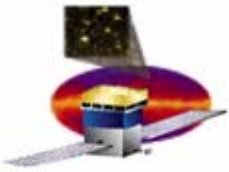


Monthly Mission Review

LAT Shipping and Environmental Test Planning

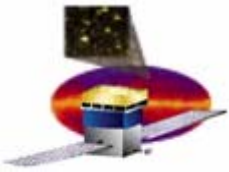
Jan 26, 2006

**Bill Raynor
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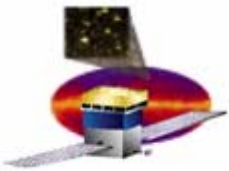
NEW Baseline LAT Shipping Agreements

- ❑ **GLAST Project Office and GSFC Transportation Office will take responsibility for the shipping of LAT to NRL and to Spectrum Astro**
 - GPO will take lead responsibility in developing logistics, requirements, documentation, and schedule.
 - Ownership of LAT will temporarily transfer to GSFC during the shipping.
 - Final transfer of LAT to GSFC responsibility will occur at Spectrum Astro after completion of LAT post-ship testing by LAT team
- ❑ **Baseline shipping method is via Air-Ride Environmentally Controlled Enclosed Truck arranged by GSFC Transportation Office.**
 - GSFC will transport LAT in its shipping container and all required MGSE / EGSE.
 - SLAC & NRL will provide Fork Lifts for loading/off-loading trucks at SLAC/NRL. GPO and SASS will duke it out on who provides the Fork Lift at SASS.
 - Demo test ride of Transport Container w/mass simulator is planned w/GSFC Transportation office early in February.
- ❑ **Backup shipping method is via C5A arranged by GSFC Transportation.**
 - Currently holding March 10 - 11, 2006 for pickup of LAT at Moffet Field and delivery to Andrews AFB in DC



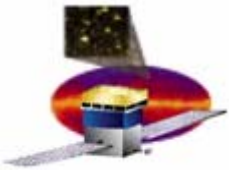
LAT Transport Container

- ❑ **Handling loads per LAT-PS-06349, LAT instrument allowable limits**
 - +/-3.0 g vertical, +/- 1.25g horizontal
 - Container design isolates LAT instrument from loads derived from C5 aircraft and air-ride truck load cases.
- ❑ **Characteristics**
 - Cover has air-tight seal w/2 way overpressure valve – incorporates charcoal and HEPA filters
 - Desiccant container – provides minimum 4 weeks (worst case) of useable life
 - Active purge capability – but purge support is external to container.
 - Environmental monitoring – 3 axis shock, temperature, humidity
- ❑ **Issues & needed agreements among LAT, GPO and GSFC Trans**
 - Active purge will be used on the truck ride. Who will provide?
 - Environmental monitoring – use LAT equipment or GSFC equipment?



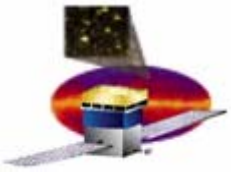
Environmental Test: Plan-Level Documents and Status

Document	Title	Status	ECD
LAT-MD-02717-01	LAT Environmental Test Sequence		Released
LAT-MD-01196-03	LAT Dynamics Test Plan		Released
LAT-MD-00276-02	LAT EMI/EMC Test Plan		Released
LAT-MD-01600-03	LAT Thermal-Vacuum Test Plan		Released
LAT-SS-06640-01	LAT Environmental Test MGSE/STE Requirements		Released
LAT-PS-06898-01	LAT Environmental Test Implementation Plan	Final draft in work. Need to incorporate recent QA, Safety and Contamination inputs	Draft
LAT-MD-06560-01	Plan for Integrating and Testing the LAT on the Observatory	Content being transferred to SpecAstro ICD ICN-099	Released
LAT-MD-07727-01	LAT Environmental Test Pathfinding	In release, 1/18/06	Draft



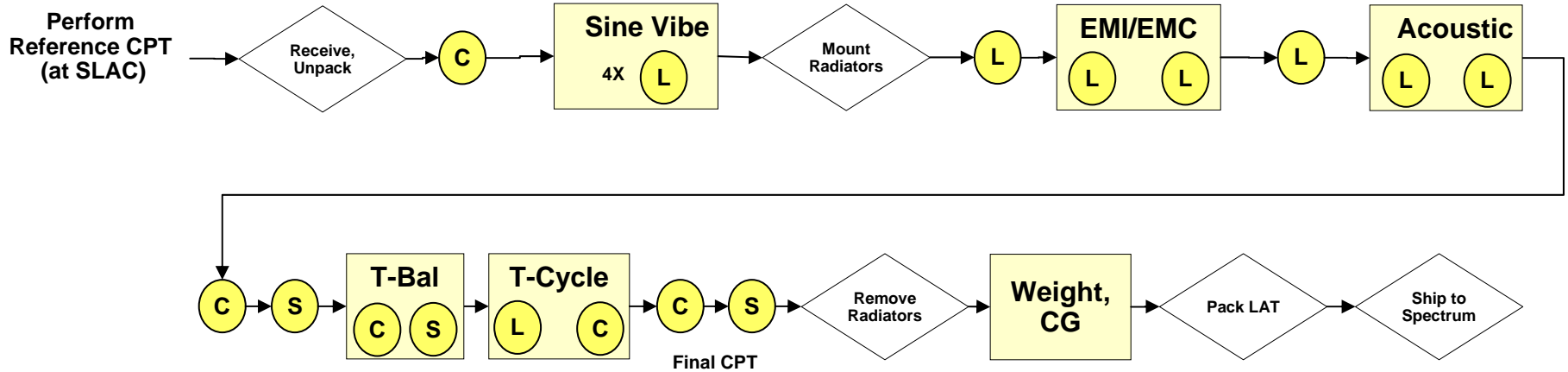
Environmental Test: Configuration Drawings and Status

