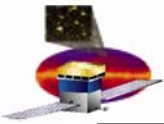


GLAST Large Area Telescope: I & T Input to Monthly Technical/Cost/Schedule Review 09/30/04

**Elliott Bloom
SU-SLAC
Subsystem Manager**

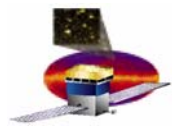
**Ken Fouts
SU-SLAC
Subsystem Engineering Manager**

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



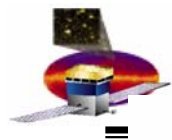
Last Month's Accomplishments

- **Management**
 - Continue weekly document reviews with NASA I&T and subsystems.
 - 30 of 62 I&T documents and procedures in review/approval cycle.
 - Supporting LAT Collaboration Meeting at SLAC/Stanford this week.
- **IFCT**
 - Developed the Tracker Integration procedure with Mechanical Subsystem.
 - Received EM-ACD assembly and check-out completed.
 - Complete EM-ACD integration with Mini-Tower (no EM CAL)
- **MGSE**
 - 1x4 and 4x4 Lift fixtures delivered.
 - CAL mass simulators delivered
 - Supporting PAP integration at the subcontractor
 - 267 MGSE drawings complete or in final release cycle, 20 to go for Integration and test phase at SLAC.
- **Online**
 - LATTE V 4.4.1 Released on 9/15/04
 - Debugging proceeding with mini-tower in B33.
- **SVAC**
 - Pipeline testing in progress.
 - Data analysis tools are being debugged in preparation EM2 data taking.
 - Trending database is complete.
- **Particle Test**
 - Continued conditioning to get higher terminal voltage on VdG.
 - Investigate high multiplicity events when taking VdG photon data with TKR mini-tower . These events have been shown to be X-ray bursting in VdB at about 1 Hz.



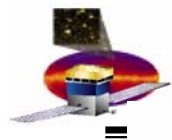
Near-term Milestones

ID	Task Name	Start	Finish	August				September				October				November				December											
				Aug 1	Aug 8	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										
1	IFCT	8/2/04	11/15/04	[Gantt bar: 8/2/04 to 11/15/04]																											
2	Procedure Definition and Release	8/2/04	11/15/04	[Gantt bar: 8/2/04 to 11/15/04]																											
3	Mechanical/Electrical Training	8/9/04	11/15/04	[Gantt bar: 8/9/04 to 11/15/04]																											
4	Two Tower IRR	11/15/04	11/15/04	[Milestone: 11/15]																											
5	EM2	8/9/04	10/22/04	[Gantt bar: 8/9/04 to 10/22/04]																											
6	EM CAL Return to NRL	8/24/04	8/24/04	[Milestone: 8/24]																											
7	Mini-ACD Delivery	8/25/04	8/25/04	[Milestone: 8/25]																											
8	Mini ACD Integration at SLAC	8/30/04	9/23/04	[Gantt bar: 8/30/04 to 9/23/04]																											
9	EM CAL Return to SLAC	10/7/04	10/7/04	[Milestone: 10/7]																											
10	EM CAL Return to NRL	10/21/04	10/21/04	[Milestone: 10/21]																											
11	EM2 Testing	8/9/04	10/22/04	[Gantt bar: 8/9/04 to 10/22/04]																											
12	MGSE	8/16/04	11/5/04	[Gantt bar: 8/16/04 to 11/5/04]																											
13	Grid Perimeter Ring Delivery and Proof test	8/24/04	10/29/04	[Gantt bar: 8/24/04 to 10/29/04]																											
14	PAP Delivery and Proof Test	10/20/04	11/5/04	[Gantt bar: 10/20/04 to 11/5/04]																											
15	Shipping Container Design	8/16/04	10/29/04	[Gantt bar: 8/16/04 to 10/29/04]																											
16	Mechanical Operation Grid Assembly	10/15/04	11/18/04	[Gantt bar: 10/15/04 to 11/18/04]																											
17	Receive Grid	10/15/04	10/15/04	[Milestone: 10/15]																											
18	Grid Assembly in I&T	10/15/04	11/18/04	[Gantt bar: 10/15/04 to 11/18/04]																											
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	11/9/04	11/30/04	[Gantt bar: 11/9/04 to 11/30/04]																											
24	TKR A Delivery	11/30/04	11/30/04	[Milestone: 11/30]																											
25	CAL A Delivery	11/9/04	11/9/04	[Milestone: 11/9]																											
26	TEM/TPS A Delivery	11/18/04	11/18/04	[Milestone: 11/18]																											
27	Tower A Integration	11/18/04	1/6/05	[Gantt bar: 11/18/04 to 1/6/05]																											
28	Environmental Test TIM	10/1/04	10/1/04	[Milestone: 10/1]																											



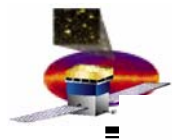
Status of Subsystem's Documentation (1 of 4)

