January 9, 2008

Steven K. Staas / 281-483-4696
David Tee / 281-483-0084
Jennifer Mendeck / 281-483-8020
David Mayhew / 281-483-2629
# Table of Contents

## Shuttle CoFR Status Summary

### USA Flight Design and Dynamics

- Mission Overview Summary
- Propellant Summary
- Significant Changes Since Design Baseline
- Significant Mission Firsts and Unique Items
- Deviations, Exceedances and Anomalies

### None

- Special Topics

### None

- Issues and Concerns

- Exceptions and Open Work

- Rescue Mission Status

- Flight Design and Dynamics Readiness Accountability Statement

- FDD Declaration of Compliance with CoFR Endorsement Requirements for STS-123 Flight Readiness

## DM Flight Design and Dynamics (Trajectory Operations)

- Significant Mission Firsts and Unique Items

- Deviations, Exceedances and Anomalies

- Special Topics

- Issues and Concerns

- Exceptions and Open Work

- STS-123 Flight Design & Dynamics Division Readiness Statement
## Shuttle CoFR Status Summary

<table>
<thead>
<tr>
<th>MOD Requirements Codes *</th>
<th>DM</th>
<th>USA FDD</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRITICAL PROC./APPL</td>
<td>G</td>
<td>G</td>
</tr>
<tr>
<td>NON-CRITICAL PROC./APPL</td>
<td>G</td>
<td>G</td>
</tr>
<tr>
<td>FD-TRAJECTORY</td>
<td>N/A</td>
<td>G</td>
</tr>
<tr>
<td>FD-CONSUMABLES (PROP)</td>
<td>N/A</td>
<td>G</td>
</tr>
<tr>
<td>FD-ANALYST CERT</td>
<td>N/A</td>
<td>G</td>
</tr>
<tr>
<td>FD-CTF</td>
<td>N/A</td>
<td>G</td>
</tr>
<tr>
<td>FDF</td>
<td>G</td>
<td>G</td>
</tr>
<tr>
<td>EMCC</td>
<td>G</td>
<td>G</td>
</tr>
<tr>
<td>CREW TRAINING (RNDZ)</td>
<td>G</td>
<td>N/A</td>
</tr>
<tr>
<td>CERTIFIED FLIGHT CONTROLLERS</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>CERTIFIED INSTRUCTORS (RNDZ)</td>
<td>G</td>
<td>N/A</td>
</tr>
<tr>
<td>FTP-NEW OPS</td>
<td>G</td>
<td>G</td>
</tr>
<tr>
<td>FLIGHT ANOMALY RES</td>
<td>G</td>
<td>G</td>
</tr>
<tr>
<td>ANOMALY-PROCEDURE</td>
<td>G</td>
<td>Y</td>
</tr>
<tr>
<td>EX/AI FROM PRIOR READINESS REVIEW</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>NO CONSTRAINTS</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>LEVEL II (PROGRAM) ACTIONS</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>MISSION REQUIREMENTS</td>
<td>G</td>
<td>G</td>
</tr>
<tr>
<td>CMD PROC</td>
<td>G</td>
<td>G</td>
</tr>
<tr>
<td>EXCEPTION RESOLUTION</td>
<td>G</td>
<td>None</td>
</tr>
<tr>
<td>FPPP REQ MET</td>
<td>G</td>
<td>G</td>
</tr>
<tr>
<td>CONTRACTOR PROCESS INSIGHT</td>
<td>G</td>
<td>N/A</td>
</tr>
</tbody>
</table>

* as defined in DA8-020 “MOD Certification of Flight Readiness Process” document

- **G**: Ready to support flight or standard open work
- **Y**: Non-standard open work with expected resolution
- **R**: Open work without expected resolution
- **N/A**: Does not apply

None None identified
Mission Overview Summary

Launch/Landing Times

- **Launch Window Open**
  - Date: Feb. 14, 2008
  - GMT: 16:52:51
  - EST: 11:52:51 (hh:mm:ss)

- **Launch Window Close**
  - Time: 17:02:20
  - EST: 12:02:20 (hh:mm:ss)

