Monthly Mission Review

LAT Environmental Test Planning

December 1, 2005

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## Environmental Test: Plan-Level Documents and Status

<table>
<thead>
<tr>
<th>Document</th>
<th>Title</th>
<th>Status</th>
<th>ECD</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAT-MD-02717-01</td>
<td>LAT Environmental Test Sequence</td>
<td></td>
<td>Released</td>
</tr>
<tr>
<td>LAT-MD-01196-03</td>
<td>LAT Dynamics Test Plan</td>
<td></td>
<td>Released 10/28</td>
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<tr>
<td>LAT-MD-00276-02</td>
<td>LAT EMI/EMC Test Plan</td>
<td></td>
<td>Released 10/28</td>
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<tr>
<td>LAT-MD-01600-03</td>
<td>LAT Thermal-Vacuum Test Plan</td>
<td></td>
<td>Released 10/28</td>
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<tr>
<td>LAT-SS-06640-01</td>
<td>LAT Environmental Test MGSE/STE Requirements</td>
<td></td>
<td>Released 9/30</td>
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<tr>
<td>LAT-PS-06898-01</td>
<td>LAT Environmental Test Implementation Plan</td>
<td>Final draft in work</td>
<td></td>
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<tr>
<td>LAT-MD-06560-01</td>
<td>Plan for Integrating and Testing the LAT on the Observatory</td>
<td>No progress, content being transferred to SpecAstro ICD ICN-099</td>
<td></td>
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<tr>
<td>TBD</td>
<td>LAT Environmental Test Pathfinding</td>
<td>2nd draft in review.</td>
<td></td>
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## Environmental Test: Configuration Drawings and Status

**GLAST LAT I&T**  
**GLAST Monthly Mission Review**  
**Dec 1, 2005**

<table>
<thead>
<tr>
<th>Drawing</th>
<th>Title</th>
<th>Status</th>
<th>ECD</th>
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</thead>
<tbody>
<tr>
<td>LAT-DS-06188</td>
<td>Acoustic Test Configuration Assembly</td>
<td>In release cycle (11/22)</td>
<td>Early Dec</td>
</tr>
<tr>
<td>LAT-DS-06185</td>
<td>Thermal-Vacuum Test Configuration Assembly</td>
<td>3rd draft out for review</td>
<td>Mid Dec</td>
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<tr>
<td>LAT-DS-06187</td>
<td>Horizontal Vibration Test Configuration Assembly</td>
<td>2nd draft in check</td>
<td>Early Dec</td>
</tr>
<tr>
<td>LAT-DS-06190</td>
<td>Vertical Vibration Test Configuration Assembly</td>
<td>2nd draft in check</td>
<td>Early Dec</td>
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<tr>
<td>LAT-DS-06186</td>
<td>Handling Configuration Assembly</td>
<td>In release cycle (11/22)</td>
<td>Early Dec</td>
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<tr>
<td>LAT-DS-06184</td>
<td>Transport Configuration Assembly</td>
<td>Waiting Transport Container final design</td>
<td>Early Dec</td>
</tr>
<tr>
<td>LAT-DS-06189</td>
<td>EMI/EMC Test Configuration Assembly</td>
<td>2nd draft in work</td>
<td>Mid Dec</td>
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<tr>
<td>LAT-DS-06191</td>
<td>Mass Properties Configuration Assembly</td>
<td>Not Started</td>
<td>Mid Jan</td>
</tr>
</tbody>
</table>
LAT-MD-02717-01, “LAT Environmental Test Sequence”
Release 9 May 2005

- Perform Reference CPT (at SLAC)
  - Receive, Unpack
  - Sine Vibe 4X
  - Mount Radiators
  - EMI/EMC
  - Acoustic
- T-Bal
- T-Cycle
- Weight, CG
- Final CPT
- Remove Radiators
- Pack LAT
- Ship to Spectrum

Updated LAT Environmental Test Sequence

Limited Performance
Comprehensive Performance
SVAC Test

No change from last month
Environmental Test
MGSE/STE

- **Transport Container**
  - In manufacture – ECD: 12/23
  - Completing analyses
  - Assembly and proof test – ECD: 1/08/06

- **Test Interface Plate**
  - Complete and in use

- **Test Stand/Spreader Bars**
  - In fabrication at Allied Engineering—ECD: 12/20

- **T-Vac Sink Plates and Cal-Rod Cage**
  - Radiator Heater Cage Assembly: in fabrication at NRL, ECD 1/13/06
  - ACD Sink Plate Assembly, SC Simulator Plate: awaiting release, ECD 12/02, fab complete 1/30/06

- **Acoustic Simulator**
  - Release and fabrication of test plate, ECD: 1/26/06

- **Mass Properties Plate**
  - Not started
Facilities

- **Thermal Vacuum Test**
  - Cables and Port Plates – complete
  - Trolley (cart) – in manufacture.  ECD: 12/16
  - Chamber rail supports – analysis complete 12/2, fab complete 1/09/06
  - Chamber rails – in fabrication, ECD 1/10/06

- **Acoustic Test**
  - Ramp manufacture: ECD 1/09/06

- **Vibration Test**
  - Expander head load frame - in procurement process, fab/proof ECD 2/03/06

- **EMI/EMC Test**
  - Ramp manufacture: ECD 1/26/06
Issues and Concerns

- Schedule compression – path finding, TCS checkout, LAT delivery
- GSFC-provided Vertical Lift Fixture
  - Use of VLF in LAT testing has been rejected
    - Late delivery of VLF and completion state of current planning / configuration drawings precludes use.
  - Pathfinding test lift with VLF, late in environmental test program at NRL, is under consideration.
    - Serial test → schedule impact.
  - Minimization of involvement with VLF seems prudent.