Document #	Document Title	Author	Document Number Assigned	Draft Started	Draft Complete	Internal Review Complete	Draft in LAT Docs	Draft discussed w/ 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 LAT Docs	Completion Date (or expected)	Comments
LAT-MD-01376-01	LAT Integration & Test Plan	Bloom / Fouts / Grist	✓	✓	✓	✓	✓	✓	03-May-04	✓	✓	✓	✓	✓	✓	94	05-Aug-04	
LAT-TD-03828-01	TPS Safe to Mate Procedure	Horwitz	✓	✓	✓	✓	✓	✓	15-Jul-04	✓	✓	✓				75	08-Oct-04	Being updated to include automated testing for ELX
LAT-TD-04099-01	TPS EICIT Procedure	Horwitz	✓	✓	✓	✓	✓	✓	15-Jul-04	✓	✓	✓				75	08-Oct-04	Being updated to include automated testing for ELX
LAT-TD-03831-01	TEM Safe to Mate Procedure	Horwitz	✓	✓	✓	✓	✓	✓	19-Jul-04	✓	✓	✓				71	08-Oct-04	Being updated to include automated testing for ELX
LAT-TD-03875-01	TEM EICIT Procedure	Horwitz	✓	✓	✓	✓	✓	✓	19-Jul-04	✓	✓	✓				71	08-Oct-04	Being updated to include automated testing for ELX
LAT-TD-04097-01	TEM IVT Procedure	Horwitz	✓	✓	✓	✓	✓	✓	19-Jul-04	✓	✓	✓				71	08-Oct-04	Being updated to include automated testing for ELX
LAT-TD-04098-01	TPS IVT Procedure	Horwitz	✓	✓	✓	✓	✓	✓	19-Jul-04	✓	✓	✓				71	08-Oct-04	Being updated to include automated testing for ELX
LAT-PS-03060-01	Room 104 Access Procedure	Ortiz	✓	✓	✓	✓	✓	✓	27-Jul-04	✓	✓	✓				63	09-Oct-04	
LAT-PS-03062-01	Tem/TemPS Shimming Procedure	Ortiz	✓	✓	✓	✓	✓	✓	28-Jul-04	✓	✓	✓				62	09-Oct-04	
LAT-TD-04325-01	Acceptance Test Procedure, Break out Boxes and Cables	Horwitz	✓	✓	✓	✓	✓	✓	02-Aug-04	✓						57	11-Oct-04	Horwitz to resubmit before it goes out
LAT-TD-01396-01	Calibration of the Van de Graaff Photon Flux	Godfrey	✓	✓	✓	✓	✓	✓	06-Aug-04	✓	✓	✓				53	09-Oct-04	
LAT-PS-03027-01	Calorimeter Integration Procedures	Ortiz	✓	✓	✓	✓	✓	✓	06-Aug-04	✓	✓	✓				53	09-Oct-04	
LAT-PS-04133-01	Procedure to Take Simultaneous BGO and LAT Data	Godfrey	✓	✓	✓	✓	✓	✓	06-Aug-04	✓	✓	✓				53	09-Oct-04	
LAT-TD-04134-01	Procedure for Setting the LAT Timing Registers	Godfrey	✓	✓	✓	✓	✓	✓	06-Aug-04	✓	✓	✓				53	09-Oct-04	
LAT-TD-04135-01	Procedure for Measuring the LAT Trigger Jitter using the Muon Telescope	Godfrey	✓	✓	✓	✓	✓	✓	06-Aug-04	✓	✓	✓				53	09-Oct-04	
LAT-TD-04419-01	Muon Telescope	Godfrey	✓	✓	✓	✓	✓	✓	06-Aug-04	✓	✓	✓				53	09-Oct-04	
LAT-TD-04260-01	GASU EICIT Procedure	Horwitz	✓	✓	✓	✓	✓		13-Aug-04	✓	✓	✓				46	09-Oct-04	



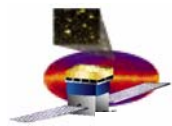
Status of Subsystem's Documentation (2 of 4)

Document #	Document Title	Author	Document Number Assigned	Draft Started	Draft Complete	Internal Review Complete	Draft in LAT Docs	Draft discussed w/ 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 LAT Docs	Completion Date (or expected)	Comments
LAT-TD-04332-01	PDU EICIT Procedure	Horwitz	✓	✓	✓	✓	✓	13-Aug-04	✓	✓						46	10-Oct-04	
LAT-MD-00446-06	SVAC Plan	do Couto E Silva	✓	✓	✓	✓	✓	24-Aug-04								35	11-Oct-04	
LAT-PS-03259-01	Menning Plate Procedures	Ortiz	✓	✓	✓	✓	✓	02-Sep-04								26	11-Oct-04	
LAT-PS-04436-01	AeroGo Air Bearing Reference Guide	Ortiz	✓	✓	✓	✓	✓	02-Sep-04								26	11-Oct-04	
LAT-PS-03291-01	Flight Hardware Bag and Purge Procedure	Borden	✓	✓	✓	✓	✓	24-Sep-04								4	11-Oct-04	
LAT-PS-04727-01	Tie Mount Bonding Procedure	Horwitz / Canfield	✓	✓	✓			28-Sep-04									12-Oct-04	
LAT-TD-01805-01	Van de Graaff Accelerator Safety/Operations Handbook	Godfrey	✓	✓	✓	✓	✓	28-Sep-04	✓	✓	✓						12-Oct-04	Gary will incorporate Elliott comments and return to Natalie
LAT-PS-03263-01	Fastener Installation and Torquing Procedure	Borden	✓	✓	✓	✓	✓	28-Sep-04	✓	✓							12-Oct-04	Tom is incorporating comments and will resubmit
LAT-MD-01386-01	LAT Facilities Plan	Borden	✓	✓	✓		✓	30-Sep-04	✓								14-Oct-04	Tom incorporating updates to include grounding, etc.
LAT-PS-03287-01	Cal Module Test Procedure	Canfield	✓	✓	✓	✓	✓	30-Sep-04									14-Oct-04	Comments need to be incorporated before resubmittal
LAT-PS-03290-01	Tracker Module Test Procedure	Canfield	✓	✓	✓	✓	✓	30-Sep-04									14-Oct-04	Comments need to be incorporated before resubmittal
LAT-PS-04510-01	LATTE Operators Users Guide	Canfield	✓	✓	✓	✓	✓	30-Sep-04									14-Oct-04	Needs update to LATTE 4
LAT-PS-04459-01	Connector Mate and Demate	Manger	✓	✓	✓			30-Sep-04									14-Oct-04	Waiting for information on connector bleed-off
LAT-MD-04601-01	LAT I&T E-Logbook Implementation	Kavelaars / Fouts	✓	✓	✓			01-Oct-04									15-Oct-04	
LAT-TD-00440-04	LAT Particle Test Plan	Godfrey	✓	✓	✓	✓	✓	01-Oct-04									15-Oct-04	
LAT-MD-01533-01	EGSE Plan	Wai / Claus	✓					01-Oct-04									15-Oct-04	
LAT-PS-03481-02	GLAST LAT Integration Facility Emergency Plan	Borden	✓	✓	✓	✓	✓	01-Oct-04									15-Oct-04	Tom incorporating minor changes before resubmitting