- **Landing Time (KSC)**
  - Date: Feb. 29, 2008
  - Time: 10:01:00
  - EST: 05:01:00 (hh:mm)

- **First Stage Design Criteria**
  - DOLILU II / High Q

- **Insertion Altitude/Inclination**
  - 122 nm / 51.6 deg

- **APM (above a 5 minute window centered at in-plane)**

- **I-load Design**
  - 1558 lbs

- **Projected APM**
  - 1254 lbs

- *Based on 12/18/07 Green Book

- Launch hold capability inside of drainback is dependent upon actual DOL performance. Abort coverage has sufficient overlap from liftoff to MECO.
## Propellant Summary

<table>
<thead>
<tr>
<th>Propellant Summary</th>
<th>FRCS (lbm)</th>
<th>ARCS (lbm)</th>
<th>OMS (lbm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loadings</td>
<td>1912</td>
<td>4970</td>
<td>22761</td>
</tr>
<tr>
<td>FRR Design Margins **</td>
<td>348</td>
<td>80 (combined ARCS/OMS)</td>
<td></td>
</tr>
</tbody>
</table>

**Assumptions:** STS-123 Summary Flight Plan, FRR Cycle Trajectory Inputs - 185 nm RNDZ, 119 sec OMS Assist, 2 mated water dumps, early inspection, and 2 maneuvers for mated Late Inspection
Significant Requirements Changes Since Design Baseline

- ~800 lbm. reduction in Aft Fuselage Ballast
  - Fluid ballasting used for increased manifesting capability and Ascent Performance Margin (APM)
- 220 lbm. decrease in middeck control weight
  - Maintain acceptable APM and Xcg margins
- Addition of DTO848
  - Starboard Tool Stowage Assembly (TSA) added
  - Fifth scheduled EVA added
Significant Mission Firsts and Unique Items

- First Use of PISCES (Platform Independent Software Components for the Exploration of Space)
- First Use of VVTaTo (Visiting Vehicle Targeting Tool)
  - Application Dependent on the PISCES Certified Libraries
  - VVTaTo and PISCES are applications configured by the DM Civil Servant GAs. VVTaTo is executed from the VVO DNAV and utilizes PISCES runtime libraries
- Edwards Temporary Runway
  - All Navigation products reflect appropriate changes for STS-123
  - Estimated operational date of April 30, 2008
- ATV First Launch: ATV1 and STS-123 are currently scheduled to be in orbit at the same time
- STS-123 Block Update
  - ET/SRB Attach Point Coordinate Change (S052158CTR1) – fixes error in load indicator calculations because of wrong coordinates. Only affects 4 DOL indicators, none of which were at risk of breaking a limit
  - DOLILU Block Update Changes – STS-123 (S052550NR) – Minor DOL script and database updates
Significant Mission Firsts and Unique Items - Concluded

- Late Inspection is during mated operations using a total of 92.9 lbm FRCS & 108.5 lbm ARCS Shuttle propellant for 2 of the maneuvers.

- Program Modification to Level B GR&C, NSTS-21075, Section 6.1.3 for STS-123 to assume the following payload bay configuration for computing Xcg and ballasting requirements for the Worst-Case-Forward (WCF) scenario:
  - JEM ELM-PS is deployed
  - SLP is in the PLB, without the SPDM (retrieve configuration)
  - OBSS has been transferred to the ISS
  - All sidewall-mounted payloads and ORUs are in the PLB
  - This non-standard definition of the WCF scenario results in less conservatism in pre-flight ballasting computation.
    - This case reflects the mission timeline rather than a literal “WCF” hardware configuration that is not planned to occur during the mission
    - Results in increased APM, which translates to more weight-to-orbit capability
    - No change or constraints to real-time ops: FDO and PROP maintain mass properties/ballast data continually during the mission
Deviations, Exceedances and Anomalies

- **Exceedances/Deviations**
  - Contingency Abort Black Zone Assessment was not required
    - Liftoff mass properties did not exceed the NSTS-07700 Vol. III criteria of weight > 259,000 lbm. and Xcg > 1115 in.
    - FRR Cycle liftoff weight = 266,538 lbm., Xcg = 1112.8 in.
  - No Dock PLS downweight exceeds the NEOM downweight limit
    - Preflight thermal analysis is not required
    - Real-time analysis will be performed if required
    - Mission-specific flight rule has been submitted
Deviations, Exceedances and Anomalies - Concluded

