
STS-120 MOD FRR

FLIGHT DESIGN AND DYNAMICS

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

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

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

Mission Overview Summary

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

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

- **Launch Window Open (10 min.)** October 23, 2007 15:36:03 GMT
11:36:03 EDT

- **Launch Window Close (10 min.)** October 23, 2007 15:46:02 GMT*

- * FD4 pane available to expand window additional 3 minutes

- **Landing Time (KSC)** November 5, 2007 10:58 GMT
05:58 EST

- **I-load Design APM** 2003 lbs (APM above a 5 minute window centered at in-plane)

- **Projected APM**** 1037 lbs (APM above a 5 minute window centered at in-plane)

- ** Based on 09/06/07 APM Simulation and 09/11/07 Greenbook Projections

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

Significant Requirements Changes Since Design Baseline

- **Launch Date from 08/09/07 to 10/23/07**
- **OMS Load Change for Composite Overwrap Pressure Vessel (COPV) Risk Mitigation**
- **Orbiter Boom Sensor System (OBSS) not transferred to ISS**
- **Added Main Bus Switching Unit (MBSU) as secondary payload**
- **Orbiter swap from OV-104 to OV-103**
 - **Gained Station Shuttle Power Transfer System (SSPTS)**
- **Increased mission duration from 11+1+2 to 13+1+2**
- **Mated beta angle constraint was increased from -60 deg/+60 deg to -66 deg/+65 deg**

Pending Changes

- **Addition of DTO 848 Tile Repair Ablator Dispenser (T-RAD) and starboard Tool Storage Assembly (TSA)**
 - **Unscheduled EVA will become fifth EVA in support of the DTO**
 - **Mission duration change to 14+0 in support of fifth EVA**
- **Deletion of consumables replenishment requirement for stage EVA**

Significant Mission Firsts and Unique Items

- **First flight of OI-32**
- **Flight Design process has incorporated OI-32 updates in production**
 - **DOLILU nominal trajectories are not affected by OI-30, OI-32, or OI-33 changes**
 - **DOLILU OPS (USA and Boeing) will continue to use OI-30 version of SVDS (USA) and AIOD2 (Boeing)**

Significant Mission Firsts and Unique Items- Concluded

- **First flight implementing Composite Overwrap Pressure Vessel (COPV) OMS Offload**
 - OMS and He load was reduced for He tank rupture mitigation
- **First flight of DOLILU Operations performed on LINUX IPS Workstations without AIX as backup platform**
 - 2nd flight of DOLILU Ops with Linux as lead platform
 - Integrated testing will be completed by 09/14/07
- **Protecting Passive Thermal Control (PTC) for nominal End Of Mission (EOM)**
 - Potential exceedance of 60 deg. Beta angle constraint post undock
- **New IPS MPSR isolation mechanism and LDAP password scheme for DOLILU**
 - When isolated, remote users can not access on-site workstations
 - LDAP scheme allows for common passwords to be used among different systems that may have different userids

Anomalies, Exceedances and Deviations

Deviations/Violations

- None
- Contingency Abort Black Zone Assessment was not required
 - Liftoff mass properties did not exceed the NSTS-07700 Vol. III criteria (Weight > 259,000 lbm. And Xcg > 1115.0 in.)
 - FRR cycle Liftoff Weight = 268,009 lbm, Xcg = 1114.3 in.

Anomalies, Exceedances and Deviations - Continued

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 October launch expected to be ~7 fps (radial)
 - Reduces likelihood of using ground filter, although onboard and GPS available
 - **Previous mission (STS-118)**
 - **Incorrect value for GPS RNP date used to generate Nav mission group MED (FDD AR 2007-CAF067)**
 - Trajectory Server configured with I-loaded RNP instead of Uplink RNP on STS-118
 - Dynamics MCC position updated the Trajectory Server RNP with uplink value
 - Procedural updates will be completed before STS-120 (ECD 10/09/07)
 - **Prime method for wind data transfer from KSC failed (MIDDS)**
 - Winds Coordinator reverted to back-up system to retrieve winds and atmosphere data per procedure
 - **Previous flight of vehicle (OV-103, STS-116)**
 - None
-

