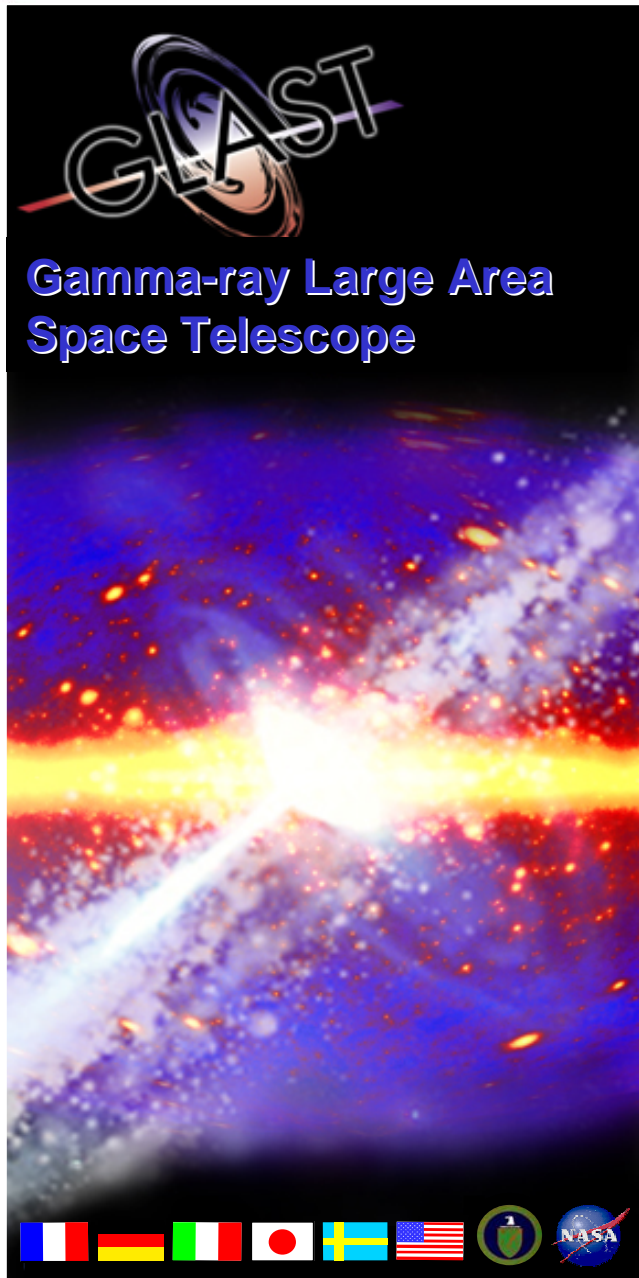
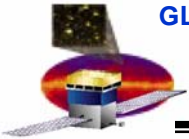


Mechanical Systems Mechanical / Thermal Hardware March 2005 Status

Marc Campell, Subsystem Manager

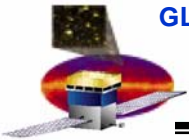


Lockheed Martin Progress

X-LAT Plate Assy and Radiators

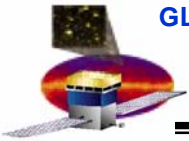
*Helmuth Drosdat
GLAST Program Manager*

*Dean Read
ATC Thermal Sciences
Department Manager*



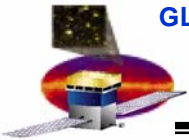
Flight Hardware Status

- X-LAT
 - Complete
- +/-Y Radiator
 - Complete except for instrumentation I&C (planned for new contract)
 - Instrumentation build and installation started (htrs, cabling, sensors, thermostats)
 - Blanket design activity restarted
- Specification Requirements Compliance Matrices
 - Starting to look at what's needed
 - Detective work will be in order to find past compliance data....lesson is obvious even for small programs....

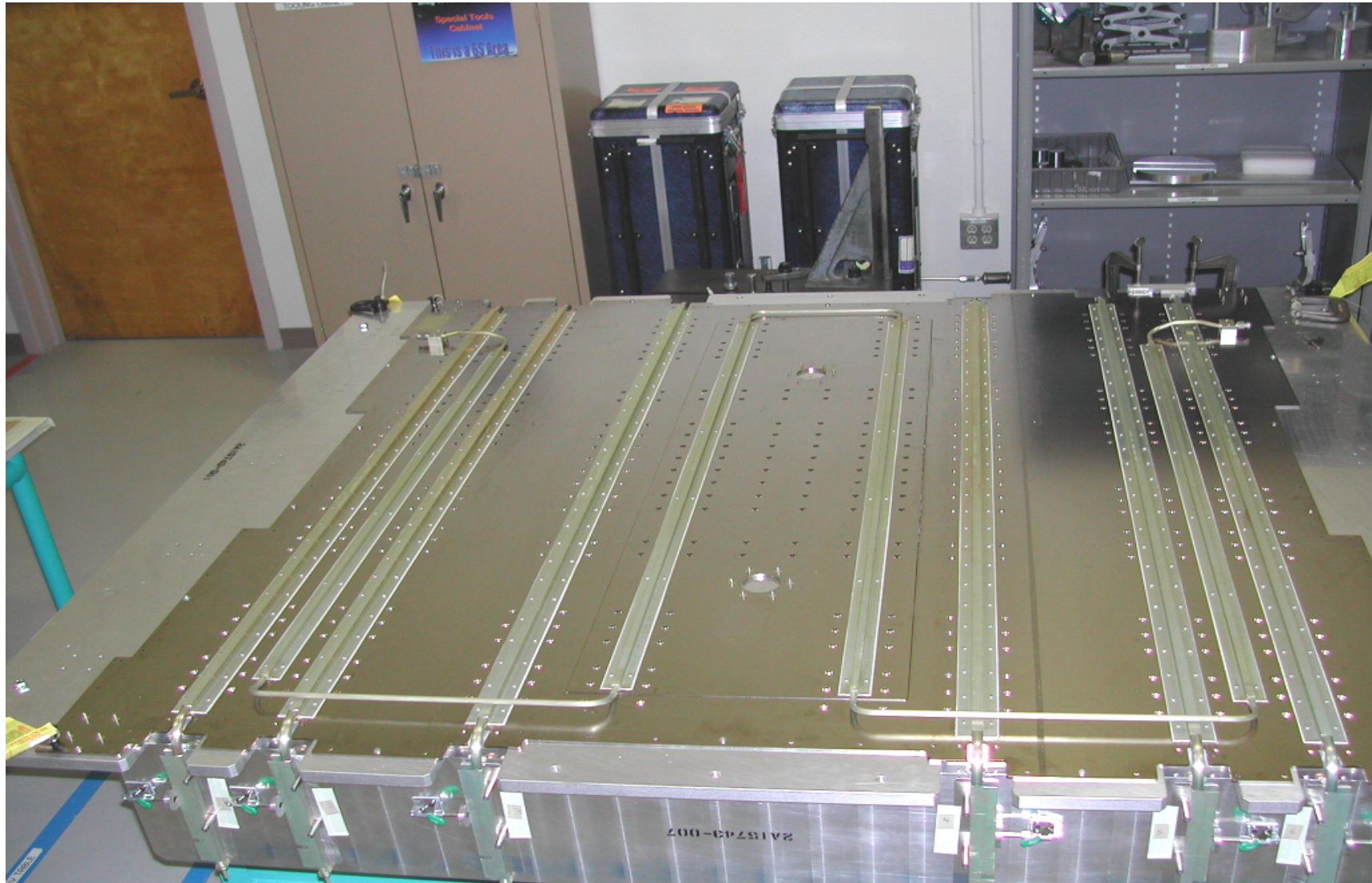


Flight Hardware DR Status

- X-LAT
 - Q-note on disbonds at ends of heat-pipe flanges... analysis completed showing no problem
 - Pending Q-note on edge corrosion on edges of 1/16th step (?)
- Radiators
 - Stripped rivnut Q-note disposition in progress; repair work accomplished; written Ok received from customer
- All old PIR's closed

