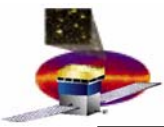


GLAST Large Area Telescope: I & T Input to Monthly Technical/Cost/Schedule Review 11/03/04

**Elliott Bloom
SU-SLAC
Subsystem Manager**

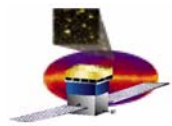
**Ken Fouts
SU-SLAC
Subsystem Engineering Manager**

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



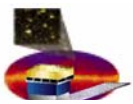
Last Month's Accomplishments

- **Management**
 - Continue weekly document reviews with NASA I&T and subsystems.
 - 28 of 58 I&T documents and procedures in review/approval cycle.
 - Reviewed SLAC safety documentation and attended mandatory safety training.
- **IFCT**
 - Support development of Grid work procedures for heatpipe, heater, thermistor and thermocouple bonding.
 - Continued Mini-LAT testing with Mini-CAL.
- **MGSE**
 - Completed initial survey of LAT rotation stand mounting surfaces for coplanarity.
 - Supporting PAP integration at the subcontractor.
 - Preparing for Integration Stand Proof Test
- **Online**
 - LCB Update to LATTE
 - Continue debugging I&T scripts with Mini-LAT
- **SVAC**
 - SVAC Plan LAT-MD-00446 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
- **Particle Test**
 - Continued conditioning to get higher terminal voltage on VdG.
 - VdG has worked reliably for 10 weeks since the last fix.
 - Upgraded Muon Telescope design. Making new scintillators. Rewriting LAT-TD-04419.
 - Completing documents for Nov 18 Two Tower IRR.



Near-term Milestones

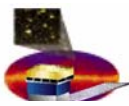
ID	Task Name	Start	Finish	Timeline																												
				September							October							November							December							January
				Aug 15	Aug 22	Aug 29	Sep 5	Sep 12	Sep 19	Sep 26	Oct 3	Oct 10	Oct 17	Oct 24	Oct 31	Nov 7	Nov 14	Nov 21	Nov 28	Dec 5	Dec 12	Dec 19	Dec 26	Jan 2								
1	IFCT	8/2/04	11/18/04	[Gantt bar: 8/2/04 to 11/18/04]																												
2	Procedure Definition and Release	8/2/04	11/17/04	[Gantt bar: 8/2/04 to 11/17/04]																												
3	Mechanical/Electrical Training	8/9/04	11/17/04	[Gantt bar: 8/9/04 to 11/17/04]																												
4	Two Tower IRR	11/18/04	11/18/04	[Milestone: 11/18]																												
5	EM2	8/9/04	11/30/04	[Gantt bar: 8/9/04 to 11/30/04]																												
12	MGSE	8/16/04	11/30/04	[Gantt bar: 8/16/04 to 11/30/04]																												
13	Grid Perimeter Ring Delivery and Proof test	8/24/04	11/19/04	[Gantt bar: 8/24/04 to 11/19/04]																												
14	PAP Delivery and Proof Test	11/22/04	11/30/04	[Gantt bar: 11/22/04 to 11/30/04]																												
15	Shipping Container Design	8/16/04	11/30/04	[Gantt bar: 8/16/04 to 11/30/04]																												
16	Mechanical Operation Grid Assembly	11/3/04	12/7/04	[Gantt bar: 11/3/04 to 12/7/04]																												
17	Receive Grid	11/3/04	11/3/04	[Milestone: 11/3]																												
18	Grid Assembly in I&T	11/3/04	12/7/04	[Gantt bar: 11/3/04 to 12/7/04]																												
19	Online	8/16/04	11/15/04	[Gantt bar: 8/16/04 to 11/15/04]																												
20	LATTE Ver. 4.3.1	8/27/04	8/27/04	[Milestone: 8/27]																												
21	LATTE Ver. 4.4.1	9/15/04	9/15/04	[Milestone: 9/15]																												
22	I&T and Subsystem Script Verification	8/16/04	11/15/04	[Gantt bar: 8/16/04 to 11/15/04]																												
23	Subsystem Deliveries	11/10/04	12/22/04	[Gantt bar: 11/10/04 to 12/22/04]																												
24	TKR A Delivery	12/22/04	12/22/04	[Milestone: 12/22]																												
25	CAL A Delivery	11/10/04	11/10/04	[Milestone: 11/10]																												
26	TEM/TPS A Delivery	12/22/04	12/22/04	[Milestone: 12/22]																												
27	Tower A Integration	1/3/05	2/21/05	[Gantt bar: 1/3/05 to 2/21/05]																												
28	Environmental Test TIM	10/1/04	10/1/04	[Milestone: 10/1]																												



Status of Subsystem's Documentation (1 of 4)

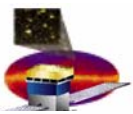
- Sorted by "Department"
- Items flagged in yellow are due within seven days
- Dates in bold are today's date
- Days in signoff over two weeks are in bold
- Items in green are complete