- **Previous Mission Anomalies**
  - FOV-1 work-arounds in place since STS-121 are still in effect
    - Wallops C-band high-speed refraction correction multipliers set to zero by Nav (documented in console procedure AEGNAV-5A)
      - Post-MECO filter degradation for December launch expected to be ~17 fps (radial)
      - Reduces likelihood of using ground filter, although onboard and GPS available
    - Previous mission (STS-120)
      - None affecting Flight Design
    - Previous flight of vehicle (OV-105, STS-118)
      - None affecting Flight Design

- **Significant ARs**
  - None

- **NCRs**
  - None

- **Open Risk Assessments**
  - None
Special Topics

• None
Issues and Concerns

- None
Exceptions and Standard Open Work

- **Exceptions**
  - None

- **Standard**
  - All open work is scheduled to be completed per standard flight template
  - Open work table in backup pages
Non-Standard Open Work

- TAO Certification 01/14/08
- DOL OPS 2 Operator Certification 01/24/08
- DOL Lead Operator Certification STS-122 launch
- Landing Analyst Certification 01/24/08
- Loads 6.1 Flight Critical Certification Review TBD
- DDS element update TBD
- NSTS-08329 Vol. VI update TBD
- PRD update for range balloons TBD
- DOL Block Update to be completed by approval at SICB TBD
STS-324 Rescue Mission Status

- FDD compared the expected OV-103 configuration to the existing suite of as-built STS-322 products and I-Loads
  - No FDD I-Load updates were required
  - Flight Design identified the need to update the flight FDF to include EDW temporary runway data
    - Will include updates post-callup if required
    - No other facility updates were identified
- All pre-callup production has been completed
- Console staffing will be defined post callup – no issues anticipated
- MOD developed post-callup production schedule will be implemented, if required
- Baseline launch date is currently NET 4/10/2008
Flight Design and Dynamics Readiness Accountability Statement

- **Software**: All software used to create mission products, and MCC software required for mission support including related ISS software and designated critical processors meets generic and mission-specific Program requirements, and is maintained under configuration control in accordance with the FDD Software Management Plan.

- **Flight Software**: All flight software Principal Functions (PFs) owned by FDD are ready for flight. All Discrepancy Reports and Program Notes and Waivers related to USA-owned PFs have been reviewed and appropriately dispositioned for this flight.

- **Anomaly Resolution**: All anomalies that could impact mission support have been closed, or have accepted and approved workarounds in place.

- **Production**: All flight reconfiguration products and real-time console support products meet generic and mission-specific Program requirements.

- **Operations**: All mission support personnel are or will be certified and current prior to supporting mission related activities.

The FDDOC Flight Readiness Review Process Plan (USA009229) and the Flight Operations Flight Preparation and Readiness Plan (USA008977; Appendix D and E) which defines the processes and products required for a successful flight have been executed and the applicable Program CoFR requirements satisfied.

The undersigned certify that the Flight Design and Dynamics Department, upon satisfactory resolution of any noted exceptions, is ready to support flight STS-123.

| Flight Design and Dynamics | A. F. Najarian  
Director | Original signed by D. J. Brockway for A. F. Najarian  
signature | 12/18/07  
date |
|---------------------------|-----------------------------------------------|
| Flight Design and Dynamics Software | F. M. Hamilton  
Software Project Manager | Original signed by F. M. Hamilton  
signature | 12/20/07  
date |
| Ascent/Descent Flight Design | D. J. Brockway  
Manager | Original signed by D. J. Brockway  
signature | 12/18/07  
date |
| Orbit Flight Design | R. M. Hill  
Manager | Original signed by R. M. Hill  
signature | 12/18/07  
date |
| Navigation & Flight Design Integration | G. E. Schrage  
Manager | Original signed by D. K. Mains for G. E. Schrage  
signature | 12/18/07  
date |
| Trajectory Operations & Software Development | F. M. Hamilton  
Manager | Original signed by F. M. Hamilton  
signature | 12/20/07  
date |
| Management & Engineering Services | A. T. McDowell  
Manager | Original signed by A. T. McDowell  
signature | 12/19/07  
date |
Flight Design and Dynamics Declaration of Compliance with CoFR Endorsement Requirements for STS-123 Flight Readiness

☐ Software: All software used to create mission products, and MCC software required for mission support including related ISS software and designated critical processors meets generic and mission-specific Program requirements, and is maintained under configuration control in accordance with the FDD Software Management Plan.