Anomalies, Exceedances and Deviations - Concluded

- **Significant ARs**
 - **None**

Non-Conformance Reports and Open Risk Assessments

- **Non-Conformance Reports (NCR)**
 - None
- **Risk Assessments**
 - None

Special Topics

Loads Update Resolution at SICB

- **SICB gave an action to update the USA Loads and Boeing TRAKR programs with new RSRM/ET attach point coordinates with an effectivity of STS-120**
- **PE certification cases were assessed using revised attach point coordinates and it was found that these changes should not be considered flight-critical**
- **Loads panel recommendation of postponing effectivity until STS-123 will go to SICB on 9/18**
- **If approved, a DOSP contingency procedure for 4 low risk structural load indicators will be created to account for the attach point changes until the Loads program update on STS-123**

Special Topics - Concluded

3 Engine Out Flight Software DR 124957

- **An OI-33 SPF run identified an issue with applicability to OI-32**
 - This was a 3 EO failure scenario, where the Post-MECO contingency OMS dump terminated early due to a normal acceleration (Nz) limit exceedance
 - Purpose of the OMS dump is to move the Center of Gravity (CG) forward to improve aerodynamic stability
 - The early termination of the dump led to a loss of control (LOC)
- **Two meetings held with the community (Crew Office, MOD, Flight Design, EG, FSO, Boeing) on 9/5 and 9/7 to discuss issue and likelihood of occurrence.**
 - Low probability of occurrence (i.e. small window of exposure)
 - 3 EO must occur in 45 second window of exposure late in ascent
 - Three consecutive 0.08 sec firings of forward pitch jets during a window of < 1 sec
 - Window is a Major Mode transitional period in the FSW (transition to MM602)
- **FSW taking story to the Program on 9/14 to discuss**
 - FSW is patchable, however, community recommendation is to maintain current FSW configuration for OI-32 flights and pursue an update for OI-33
 - Exposure to 3EO black zones is not eliminated (only a small subset)

Issues and Concerns

- None

Exceptions, Standard and Non-Standard Open Work

- **Exceptions**
 - **None**
- **Standard Open Work**
 - **All open work is scheduled to be completed per standard flight template**
 - **Open work table in backup pages**
- **Non-Standard Open Work**
 - **No concerns identified for completing any of the non-standard open work**
 - **Details follow**

Non-Standard Open Work - Continued

- **Integrated testing by Ascent Support for AIX removal from the MPSR network** 09/14/07
- **Loads Update Resolution at SICB** 09/18/07
- **Close RSDOL Discipline SR RS_48** 09/20/07
 - FDD Directed discipline S/W update
 - Eliminates procedural workarounds
 - No change to data or contents of products
- **FDD AR 2007-CAF062 Resolution** 09/20/07
 - Procedure update to ensure flight load checklist has correct S/W version number
- **Landing Analyst Certifications (2)** 09/21/07
 - Certified backups available

Non-Standard Open Work - Concluded

- **Minor discipline software update to correct magnetic variation in Weather Extraction Tool (WET) site codes file** **09/28/07**
 - Reduces chance of using incorrect surface wind direction in real-time entry sims
- **FDD AR 2007-CAF067 Resolution** **10/09/07**
- **DOL Operator Certification** **10/10/07**
 - Certified backups available
- **DOL Traj QA Certification** **10/10/07**
 - Certified backups available
- **DOSP contingency procedure** **10/10/07**

STS-320 Rescue Mission Status

- **Flight Design has completed a flight-specific Ascent/Entry design cycle for the first OI-32 LON build on OV-104**
 - Level A GR&C approved February 5, 2007
 - I-Load patch approved on July 26, 2007
- **All pre-callup products will be delivered per the established schedule – no issues identified**
 - All facility support products have been delivered
- **Console staffing will be defined post callup - no issues anticipated**
- **Post-callup schedule, if required, includes all standard Uplink and DOL products/milestones beginning with the Uplink TDDP at L-30 days**
- **Launch date is currently NET 12/02/2007**

STS-120 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 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.

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-120.