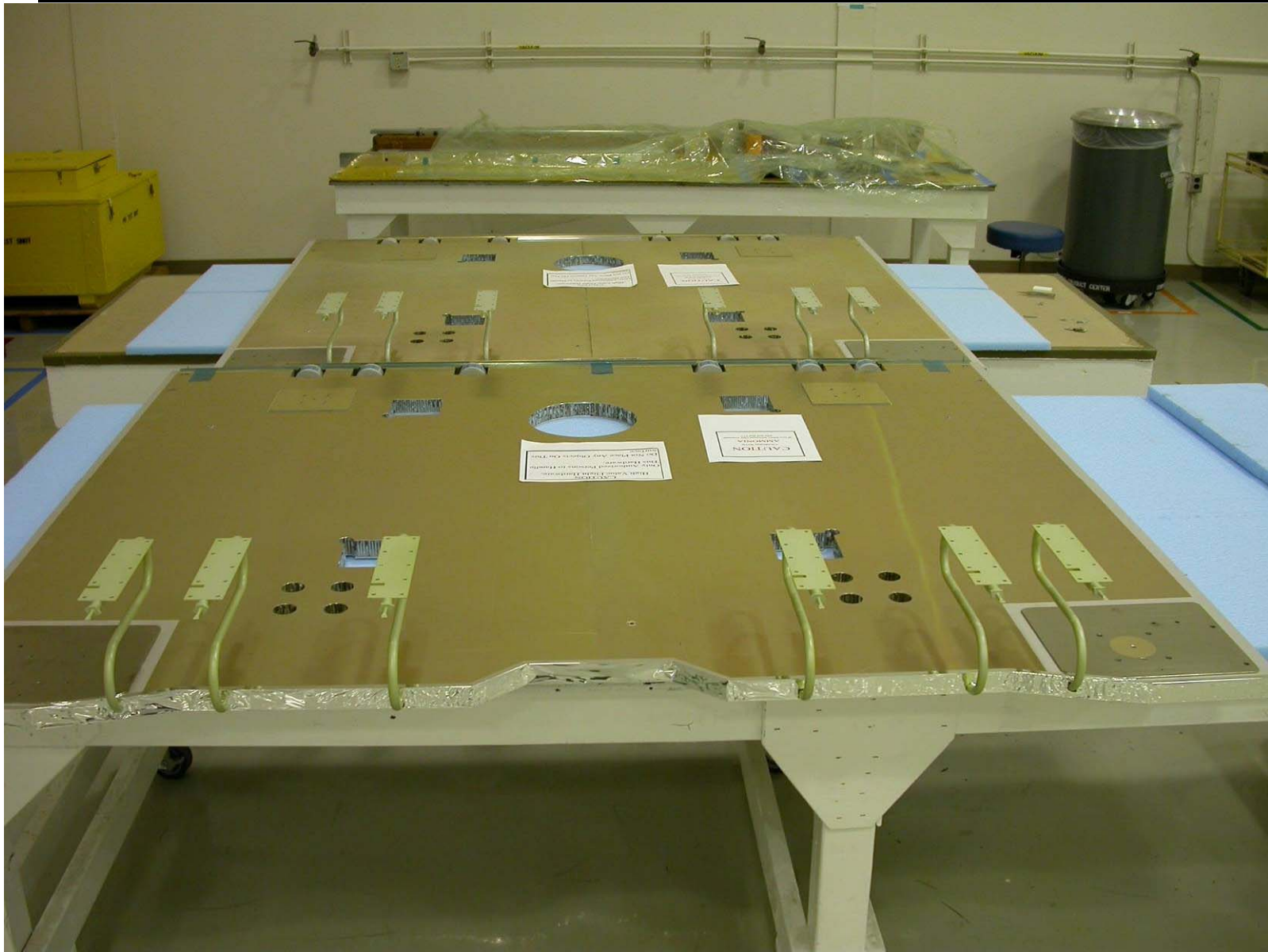


X-LAT

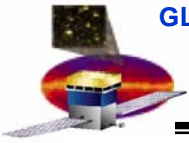




Radiator Panels

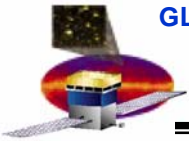


-Y panel in front



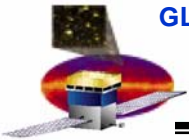
GSE being developed (New Contract Phase)

- Shaker interface plate for Sine Vibration Test
 - Design done, hardware in build
- Four point lift sling for radiators needed for vibe tests
- Two point lift sling for radiators for acoustic test
- Acoustic test Support Fixture
 - Design nearing completion
- Radiator TV fixtures/interface simulators
- Electrical GSE cabling (from radiators through feed-through ports to SLAC GSE)
- Lift sling/strong back for X-LAT
- X-LAT and radiator shipping containers

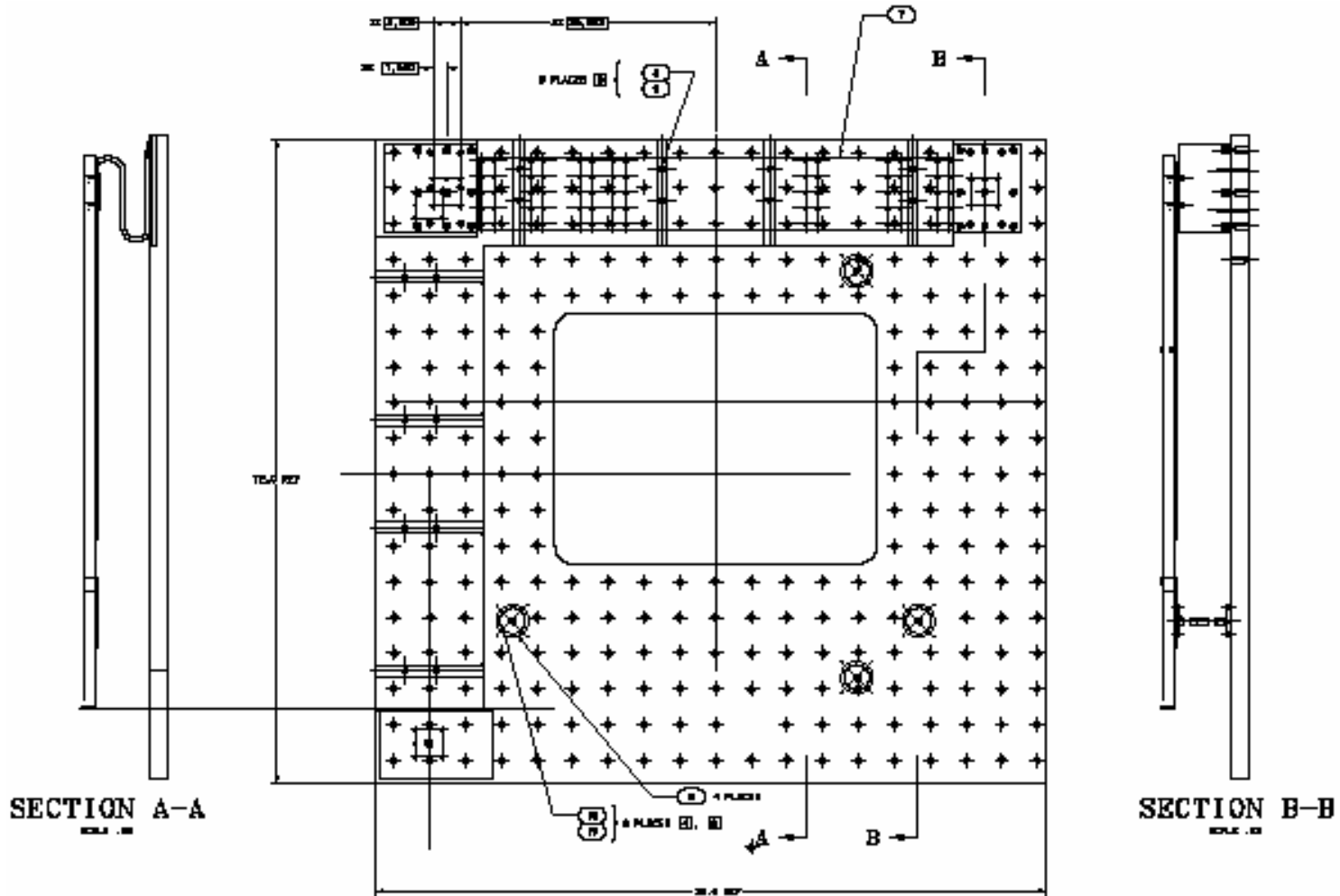


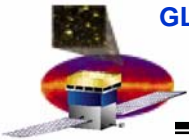
GLAST Vibration/Acoustic Test Planning

- Radiator Sine Vibration Test Duration
 - Have reviewed objectives and test content ...post acoustic sine vibration test removed
 - Vibration fixture I/F GSE design reduces setup time
 - » Simplifies in-plane vibration direction changes
 - » Design is complete
 - » In-house build started
- Vibration and Acoustic test facilities have been scheduled
 - Acoustic test fixture design is almost complete
 - Early test completion is still major goal but other program has slipped out of the way
- Planning sessions held every other week