Drawing	Title	Status	ECD
LAT-DS-06188	Acoustic Test Configuration Assembly	Released	
LAT-DS-06185	Thermal-Vacuum Test Configuration Assembly	3 rd draft out for review	Mid Feb
LAT-DS-06187	Horizontal Vibration Test Configuration Assembly	Released	
LAT-DS-06190	Vertical Vibration Test Configuration Assembly	Released	
LAT-DS-06186	Handling Configuration Assembly	Released	
LAT-DS-06184	Transport Configuration Assembly	Draft	Mid Feb
LAT-DS-06189	EMI/EMC Test Configuration Assembly	Released	
LAT-DS-06191	Mass Properties Configuration Assembly	Draft in development	Mid Mar

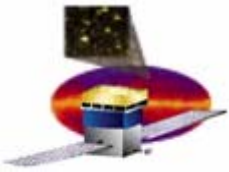


Environmental Test Sequence

LAT-MD-02717-01, "LAT Environmental Test Sequence" Release 9 May 2005

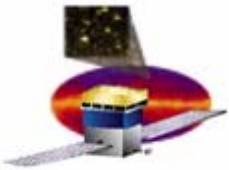


- L** Limited Performance
- C** Comprehensive Performance
- S** SVAC Test



Environmental Test MGSE/STE

- ❑ **Transport Container**
 - Manufacture complete
 - Analyses complete, report in progress – ECD 1/30/06
 - Proof test – ECD: 2/7
 - Assembly in progress – ECD: 2/03
 - Demo Road Test, GSFC Transportation – ECD: 2/10
- ❑ **Test Interface Plate**
 - Complete
- ❑ **Test Stand/Spreader Bars**
 - Complete and on site at NRL, 1/20
 - Thermal hardware integration in progress
- ❑ **TVAC Sink Plates – ACD & S/C Simulator**
 - Heaters on order, plates & frames in manufacture – ECD 3/3
- ❑ **TVAC Cal-Rod Cage**
 - Watt-Rods received, cage in manufacture – ECD 1/31
 - Assembly and wiring – ECD 2/7
- ❑ **Acoustic Simulator**
 - Contract placed, in manufacture - ECD: 3/10
- ❑ **Mass Properties Plate**
 - Design in progress



❑ Thermal Vacuum Test

- Cables, Connectors & Port Plates – complete, delivered – port plate assembly and leak testing in progress – ECD: 2/2
- Chamber mods mechanical analyses complete – report in progress – ECD: 1/30
- Trolley – manufacture complete, in assembly – ECD: 2/10
- Decks – manufacture complete, in assembly – ECD: 2/17
- Chamber rail supports – in fabrication – ECD: 2/10
- Chamber rails – in manufacture – ECD: 1/31
- Chamber modifications / installation – in progress – ECD: 2/17
- Proof Load – ECD: 2/20
- Available for Pathfinding - 2/21
- Chamber refurbishment, cleaning and recommissioning – ECD: 3/17
- LAT TCS Checkout – ECD: 3/23

❑ Acoustic Test

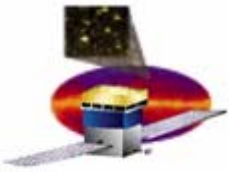
- Ramp manufacture – in progress: ECD: 1/27

❑ Vibration Test

- Expander head load frame procurement – delivered
- Available for Pathfinding - 2/6
- Load frame adapters in manufacture – ECD: 2/10
- Installation and proof test – ECD: 2/20

❑ EMI/EMC Test

- Ramp manufacture – in progress : ECD 2/3



Pathfinding LAT-MD-07727-01

- ❑ **Approximately 2 - 3 week activity beginning week of 6 Feb**
- ❑ **Objectives**
 - Familiarize I&T personnel with facilities and critical procedures in handling LAT in the environmental test program at NRL
 - Demonstrate all critical moves and lifts with volumetric or mass models as appropriate to address handling, access and clearance issues
 - Dry run / walk thru planned handling procedures and redline for issues and improvements.
- ❑ **Key MGSE/STE**
 - Test stand and associated cables, spreader bars – on site
 - Volumetric simulators, LAT and GPR – in fab at NRL
 - 1x Mass Simulator – in transit to NRL
- ❑ **EMI/EMC, Vibe, and Acoustic pathfinding w/volumetric simulator for travel paths, lift and handling clearances**
- ❑ **TVAC pathfinding with mass and volumetric simulator for lifts, moves and installation in the chamber**
 - Dry run test stand rotation.