Flight Design and Dynamics	A. F. Najarian Director	Original signed by A. F. Najarian <small>signature</small>	09/05/07 <small>date</small>
Flight Design and Dynamics Software	F. M. Hamilton Software Project Manager	Original signed by J. J. Bedford for F. M. Hamilton <small>signature</small>	09/06/07 <small>date</small>
Ascent/Descent Flight Design	D. J. Brockway Manager	Original signed by D. J. Brockway <small>signature</small>	09/05/07 <small>date</small>
Orbit Flight Design	R. M. Hill Manager	Original signed by M. B. Schrock for R. M. Hill <small>signature</small>	09/05/07 <small>date</small>
Navigation & Flight Design Integration	G. E. Schrage Manager	Original signed by G. E. Schrage <small>signature</small>	09/05/07 <small>date</small>
Trajectory Operations & Software Development	F. M. Hamilton Manager	Original signed by D.K. Mains II for F. M. Hamilton <small>signature</small>	09/05/07 <small>date</small>
Management & Engineering Services	A. T. McDowell Manager	Original signed by A. T. McDowell <small>signature</small>	09/05/07 <small>date</small>

FLIGHT DESIGN AND DYNAMICS DECLARATION OF COMPLIANCE WITH CoFR ENDORSEMENT REQUIREMENTS FOR STS-120 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.

DOCUMENT	VERSION	DATE
Flight Implementation Data Pack (FIDP) - Generic	GEN-IR	August 29, 2007
Flight Implementation Data Pack (FIDP) - Flight Specific	120-BASE2-P	September 4, 2007

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.

Pending completion of open work and closure of noted exceptions, if applicable, Flight Design & Dynamics Operations Center is ready to support STS-120.

Original signed by A. F. Najarian 09/10/07

Director **Date**
Flight Design & Dynamics
Operations Center

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

- **First flight of OI-32**
- **First flight of Nominal Ops for Single String GPS**
 - **EOM - will take to PASS/BFS in OPS 301 and after high speed tracking confirmation**
 - **Aborts will also take GPS to PASS/BFS**
- **ET Photo Info:**
 - **Umbilical Photo Ops - lit 10/23/07 through 11/05/07**
 - **Hand-held Photos Ops lit 10/23/07 through 11/07/07**
- **First flight on Trajectory Server version 11.1.0.0 (DEC Alpha)**
 - **Recompile of STS-118 Trajectory Server software due to new PSS baseline**

Anomalies, Exceedances and Deviations

- **IFA STS-118-D-004: L-2:20 Launch Window Sheet Incorrect Pane 2 Open Time**
- **IFA STS-118-D-005: Unexpected Close Conjunction Post OMS-2 Burn**
- **AR-054230: ARD Performance Case Data File Corruption (application AR)**
 - Application AR withdrawn
 - Process ARs written: FDD AR 2007-CAF-065 and GAF AR 07-GAF003
 - Corrective action taken - procedure change implemented to eliminate problem
- **FDD AR# 2007-CAF072 – Un-paused Workstation (TRAJ19) prior to STS-118**
 - The workstation was left unpaused the night before launch by a Group Administer (GA)
 - Security was immediately notified and was able to determine that no activity had occurred when un-paused
 - GA's reviewed JPR 2810.1C, JSC IT Security Handbook, Section 7.1
 - GA's counseled by management on the duties and responsibilities when working with government equipment
 - GA retook USA IT security training
- **SRB recovery ship not pre-positioned optimally due to two pane launch window**
 - Resulted in ship being further from the SRB than planned – no risk contour issues
 - Topic discussed at 09/06/07 PRCB with no issues. Range Safety Panel will perform final procedure review and close out on 09/20/07

Special Topics

- **First OI-32 Mission**
 - **Minor impacts from following CRs:**
 - **CR 92938B BFS HUD Processor**
 - Provides HUD capability in the BFS
 - **CR 93012D PASS 6X TRAJ Display Enhancements**
 - Gives the crew new, usable PASS TRAJ1 and TRAJ2 displays
 - **CR 92953B Drive Tapes During BFS Powered Ascent**
 - Provides PASS equivalent data for the tapes (and Accel meter) during a BFS engage
 - **CR 93025B Single Engine Throttle Back for NPSP**
 - Gives the automatic throttle back for single engine remaining cases in OPS 1
 - **CR 92817C GPS FSW Compensation for GPC Clock Drift**
 - Allows auto GPC to GPS time adjust capability for an MTU failure. If enabled the FSW continuously performs GPC to GPS time adjustments to ensure that the Age of Aiding data is centered at a predetermined value
 - **CR 93000A BFS GPS Aiding Enhancements for OI-32**
 - Implements more robust BFS GPS Aiding logic
 - Introduces “announced resets” for transient type conditions (BFS engage, Nav updates), allows GPS to disregard these transients and continue to process unaffected by the transient