☐ Flight Software: All flight software Principal Functions (PFs) owned by FDD are ready for flight. All Discrepancy Reports and Program Notes and Waivers related to USA-owned PFs have been reviewed and appropriately dispositioned for this flight.

☐ Anomaly Resolution: All anomalies that could impact mission support have been closed, or have accepted and approved work-arounds in place.

☐ Production: All flight reconfiguration products and real-time console support products meet generic and mission-specific Program requirements.

☐ Operations: All mission support personnel are or will be certified and current prior to supporting mission related activities.

Requirements Compliance: All requirements defined by the documents below (as required by the FIDP Compliance Matrix) have been or will be satisfied prior to flight.

<table>
<thead>
<tr>
<th>DOCUMENT</th>
<th>VERSION</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flight Implementation Data Pack (FIDP) - Generic</td>
<td>GEN-JG</td>
<td>December 14, 2007</td>
</tr>
</tbody>
</table>

Waivers & Exceptions: None

The FDDOC Flight Readiness Review Process Plan (USA009229) and the Flight Operations Flight Preparation and Readiness Plan (USA008977; Appendix D and E) which defines the processes and products required for a successful flight have been executed and the applicable Program CoFR requirements satisfied.

Original signed by D. J. Brockway for A. F. Najarian 12/20/07

Director

Flight Design & Dynamics Operations Center
DM Flight Design and Dynamics (Trajectory Operations)
Significant Mission Firsts and Unique Items

ATV Launch

- It is possible that ATV1 and STS-123 will be in orbit free-flight at the same time
  - If ATV is in free-flight while Shuttle is in orbit, it is proposed that ATV will stationkeep at about ~2000 km on the +Vbar
    - ESA has proposed that ATV always approach their S-1/2 point, (-39, 0, 5) km, regardless of Shuttle operations
    - This could be very challenging on day-of rendezvous and launch day
    - Techniques that could be used to deconflict ATV-Shuttle concurrent operations include modification of maneuvers, extra maneuvers, rendezvous delay, and launch hold
  - ISS may not be able to reboost after ATV launch without jeopardizing ATV mission success
  - Should ATV be phasing during Shuttle rendezvous or deorbit, we will need to check to be sure the two don’t conflict.
    - Shuttle separation and orbit adjust may need to be modified to account for ATV avoidance
Deviations, Exceedances and Anomalies

- STS-122 actions will be addressed post-flight
FD3 RENDEZVOUS

- STS-123 phasing is currently very uncertain due to the STS-122 launch delay
  - At least 3 weeks between STS-122 landing and STS-123 launch is needed to allow time to plan and execute a reboost that will have sufficient control to set up FD3 phasing for STS-123.
  - The close timing of launch dates for STS-122, STS-123, 28P, Soyuz, and STS-124 is creating a challenging environment for satisfying conditions for all these missions.
  - These factors are creating a higher than normal chance that long periods of launch into FD3 can not be created for STS-123.
Special Topics

GPS

- **STS-123 is 2nd Flight of 3-string GPS and the last GPS ramp-up flight**
  - Plan is to take GPS to PASS only in MM301 and MM304 post confirmation with high-speed tracking
  - BFS will be managed via state vector transfers (same as on STS-118)
  - For aborts, GPS will be taken to both PASS and BFS
  - DA8 is interested in taking GPS to PASS in OPS 3 following FCS C/O for approximately 10 minutes (same as on STS-118)
Issues and Concerns

- Plans for Shuttle/ATV concurrent ops are very immature
  - ATV mission profile is still changing
Exceptions and Standard Open Work