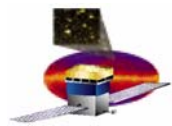
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LAT-TD-04136-01	Van de Graaff and Cosmic Data Runs for LAT Integration	Godfrey	✓	✓	✓	✓			01-Oct-04								15-Oct-04	
LAT-PS-03059-01	Critical Operations Procedure	Ortiz	✓	✓	✓	✓			04-Oct-04								18-Oct-04	
LAT-PS-04244-01	Load Mass simulators into GRID MGSE	Ortiz	✓						06-Oct-04								20-Oct-04	
LAT-PS-03277-01	LAT Test Floor Configuration Procedure	Borden	✓	✓	✓	✓			07-Oct-04								21-Oct-04	
LAT-TD-04542-01	ACD Subsystem to LAT I&T Deliverables MOU	Bloom / Bright	✓	✓	✓				08-Oct-04								22-Oct-04	
LAT-TD-04543-01	CAL Subsystem to LAT I&T Deliverables MOU	Bloom / Bright	✓	✓	✓				08-Oct-04								22-Oct-04	
LAT-TD-04544-01	Mechanical and TCS Subsystem to LAT I&T Deliverables MOU	Bloom / Bright	✓	✓	✓				08-Oct-04								22-Oct-04	
LAT-TD-04545-01	Science Analysis Software to LAT I&T Deliverables MOU	Bloom / Bright	✓	✓	✓				11-Oct-04								25-Oct-04	
LAT-TD-04546-01	T&DF Subsystem to LAT I&T Deliverables MOU	Bloom / Bright	✓	✓	✓				11-Oct-04								25-Oct-04	
LAT-TD-04547-01	TKR Subsystem to LAT I&T Deliverables MOU	Bloom / Bright	✓	✓	✓				11-Oct-04								25-Oct-04	
LAT-PS-04229-01	4x4 Lift Fixture Installation and Removal	Gawehn / Borden	✓						13-Oct-04								13-Oct-04	
LAT-MD-01462-02	MGSE Development Plan	Gawehn	✓	✓					15-Oct-04								15-Oct-04	
LAT-PS-04226-01	1x1 Lift Fixture Installation and Removal	Gawehn / Borden	✓						15-Oct-04								15-Oct-04	
LAT-PS-04227-01	GPR onto rotation Stand MGSE	Gawehn / Borden	✓						17-Oct-04								17-Oct-04	
LAT-PS-04231-01	Grid integration into GPR MGSE	Gawehn / Borden	✓						22-Oct-04								22-Oct-04	
LAT-PS-04230-01	4x4 Stand Proof Test	Gawehn / Borden	✓						27-Oct-04								27-Oct-04	
LAT-PS-03276-01	Two Tower w/GASU/PDU Test Procedure	Horwitz / Canfield	✓						01-Nov-04								15-Nov-04	