Depart.	Document #	Document Title	Author														# of Days in signoff	Completion Date (or expected)	Comments	
				Document Number Assigned	Draft Started	Draft Complete	Internal Review Complete	Draft in LATDocs	Draft sent to NASA	Submitted to CM (Natalie) for signoff (for expected date)	DCN written	DCN and Doc sent for signoff	Signed by Author	Signed by Elliott Bloom	Signed by QA	Released by Others				
Manage.	LAT-MD-01376-01	LAT Integration & Test Plan	Bloom / Fouts / Grist	✓	✓	✓	✓	✓	✓	03-May-04	✓	✓	✓	✓	✓	✓	✓	94	05-Aug-04	Version 2 in work
IFCT-Elec	LAT-TD-04099-01	TPS EICIT Procedure	Horwitz	✓	✓	✓	✓	✓	✓	15-Jul-04	✓	✓	✓	✓	✓	✓	106	29-Oct-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-Mech	LAT-PS-03060-01	Room 104 Access Procedure	Ortiz	✓	✓	✓	✓	✓	✓	27-Jul-04	✓	✓	✓				99	14-Nov-04		
IFCT-Mech	LAT-PS-03062-01	Tem/TemPS Shimming Procedure	Ortiz	✓	✓	✓	✓	✓	✓	28-Jul-04	✓	✓	✓				98	14-Nov-04	Comments received 9/30/04. Natalie waiting for update.	
IFCT-Elec	LAT-TD-04325-01	Acceptance Test Procedure, Break out Boxes and Cables	Horwitz	✓	✓	✓	✓	✓	✓	02-Aug-04	✓						93	16-Nov-04	Horwitz to resubmit before it goes out	
Particle	LAT-TD-01396-01	Calibration of the Van de Graaff Photon Flux	Godfrey	✓	✓	✓	✓	✓	✓	06-Aug-04	✓	✓	✓				89	14-Nov-04		
IFCT-Mech	LAT-PS-03027-01	Calorimeter Integration Procedures	Ortiz	✓	✓	✓	✓	✓	✓	06-Aug-04	✓	✓	✓				89	14-Nov-04	Natalie waiting for update	
Particle	LAT-PS-04133-01	Procedure to Take Simultaneous BGO and LAT Data	Godfrey	✓	✓	✓	✓	✓	✓	06-Aug-04	✓	✓	✓				89	14-Nov-04		
Particle	LAT-TD-04134-01	Procedure for Setting the LAT Timing Registers	Godfrey	✓	✓	✓	✓	✓	✓	06-Aug-04	✓	✓	✓				89	14-Nov-04		
Particle	LAT-TD-04135-01	Procedure for Measuring the LAT Trigger Jitter using the Muon Telescope	Godfrey	✓	✓	✓	✓	✓	✓	06-Aug-04	✓	✓	✓				89	14-Nov-04		
Particle	LAT-TD-04419-01	Muon Telescope	Godfrey	✓	✓	✓	✓	✓	✓	06-Aug-04	✓	✓	✓				89	14-Nov-04	Gary , Tune, Atwood agree on plan, document resubmitted by 11/3/04	
IFCT-Elec	LAT-TD-04260-01	GASU EICIT Procedure	Horwitz	✓	✓	✓	✓	✓		13-Aug-04	✓	✓	✓		✓	✓	82	04-Nov-04		
IFCT-Elec	LAT-TD-04332-01	PDU EICIT Procedure	Horwitz	✓	✓	✓	✓	✓	✓	13-Aug-04	✓	✓	✓	✓	✓	✓	76	28-Oct-04		



Status of Subsystem's Documentation (2 of 4)