- Exceptions
  - None

- Standard Open Work (complete listing in backup charts)
  - All open work is scheduled to be completed per standard flight template
  - No issues have been identified
Non-Standard Open Work

- Flight Controller Certifications
  - Entry FDO: Expected 1/10/07 (paperwork only)
  - ARD Support: Expected 1/10/07 (paperwork only)
  - ALP LSO: Expected 1/24/07 (STS-122 OJT)
  - Orbit TRAJ: TBD (final cert not yet scheduled)

- ATV/Shuttle concurrent ops
  - JOP to discuss ATV/Shuttle issues in January
The Flight Design and Dynamics Division has performed the reviews necessary to assess the flight readiness relating to flight design requirements definition, crew and flight controller rendezvous training, and trajectory operations. We have determined all applicable responsibilities acceptable for flight pending closure of the identified open work and issues.

Original signed by R. L. Schaf for
Barbara A. Conte
Chief, Flight Design Requirements and Integration Branch

Original signed by G. T. Oliver
Gregory T. Oliver
Chief, Flight Design and Dynamics Division

As compiled by: FDO/J. Mendeck
FDM/S. Staas
Back-Up

- Flight Readiness Open Work
- Launch Time Summary
- Launch Window (separate file)
- Training Certification Letter
# Flight Readiness Open Work

<table>
<thead>
<tr>
<th>Item</th>
<th>Responsible</th>
<th>Due Date</th>
<th>Closed</th>
<th>Closure Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA Flight Design Standard Open Work:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROP37 SODB Volume II Amendment</td>
<td>PROP</td>
<td>1/4/08</td>
<td>12/20/07</td>
<td>Product delivered</td>
</tr>
<tr>
<td>DATA43 FDD FRR Data Pack</td>
<td>FDM</td>
<td>1/8/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FSW Verification Test Results Review</td>
<td>Orbit</td>
<td>1/8/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FSW Verification Test Results Review</td>
<td>ADFD</td>
<td>1/15/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CM FOE L-30 day audit</td>
<td>Bedford</td>
<td>1/15/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DATA45 FDD FSW PF Sign-off</td>
<td>FDM</td>
<td>1/16/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ONOR29B RNDZ Launch Target Data</td>
<td>Orbit</td>
<td>1/16/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROP06 OMRSD OMS/RCS</td>
<td>PROP</td>
<td>1/17/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROP07 Abort Propellant Dump Tagup</td>
<td>PROP</td>
<td>1/17/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROP02 Mass Properties</td>
<td>PROP</td>
<td>1/22/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L-4 week LDO Database Freeze</td>
<td>ADFD</td>
<td>1/17/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RNDZ08 RNDZ Phasing Limits</td>
<td>Orbit</td>
<td>1/21/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prop Analyst &amp; Flt Controller Tag-up</td>
<td>PROP</td>
<td>1/23/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ONOR37B Daily Planar/Phase Windows</td>
<td>Orbit</td>
<td>1/23/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASCT04 Uplink APM</td>
<td>ADFD</td>
<td>1/24/08</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Flight Readiness Open Work - Continued

<table>
<thead>
<tr>
<th>Work Item</th>
<th>Responsible</th>
<th>Due Date</th>
<th>Closed</th>
<th>Closure Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA Flight Design Standard Open Work - Continued:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NAVO16B GPO COTM Data Pack</td>
<td>Navigation</td>
<td>1/24/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NAVO18B GPO/ONAV Ops Memo</td>
<td>Navigation</td>
<td>1/24/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ONOR27 Launch and Landing Data</td>
<td>Orbit</td>
<td>1/25/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LDO: L-3 week LDO Checkout/TCDT Sim</td>
<td>ADFD</td>
<td>1/27/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASCT44 DOL Uplink I-loads</td>
<td>ADFD</td>
<td>1/30/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ONOR29C RNDZ Launch Target Data</td>
<td>Orbit</td>
<td>2/5/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dial Down Decision FIDP</td>
<td>FDM</td>
<td>2/6/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RNDZ/FDO Phasing Plan Meeting</td>
<td>Orbit</td>
<td>2/6/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DSCT17 Landing Site Tables</td>
<td>ADFD</td>
<td>2/7/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ONOR37C Daily Planar/Phase Windows</td>
<td>Orbit</td>
<td>2/7/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RNDZ02 Target Drag Characteristics</td>
<td>Orbit</td>
<td>2/7/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROP00A PROP/Ascent Aborts Tagup</td>
<td>PROP</td>
<td>2/7/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C-Band tracking Scheduling Message</td>
<td>Navigation</td>
<td>2/7/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASCT99 OMS Assist - ATO Update</td>
<td>ADFD</td>
<td>2/8/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RNDZ09 Rendezvous COLA Plans</td>
<td>Orbit</td>
<td>2/8/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROP02A DOL Mass Properties Updates</td>
<td>PROP</td>
<td>2/9/08</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Flight Readiness Open Work - Continued