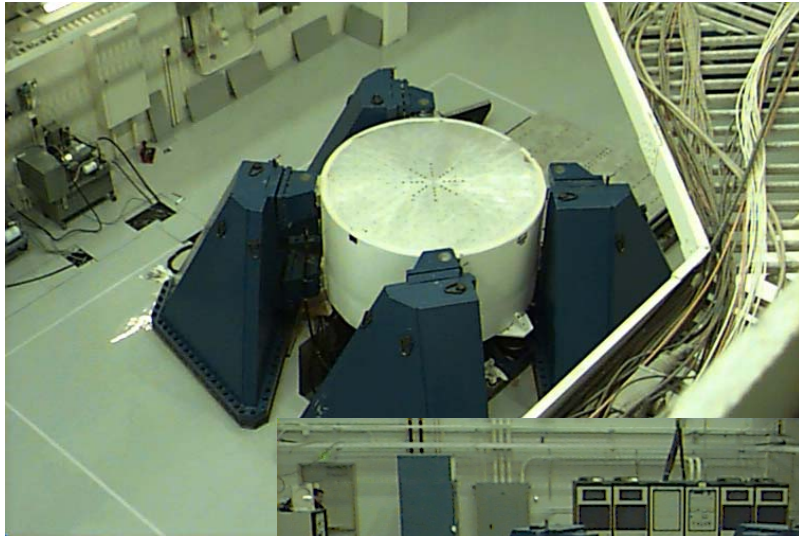


Sine Vibration Shaker I/F Plate

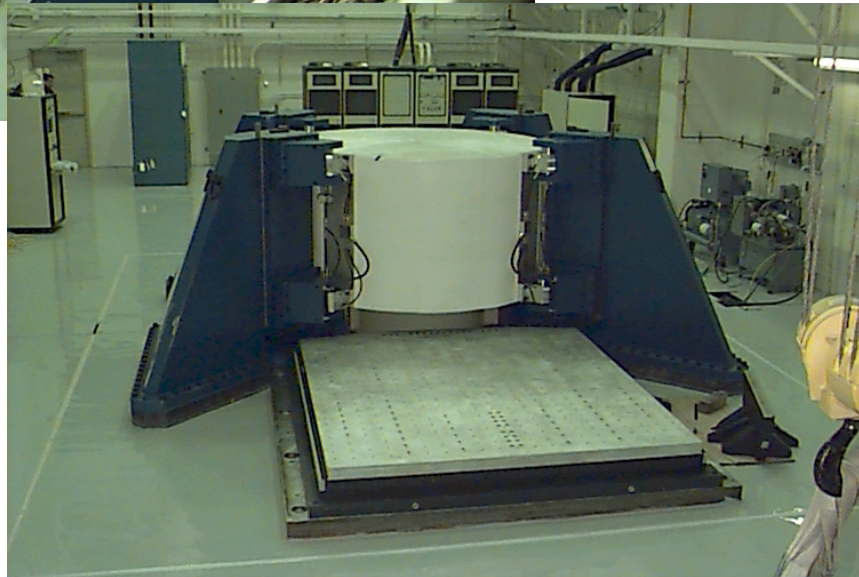




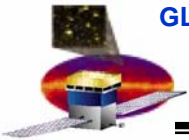
B/156 Shaker for Radiator Sine Vibration Testing



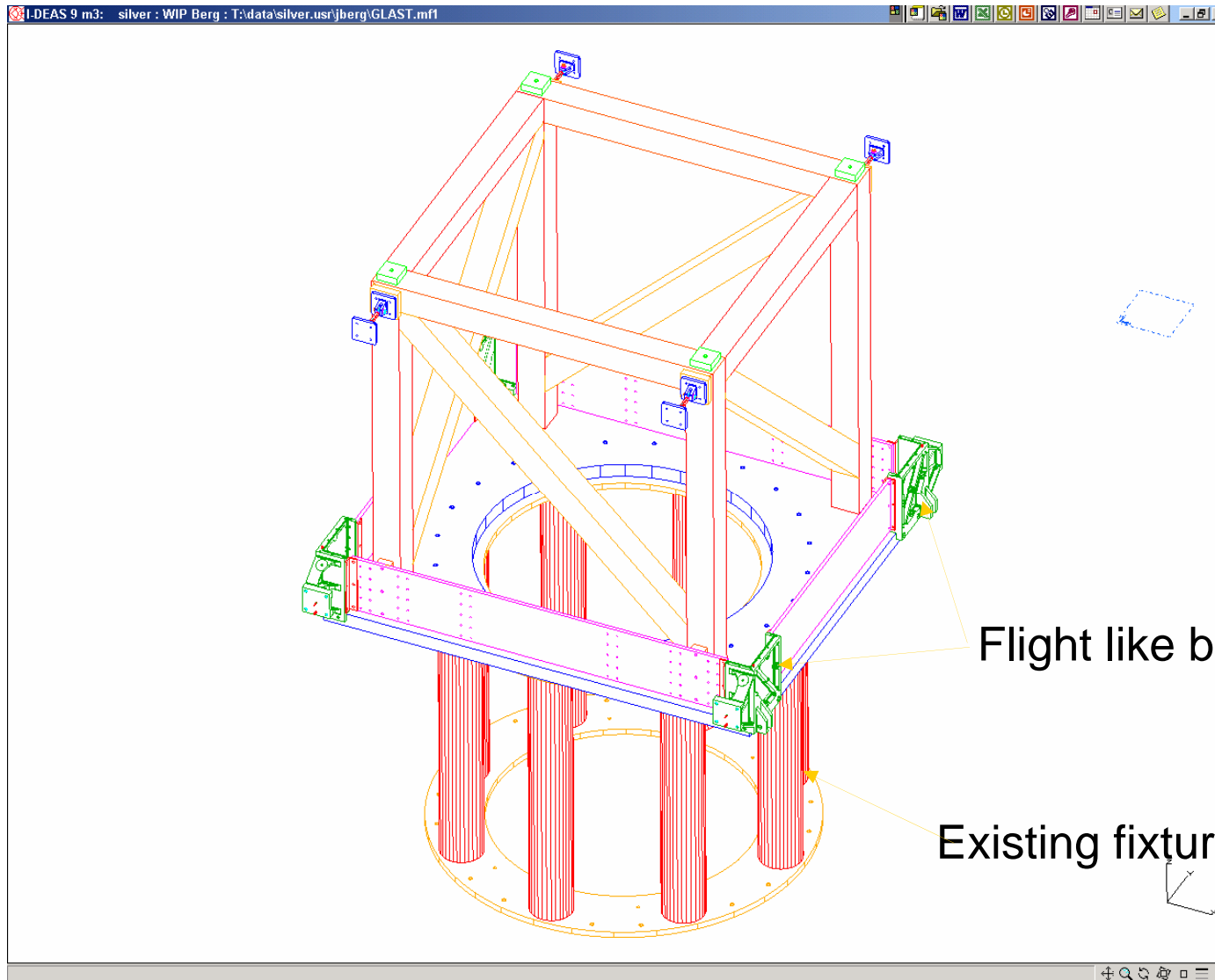
Single 45,000 lbf Ling Shaker
64 Channel Vibration Control
512 Channel data Acquisition

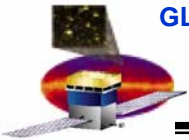


- Protoqual sine sweeps to be run on both radiator panels
- Low level runs used to establish and prove notching
- Low level run repeated after protoqual run

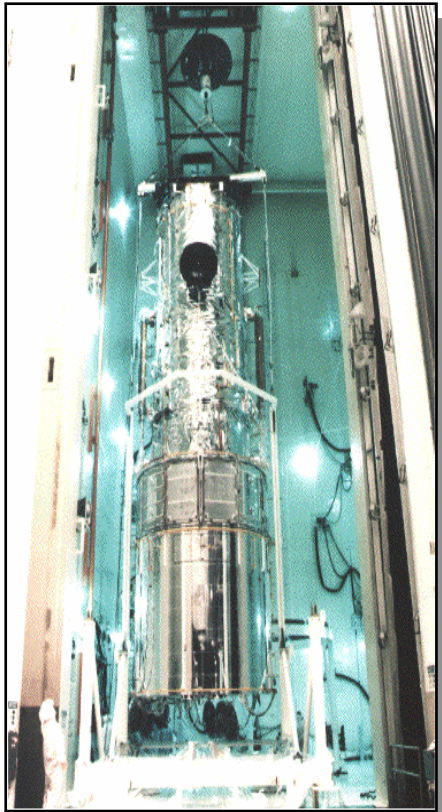


Acoustic Test Fixture





Acoustic Test Facility for Radiator Panels



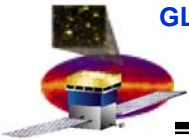
TYPE:
SIZE: W x L x H in feet
DOOR SIZE: W x H in feet
CRANE: Capacity in tons
CRANE HOOK HEIGHT: In feet
MAXIMUM SPECIMEN SIZE: D x H in feet
MAXIMUM SOUND PRESSURE LEVEL (SPL): In DB
ACOUSTIC NOISE SOURCE TRANSDUCERS:
• Wyle Lab., Model WAS-3000
• Ling Elect., Model EPT-200
TOTAL ACOUSTIC POWER: In watts
CELL LOW FREQUENCY CUT-OFF: In Hertz
HORN LOW FREQUENCY CUT-OFF: In Hertz
LOWEST 1/3 OCTAVE BAND WITH 20 MODES:
ACOUSTIC NOISE SOURCE GAS SUPPLY:
NOISE SPECTRUM GENERATION:
ENVIRONMENT CONTROLS:
• Temperature
• Humidity
• Cleanliness
DATA ACQUISITION SYSTEM CAPABILITY:(Mics & Accels)
• Continuous / Multiplexed

- Reverberant
- 44 x 50 x 86
- 26 x 84
- 20
- 72.5
- 22 x 70
- 156.5

- 1 to 5 max
- 10 to 12 max
- 250,000
- 50
- 20
- 31.5
- Gaseous Nitrogen
- Continuous

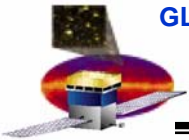
- 72 degrees +/-10
- 50 - 90 %
- 100,000 to 300,000

- Radiators exposed to -6 and -3db levels then 1 minute at full protoqual level
- Low level run is repeated after protoqual exposure