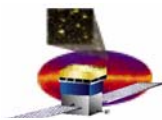
Depart.	Document #	Document Title	Author	Document Number Assigned	Draft Started	Draft Complete	Internal Review Complete	Draft in LATDocs	Draft sent to NASA	Submitted to CM (Natalie) for signoff (for expected date)	DCN written	DCN and Doc sent for signoff	Signed by Author	Signed by Elliott Bloom	Signed by QA	Released by Others	# of Days in LATDocs	Completion Date for signoff	Completion Date (for expected)	Comments
SVAC	LAT-MD-00446-06	SVAC Plan	do Couto E Silva	✓	✓	✓	✓	✓	24-Aug-04	✓	✓	✓	✓	✓	✓	✓	67	30-Oct-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		
IFCT-Mech	LAT-PS-03259-01	Shear Plate Shim Procedure	Ortiz	✓	✓	✓	✓	✓	02-Sep-04	✓	✓						62	15-Nov-04	Comments from Elliott need to be incorporated	
IFCT-Mech	LAT-PS-04436-01	AeroGo Air Bearing Reference Guide	Ortiz	✓	✓	✓	✓	✓	02-Sep-04	✓	✓	✓					62	14-Nov-04		
Particle	LAT-TD-01805-02	Van de Graaff Accelerator Safety/Operations Handbook	Godfrey	✓	✓	✓	✓	✓	30-Sep-04	✓	✓	✓	✓	✓	✓	✓	14	14-Oct-04		
IFCT-Mech	LAT-PS-04727-01	Tie Mount Bonding Procedure	Ortiz	✓	✓	✓	✓	✓	30-Sep-04								34	16-Nov-04		
IFCT-Mech	LAT-PS-03481-02	GLAST LAT Integration Facility Emergency Plan	Borden	✓	✓	✓	✓	✓	01-Oct-04								33	16-Nov-04		
Manage.	LAT-TD-04543-01	CAL Subsystem to LAT I&T Deliverables MOU	Bloom / Bright	✓	✓	✓	✓	N/A	07-Oct-04								27	16-Nov-04		
IFCT-Mech	LAT-PS-03263-01	Fastener Installation and Torquing Procedure	Borden	✓	✓	✓	✓	✓	13-Oct-04	✓	✓						21	15-Nov-04		
IFCT-Mech	LAT-PS-03291-01	Flight Hardware Bag and Purge Procedure	Borden	✓	✓	✓	✓	✓	28-Oct-04								6	16-Nov-04		
IFCT-Mech	LAT-MD-01386-01	LAT Facilities Plan	Borden	✓	✓	✓	✓	✓	29-Oct-04	✓	✓						5	15-Nov-04		
Manage.	LAT-MD-04601-01	LAT I&T E-Logbook Implementation	Kavelaars / Fouts	✓	✓	✓	✓	✓	01-Nov-04								2	16-Nov-04		
Particle	LAT-TD-00440-07	LAT Particle Test Plan	Godfrey	✓	✓	✓		✓	02-Nov-04									10-Nov-04	10-Nov-04	Reported ready to send on 10/29/04, where is it?
SVAC	LAT-MD-00575-01	SVAC Plan for LAT Integration at SLAC	do Couto E Silva	✓	✓	✓	✓		02-Nov-04									15-Nov-04	15-Nov-04	Reported ready to send on 10/29/04, where is it?
Particle	LAT-TD-04136-01	Van de Graaff and Cosmic Data Runs for LAT Integration	Godfrey	✓	✓	✓		✓	02-Nov-04									10-Nov-04	10-Nov-04	Reported ready to send on 10/29/04, where is it?
IFCT-Mech	LAT-PS-04459-01	Connector Mate and Demate	Manger	✓	✓	✓	✓		02-Nov-04	✓								10-Nov-04	10-Nov-04	



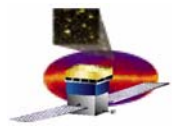
Status of Subsystem's Documentation (3 of 4)

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MGSE	LAT-PS-04227-01	GPR onto rotation Stand MGSE	Gawehn / Borden	✓						04-Nov-04								18-Nov-04	
MGSE	LAT-MD-01462-02	MGSE Development Plan	Gawehn	✓	✓					05-Nov-04								19-Nov-04	
EGSE	LAT-MD-01533-01	EGSE Plan	Wai	✓	✓	✓				05-Nov-04								19-Nov-04	
IFCT-Mech	LAT-PS-03059-01	Critical Operations Procedure	Ortiz	✓	✓	✓	✓			05-Nov-04								19-Nov-04	
IFCT-Elec	LAT-PS-03287-01	Cal Module Test Procedure	Canfield	✓	✓	✓	✓	✓		05-Nov-04								19-Nov-04	Comments need to be incorporated before resubmittal
IFCT-Elec	LAT-PS-03290-01	Tracker Module Test Procedure	Canfield	✓	✓	✓	✓	✓		05-Nov-04								19-Nov-04	Comments need to be incorporated before resubmittal
Manage.	LAT-TD-04542-01	ACD Subsystem to LAT I&T Deliverables MOU	Bloom / Bright	✓	✓	✓	✓		N/A	05-Nov-04								19-Nov-04	
Manage.	LAT-TD-04544-01	Mechanical and TCS Subsystem to LAT I&T Deliverables MOU	Bloom / Bright	✓	✓	✓			N/A	05-Nov-04								19-Nov-04	
Manage.	LAT-TD-04545-01	Science Analysis Software to LAT I&T Deliverables MOU	Bloom / Bright	✓	✓	✓			N/A	05-Nov-04								19-Nov-04	
Manage.	LAT-TD-04547-01	TKR Subsystem to LAT I&T Deliverables MOU	Bloom / Bright	✓	✓	✓			N/A	05-Nov-04								19-Nov-04	
MGSE	LAT-PS-04226-01	1x1 Lift Fixture Installation and Removal	Gawehn / Borden	✓						09-Nov-04								23-Nov-04	
MGSE	LAT-PS-04229-01	4x4 Lift Fixture Installation and Removal	Gawehn / Borden	✓						09-Nov-04								23-Nov-04	
MGSE	LAT-PS-04230-01	4x4 Stand Proof Test	Gawehn / Borden	✓						09-Nov-04								23-Nov-04	
MGSE	LAT-PS-04231-01	Grid integration into GPR MGSE	Gawehn / Borden	✓						09-Nov-04								23-Nov-04	
IFCT-Mech	LAT-PS-04244-01	Load Mass simulators into GRID MGSE	Ortiz	✓						09-Nov-04								23-Nov-04	
IFCT-Mech	LAT-PS-01586-01	Survey Procedures	Borden	✓	✓	✓		✓	✓	12-Nov-04								26-Nov-04	