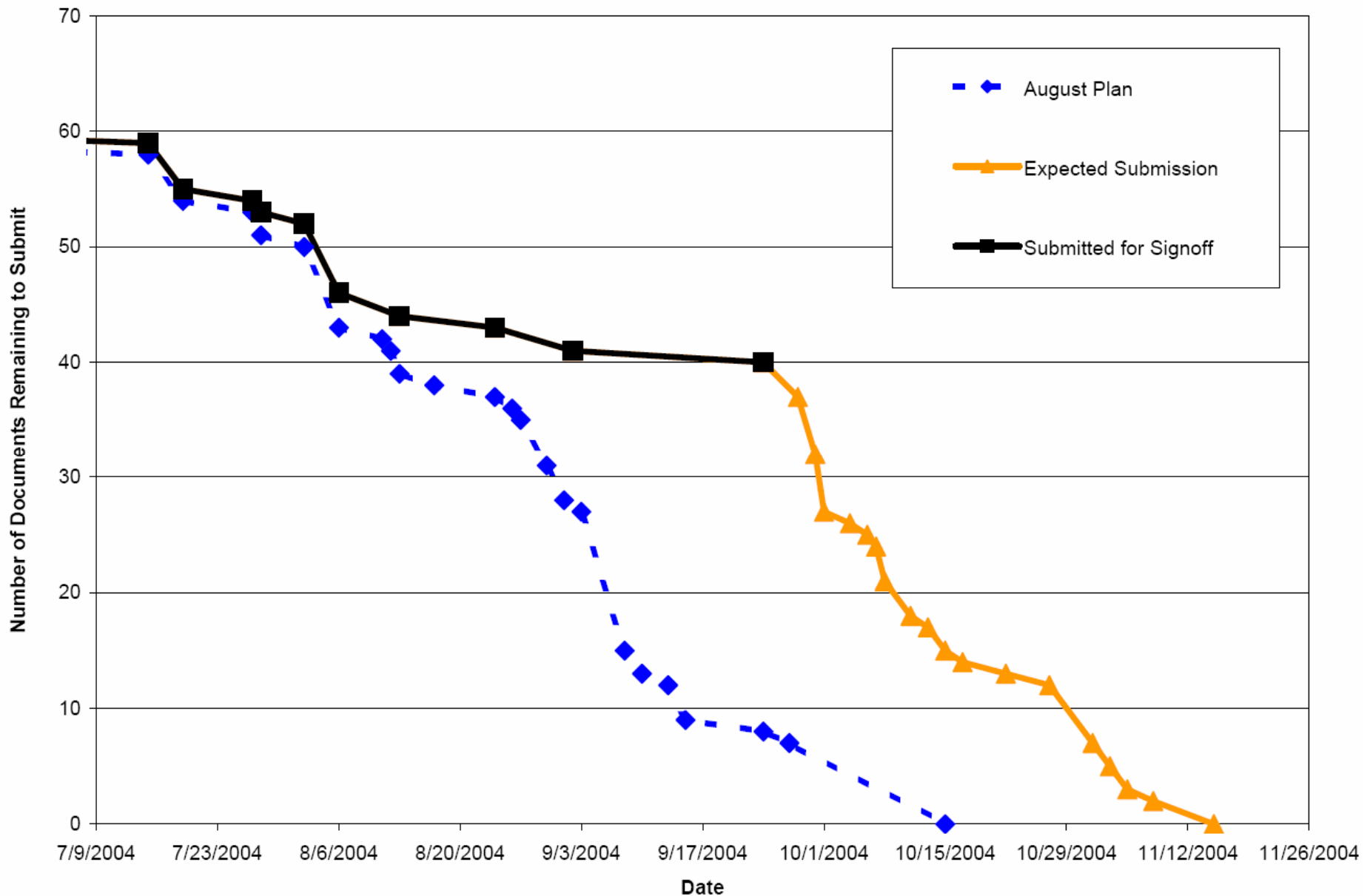


Status of Subsystem's Documentation (4 of 4)

Document #	Document Title	Author	Document Number Assigned	Draft Started	Draft Complete	Internal Review Complete	Draft in LATDocs	Draft discussed w/ NASA	Submitted to CM (Natalie) for signoff (or expected date)	DCN written	DCN and Doc sent for signoff	Signed by Author	Signed by Elliot Bloom	Signed by QA	Released by Others	# of Days in LATDocs	Completion Date (or expected)	Comments
LAT-TD-04381-01	GASU Safe to Mate Procedure	Horwitz	✓	✓	✓				01-Nov-04								15-Nov-04	
LAT-TD-04382-01	GASU IVT Procedure	Horwitz	✓	✓					01-Nov-04								15-Nov-04	
LAT-PS-04511-01	Single Tower Test Procedure - Simple	Horwitz / Canfield	✓	✓					01-Nov-04								15-Nov-04	Awaiting release of LAT-MD-02730 Operations and Performance Plan
LAT-PS-04512-01	Single Tower Test Procedure - w/ GASU	Horwitz / Canfield	✓	✓					01-Nov-04								15-Nov-04	Awaiting release of LAT-MD-02730 Operations and Performance Plan
LAT-TD-04383-01	PDU Safe to Mate Procedure	Horwitz	✓	✓					03-Nov-04								17-Nov-04	
LAT-TD-04384-01	PDU IVT Procedure	Horwitz	✓						03-Nov-04								17-Nov-04	
LAT-MD-00575-01	SVAC Plan for LAT Integration at SLAC	do Couto E Silva	✓	✓	✓	✓			05-Nov-04								19-Nov-04	
LAT-PS-01586-01	Survey Procedures	Borden	✓	✓	✓		✓		05-Nov-04								19-Nov-04	
LAT-PS-03058-01	Tracker Integration Procedures	Borden	✓	✓	✓			✓	08-Nov-04								22-Nov-04	
LAT-MD-00613-01	SVAC Contributed Manpower	do Couto E Silva	✓	✓					15-Nov-04								29-Nov-04	
LAT-PS-04228-01	4x4 Stand Operations Manual	Gawehn / Borden	✓						15-Nov-04								15-Nov-04	