Special Topics - Continued

- **First OI-32 Mission (cont.)**

- **Rendezvous GPO relevant CR's:**

- **CR 92843 Lambert Guidance Improvement**

- Eliminates need for retargeting 90 sec after initiation of Lambert-guided burns

- **CR 92834C, 92931 RNDZ NAV Item Entry Corrections**

- Prevents unintentional arming of RNDZ NAV item entries

- Allows transfer of Orbiter state vector to Target state vector prior to RNDZ NAV enable (eliminates need for Target state vector uplink in certain situations)

- **ISS altitude profile in work to increase number of flight day 3 rendezvous days in October with the first launch attempt on October 23 (phase angle ~ 70 deg).**

- **Currently the ISS phasing burn plan is**

- ~3 mps SM burn on September 24th

- **Provides ~15 consecutive launch attempts with FD3 rendezvous capability**

- **TIG will be optimized to minimize shuttle deorbit costs**

- **Another (placeholder) phasing burn in template for 10/24 in case of launch delays only**

Special Topics - Concluded

- **Contingency Undock Analysis**
 - RGPO assessing undock capability when ISS in Free Drift

- **Contingency SAW jettison**
 - RGPO, FDO, TOPO, Prox-Ops developing high-level approach for unlikely contingency scenario
 - Coordinating with EVA, PHALCON and other MOD disciplines

- **Ascension (ASCC) tracking unavailable for STS-120**
 - ALCOR (Kwajalein Is.) available for pre-NC4 ISS tracking (if not restricted)
 - If ALCOR restricted, previous CONUS C-band tracking on ISS is sufficient for NC-4 targeting (about 4 – 5 hours old)
 - Assessed option of using ALCOR at low power
 - Benefit does not warrant the added procedural complexity

Issues and Concerns

- **Space Control Center move from Cheyenne Mt. To Vandenberg**
 - Transition occurred 8/28/07
 - Only issue is NORAD COORD communications loop

- **DNAV Configuration Concern, AR#054502 (against Platform Services)**
 - When starting the DNAV from the background, the Trajectory workstations will not be configured correctly.
 - Environment Variables not set correctly.
 - \$ISPDICIONARY
 - \$ISPMODE
 - \$ISPOWNER
 - \$NAPLOGDIR
 - The workaround documented in OPS Note #054502 is to reselect the activity.

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

- **Update A/E GPO Console Handbook for OI-32**
 - **ECD 10/9/07**
- **Launch Window Sheet procedure update (IFA-STS-118-D-004)**
 - **AFDO Console Handbook procedure update to print shop 9/12/07**
- **Annex Flight Rule – Pre-Launch Conjunction Screening (IFA-STS-118-D-005)**
 - **ECD 10/16/07**
- **Annex Flight Rule – Update Public Entry Risk XR's (ref. FR A2-207C, E)**
 - **ECD 10/13/07**
- **SRB Recovery Ship In-plane Launch time data**
 - **Procedure to be updated in FDO Console Handbook Annex (ECD L-14)**
- **Orbit 1 RPS Certification** **ECD 09/14/07**
- **Orbit 4 Traj Certification** **ECD 09/27/07**

STS-120 Flight Design & Dynamics Division Readiness Statement

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 Barbara A. Conte

Barbara A. Conte

Chief, Flight Design Requirements and Integration Branch

Original signed by Michael F. Collins

Michael F. Collins

Chief, Flight Design and Dynamics Division

**As compiled by: FDM/S. Liolios
FDO/D. Mayhew**

Backup

- **STS-118 IFAs**
 - Launch Window Sheet IFA
 - Unexpected Post OMS-2 Conjunction IFA
- **Flight Readiness Open Work**
- **Launch Window “Dot Chart”**
- **Items listed below in separate file**
 - Launch Window
 - Abort Regions
 - Nominal ET Impact Area
 - Ascent/Descent Flight Critical Software
 - RNDZ Training COFR Letter

STS-118 MOD IFAs

STS-118-D-004: L-2:20 Launch Window Sheet Incorrect Pane 2 Open Time

Pane 2 Open Time on FDO Launch Window Sheet set to Pane 2 In-plane Time in MARGI application