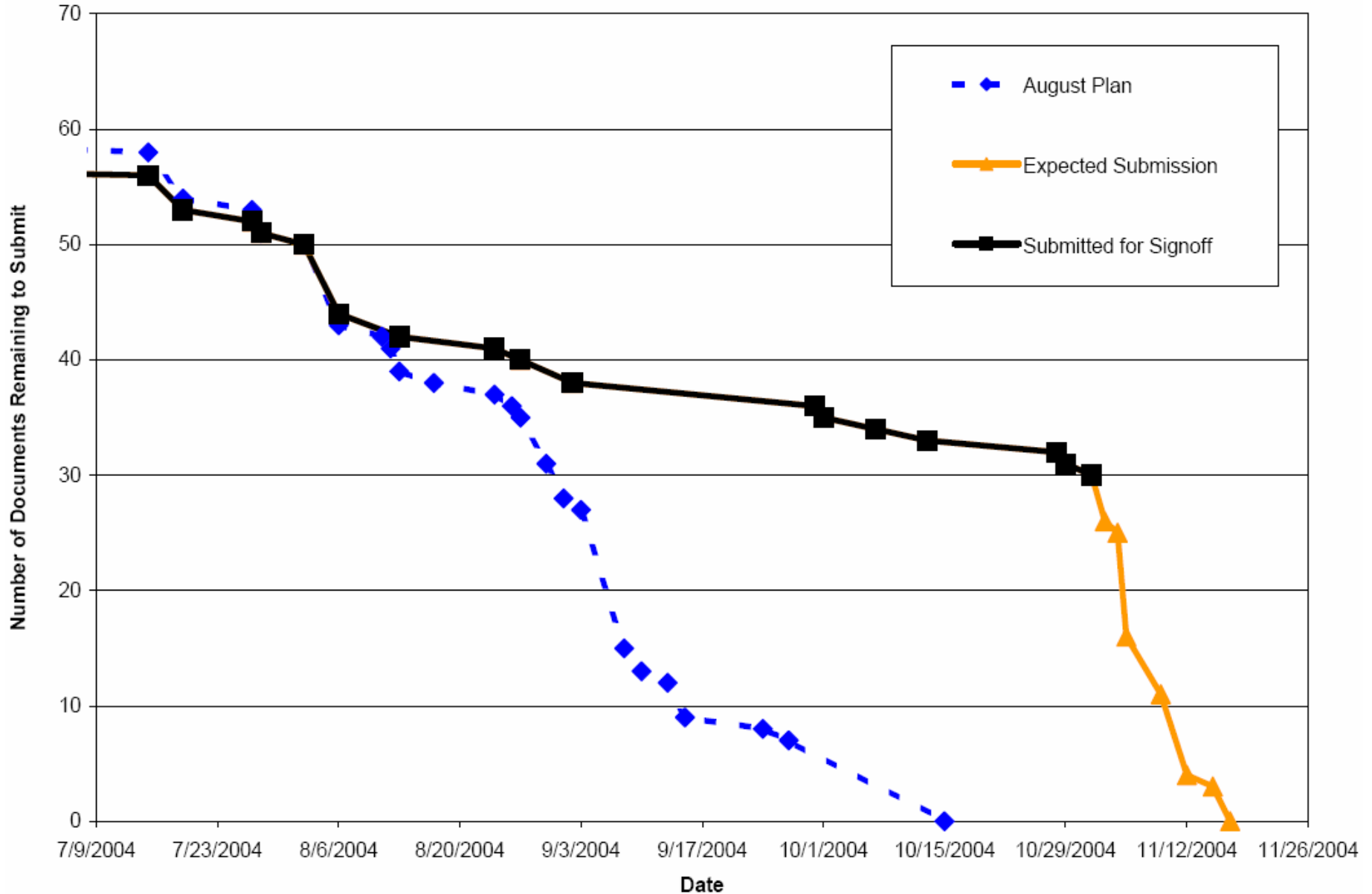
Status of Subsystem's Documentation (4 of 4)