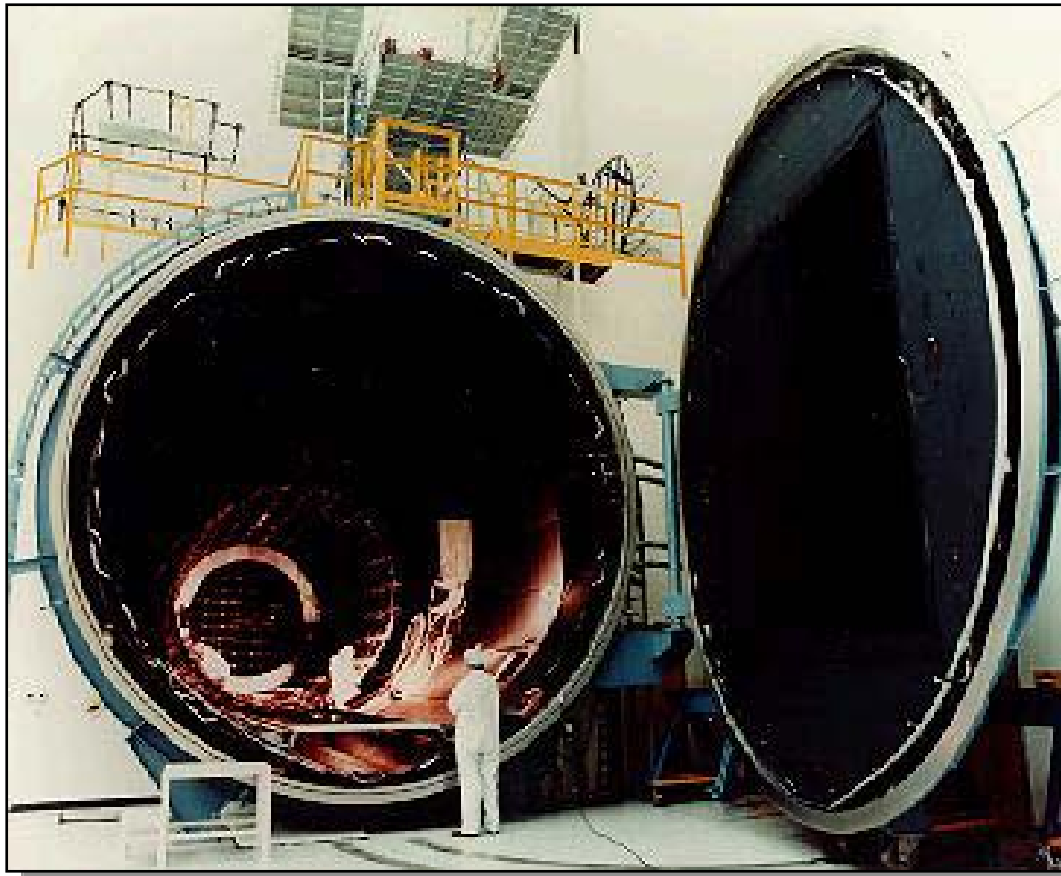
GLAST Radiator Panel TV Testing

- Test Planning being modified for SEP III Chamber
 - Chamber is scheduled for GLAST
 - Planning reviews every other week including SLAC and SEP III folks...facility tour held 4/19 for all participants
 - Test objectives same as planned for the SEARCH chamber
- GSE design support started
 - SLAC will provide rack for thermal control/power for flight heaters...has PDU emulator and flight thermal control software in flight processor emulator
 - Rack location selected
 - Meeting between SLAC/LM industrial safety held
 - LM will provide thermal simulators and support MGSE and EGSE cabling to SLAC rack and facility control I/F
 - Existing dolly to hold test article identified



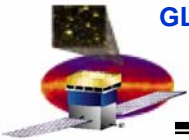
SEP III Chamber Scheduled for Radiator Panel Tests

SEP III in B/156E



Horizontal Thermal Vacuum Chamber

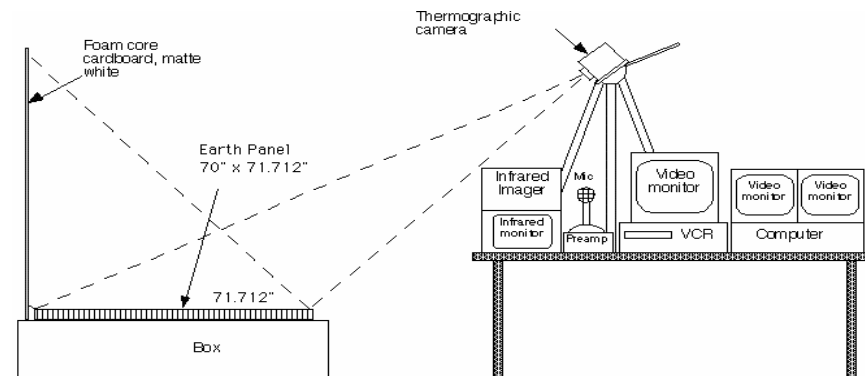
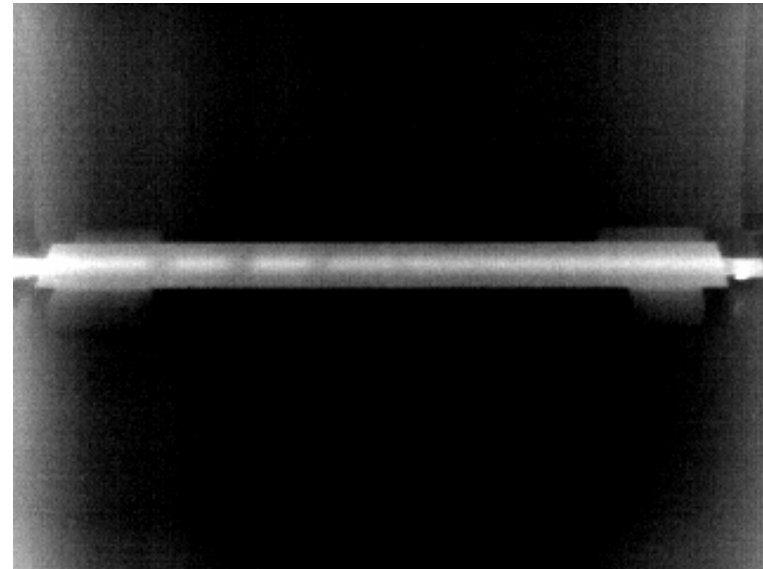
- **Internal Work Space:**
14'D x 53' total Length
with 18'D x 17'L at Door End
- Pressure: 760 to 1×10^{-7} Torr
- Liquid Nitrogen Cold Wall and IR Heating Systems
- Temperature Range: +150C to -165C.
- Lower and overhead support rail systems.
- Class 100K high bay and integration areas
- Computer controlled VARIC power supplies for Infrared heat flux system.
- Computer controlled temperature and analog data acquisition system.
- Real time temperature, voltage and power control systems
- Temperature, power and pressure safeguards.
- Contamination monitoring systems available.
- Emergency power on all critical systems.

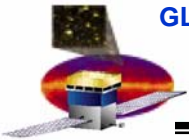


Potential Change in GLAST X-LAT Thermal Test

- X-Lat Test Planning

- Looking at reducing X-Lat testing to thermal cycling for workmanship only (heat pipe “heat transport” capability already proven at lower level)
- Looked at IR imaging in addition to visual inspection to prove bond integrity; “Mission Success” review (4/21) recommended using ultrasound and 12 temperature cycles (allows detection of “kissing bond” type failures)
- Will run sample ultrasound to establish test procedure
- Ok to proceed means much simpler test setup/GSE
- Still need to get customer buy-in





Chamber for X-Lat Temperature Cycling



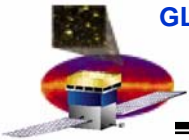
Thermal chamber is a sealed, insulated enclosure that utilizes circulated hot and cold gaseous nitrogen to thermally condition the test article.

Chamber has been scheduled starting May 2

- **16' deep x 9' wide x 8' high.**
- **Walk-in Chamber**
- **Programmable temperature control**
- **Temperature Range: -260°F to +350°F**
- **Temperature Rate: +/- 20°F per minute**

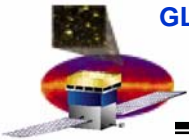
The qualification limits for the XLAT plate are -40 Deg C to + 40 Deg C. Maximum expected temperatures on the plate are 16 Deg C in the hot case and -6 Deg C in survival mode.

“Mission Success” dictated 12 cycles to ensure bonds are sufficiently stressed to uncover workmanship issues.