- Caused by an input error to the MARGI application & associated procedures (DRTS AR 55106)
- Error was discovered & corrected within 30 minutes – no adverse impacts to launch countdown
 - Had this remained uncorrected & launch was delayed into Pane 2, the Launch Window cutout from Pane 1 to Pane 2 would have increased from 10 sec to 57 sec inside drainback
- Workaround to be documented in console procedures for STS-120
- Long-term S/W fix being investigated

STS-118 DOL Launch Window Data	
Liftoff on 08/08/2007 (Day 220 GMT)	
	GMT
Window Open	22:32:52
Preferred Launch Time	22:36:42
Window Close	22:43:46
Launch T-0 at Preferred Launch Time:	
Pane 1 Close	22:39:11
Pane 2 Open	22:40:08 ← Should be 22:39:21 (Pane 1 Close + 10 sec)
Pane 2 Inplane	22:40:08
Drainback Hold Time	04:29
Launch T-0 at Window Open Time:	
Pane 1 Close	22:37:31
Pane 2 Open	22:40:08
Pane 2 Inplane	22:40:08
Drainback Hold Time	04:39

STS-118 MOD IFAs - Continued

STS-118-D-005: Unexpected Conjunction Post OMS-2 Burn

- Notification was received of close conjunction post-OMS-2, with Time of Closest Approach (TCA) GMT 221/00:11 (MET 0/01:34)
 - Notification came in approximately 15 min prior to TCA. Reported miss distance 2.3 km RSS (-0.1 radial x -0.9 downtrack x 2.1 km out of plane)
 - Note: “Red” mnvr box $\pm 0.5 \times \pm 4 \times \pm 4$ km per FR A4-106
 - No action taken in real-time due to large orbiter state vector uncertainty
 - Best reconstructed miss distance 1.2 km RSS (-0.6 x -0.4 x 0.9 km)
 - USSTRATCOM pre-launch COMBO screening was 16.2 km (-0.2 x -12.5 x 10.3 km)
 - Criteria is 5 x 15 x 5 km to force launch slip to next even minute (FR A4-3)
 - Pre-launch miss distance was outside the notification/slip box
- Pre-launch screening criteria and procedures being re-assessed – status report and recommendations for any changes for STS-120 will be reported to PRCB on 9/27/07 (action from STS-118 MMT Debrief, 8/29/07).

Flight Readiness Open Work

Item	Responsible	Due Date	Closed	Closure Rationale/Status
USA Flight Design Standard Open Work:				
DATA43 FDD FRR Data Pack	FDM	09/14/07		
FSW Verification Test Results Review	Orbit	09/21/07		
RNDZ/FDO Phasing Plan Meeting	Orbit	09/21/07		
CM FOE L-30 day audit	Bedford	09/21/07		
Review of ICHA Report	Orbit	09/23/07		
FSW Verification Test Results Review	ADFD	09/23/07		
DATA45 FDD FSW PF Sign-off	FDM	09/24/07		
ONOR29B RNDZ Launch Target Data	Orbit	09/25/07		
L-4 week LDO Database Freeze	ADFD	09/25/07		
RNDZ08 RNDZ Phasing Limits	Orbit	09/28/07		
ASCT04 Uplink APM	ADFD	10/02/07		
ONOR37B Daily Planar/Phase Windows	Orbit	10/02/07		
NAVO16B GPO COTM Data Pack	Navigation	10/02/07		
NAVO18B GPO/ONAV Ops Memo	Navigation	10/02/07		
LDO: L-3 week LDO Checkout/TCDT Sim	ADFD	10/02/07		
ONOR27 Launch and Landing Data	Orbit	10/04/07		

Flight Readiness Open Work

Work Item	Responsible	Due Date	Closed	Closure Rationale/Status
USA Flight Design Standard Open Work - Continued:				
ASCT44 DOL Uplink I-loads	ADFD	10/08/07		
ONOR29C RNDZ Launch Target Data	Orbit	10/12/07		
Dial Down Decision FIDP	FDM	10/15/07		
DSCT17 Landing Site Tables	ADFD	10/16/07		
ONOR37C Daily Planar/Phase Windows	Orbit	10/16/07		
RNDZ02 Target Drag Characteristics	Orbit	10/16/07		
C-Band tracking Scheduling Message	Navigation	10/16/07		
ASCT99 OMS Assist - ATO Update	ADFD	10/17/07		
RNDZ09 Rendezvous COLA Plans	Orbit	10/17/07		
SRB and ET RTLS Impact Point Update Memo	ADFD	10/20/07		
ASCT42 Collision Avoidance Data	ADFD	10/20/07		
ASCT47 Final MCC Trajectory Inputs	ADFD	10/20/07		
DSCT66 Real-Time Support Files	ADFD	10/20/07		
Range Safety Launch Window Cutout	ADFD	10/20/07		
Flight Annex	Navigation	10/20/07		