Depart.	Document #	Document Title	Author	Document Number Assigned	Draft Started	Draft Complete	Internal Review Complete	Draft in LATDocs	Draft sent to NASA	Submitted to CM (Natalie) for signoff (for expected date)	DCN written	DCN and Doc sent for signoff	Signed by Author	Signed by Elliott Bloom	Signed by CA	Released in LATDocs	# of Days in signoff	Completion Date (for expected)	Comments
IFCT-Mech	LAT-PS-03277-01	LAT Test Floor Configuration Procedure	Borden	✓	✓	✓				12-Nov-04								26-Nov-04	Eric and Tom Nieland working on layouts
MGSE	LAT-PS-04228-01	4x4 Stand Operations Manual	Gawehn / Borden	✓						12-Nov-04								26-Nov-04	
IFCT-Elec	LAT-TD-04382-01	GASU SVT Procedure	Horwitz	✓	✓					12-Nov-04								26-Nov-04	
IFCT-Elec	LAT-TD-04384-01	PDU SVT Procedure	Horwitz	✓						12-Nov-04								26-Nov-04	
IFCT-Elec	LAT-PS-04511-01	Single Tower Test Procedure - Simple	Horwitz / Canfield	✓	✓					12-Nov-04								26-Nov-04	Awaiting release of LAT-MD-02730 Operations and Performance Plan
IFCT-Elec	LAT-PS-04512-01	Single Tower Test Procedure - w/ GASU	Horwitz / Canfield	✓	✓					12-Nov-04								26-Nov-04	Awaiting release of LAT-MD-02730 Operations and Performance Plan
SVAC	LAT-MD-00613-01	SVAC Contributed Manpower	do Couto E Silva	✓	✓					15-Nov-04								29-Nov-04	Eduardo needs help from Elliott
IFCT-Mech	LAT-PS-03058-01	Tracker Integration Procedures	Borden	✓	✓	✓		✓		17-Nov-04								01-Dec-04	
IFCT-Elec	LAT-PS-03276-01	Two Tower Test Procedure	Horwitz / Canfield	✓						17-Nov-04								01-Dec-04	
IFCT-Elec	LAT-PS-04510-01	LATTE Operators Users Guide	Canfield	✓	✓	✓	✓	✓	✓	17-Nov-04								01-Dec-04	Needs update to LATTE 4



I&T Document Submission Status for IRR



I&T Mechanical Training

Rev. 11/01/04 KAF

I&T Mechanical Team Training List

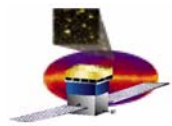
I&T Mechanical Team Training List	= done			= to do	
	Dave	Tom	Leo	Mark	Eliazar
Contamination Control	14-Apr-04	14-Apr-04	14-Apr-04	6-Aug-03	6-Aug-03
Electrostatic discharge (ESD)	14-Apr-04	14-Apr-04	14-Apr-04	1-May-03	1-Apr-03
Oxygen Deficiency	30-Apr-04	30-Apr-04	30-Apr-04	3-Jun-04	30-Apr-04
Critical Operations					
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					