<table>
<thead>
<tr>
<th>Work Item</th>
<th>Responsible</th>
<th>Due Date</th>
<th>Closed</th>
<th>Closure Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA Flight Design Standard Open Work - Continued:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Launch Mass Properties Request</td>
<td>PROP</td>
<td>2/9/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROP31 ARD Data</td>
<td>PROP</td>
<td>2/9/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROP33 Ferry Data Package</td>
<td>PROP</td>
<td>2/9/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROP34 MCC Data</td>
<td>PROP</td>
<td>2/9/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASCT42 Collision Avoidance Data</td>
<td>ADFD</td>
<td>2/11/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASCT47 Final MCC Trajectory Inputs</td>
<td>ADFD</td>
<td>2/11/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DSCT66 Real-Time Support Files</td>
<td>ADFD</td>
<td>2/11/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range Safety Launch Window Cutout</td>
<td>ADFD</td>
<td>2/11/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flight Annex</td>
<td>Navigation</td>
<td>2/11/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SRB and ET RTLS Impact Point Update Memo</td>
<td>ADFD</td>
<td>2/11/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASAB32B AME MCC Support Tables</td>
<td>ADFD</td>
<td>2/12/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L-2 day DOLILU System Checkout</td>
<td>ADFD</td>
<td>2/12/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DSCT05 Maximum Crossrange Capability</td>
<td>ADFD</td>
<td>2/12/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASAB25 ARD Bias Tables</td>
<td>ADFD</td>
<td>2/13/08</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Flight Readiness Open Work - Continued

<table>
<thead>
<tr>
<th>Work Item</th>
<th>Responsible</th>
<th>Due Date</th>
<th>Closed</th>
<th>Closure Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA Flight Design Non-Standard Open Work:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TAO Certification – C. Bupane</td>
<td>Navigation</td>
<td>1/14/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOL OPS 2 Operator Certification</td>
<td>ADFD</td>
<td>1/24/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOL Lead Operator Certification</td>
<td>ADFD</td>
<td>STS-122 launch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landing Analyst Certification</td>
<td>ADFD</td>
<td>1/24/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOADS 6.1 Flight Critical Certification Review</td>
<td>ADFD</td>
<td>TBD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DDS element update</td>
<td>ADFD</td>
<td>TBD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NSTS08329 Vol. VI update</td>
<td>ADFD</td>
<td>TBD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRD update for range balloons</td>
<td>ADFD</td>
<td>TBD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOL Block Update to be completed by approval at SICB</td>
<td>ADFD</td>
<td>TBD</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Flight Readiness Open Work - Continued

<table>
<thead>
<tr>
<th>Item</th>
<th>Responsible</th>
<th>Due Date</th>
<th>Closed</th>
<th>Closure Rationale/Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Close to Launch Trajectory Data</td>
<td>OFDO</td>
<td>1/10/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L-30 HA Server Audit</td>
<td>TOCSS</td>
<td>1/15/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TCDT Checkout in Ops Cert Mode</td>
<td>AE GPO</td>
<td>1/29/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOD Support Readiness</td>
<td>LSO</td>
<td>1/30/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flight Load Checklist Complete</td>
<td>Nav</td>
<td>1/31/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flight Load Checklist Complete</td>
<td>DOLILU</td>
<td>1/31/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flight Load Checklist Complete</td>
<td>Entry Support</td>
<td>1/31/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flight Load Checklist Complete</td>
<td>Orbit-RNDZ</td>
<td>1/31/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flight Load Checklist Complete</td>
<td>RGPO</td>
<td>1/31/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flight Load Checklist Complete</td>
<td>AE FDO</td>
<td>1/31/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flight Load Checklist Complete</td>
<td>AE GPO</td>
<td>1/31/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flight Load Checklist Complete</td>
<td>LSO</td>
<td>1/31/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FS Orbit FDO CHB Annex</td>
<td>OFDO</td>
<td>2/1/08</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Flight Readiness Open Work - Continued