I&T Document Submission Status for IRR



I&T Mechanical Training

Rev. 9/27/04 KAF

I&T Mechanical Team Training List

	= done					= to do		Expiration	Validator
	Dave	Tom	Leo	Mark	Reggie	Eliazar			
Contamination Control	14-Apr-04	14-Apr-04	14-Apr-04	6-Aug-03	5-May-04	6-Aug-03	end project	Cullinan	
Electrostatic discharge (ESD)	14-Apr-04	14-Apr-04	14-Apr-04	1-May-03	1-Dec-03	1-Apr-03	2 yr	Tice	
Oxygen Deficiency	30-Apr-04	30-Apr-04	30-Apr-04	3-Jun-04	3-Jun-04	30-Apr-04	end project	Ortiz	
Critical Operations							end project	Ortiz	
Crane Operation	16-Apr-04	16-Apr-04	16-Apr-04	done	done	16-Apr-04	2 yr	Wai	
Crane Operation Practical Test	20-May-04	20-May-04	20-May-04	20-May-04	Done	20-May-04	2 yr	Wai	
GERT	12-Apr-04	Done	Done	Done	Done	Done	2 yr	Wai	
ITAR Training	21-Apr-04	21-Apr-04	21-Apr-04			21-Apr-04	2 yr	Wai	
RAD Worker Training	8-Jun-04	11-May-04	11-May-04	11-May-04	8-Jun-04	11-May-04	2 yr	Wai	
Van De-graaff operation	10-Jun-04	10-Jun-04	10-Jun-04			10-Jun-04	2 yr	Wai	
Mate/Demate		9-Jul-04	trainer	9-Jul-04			2 yr	Manger	
Crimping and Harnessing	Done	Done	n/a	n/a	n/a	n/a	2 yr	Bartholomew	
Electronic log book training							end project	Ortiz	
Electronic Mate/Demate log training							end project	Ortiz	
Electronic component installation log							end project	Ortiz	
Hardware Bagging							end project	Ortiz	
Room 104 Access	17-May-04	17-May-04	17-May-04	17-May-04		17-May-04	end project	Ortiz	
Air Bearings Operation	22-Apr-04	22-Apr-04	22-Apr-04	25-May-04	26-May-04	22-Apr-04	end project	Ortiz	
Cleanroom fork lift operation							end project	Manger	
Tracker Receiving Inspection							end project	Ortiz	
Calorimeter receiving Inspection	14-Aug-04	14-Aug-04	14-Aug-04	13-Feb-04		13-Feb-04	end project	Ortiz	
CAL Insertion/Inversion Handling	18-May-04	28-Apr-04	28-Apr-04	21-May-04	21-May-04	28-Apr-04	end project	Ortiz	
CAL Insertion/Inversion Crane	28-Apr-04	18-May-04	18-May-04	21-May-04	21-May-04	28-Apr-04	end project	Ortiz	
CAL Removal/Inversion Handling	18-May-04	28-Apr-04	28-Apr-04	21-May-04	21-May-04	28-Apr-04	end project	Ortiz	
CAL Removal/Inversion Crane	28-Apr-04	18-May-04	18-May-04	21-May-04	21-May-04	28-Apr-04	end project	Ortiz	
CAL Torquing	21-May-04	21-May-04	21-May-04	21-May-04	21-May-04	21-May-04	end project	Ortiz	
TEM/PSU Shimming/Torquing	20-Jul-04	20-Jul-04	20-Jul-04	20-Jul-04			end project	Ortiz	
ELX cable sequence	19-May-04	19-May-04	19-May-04	19-May-04		19-May-04	end project	Ortiz	
2-Tower CPT GASU / PDU /BOB Setup							end project	Ortiz	
Menning plate installation / removal	14-Jun-04	14-Jun-04	14-Jun-04	14-Jun-04			end project	Ortiz	
Tracker Heat Straps Installation							end project	Borden	
Tracker Cone installation	22-Sep-04	22-Sep-04	22-Sep-04	22-Sep-04		22-Sep-04	end project	Borden	
Tracker Flex Cable Installation							end project	Borden	
Tracker Flex Cable Removal							end project	Borden	
Tracker Insertion Handling	23-Sep-04	23-Sep-04	23-Sep-04	23-Sep-04		23-Sep-04	end project	Borden	
Tracker Insertion Crane	23-Sep-04	23-Sep-04	23-Sep-04	23-Sep-04		23-Sep-04	end project	Borden	
Tracker Removal Handling	24-Sep-04	24-Sep-04	24-Sep-04	24-Sep-04		24-Sep-04	end project	Borden	
Tracker Removal Crane	24-Sep-04	24-Sep-04	24-Sep-04	24-Sep-04		24-Sep-04	end project	Borden	
Optical Survey Setup							end project	Borden	
LAT Lift Fixture Crane Operation							end project	Borden	
GPR Installation							end project	Borden	
LAT Integration Stand Operation							end project	Borden	
LAT Floor Test Configuration							end project	Borden	

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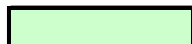
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4.1.9 - Integration and Test