IFCT Electrical Training

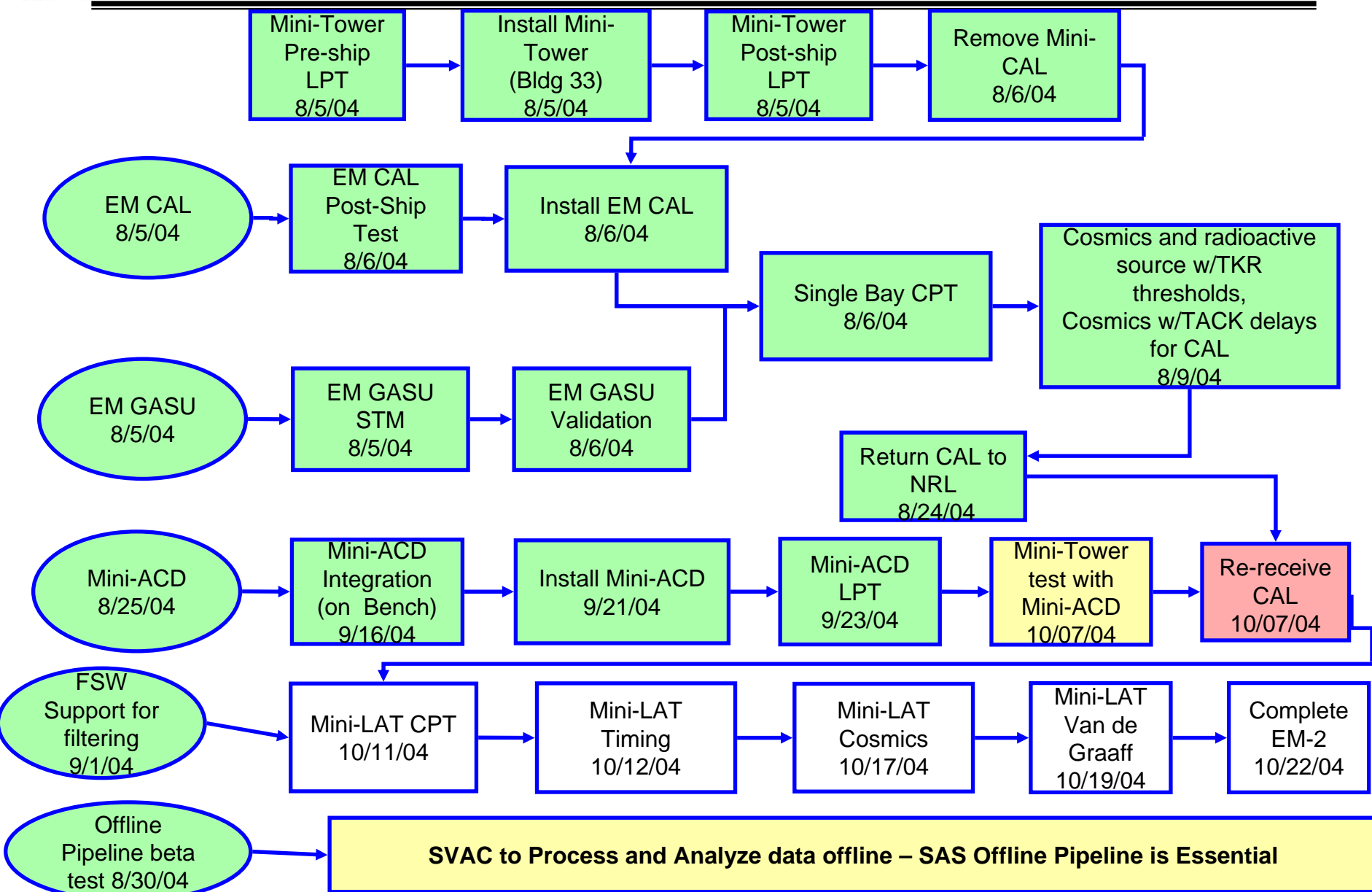
Rev. 11/01/04 KAF

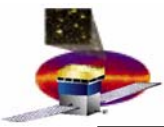
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I&T Electrical Test Team Training	Brian H.	John C.	Toan Le
Contamination Control	14-Apr-04	18-Jun-04	30-Aug-04
Electrostatic discharge (ESD)	14-Apr-04	15-Jun-04	30-Aug-04
Oxygen Deficiency	3-Jun-04	3-Jun-04	30-Aug-04
ITAR Training	31-May-04	7-Jun-04	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%



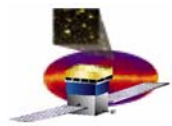
EM-2 (August-October 2004)





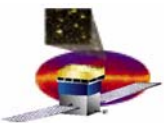
LAT MGSE Design Activities

- **MGSE Planned deliveries**
 - **Grid Perimeter Ring 11/7**
 - **Personnel Access Platforms 11/20**
- **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**
 - **PAP wiring diagram**
- **MGSE Procedures**
 - **MGSE Plan 80% complete (Draft ECD 11/5)**
 - **Proof procedure in work**
 - **LAT Integration Stand/GPR/Support Shaft and 4x4 lift fixture. ECD 11/10**



LAT MGSE Summary Schedule

ID	Task Name	Start	Finish	% Complete	2005																	
					September					October				November				December				January
					8/15	8/22	8/29	9/5	9/12	9/19	9/26	10/3	10/10	10/17	10/24	10/31	11/7	11/14	11/21	11/28	12/5	12/12
1	Base Structure Assembly (COMPLETE)	6/4/04	8/25/04	100%	[Gantt bar from 8/15 to 8/22]																	
6	PAP Primary Structure	7/16/04	11/19/04	69%	[Gantt bar from 8/15 to 11/14]																	
11	PAP Platforms	7/19/04	11/19/04	69%	[Gantt bar from 8/15 to 11/14]																	
16	Integration Stand Design	9/16/04	11/11/04	83%	[Gantt bar from 9/12 to 11/7]																	
20	Integration Stand Assembly	11/24/04	12/7/04	0%	[Gantt bar from 11/21 to 11/28]																	
24	GPR	6/8/04	11/10/04	96%	[Gantt bar from 8/15 to 11/7]																	
35	GPR Support Shafts	7/16/04	11/26/04	81%	[Gantt bar from 8/15 to 11/14]																	
43	Proof Test 4X4 Integ Stand	6/21/04	11/23/04	93%	[Gantt bar from 8/15 to 11/14]																	
48	1X1 (1x4) Lift Fixture	6/14/04	11/22/04	84%	[Gantt bar from 8/15 to 11/14]																	
57	4X4 Z Vertical Lift Fixture	6/25/04	11/16/04	89%	[Gantt bar from 8/15 to 11/7]																	
64	Crane Scale Modification	6/23/04	11/11/04	92%	[Gantt bar from 8/15 to 11/7]																	
71	Develop MGSE Procedures	8/23/04	12/31/04	38%	[Gantt bar from 8/22 to 12/26]																	