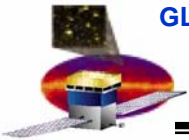
GLAST Risk Assessment Summary

Risk	Impact	Type of Risk (T/S/C)	Likelihood	Consequence	Mitigation Action	Status/ECD
Use of "Search" chamber for thermal testing	Console "red tag" status may not be resolved in time to support test. Chamber configuration not ideal for test requirements.	T,S & C	High	failure to meet delivery date	Have requested use of the SEP III chamber	SEP III chamber scheduled, planning and GSE approach being updated for test in SEP III
Failure to get agreement on reducing X-Lat testing to thermal cycling for workmanship	A full TV test with more extensive GSE would be needed if agreement is not reached	T,S&C	medium	will lengthen TV test and increase test complexity	get customer and mission success Ok to proceed	Test run on sample to verify thermal imaging approach for gap assessment, "mission success" review 4/21/05



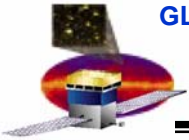
Summary Schedule

ID	Task Name	Duration	Start	Finish	Qtr 4, 2004			Qtr 1, 2005			Qtr 2, 2005			Qtr 3, 2005		
					Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	
1	X-LAT Plate Fab	132 days	Fri 10/1/04	Mon 4/4/05	[Gantt bar from Oct 2004 to Apr 2005]											
2	Receive X-LAT Plate from APEX	86 days	Fri 10/1/04	Fri 1/28/05	[Gantt bar from Oct 2004 to Jan 2005]											
3	Bond Heat pipes	32 days	Mon 1/31/05	Tue 3/15/05	[Gantt bar from Jan 2005 to Feb 2005]											
4	Bond cooling tube	3 days	Wed 3/16/05	Fri 3/18/05	[Gantt bar from Feb 2005 to Mar 2005]											
5	Inspect, Close-out Paper	11 days	Mon 3/21/05	Mon 4/4/05	[Gantt bar from Mar 2005 to Apr 2005]											
6	X-LAT Plate Complete	0 days	Mon 4/4/05	Mon 4/4/05	[Gantt bar at 4/4]											
7	X-LAT Thermal Cycling test (TBD)	47 days?	Tue 3/15/05	Wed 5/18/05	[Gantt bar from Mar 2005 to May 2005]											
8	Thermographic imaging proof test/review	7 days?	Wed 4/13/05	Thu 4/21/05	[Gantt bar from Apr 2005 to May 2005]											
9	Preparation (Procedure development/review)	32 days	Tue 3/15/05	Wed 4/27/05	[Gantt bar from Mar 2005 to Apr 2005]											
10	Test Readiness Review	0 days	Wed 4/27/05	Wed 4/27/05	[Gantt bar at 4/27]											
11	Testing	4 days	Mon 5/2/05	Thu 5/5/05	[Gantt bar from May 2005 to May 2005]											
12	X-LAT Test Report/paper closeout	10 days	Thu 5/5/05	Wed 5/18/05	[Gantt bar from May 2005 to May 2005]											
13	Strongback procurement (restart, none flight item)	24 days?	Thu 4/14/05	Tue 5/17/05	[Gantt bar from Apr 2005 to May 2005]											
14	X-LAT Lift sling for -Z lift	15 days	Mon 4/18/05	Fri 5/6/05	[Gantt bar from Apr 2005 to May 2005]											
15	design	5 days	Mon 4/18/05	Fri 4/22/05	[Gantt bar from Apr 2005 to May 2005]											
16	build	10 days	Mon 4/25/05	Fri 5/6/05	[Gantt bar from Apr 2005 to May 2005]											
17	Shipping container	23 days	Mon 4/25/05	Wed 5/25/05	[Gantt bar from Apr 2005 to May 2005]											
18	Design	5 days	Mon 4/25/05	Fri 4/29/05	[Gantt bar from Apr 2005 to May 2005]											
19	Build	18 days	Mon 5/2/05	Wed 5/25/05	[Gantt bar from May 2005 to May 2005]											
20	Product Cert Review	0 days	Mon 5/16/05	Mon 5/16/05	[Gantt bar at 5/16]											
21	Pre ship review	0 days	Wed 5/25/05	Wed 5/25/05	[Gantt bar at 5/25]											
22	Deliver X-LAT Plate Assy	0 days	Wed 5/25/05	Wed 5/25/05	[Gantt bar at 5/25]											
23	+Y Radiator	40 days	Thu 1/20/05	Wed 3/16/05	[Gantt bar from Jan 2005 to Mar 2005]											
24	Structure fab complete	40 days	Thu 1/20/05	Wed 3/16/05	[Gantt bar from Jan 2005 to Mar 2005]											
28	Build &n Install Instrumentation & Verify (Htrs, Th	16 days	Tue 4/19/05	Tue 5/10/05	[Gantt bar from Apr 2005 to May 2005]											
29	+Y radiator ready for vibe test	0 days	Tue 5/10/05	Tue 5/10/05	[Gantt bar at 5/10]											
30	-Y radiator	40 days	Wed 2/2/05	Tue 3/29/05	[Gantt bar from Feb 2005 to Mar 2005]											
31	Structure Fab Complete	40 days	Wed 2/2/05	Tue 3/29/05	[Gantt bar from Feb 2005 to Mar 2005]											
35	Build & Install Instrumentation & Verify	11 days	Tue 5/3/05	Tue 5/17/05	[Gantt bar from May 2005 to May 2005]											
36	-Y Radiator ready for vibe test	0 days	Tue 5/17/05	Tue 5/17/05	[Gantt bar at 5/17]											
37	Vibe/Acoustic test	54 days?	Wed 3/16/05	Mon 5/30/05	[Gantt bar from Mar 2005 to May 2005]											
38	Vibe Interface Plate GSE	34 days?	Wed 3/16/05	Mon 5/2/05	[Gantt bar from Mar 2005 to May 2005]											
39	Plate design	23 days?	Wed 3/16/05	Fri 4/15/05	[Gantt bar from Mar 2005 to Apr 2005]											
40	Material acquisition	6 days?	Mon 4/11/05	Mon 4/18/05	[Gantt bar from Apr 2005 to May 2005]											
41	Plate build	10 days	Tue 4/19/05	Mon 5/2/05	[Gantt bar from Apr 2005 to May 2005]											
42	Four point lift sling/frame	14 days?	Tue 4/19/05	Fri 5/6/05	[Gantt bar from Apr 2005 to May 2005]											
45	Acoustic test support fixture	32 days?	Fri 4/1/05	Mon 5/16/05	[Gantt bar from Apr 2005 to May 2005]											
46	test fixture design	12 days?	Fri 4/1/05	Mon 4/18/05	[Gantt bar from Apr 2005 to May 2005]											
47	fixture build	20 days?	Tue 4/19/05	Mon 5/16/05	[Gantt bar from Apr 2005 to May 2005]											
48	Vibe/Acoustic Test Plans/Preps	20 days	Wed 3/30/05	Tue 4/26/05	[Gantt bar from Mar 2005 to Apr 2005]											



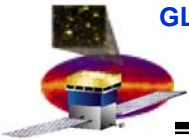
Summary Schedule (Cont)

ID	Task Name	Duration	Start	Finish	Qtr 2, 2005			Qtr 3, 2005			Qtr 4, 2005			Qtr 1, 2006	
					Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
49	Test Readiness Review	0 days	Mon 5/9/05	Mon 5/9/05		■ 5/9									
50	Sine Vibration Testing	7 days?	Wed 5/11/05	Thu 5/19/05		■	■								
51	Acoustic cell shaping	2 days?	Fri 5/20/05	Mon 5/23/05		■	■								
52	Acoustic Test	5 days	Tue 5/24/05	Mon 5/30/05		■	■								
53	Thermal blanket procurement	28 days?	Mon 4/25/05	Wed 6/1/05	■	■	■								
54	Install MLI/FOSR +/- Y radiators	5 days	Tue 5/31/05	Mon 6/6/05		■	■								
55	Radiator Thermal Vac/Thermal Balance test	55 days?	Fri 4/1/05	Thu 6/16/05	■	■	■	■							
56	Test Planning	55 days?	Fri 4/1/05	Thu 6/16/05	■	■	■	■							
57	Radiator/SLAC GSE I/F Cabling	39 days?	Mon 4/11/05	Thu 6/2/05	■	■	■	■							
58	Cabling Design	18 days?	Mon 4/11/05	Wed 5/4/05	■	■	■								
59	Cabling build	21 days?	Thu 5/5/05	Thu 6/2/05	■	■	■	■							
60	SLAC EGSE I/C	5 days?	Fri 6/3/05	Thu 6/9/05			■	■							
61	Thermal Simulators/Mechanical GSE	34 days?	Fri 4/1/05	Wed 5/18/05	■	■	■	■							
62	Radiator T-Vac Preps at SEP III	22 days	Thu 5/19/05	Fri 6/17/05			■	■							
63	Install radiators & verify instrumentation hookup	5 days?	Mon 6/20/05	Fri 6/24/05			■	■							
64	Test Readiness Review	0 days	Fri 6/24/05	Fri 6/24/05				■ 6/24							
65	Radiator T-VAC Testing	10 days	Mon 6/27/05	Fri 7/8/05			■	■							
66	T-VAC Write-up/paper closeout	10 days	Mon 7/11/05	Fri 7/22/05			■	■							
67	Radiator Two point lift sling	36 days	Fri 4/1/05	Fri 5/20/05	■	■	■	■							
70	Radiator shipping containers	60 days	Wed 4/27/05	Tue 7/19/05	■	■	■	■							
73	Product Cert Review	0 days	Mon 7/18/05	Mon 7/18/05				■ 7/18							
74	Pre ship review	0 days	Fri 7/22/05	Fri 7/22/05				■ 7/22							
75	Deliver Radiators	0 days	Fri 7/22/05	Fri 7/22/05				■ 7/22							
76	Replacement Heatpipes	39 days?	Fri 4/1/05	Wed 5/25/05	■	■	■								