Flight Readiness Open Work

Work Item	Responsible	Due Date	Closed	Closure Rationale/Status
USA Flight Design Standard Open Work - Continued:				
ASAB32B AME MCC Support Tables	ADFD	10/21/07		
L-2 day DOLILU System Checkout	ADFD	10/21/07		
DSCT05 Maximum Crossrange Capability	ADFD	10/21/07		
ASAB25 ARD Bias Tables	ADFD	10/2207		

Flight Readiness Open Work

Work Item	Responsible	Due Date	Closed	Closure Rationale/Status
USA Flight Design Non-Standard Open Work:				
Integrated testing by Ascent Support for AIX removal from the MPSR network	ADFD	09/14/07		
Loads Update Resolution at SICB	ADFD	09/18/07		
Close RSDOL Discipline SR RS_48	ADFD	09/20/07		
FDD AR 2007-CAF062 Resolution	NAV	09/20/07		
Landing Analyst Certifications	ADFD	09/21/07		
Discipline software update to correct magnetic variation in WET site codes file	ADFD	09/28/07		
FDD AR 2007-CAF067 Resolution	NAV	10/09/07		
DOL Operator Certification	ADFD	10/10/07		
DOL Traj QA Certification	ADFD	10/10/07		
DOSP contingency procedure	ADFD	10/10/07		

Flight Readiness Open Work

Item	Responsible	Due Date	Closed	Closure Rationale/Status
Trajectory Operations Standard Open Work:				
L-30 HA Server Audit	TOCSS	09/23/07		
Close to Launch Trajectory Data	OFDO	09/24/07		
DOD Support Readiness	LSO	10/08/07		
Flight Load Checklist Complete	NAV	10/08/07		
Flight Load Checklist Complete	DOLILU	10/08/07		
Flight Load Checklist Complete	Entry Support	10/08/07		
TCDT Checkout in Ops Cert Mode	AE GPO	10/10/07		
PERA Pre-Flight Product	DM42 PERA Lead	10/16/07		
Flight Load Checklist Complete	RGPO	10/17/07		
Flight Load Checklist Complete	AEFDO	10/17/07		
Flight Load Checklist Complete	AEGPO	10/17/07		
Flight Load Checklist Complete	Orbit-RNDZ	10/17/07		
Flight Load Checklist Complete	OFDO	10/17/07		
Flight Load Checklist Complete	LSO	10/17/07		
Present new ops notes at Trench tagup	TOCSS	DM Trench Tag-Up		

Flight Readiness Open Work

Item	Responsible	Due Date	Closed	Closure Rationale/Status
Trajectory Operations Standard Open Work:				
Close to Launch Mass Properties	OFDO	10/16/07		
L-5 HA Server Audit	TOCSS	10/19/07		
Real-time Data Transfer Schedule	OFDO	10/22/07		
Cargo Transfer Spreadsheet	OFDO	10/22/07		
Trajectory Operations Non-Standard Open Work:				
Orbit 1 RPS Certification	RGPO	09/14/07		
SRB Recovery ship positioning procedure update	AEFDO	09/20/07		
Orbit 4 Traj Certification	TRAJ	09/27/07		
Mitigation Actions for loss of ASCC	OFDO	10/09/07	09/12/07	
Update A/E GPO Console Handbook for OI-32	AEGPO	10/09/07		
Conjunction FR Annex update (IFA STS-118-D-005)	AEFDO	10/13/07		
Landing Site Selection (Update Public Risk XRs) FR Annex update	AEFDO	10/13/07		

Flight Readiness Open Work - Concluded

Item	Responsible	Due Date	Closed	Closure Rationale/Status
DM Standard Open Work:				
Orbiter Readiness Statement	FDRIB	10/03/07		
Range Safety Readiness Statement	FDRIB	10/05/07		

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
 Integration Office

Date _____

 Chief, Flight Design Requirements and

Date _____

 Director, Flight Design and Dynamics Department

Date _____

 Chief, Flight Design and Dynamics Division

Date _____

Launch Window "Dot Chart"