SVAC Roadmap

1. SVAC Acceptance and Test of SAS Code

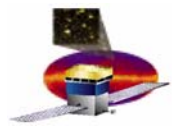
- SAS testing new release of EM package for including TEM and GEM information
 - Using TKR data from Pisa to check file sizes and offline processing time
- Tested new CAL calibration package v2r2p5
- SAS/TKR developing improved calibration package (with ToT info)
 - Both will be used for the first tower tests
- Debugging SAS event display with MC simulations v0.92
 - v0.93 to be used for first tower, soon to be released

2. SVAC/SAS Data Pipeline (Dry Run status: debugging continues)

- Cleaned up SVAC scripts to remove hardwired paths
 - All tested and working within the pipeline
- Pipeline development continues
 - SAS is improving reporting capabilities
 - SAS is improving web interface

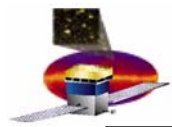
3. Instrument Test Data Analysis

- Test Plan almost ready (LAT-MD-00575)
 - Need to finalize definition of only one test needed for first tower
 - Need to finalize ACD tests (not needed until LAT is assembled)
- Developed infrastructure to automate results from E2E tests
- Continuing development on algorithms for E2E tests
 - Both needed only for two tower tests



Grid Assembly in I&T

ID	Task Name	Duration	Start	Finish	Oct 31, '04							Nov 7, '04							Nov 14, '04							Nov 21, '04							Nov 28, '04													
					S	S	M	T	W	T	F	S	S	S	M	T	W	T	F	S	S	S	M	T	W	T	F	S	S	S	M	T	W	T	F	S	S	S	M	T	W	T	F			
1	Grid Assembly	16 days	11/1/04	11/22/04	[Gantt bar from 11/1 to 11/22/04]																																									
2	Receive Grid	0 days	11/1/04	11/1/04	[Task bar at 11/1]																																									
3	Receive EMI Skirt Assy	0 days	11/1/04	11/1/04	[Task bar at 11/1]																																									
4	Grid Box Base Assembly Operations	5 days	11/1/04	11/5/04	[Gantt bar from 11/1 to 11/5/04]																																									
5	Install on handling table	1 day	11/1/04	11/1/04	[Task bar at 11/1]																																									
6	Bond TFHP's	3 days	11/2/04	11/4/04	[Task bar from 11/2 to 11/4/04]																																									
7	Install TRK interface components	1 day	11/5/04	11/5/04	[Task bar at 11/5]																																									
8	Grid Box Base Assembly Thermal Control System Operations	7 days	11/8/04	11/16/04	[Gantt bar from 11/8 to 11/16/04]																																									
9	Bond Grid Heaters (+X)	1 day	11/8/04	11/8/04	[Task bar at 11/8]																																									
10	Bond Grid Thermostats (+X)	1 day	11/8/04	11/8/04	[Task bar at 11/8]																																									
11	Bond Grid Thermistors (+X)	1 day	11/8/04	11/8/04	[Task bar at 11/8]																																									
12	Wire heaters and Thermostats (+X)	1 day	11/9/04	11/9/04	[Task bar at 11/9]																																									
13	Rotate Grid	1 day	11/10/04	11/10/04	[Task bar at 11/10]																																									
14	Bond Grid Heaters (-X)	1 day	11/10/04	11/10/04	[Task bar at 11/10]																																									
15	Bond Grid Thermostats (-X)	1 day	11/10/04	11/10/04	[Task bar at 11/10]																																									
16	Bond Grid Thermistors (-X)	1 day	11/10/04	11/10/04	[Task bar at 11/10]																																									
17	Wire heaters and Thermostats (+X)	1 day	11/11/04	11/11/04	[Task bar at 11/11]																																									
18	Bond purge tubes (-X)	1 day	11/12/04	11/12/04	[Task bar at 11/12]																																									
19	Bond top flange thermistors & thermocouples	1 day	11/15/04	11/15/04	[Task bar at 11/15]																																									
20	Install Purge Groove Caps	1 day	11/16/04	11/16/04	[Task bar at 11/16]																																									
21	Grid Box Base Assy Functional Test	2 days	11/17/04	11/18/04	[Gantt bar from 11/17 to 11/18/04]																																									
22	Run Continuity and isolation	1 day	11/17/04	11/17/04	[Task bar at 11/17]																																									
23	Conformal Coat	1 day	11/18/04	11/18/04	[Task bar at 11/18]																																									
24	Install Thermostat covers	1 day	11/18/04	11/18/04	[Task bar at 11/18]																																									
25	Sell to I&T	2 days	11/19/04	11/22/04	[Gantt bar from 11/19 to 11/22/04]																																									
26	Grid Box Base Assy Inspection and Fitcheck	6 days	11/19/04	11/26/04	[Gantt bar from 11/19 to 11/26/04]																																									
27	Temporary Install EMI skirts	1 day	11/19/04	11/19/04	[Task bar at 11/19]																																									
28	Temporary Install/Align DSHP's	2 days	11/22/04	11/23/04	[Task bar from 11/22 to 11/23/04]																																									
29	Fitcheck Connector Panels	1 day	11/24/04	11/24/04	[Task bar at 11/24]																																									
30	Fitcheck single X-LAT HP	1 day	11/24/04	11/24/04	[Task bar at 11/24]																																									
31	Disassemble all parts	1 day	11/25/04	11/25/04	[Task bar at 11/25]																																									
32	Clean parts	1 day	11/26/04	11/26/04	[Task bar at 11/26]																																									
33	Put Shields into Flight Stores	1 day	11/26/04	11/26/04	[Task bar at 11/26]																																									
34	Clean Grid	1 day	11/26/04	11/26/04	[Task bar at 11/26]																																									