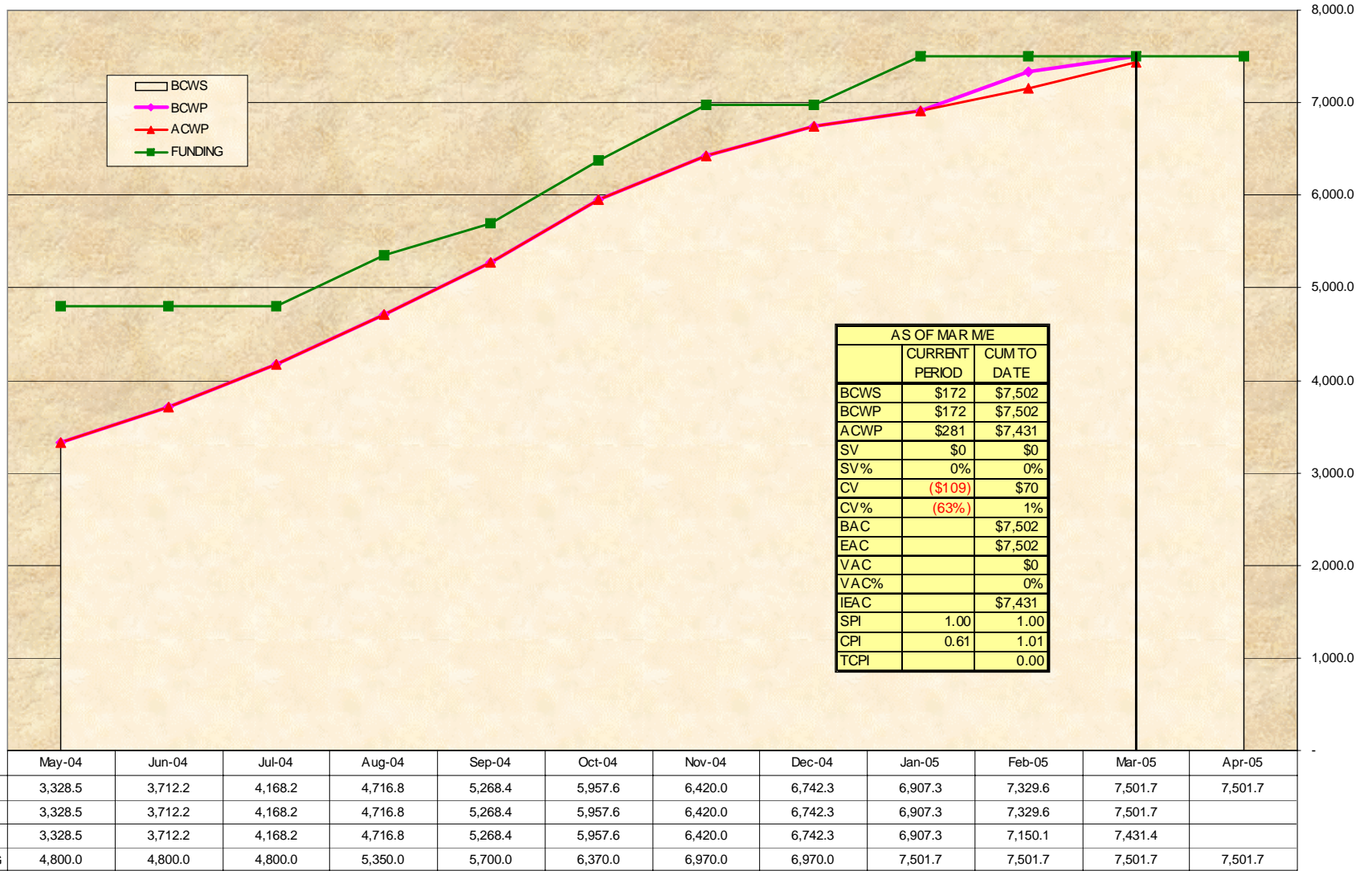


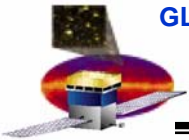
Plan Forward-Financials

- SLAC requested updated EAC 28 Jan 2005
- New EAC submitted Feb 15 2005
 - Increased to \$9.3M
 - Incorporated vibration/acoustic/thermal vacuum testing
 - Recognized schedule slip of ~2 months
- Stayed under \$7.5M through March for manufacturing as planned
- New LOE contract as of April 1 in place to complete GSE build and instrumentation/environmental testing



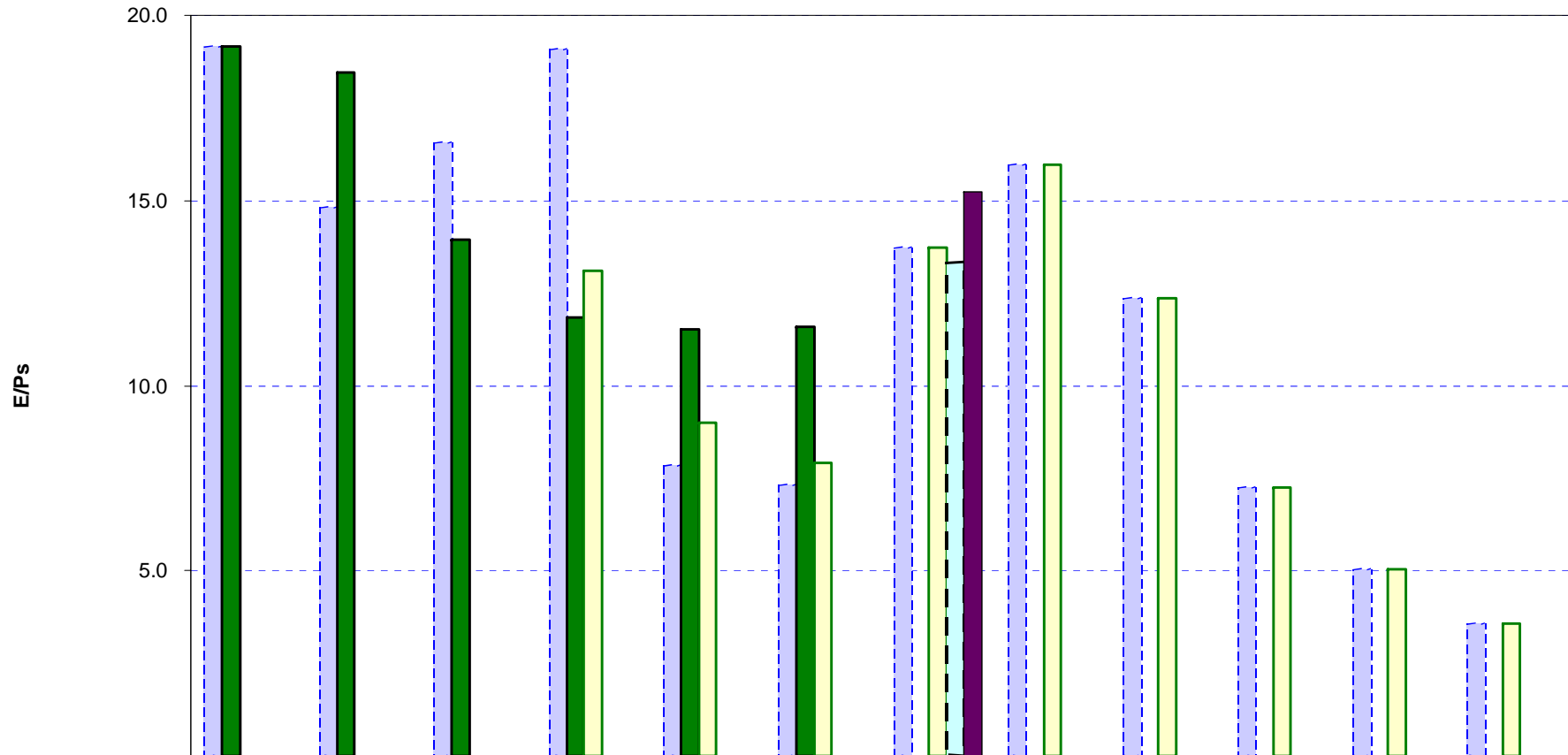
GLAST Program Financials through March



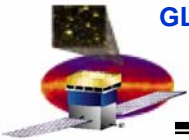


GLAST EP

GLAST EP

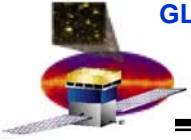


	Oct-04	Nov-04	Dec-04	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jul-05	Aug-05	Sep-05
LM Budget EP	19.2	14.8	16.6	19.1	7.8	7.3	13.7	16.0	12.4	7.3	5.1	3.6
LM Actual EP	19.2	18.5	14.0	11.8	11.5	11.6						
LM ETC				13.1	9.0	7.9	13.7	16.0	12.4	7.3	5.1	3.6
LM MTD							13.3					
LM Current Week							15.2					

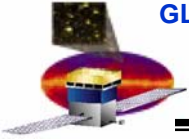


Summary

- Flight hardware complete except for instrumentation
 - Build paper package almost complete
 - Requirement compliance matrices need to be filled in prior to hardware delivery to SLAC after test completion
- Have scheduled the SEP III vacuum test facility as well as shaker, acoustic cell, and temperature cycling chamber
- All GSE now needs to be designed and built almost in parallel. Additional design support obtained
 - Greg Cuzner for shaker I/F plate
 - Don Isaac for four point lift sling
 - Design support from Hayman Tam's Sunnyvale MGSE group (Jon Berg) for acoustic and TV GSE
 - TV EGSE cable design support from George Dankiewicz's Sunnyvale EGSE folks