<table>
<thead>
<tr>
<th>Item</th>
<th>Responsible</th>
<th>Due Date</th>
<th>Closed</th>
<th>Closure Rationale/Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trajectory Operations Standard Open Work</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PERA Pre-Flight Product</td>
<td>DM42 PERA Lead</td>
<td>2/7/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flight Load Checklist Complete</td>
<td>OFDO</td>
<td>2/8/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L-5 HA Server Audit</td>
<td>TOCSS</td>
<td>2/9/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Present new ops notes at Trench tagup</td>
<td>TOCSS</td>
<td></td>
<td>Trench Tag-Up</td>
<td></td>
</tr>
<tr>
<td>Close to Launch Mass Properties</td>
<td>OFDO</td>
<td>2/11/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real-time Data Transfer Schedule</td>
<td>OFDO</td>
<td>2/13/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cargo Transfer Spreadsheet</td>
<td>OFDO</td>
<td>2/13/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Trajectory Operations Non-Standard Work:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entry FDO Certification</td>
<td>AE FDO</td>
<td>1/10/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARD Support Certification</td>
<td>ARD</td>
<td>1/10/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ALP LSO Certification</td>
<td>LSO</td>
<td>1/25/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orbit TRAJ Certification</td>
<td>OFDO</td>
<td>TBD</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Flight Design and Dynamics Division has performed a final review and determined all Division and USA FDD open work and/or actions for this mission are closed or acceptable rationale is provided for proceeding with the flight.

______________________________  ________________________________
Flight Design Manager          Chief, Flight Design Requirements and Integration Branch
Date_______                      Date_______

______________________________  ________________________________
Director, Flight Design and Dynamics Department  Chief, Flight Design and Dynamics Division
Date_______                      Date_______
## Launch Day/Time Summary

