

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 by Others	# 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	✓	✓	✓	✓	✓	10-Dec-04									24-Dec-04	Eduardo has pulled from signoff



Procedure Status – Burndown Chart



I&T Mechanical Training

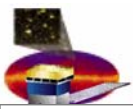
I&T Mechanical Team Training List	= done			= to do	
	Dave	Tom	Leo	Mark	Eliazar
Contamination Control	14-Apr-04	14-Apr-04	14-Apr-04	6-Aug-03	6-Aug-03
Electrostatic discharge (ESD)	14-Apr-04	14-Apr-04	14-Apr-04	1-May-03	1-Apr-03
Oxygen Deficiency	30-Apr-04	30-Apr-04	30-Apr-04	3-Jun-04	30-Apr-04
Crane Operation	16-Apr-04	16-Apr-04	16-Apr-04	done	16-Apr-04
Crane Operation Practical Test	20-May-04	20-May-04	20-May-04	20-May-04	20-May-04
GERT	12-Apr-04	Done	Done	Done	Done
ITAR Training	21-Apr-04	21-Apr-04	21-Apr-04		21-Apr-04
RAD Worker Training	8-Jun-04	11-May-04	11-May-04	11-May-04	11-May-04
Van De-graaff operation	10-Jun-04	10-Jun-04	10-Jun-04		10-Jun-04
Mate/Demate		9-Jul-04	trainer	9-Jul-04	
Crimping and Harnessing	Done	Done	n/a	n/a	n/a
Electronic log book training	27-Sep-04	27-Sep-04	27-Sep-04	27-Sep-04	27-Sep-04
Electronic Mate/Demate log training	27-Sep-04	27-Sep-04	27-Sep-04	27-Sep-04	27-Sep-04
Electronic component installation log	27-Sep-04	27-Sep-04	27-Sep-04	27-Sep-04	27-Sep-04
Hardware Bagging					
Room 104 Access	17-May-04	17-May-04	17-May-04	17-May-04	17-May-04
Air Bearings Operation	22-Apr-04	22-Apr-04	22-Apr-04	25-May-04	22-Apr-04
Cleanroom fork lift operation					
Tracker Receiving Inspection					
Calorimeter receiving Inspection	14-Aug-04	14-Aug-04	14-Aug-04	13-Feb-04	13-Feb-04
CAL Insertion/Inversion Handling	18-May-04	28-Apr-04	28-Apr-04	21-May-04	28-Apr-04
CAL Insertion/Inversion Crane	28-Apr-04	18-May-04	18-May-04	21-May-04	28-Apr-04
CAL Removal/Inversion Handling	18-May-04	28-Apr-04	28-Apr-04	21-May-04	28-Apr-04
CAL Removal/Inversion Crane	28-Apr-04	18-May-04	18-May-04	21-May-04	28-Apr-04
CAL Torquing	21-May-04	21-May-04	21-May-04	21-May-04	21-May-04
TEM/PSU Shimming/Torquing	20-Jul-04	20-Jul-04	20-Jul-04	20-Jul-04	20-Jul-04
ELX cable sequence	19-May-04	19-May-04	19-May-04	19-May-04	19-May-04
2-Tower CPT GASU / PDU /BOB Setup					
Menning plate installation / removal	14-Jun-04	14-Jun-04	14-Jun-04	14-Jun-04	14-Jun-04
Tracker Heat Straps Installation					
Tracker Cone installation	22-Sep-04	22-Sep-04	22-Sep-04	22-Sep-04	22-Sep-04
Tracker Flex Cable Installation					
Tracker Flex Cable Removal					
Tracker Insertion Handling	23-Sep-04	23-Sep-04	23-Sep-04	23-Sep-04	23-Sep-04
Tracker Insertion Crane	23-Sep-04	23-Sep-04	23-Sep-04	23-Sep-04	23-Sep-04
Tracker Removal Handling	24-Sep-04	24-Sep-04	24-Sep-04	24-Sep-04	24-Sep-04
Tracker Removal Crane	24-Sep-04	24-Sep-04	24-Sep-04	24-Sep-04	24-Sep-04
Optical Survey Setup					
LAT Lift Fixture Crane Operation					
GPR Installation					
LAT Integration Stand Operation					
LAT Floor Test Configuration					
% done	69%	71%	73%	66%	68%