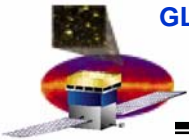


SLAC Status



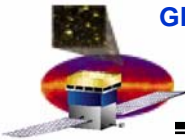
Accomplishments

- **Accomplishments during April.**
 - **4x4 Grid and Grid Box Base Assy as-built drawings released**
 - **Radiator IDD released**
 - **Grid Static Load Test RFQ issued**



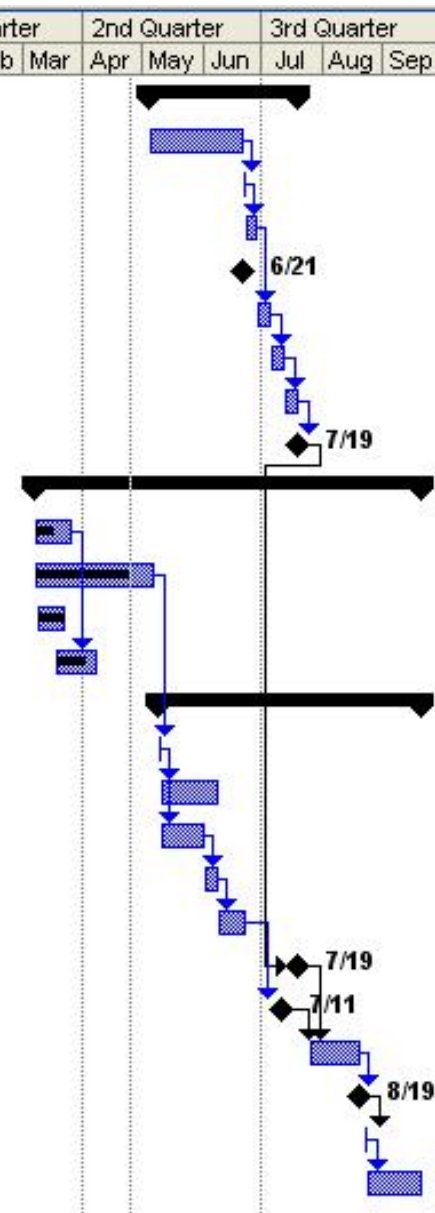
Grid Qual Static Load Test

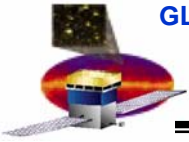
- **Hardware**
 - Grid 2 to start final machining May 4
 - Tapemation delayed start of work by 5.5 months
 - Considering deleting features from Grid 2 to reduce machining time 2 to 3 weeks (out of 6). Grid 2 would no longer be a flight spare.
 - Deliver to SLAC ECD 6/21/05
- **Test**
 - Potential vendors are Loral, NTS (Los Angeles) and Applied Aerospace (AASC)
 - Test flexures are ITAR controlled
 - Back-up plan is to perform test in B26
 - Test RFQ has been issued, response due May 6.



Grid Qual Static Load Test Schedule

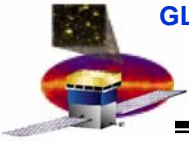
Task Name	Duration	Start	Finish	Pred	1st Quarter			2nd Quarter			3rd Quarter			
					Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Hardware (SLAC)	53 days	Wed 5/4/05	Tue 7/19/05											
Final Machine Flight Grid (4X4 Grid) #2	33 days	Wed 5/4/05	Mon 6/20/05											
Ship to SLAC	1 day	Tue 6/21/05	Tue 6/21/05	2										
Inspect, prep Flight Grid, EMI skirt, detail:	4 days	Wed 6/22/05	Mon 6/27/05	3										
Grid Box Assembly MRR #2	0 days	Tue 6/21/05	Tue 6/21/05											
Grid #2 Assembly Operations	5 days	Tue 6/28/05	Tue 7/5/05	4										
Grid Box Base Assy #2 Operations	5 days	Wed 7/6/05	Tue 7/12/05	6										
Grid Box assembly #2 operations TBD	5 days	Wed 7/13/05	Tue 7/19/05	7										
Grid Box Assembly #2 Complete	0 days	Tue 7/19/05	Tue 7/19/05	8										
Engineering/Procurement (SLAC)	140 days	Mon 3/7/05	Tue 9/20/05											
Write static load plans	15 days	Mon 3/7/05	Fri 3/25/05											
SOW / RFQ / PO	45 days	Mon 3/7/05	Fri 5/6/05											
Complete load case analysis	10 days	Tue 3/8/05	Mon 3/21/05											
Detail MGSE designs	15 days	Thu 3/17/05	Wed 4/6/05	11F										
Test (Supplier)	95 days	Mon 5/9/05	Tue 9/20/05											
Contract Award	1 day	Mon 5/9/05	Mon 5/9/05	12										
Fixture design & Fab (TBR)	20 days	Tue 5/10/05	Tue 6/7/05	16										
Procedure draft	15 days	Tue 5/10/05	Tue 5/31/05	16										
SLAC review/approval	5 days	Wed 6/1/05	Tue 6/7/05	18										
Procedure released	10 days	Wed 6/8/05	Tue 6/21/05	19										
Receive test article from SLAC	0 days	Tue 7/19/05	Tue 7/19/05	9										
SLT test readiness review	0 days	Mon 7/11/05	Mon 7/11/05	20F										
SLT Operations (prep & test)	20 days	Mon 7/25/05	Fri 8/19/05	21F										
Static Load Test Complete	0 days	Fri 8/19/05	Fri 8/19/05	23										
SLAC OK to tear down	2 days	Mon 8/22/05	Tue 8/23/05	24										
Write SLT test report	20 days	Wed 8/24/05	Tue 9/20/05	25										





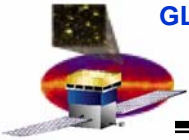
Drawing Release Plan

- **63 of 79 (80%) drawings released**
 - **12 MLI drawings have been added to MECH drawing list**
 - **4 unreleased parts not needed until I&T operations**
- **Known drawing revisions**



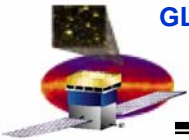
Concerns

- **Lockheed Martin - X-LAT plate & Radiator delivery schedule**
 - **See LM presentation**
- **Completion of Grid Thermal Control System hardware installation delay until June 05.**
 - **Will try to perform on a non-interference basis, but may impact LAT schedule.**



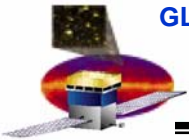
Open Flight Design Issues

- **TCS validation vs. LM modified Radiator Thermal Vacuum & Balance plans**
 - **TCS test requirements being developed with Tom McCarthy**
 - **~3 additional TCS cases proposed**
 - **Cost & schedule impacts will be evaluated**
 - **TCS risk assessment and Qual test plan requested by GSFC**
 - **Bi-weekly Test planning meetings started**
 - **Test timeline will shorten**



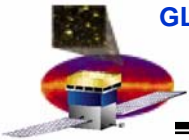
Open Flight Design Issues (cont)

- Radiator integration sequence
 - Coupon testing of repeated make & break of joint in process
 - Disassembly facilitated by use of mold release agent
- Radiator MLI blanket and wiring violates stay clear (CLOSED)
 - S/C to LAT MLI design options worked with Spectrum Astro
 - New envelope agreed upon by SLAC, SA & LM
- Radiator vibration requirements
 - Current plan is pre & post low level sine sweep, sine vibe and Acoustic testing
 - Working with GSFC & LM to finalize requirements
 - Resolution of how we will qualify the Radiator – Radiator Mount Bracket interface in Y axis (normal to panel)
 - Y axis sine vibe vs Acoustic