<table>
<thead>
<tr>
<th>GMT Date</th>
<th>GMT Day</th>
<th>GMT Liftoff</th>
<th>Local KSC Time</th>
<th>Local JSC Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>02/28/08</td>
<td>59</td>
<td>11:17 AM</td>
<td>06:17 AM</td>
<td>05:17 AM</td>
</tr>
<tr>
<td>02/29/08</td>
<td>60</td>
<td>10:52 AM</td>
<td>05:52 AM</td>
<td>04:52 AM</td>
</tr>
<tr>
<td>03/01/08</td>
<td>61</td>
<td>10:29 AM</td>
<td>05:29 AM</td>
<td>04:29 AM</td>
</tr>
<tr>
<td>03/02/08</td>
<td>62</td>
<td>10:03 AM</td>
<td>05:03 AM</td>
<td>04:03 AM</td>
</tr>
<tr>
<td>03/03/08</td>
<td>63</td>
<td>09:41 AM</td>
<td>04:41 AM</td>
<td>03:41 AM</td>
</tr>
<tr>
<td>03/04/08</td>
<td>64</td>
<td>09:15 AM</td>
<td>04:15 AM</td>
<td>03:15 AM</td>
</tr>
<tr>
<td>03/05/08</td>
<td>65</td>
<td>08:53 AM</td>
<td>03:53 AM</td>
<td>02:53 AM</td>
</tr>
<tr>
<td>03/06/08</td>
<td>66</td>
<td>08:27 AM</td>
<td>03:27 AM</td>
<td>02:27 AM</td>
</tr>
<tr>
<td>03/07/08</td>
<td>67</td>
<td>08:05 AM</td>
<td>03:05 AM</td>
<td>02:05 AM</td>
</tr>
<tr>
<td>03/08/08</td>
<td>68</td>
<td>07:39 AM</td>
<td>02:39 AM</td>
<td>01:39 AM</td>
</tr>
<tr>
<td>03/09/08</td>
<td>69</td>
<td>07:13 AM</td>
<td>03:13 AM EDT</td>
<td>01:13 AM</td>
</tr>
<tr>
<td>03/10/08</td>
<td>70</td>
<td>06:51 AM</td>
<td>02:51 AM EDT</td>
<td>01:51 AM</td>
</tr>
<tr>
<td>03/11/08</td>
<td>71</td>
<td>06:25 AM</td>
<td>02:25 AM EDT</td>
<td>01:25 AM</td>
</tr>
<tr>
<td>03/12/08</td>
<td>72</td>
<td>06:02 AM</td>
<td>02:02 AM EDT</td>
<td>01:02 AM</td>
</tr>
<tr>
<td>03/13/08</td>
<td>73</td>
<td>05:37 AM</td>
<td>01:37 AM EDT</td>
<td>12:37 AM</td>
</tr>
<tr>
<td>03/14/08</td>
<td>74</td>
<td>05:14 AM</td>
<td>01:14 AM EDT</td>
<td>12:14 AM</td>
</tr>
<tr>
<td>03/15/08</td>
<td>75</td>
<td>04:48 AM</td>
<td>12:48 AM EDT</td>
<td>11:48 PM (3/14/08) CDT</td>
</tr>
<tr>
<td>03/16/08</td>
<td>76</td>
<td>04:26 AM</td>
<td>12:26 AM EDT</td>
<td>11:26 PM (3/15/08) CDT</td>
</tr>
<tr>
<td>03/17/08</td>
<td>77</td>
<td>04:00 AM</td>
<td>12:00 AM EDT</td>
<td>11:00 PM (3/16/08) CDT</td>
</tr>
<tr>
<td>03/18/08</td>
<td>78</td>
<td>03:38 AM</td>
<td>11:38 PM (3/17/08) EDT</td>
<td>10:38 PM (3/17/08) CDT</td>
</tr>
<tr>
<td>03/19/08</td>
<td>79</td>
<td>03:12 AM</td>
<td>11:12 PM (3/18/08) EDT</td>
<td>10:12 PM (3/18/08) CDT</td>
</tr>
<tr>
<td>03/20/08</td>
<td>80</td>
<td>02:50 AM</td>
<td>10:50 PM (3/19/08) EDT</td>
<td>09:50 PM (3/19/08) CDT</td>
</tr>
<tr>
<td>03/21/08</td>
<td>81</td>
<td>02:24 AM</td>
<td>10:24 PM (3/20/08) EDT</td>
<td>09:24 PM (3/20/08) CDT</td>
</tr>
<tr>
<td>03/22/08</td>
<td>82</td>
<td>01:58 AM</td>
<td>09:58 PM (3/21/08) EDT</td>
<td>08:58 PM (3/21/08) CDT</td>
</tr>
</tbody>
</table>

Note: Daylight Savings Time begins at 2:00AM Local on March 9.
Training Certification Letter

Date: December 18, 2007

No. VS-07-011

(Name, Organization, Internal Address)

To: DM/Gregory Oliver
    USA/Angie Najarian

From: USA/Laurie Labra
      USA/Danielle Carelock

Cc: USA/Walter Barnett
    DM/Steve Walker
    DM/Kim Anson
    DM/Barbara Conte

Subject: Rndz Training Certification for STS-123

This letter will serve as written confirmation that STS-123 Rendezvous and Proximity Operations Training was completed per the requirements of the Shuttle Crew Training Catalog (DRD 1.6.1.3-a) and all Certification of Flight Readiness (CoFR) endorsements with respect to Crew and Flight Controller Training have been met.

In addition, the NASA Resident Office has completed monitoring of the Space Shuttle Training per the MOD SPOC Surveillance Plan (DA-WI-008) and has detected no problems that impact flight readiness or operations.

USA/Laurie Labra, Director
Vehicle Systems

USA/Danielle Carelock, Manager
Shuttle Training