IFCT Electrical Training

Rev. 11/01/04 KAF

 = done

I&T Electrical Test Team Training	Brian H.	John C.	Toan Le
Contamination Control	14-Apr-04	18-Jun-04	30-Aug-04
Electrostatic discharge (ESD)	14-Apr-04	15-Jun-04	30-Aug-04
Oxygen Deficiency	3-Jun-04	3-Jun-04	30-Aug-04
ITAR Training	31-May-04	7-Jun-04	30-Aug-04
GERT			
RAD Worker Training	6-Jun-04	6-Jun-04	30-Aug-04
Van De-graaff operation	10-Jun-04	10-Jun-04	
Mate/Demate	9-Jul-04	9-Jul-04	9-Jul-04
Hardware Bagging			
Electronic Logbook Training	27-Sep-04	22-Jun-04	
EGSE Validation	30-Aug-04	30-Aug-04	30-Aug-04
TPS interface and BOB usage	30-Aug-04	30-Aug-04	30-Aug-04
TEM interface and BOB usage	30-Aug-04	30-Aug-04	30-Aug-04
GASU interface and BOB usage	21-Sep-04	21-Sep-04	15-Sep-04
PDU interface and BOB usage			
Tracker Performance Test			
CAL Performance Test	30-Aug-04	30-Aug-04	30-Aug-04
Single Bay Test			
Timing-In Test			
Cosmics and VDG data collection			
Two Bay Test			
TEM/TPS CPT			
GASU CPT			
PDU CPT			
% done	58%	58%	50%



Near-term Milestones

ID	Task Name	Start	Finish	December							January				February				March							
				Nov 14	Nov 21	Nov 28	Dec 5	Dec 12	Dec 19	Dec 26	Jan 2	Jan 9	Jan 16	Jan 23	Jan 30	Feb 6	Feb 13	Feb 20	Feb 27							
1	IFCT	8/2/04	1/7/05																							
2	Procedure Definition and Release	8/2/04	1/7/05																							
3	Mechanical/Electrical Training	8/9/04	12/31/04																							
4	Two Tower IRR	11/18/04	11/18/04																							
5	EM2	8/9/04	1/3/05																							
6	EM CAL Return to NRL	8/24/04	8/24/04																							
7	Mini-ACD Delivery	8/25/04	8/25/04																							
8	Mini ACD Integration at SLAC	8/30/04	9/23/04																							
9	EM CAL Return to SLAC	10/13/04	10/13/04																							
10	EM2 Testing	8/9/04	1/3/05																							
11	MGSE	8/16/04	2/16/05																							
12	Grid Perimeter Ring Delivery and Proof test	8/24/04	1/3/05																							
13	PAP Delivery and Proof Test	1/14/05	2/16/05																							
14	Shipping Container Design	8/16/04	2/1/05																							
15	Mechanical Operation Grid Assembly	11/3/04	12/23/04																							
16	Receive Grid	11/3/04	11/3/04																							
17	Grid Assembly in I&T	11/19/04	12/23/04																							
18	Online	8/16/04	1/11/05																							
19	LATTE Ver. 4.6.0	11/8/04	11/8/04																							
20	LATTE Ver. 4.7.0	12/9/04	12/9/04																							
21	I&T and Subsystem Script Verification	8/16/04	1/11/05																							
22	Subsystem Deliveries	12/10/04	2/15/05																							
23	TKR A Delivery	12/22/04	12/22/04																							
24	CAL A Delivery	12/10/04	12/10/04																							
25	TEM/TPS A Delivery	2/15/05	2/15/05																							
26	Tower A Integration	1/3/05	4/6/05																							
27	Environmental Test TIM	10/1/04	10/1/04																							



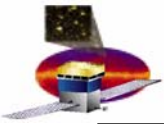
Facility Utility / Computing Infrastructure

Facility utilities:

- **Building 33 power substation - ECD 1st Qtr '05 – Pad work is underway**
- ✓ **Building 33 backup generators – ECD 13-Aug-04 - done**
- **Building 33 backup hot water boiler – ECD 1/30/05**
- ✓ **Building 37 Transfer switch – ECD 30-Sep-04 - done**

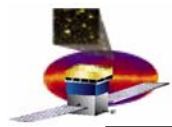
Computing infrastructure:

- ✓ **Firewall w/ private LANs for monitoring, online, data transfer.**
- ✓ **SCS remote tape backup for monitoring system database**



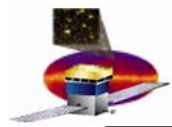
LAT MGSE Design Activities

- **MGSE Planned deliveries**
 - **Grid Perimeter Ring 12/10**
 - **Personnel Access Platforms 12/23**
- **Total MGSE Drawing Sheet Count ~ 337**
 - **274 Drawing Sheets Released**
 - **48 sheets in release cycle**
 - **15 to go.**
 - **LAT Stand Top Assembly**
 - **Limit switch configuration**
- **MGSE Procedures**
 - **MGSE Plan 90% complete (Draft in Internal Review)**
 - **Proof procedure in work**
 - **LAT Integration Stand/GPR/Support Shaft and 4x4 lift fixture. (Draft in Internal Review)**



LAT MGSE Summary Schedule

ID	Task Name	Start	Finish	2005														
				December				January					February				March	
				11/28	12/5	12/12	12/19	12/26	1/2	1/9	1/16	1/23	1/30	2/6	2/13	2/20	2/27	
1	Base Structure Assembly (COMPLETE)	6/4/04	8/25/04															
6	PAP Primary Structure	7/16/04	12/21/04	█	█	█	█	█	█	█								
22	PAP Platforms	7/19/04	1/6/05	█	█	█	█	█	█	█	█							
33	Integration Stand Design	9/16/04	11/16/04															
39	Integration Stand Assembly	10/21/04	1/28/05	█	█	█	█	█	█	█	█	█	█	█				
72	GPR	6/8/04	12/10/04	█	█	█	█	█	█	█	█							
86	GPR Support Shafts	7/16/04	1/20/05	█	█	█	█	█	█	█	█	█	█					
94	Proof Test 4X4 Integ Stand and Lift Fixtures	6/21/04	1/17/05	█	█	█	█	█	█	█	█	█	█					
115	Final Installation in Bld 33	1/31/05	2/21/05											█	█	█	█	█
123	1X1 (1x4) Lift Fixture	6/14/04	11/22/04															
132	4X4 Z Vertical Lift Fixture	6/25/04	11/16/04															
139	Crane Scale Modification	6/23/04	11/11/04															
147	Develop MGSE Procedures	8/23/04	1/12/05	█	█	█	█	█	█	█	█	█	█	█				



Cost and Schedule Status

	WBS	Description	BAC	BCWS	BCWP	ACWP	SV \$	CV \$	%BCWS	%BCWP	%ACWP	SPI	CPI	SPI	CPI	Cpi_Fcst	CpiSpi_Fcs
65	4.1.9	I&T	7,764	5,680	5,129	5,257	-551	-128	73.15	66.06	67.71	↔	↓	0.903	0.976	7,959	8,249

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

- **Work Scheduled: 5680 k\$; Work Performed: 5129 k\$**
- **Schedule Variance: -551 k\$ (-9.7%)**
 - **-141 k\$ in MGSE**

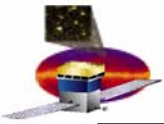
- Receive LAT Gnd Tst Heat Exchanger, Receive LAT Misc Equip and Fixtures, Receive LAT Vibration Test Fixture, Receive Misc LAT Transport Containers, Receive LAT Low Humidity Tent, Proof Test-LAT 4x4 Stand, Receive Rad & X-LAT Plate Lift Fixtures, Receive Ship Cont for LAT Vibe Test Equip, Prep and Proof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

- **-410 k\$ in IFCT department**

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

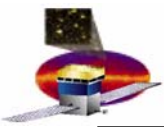
- **Cumulative Cost Variance (end of October)**

- **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**
 - **TKR**
 - **CAL**
 - **ELX**

CONCERNS

- **CAL Delivery Support from I&T**
- **MGSE Delivery Schedule**
 - **Continuous support to procurement/subcontractor from I&T and MGSE personnel.**
 - **Personnel Access Platform (PAP)**
 - **12/27**
 - **MGSE Proof test**
- **I&T Procedure Development**
 - **Behind schedule due to Tower 1 Integration Readiness activities.**
 - **Coordination of inputs from subsystems.**
- **I&T Training**
 - **Parallel Grid work and Tower 1 Integration Readiness activities**