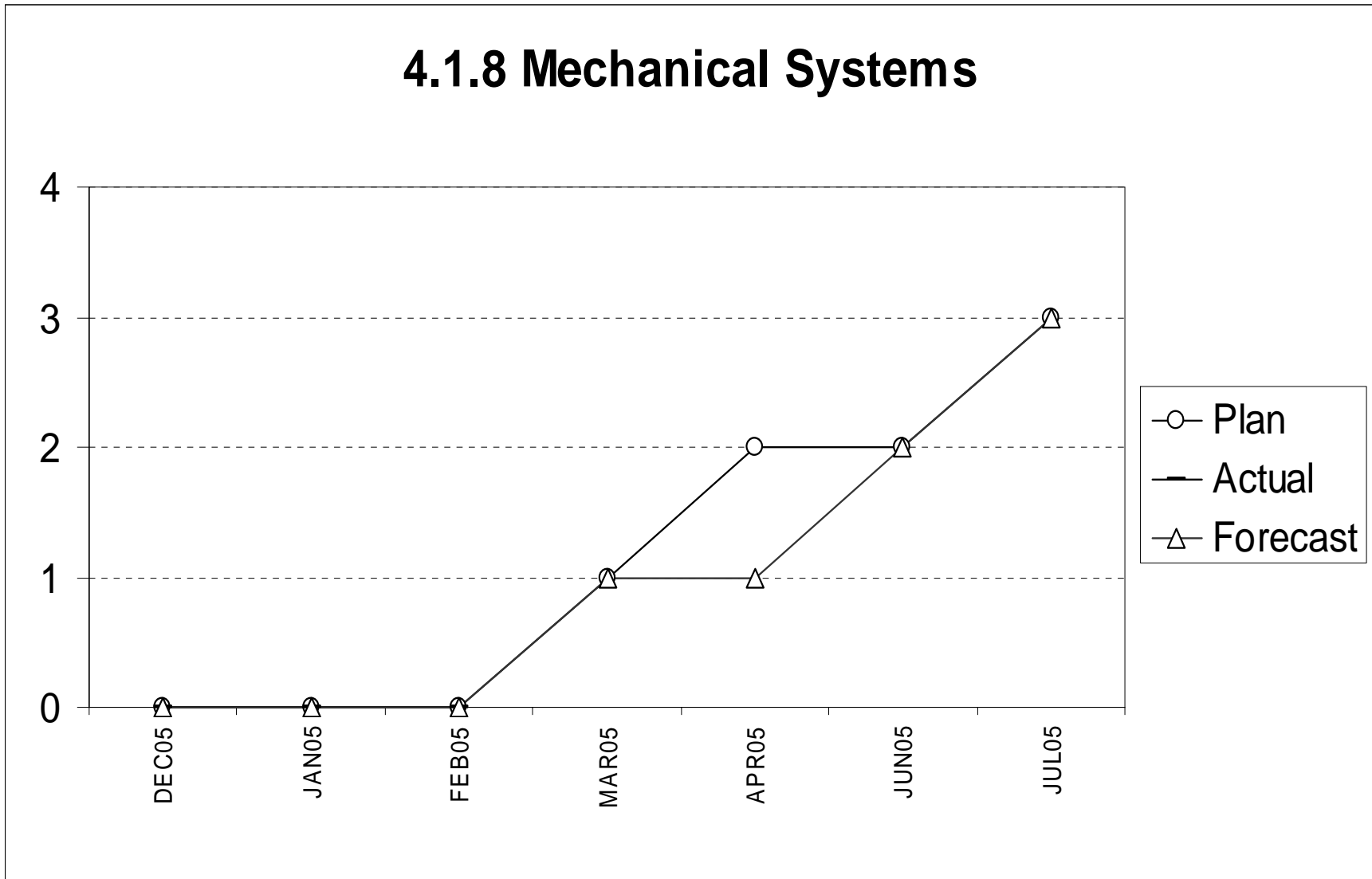
MECH Qualification Program

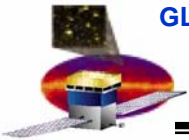
Grid-Top Flange Heat Pipe bond process qual	Complete. Report in release	Mar 05
Grid Box Assy Static Load test	Planning in work. Perform on Grid #2	Jul 05
X-LAT Plate Thermal Vac test	at LMMS	May 05
Radiator Variable Conductance Heat Pipe new extrusion	Passed burst test, heat capacity test after charging	Comp
Radiator Acoustic	at LMMS	June
Radiator Thermal Vacuum	at LMMS	July 05
TCS-Radiator Thermal Balance	Scope is changing. Need to define requirements	July 05



Level 3 Milestone Count

4.1.8 Mechanical Systems

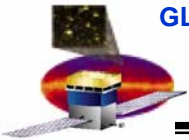




Milestone Variance Explanation

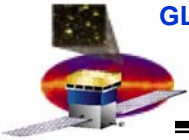
X-LAT Delivery to I&T (-29 days)

- **Schedule Impact to LAT**
 - **None**
- **Cost Impact**
 - **None**
- **Corrective Action**
 - **None**



Cost Report

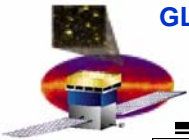
Reporting Category	Cost Incurred				Estimated Cost			Estimated Final Cost		Unfilled Orders Outstanding
	During Month		Cum. to Date		Detail		Balance of Contract	Contractor Estimate	Contract Value	
	Actual	Planned	Actual	Planned	APR05	MAY05				
4.1.8 MECHANICAL SYSTEMS										
4.1.8.1 MANAGEMENT	-866	46	2,616	3,437	42	42	1,002	3,701	3,701	344
4.1.8.2 RELIABILITY & QUALITY ASSURANCE	-14	3	360	216	2	2	-134	231	231	
4.1.8.3 MECHANICAL SYSTEM DEVELOPMENT			1,088	1,088			0	1,088	1,088	
4.1.8.4 THERMAL SYSTEMS DEVELOPMENT (LM)	-84	1	1,043	1,035	1	1	-6	1,039	1,039	
4.1.8.5 THERMAL CONTROL SYSTEM (SLAC)	49	63	489	639	84	74	282	929	929	94
4.1.8.6 RADIATORS, HEAT PIPES, THERM TEST, X-LAT (L	288	67	6,810	6,946	61	61	387	7,319	7,319	
4.1.8.7 GRID			656	640			-16	640	640	0
4.1.8.8 FABRICATION, ASSEMBLY, AND TEST	3	13	508	506	333	46	60	947	947	120
4.1.8.9 LAT I&T SUPPORT		18		19	17	17	71	104	104	
CAPW[3]Totals:	-624	211	13,570	14,525	540	243	1,645	15,998	15,998	558



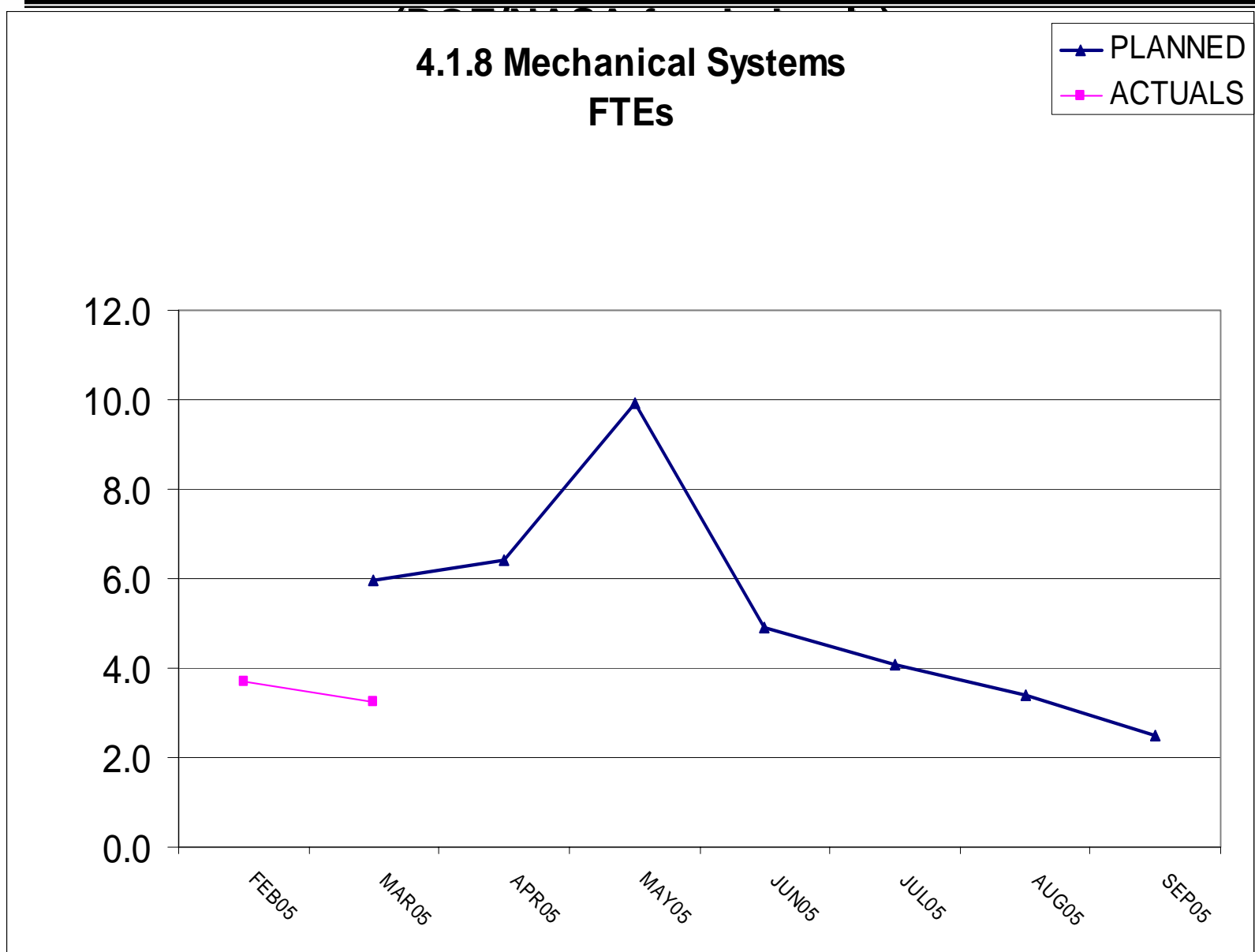
Cost Variance Explanation

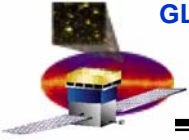
Current LM cost variances due to accounting error in reversing accruals.

- **End of March was the end of the Phase II contract**
- **LM completed planned tasks and spent the \$7.5M allocated in Phase II**
- **No cost or schedule variances for March.**



FTE Report





FTE Variance Explanation

NONE