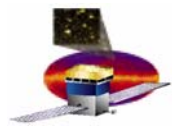
IFCT Electrical Training

Rev. 9/27/04 KAF

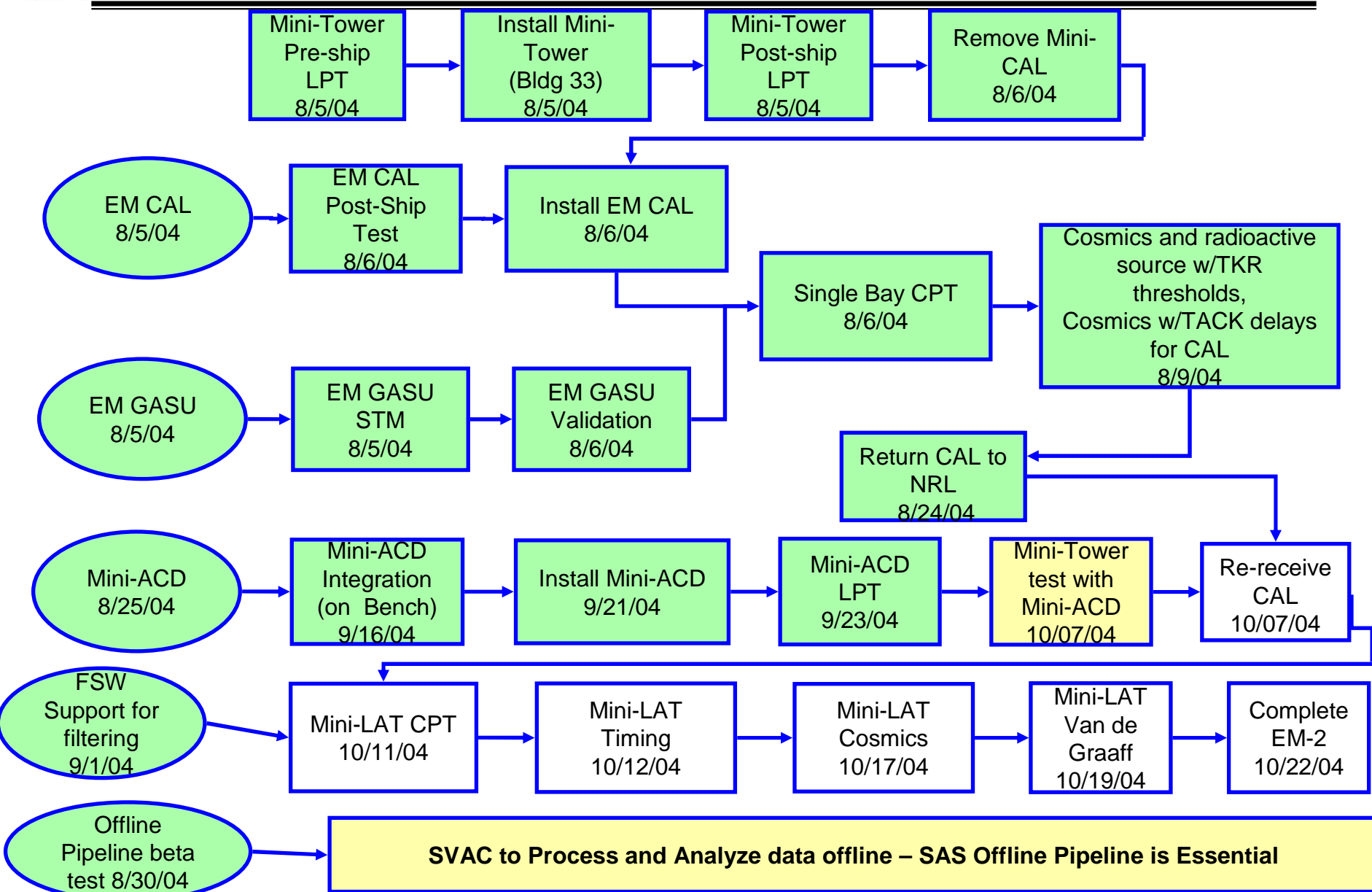
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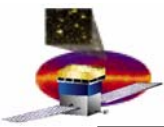
 = to do

I&T Electrical Test Team Training	Brian H.	John C.	Toan Le	Joel B.	Expiration	Validator
Contamination Control	14-Apr-04	18-Jun-04	30-Aug-04	30-Aug-04	end project	Cullinan
Electrostatic discharge (ESD)	14-Apr-04	15-Jun-04	30-Aug-04	30-Aug-04	2 yr	Tice
Oxygen Deficiency	3-Jun-04	3-Jun-04	30-Aug-04	30-Aug-04	end project	Ortiz
ITAR Training	31-May-04	7-Jun-04	30-Aug-04	30-Aug-04	end project	Wai
GERT					2 yr	Wai
RAD Worker Training	6-Jun-04	6-Jun-04	30-Aug-04	30-Aug-04	2 yr	Wai
Van De-graaff operation	10-Jun-04	10-Jun-04			2 yr	Wai
Mate/Demate	9-Jul-04	9-Jul-04	9-Jul-04	9-Jul-04	end project	Manger
Hardware Bagging					end project	Ortiz
Electronic Logbook Training		22-Jun-04			end project	Horwitz
EGSE Validation	30-Aug-04	30-Aug-04	30-Aug-04	30-Aug-04	end project	Horwitz
TPS interface and BOB usage	30-Aug-04	30-Aug-04	30-Aug-04	30-Aug-04	end project	Horwitz
TEM interface and BOB usage	30-Aug-04	30-Aug-04	30-Aug-04	30-Aug-04	end project	Horwitz
GASU interface and BOB usage	21-Sep-04	21-Sep-04	15-Sep-04	21-Sep-04	end project	Horwitz
PDU interface and BOB usage					end project	Horwitz
Tracker Performance Test					end project	Horwitz
CAL Performance Test	30-Aug-04	30-Aug-04	30-Aug-04		end project	Horwitz
Single Bay Test					end project	Horwitz
Timing-In Test					end project	Horwitz
Cosmics and VDG data collection					end project	Horwitz
Two Bay Test					end project	Horwitz
TEM/TPS CPT					end project	Horwitz
GASU CPT					end project	Horwitz
PDU CPT					end project	Horwitz
% done	50%	54%	46%	42%		