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	7,764	5,397	4,902	4,978	-494	-76	69.51	63.14	64.12	↓	↓	0.908	0.985	7,884	8,177

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

- **Work Scheduled: 5397 k\$; Work Performed: 4902 k\$**
- **Schedule Variance: -494 k\$ (-9.4%)**
 - **-141 k\$ in MGSE**

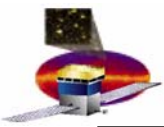
- The following items are not complete per the baseline: Receive LAT Ground Test Heat Exchanger, LAT Misc. Equip and Fixtures, LAT Vibration Test Fixture, Misc. LAT Transport Containers, LAT Low Humidity Tent, Proof Test-LAT 4x4 Sup Stand , Receive Radiator & X-LAT Plate Lift Fixtures, Receive Ship Cont for LAT Vibe Test Equip, Proof Test 1 X 4 Grid Lift Fixture

- **-353 k\$ in IFCT department**

- The following items are not complete per the baseline: Tower Intgr & System Test Support, Functional Test Tower A, IFCT Break Out Cables, IFCT Automated Test Equipment, Test As-Installed Stands, Functional Test Tower B, Integrate Flight Tkr/Cal Towers B, Integrate Flight Tkr/Cal Towers A, IFCT Power Supplies & Bus Protection Uni, Install Stands/Tables in Int. Room, Survey and Alignment Support of Inspecti, Training - Tower Integration, Prep Flight Grid for Integration, IFCT Custom Connector Mate Tool – Fab, Functional Test Towers 1, IFCT Tools, Training - Tower Integration, Integrate Flight Tkr/Cal Towers 1, Rec/Inspect TKR Tower A, Rec/Inspect TKR Tower B, Rec/Inspect TKR Tower 1, Rec/Inspect TKR Tower 2, Rec/Inspect TKR Towers 3, Rec/Insp Towers 5 & 6, Rec/Inspect Tower A Electronics & Grid, Rec/Inspect Tower B Electronics, Rec/Inspect Tower 1 Electronics, Rec/Inspect Tower 2 Electronics, Rec/Inspect Towers 3&4 Modules, Rec/Inspect Towers 4 Electronics, Rec/Insp Tower 6 Electronics, Rec/Insp Towers 7 & 8 Modules, Rec/Inspect Cross-LAT Thermal Plate, Training - Rec/Inspect Tkr Tower, Rec/Insp Tower 9 & 10 Modules, Rec/Insp Towers 8 Electronics, Rec/Inspect CAL Module A, Rec/Inspect CAL Module B, Rec/Inspect Cal Module 1, Rec/Inspect Cal Module 2, Rec/Inspect Cal Module 3, Rec/Inspect Cal Module 4, Rec/Inspect Cal Module 5, Rec/Inspect Cal Module 6, Comprehensive Test procedure development

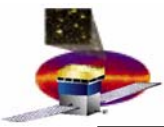
- **Cumulative Cost Variance (end of September)**

- **Work Performed: 4902 k\$; Actual Cost: 4978 k\$**
- **Cost Variance: -76 k\$ (-1.5%)**



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.**
- **Continue the weekly meetings with NASA Mission I&T to work through documents and procedures.**



Summary of issues & concerns

ISSUES

- Hardware delivery dates to I&T continue to be in flux
 - TKR
 - CAL
 - TEM/TPS

CONCERNS

- MGSE Delivery Schedule
 - Continuous support to procurement/subcontractor from I&T and MGSE personnel.
 - Personnel Access Platform (PAP)
 - 11/20 delivery
- I&T Procedure Development
 - Behind schedule due to EM2 and Safety Stand-down activities.
 - Coordination of inputs from subsystems.
- I&T Training
 - Parallel Grid work and EM2 activities