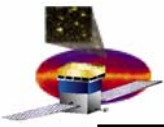
EM-2 (August-October 2004)





LAT MGSE Design Activities

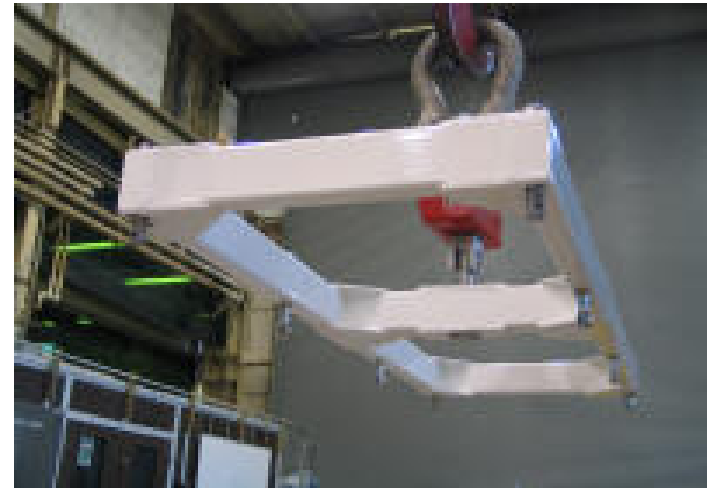
- **MGSE Deliveries**
 - **Base Structure**
 - **4x4 Lift Spreader**
 - **1x1 (1x4) Lift Spreader**
- **MGSE Planned deliveries**
 - **Grid Perimeter Ring 10/12 (requires data from Grid)**
 - **Personnel Access Platforms 10/20**
- **Total MGSE Drawing Sheet Count ~ 294**
 - **274 Drawing Sheets Released (or in release cycle)**
 - **20 sheets scheduled to be complete by Oct 20.**
 - **LAT Stand Top Assembly**
 - **Limit switch configuration**
 - **PAP wiring diagram**



LAT MGSE



4x4 Lift Fixture with a proof test weight



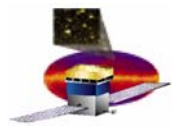
1x1/1x4 Lift Spreader



Grid Perimeter Ring on CMM

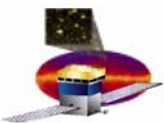


Grid Perimeter Ring Support Shafts



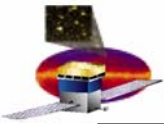
LAT MGSE Summary Schedule

ID	Task Name	Start	Finish	% Complete	Schedule																
					August				September				October				November				Dec
					8/1	8/8	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
1	Base Structure Assembly	6/4/04	8/25/04	100%	[Gantt bar from 6/4/04 to 8/25/04]																
6	PAP Primary Structure	7/16/04	10/20/04	76%	[Gantt bar from 7/16/04 to 10/20/04]																
11	PAP Platforms	7/19/04	10/21/04	75%	[Gantt bar from 7/19/04 to 10/21/04]																
16	Integration Stand Design	9/16/04	10/7/04	7%	[Gantt bar from 9/16/04 to 10/7/04]																
19	Integration Stand Assembly	10/21/04	11/3/04	0%	[Gantt bar from 10/21/04 to 11/3/04]																
23	GPR	6/8/04	10/12/04	91%	[Gantt bar from 6/8/04 to 10/12/04]																
34	GPR Support Shafts	7/16/04	10/11/04	72%	[Gantt bar from 7/16/04 to 10/11/04]																
42	Proof Test 4X4 Integ Stand	6/21/04	10/4/04	93%	[Gantt bar from 6/21/04 to 10/4/04]																
47	1X1 (1x4) Lift Fixture	6/14/04	9/29/04	84%	[Gantt bar from 6/14/04 to 9/29/04]																
56	4X4 Z Vertical Lift Fixture	6/25/04	9/27/04	87%	[Gantt bar from 6/25/04 to 9/27/04]																
63	4X4 Z Horizontal Lift Fixture	10/1/04	11/11/04	0%	[Gantt bar from 10/1/04 to 11/11/04]																
67	Crane Scale Modification	6/23/04	10/13/04	86%	[Gantt bar from 6/23/04 to 10/13/04]																
73	Develop MGSE Procedures	8/23/04	10/22/04	0%	[Gantt bar from 8/23/04 to 10/22/04]																



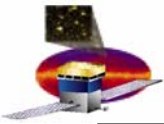
Online Roadmap

1. **Hardware Monitoring, Trending, and Power up.**
 - Testing will continue with EM2 work.
 - Final trending in work.
 - Power-up sequencing infrastructure pending FSW release.
2. **Subsystem – I&T scripts ready to use by I&T on Flight Hardware and under configuration control.**
 - **Receive Final subsystem scripts**
 - CAL – Oct 6 need date, based on 11/6 CAL A delivery to SLAC
 - ELX – Nov 1 (need date)
 - TKR – Oct 31 (need date)
 - ACD – one month before delivery (need date)
 - **End to End script definition in progress with System Engineering.**
3. **LATTE 4.4.1 released 9/15/04. Other than bug fixes, LATTE 4.x.x will be used for LAT testing in I&T until flight software arrives (needs LATTE V5 to operate with SIIS).**
4. **Event filtering software in work.**
 - **Adding capability to filter:**
 - Externally triggered events
 - Number of strips hit in TKR
5. **Transfer of LDF.fits, Run Configuration files, Run and Test Report files to persistent storage.**
 - **Transfer via Pipeline trials in process (done).**
6. **Electronic Logbook – Training program week of 9/27/04.**
7. **Database synchronization tool in work (ECD 10/1).**
8. **Testing of Online system in I&T environment with mini-LAT.**
 - **Involved in troubleshooting hardware issues.**



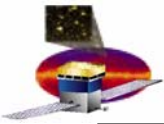
SVAC Roadmap

1. **SVAC Acceptance and Test of SAS Code**
 - SAS testing new release of engineering model package for EM2 including TEM and GEM information.
 - Debugging SAS event display with MC simulations
 - Debugging data analysis tools.
2. **SVAC Database and Calibration trending**
 - Finalized infrastructure for calibration trending database. Included TOT with 1 million channels.
 - Working with ISOC on correlating calibration and housekeeping.
 - Expect changes in tables design due to new CAL calibrations.
3. **SVAC Data Pipeline**
 - Majority of scripts have been tested
 - Working with Online to finalize data transfer mechanism.
4. **Instrument Test Analysis**
 - Ready for EM 2 data analysis.
 - SVAC Workshop (9/27).



Particle Test Activities

- Studied High Multiplicity events with VG and Am241 source into EM2.
 - VdG puts out copious ~100 KeV x-rays - high multiplicity present
 - Am241 puts out copious 60 KeV x-rays - no high multiplicity
 - Concluded (wrote paper) some VdG x-rays in bursts at ~1 Hz rate
- Am241 (.04 Curies) placed at different distances from EM2
 - Trigger rate from random 6 layer coincidences (0 Hz to >300 Hz)
 - Trigger rates ~agree with calculations
 - Considering using Am241 x-ray source to make high rate in LAT TD&F data flow tests with cosmic rays and VdG.
- Ordered parts for reliability upgrades (vacuum, source, RF, target)
 - VG has worked reliably for 6 weeks since the last fix.
- Continued VG conditioning to get higher terminal voltage
- Incorporating sign off changes to Particle Test docs for IRR



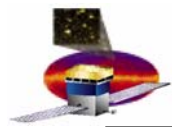
Summary of issues & concerns

ISSUES

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

CONCERNS

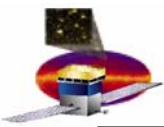
- MGSE Delivery Schedule
 - Continuous support to procurement/subcontractor from I&T and MGSE personnel.
 - Personnel Access Platform (PAP)
 - 10/20 delivery
- I&T Procedure Development
 - Behind schedule due to EM2 activities.
 - Coordination of inputs from subsystems.
- I&T Training
 - Parallel Grid work and EM2 activities



Cost and Schedule Status

	WBS	Description	BAC	BCWS	BCWP	ACWP	SV \$	CV \$	%BCWS	%BCWP	%ACWP	SPI	CPI	SPI	CPI	Cpi_Fcst	CpiSpi_Fcst
65	4.1.9	I&T	7,764	4,977	4,598	4,643	-379	-45	64.10	59.22	59.80	↔	↓	0.924	0.990	7,840	8,104

- **Cumulative Schedule Variance (end of August)**
 - **Work Scheduled: 4977 k\$; Work Performed: 4598 k\$**
 - **Schedule Variance: -379 k\$ (-7.6%)**
 - **-190 k\$ in MGSE**
 - The following items are not complete per the baseline: 1x1/1x4 Lift Fixture, Proof Test 1x1/1x 4 Grid Lift Fixture, LAT Vibration Test Fixture, GSE Tower Mass Simulators, LAT Low Humidity Tent, Ship Cont for LAT Vibe Test Equip, LAT Gnd Tst Heat Exchanger, LAT GPR & Attach Bkts, LAT GPR & Attach Bkts, Proof Test-LAT 4x4 Stand, LAT Lifting Fixture, LAT Misc Equip and Fixtures, Misc LAT Transport Containers
 - **-200 k\$ in IFCT department**
 - The following items are not complete per the baseline: Rec/Inspect Tower 1 Electronics, Rec/Inspect TKR Tower 1, Rec/Inspect Cal Module 1, Rec/Inspect Tower 2 Electronics, Rec/Inspect Cal Module 2, Rec/Inspect Tower A Electronics & Grid, Rec/Inspect TKR Tower A, Training - Rec/Inspect Tkr Tower, Training - Tower Integration, Rec/Inspect CAL Module A, Integrate Flight Tkr/Cal Towers A, Functional Test Tower A, Rec/Inspect Tower B Electronics, Rec/Inspect TKR Tower B, Rec/Inspect CAL Module B, Integrate Flight Tkr/Cal Towers B, Training - Tower Integration, Install Stands/Tables in Int. Room, Survey and Alignment Support, Test As-Installed Stands, Rec/Inspect Towers 4 Electronics, Rec/Inspect Cal Module 4, Tower Intgr & System Test Support, Prep Flight Grid for Integration, Rec/Inspect Towers 3&4 Modules, Rec/Inspect Cal Module 3, Rec/Inspect Cross-LAT Thermal Plate, Comprehensive Test procedure development
- **Cumulative Cost Variance (end of August)**
 - **Work Performed: 4598 k\$; Actual Cost: 4643 k\$**
 - **Cost Variance: -45 k\$ (-1%)**



Zero Schedule Variance Actions

- **Complete MGSE tasks that are in flow for two tower and LAT build. (done end of September)**
- **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.**
- **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.**