

STS-122 Integrated Launch Site Flow Review

Presenter

Stephen Reilly

Date

11-30-06

Program Freeze Point

PRCB Presentation

S115122C

STS-122 Integrated Launch Site Flow Review

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Baseline the STS-122 Mission Specific Requirements and Flow Plans.

The STS-122 Integrated Launch Site Requirements were established by PRCBD S115122. This CR and the Associated Data Package were reviewed at the 11-27-06 FRWG.

KSC Integration*

MK-SIO

Orbiter Engineering*

Requesting Approval

USA-OE

Shuttle Processing*

PH-B2

Status in BackUp

Flight Integration

MO3/USA-PI

Flight Software

USA-FSW

GFE FCE/EVA

MV5/XA

Payload/Cargo Engineering

USA-PI

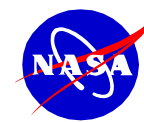
SSME

MP21

ISS/Payload Operations

UB-N

***BackUp Material**



STS-122 LAUNCH SITE FLOW REVIEW

Presenter Amy Houts Gilfriche
Date NOVEMBER 30, 2006

LAUNCH

10/17/07 NET
 39A/ MLP1
 CREW SIZE: 7 UP/7 DN

ORBIT

51.6 DEG
 122 NM
 DIRECT INSERTION
 DURATION: 11+1+2 DAYS

CONFIGURATION

OV-103 (34)
 LP01;RP03
 ET-125
 BI-132
 RSRM-99
 (1) TBD (2) TBD (3) TBD
 OI-32
 RMS,ODS,OBSS,SSPTS

CONSUMABLES

CRYO TANK SETS	5 (OFFLOADED)
GN2 TANKS	6 (FULL)
FWD RCS	1912# (2446# FULL)
AFT RCS	4970# (FULL)
OMS	24931#

PAYLOAD

ISS 1E
 (COLUMBUS)
 ICC-LITE
 ECSP

LANDING

SITE	KSC
TAL	ZARAGOZA
ALT. TAL	MORON & ISTRES
SCA	905



STS-122 LAUNCH SITE FLOW REVIEW

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Date NOVEMBER 30, 2006

PERFORMANCE MARGIN

• SIMULATION MARGIN (SPLBSAPM)		+213
• WEIGHT CHANGES SINCE SIMULATION		
• PAYLOAD	+1765	
• OPERATOR	-532	
• ORBITER	+1104	
• SSME	-141	
• NPC	-137	
• CREW COMPARTMENT	+1298	
• OMS	-3237	
• MPS PROP (NOT INERT)	-478	
• ET	+22	
• RECONSTR ASCENT PERF COLLECTOR	<u>+214</u>	
TOTAL WEIGHT CHANGES	-122	+122
• OTHER PERFORMANCE PROJECTIONS		
• PROTECTION FOR DOL DISPERSIONS		-700
• 10/17/07 LAUNCH DATE (PMBT&ATMOS)		+1070
• PARTIAL PROJ FOR MPS BGT GEN0602S		-20
• PARTIAL PROJ FOR MPS BGT GEN0603S		+36
• OMS ASSIST ADJ (BASED ON 6768 USAGE)		+388
• SRB – M/P UPDATES		-14
• SRB BR / 0.70 MIL HIGHER THAN 0.3705 AVG		+140
• ISP/THST FOR GEN BLOCK 2 @104.5%		+317
• PROJ TO 5 MIN WINDOW FROM INPLANE		-600
• PERFORMANCE CHANGES ADJUSTMENT		<u>-9</u>
• CURRENT BASELINED APM (11/28/06)		+943

STS-122 LSFR OV-103 FLIGHT 34 CONFIGURATION UPDATE

**Paul Hudson
USA Orbiter Element**

November 30, 2006

Mandatory Mod For STS-122

(1) Mandatory Mod To be Baselined:

- **19755 RMS MPM Over Center Stops (To be worked in combination with RMS removal)**
 - Newly designed Boeing stops limit the over-center travel of the OBSS/RMS due to vibration loads and deflection. OV103 Starboard side (OBSS) MPMs currently have the Boeing designed stops installed.
 - To prevent contact between the MPM wiring and the over-center stop set screw, MB0135-050 wiring tape restraint will be installed at each MPM location.
 - Flight-specific load profiles to determine whether new design stops will be required on the Port side (RMS) MPMs are not performed until near or after OPF roll-out
 - STS-116 Flight Specific Loads resulted in zero margin at the RMS MPM Xo 911 location. This payload was considered “Low Risk” since it was a single keel Payload.
 - Port side (RMS) MPMs shoulder over-center stop cannot be installed in the vertical. GFE over-center stops can be installed at all other MPM locations in the vertical.
 - Request concurrence to perform Mod and implement Tech Order M072-544501-087 without performing the requirement to bench rig the MPMs per the new spec requirements
 - Same approach was used for OV-104 on STS-115

KSC Launch and Landing Project
STS-122
Launch Site Flow Review

November 30, 2006

Agenda

- Multi Flow

S. Stilson / NASA

- Flight Element Processing

W. Bingham / USA

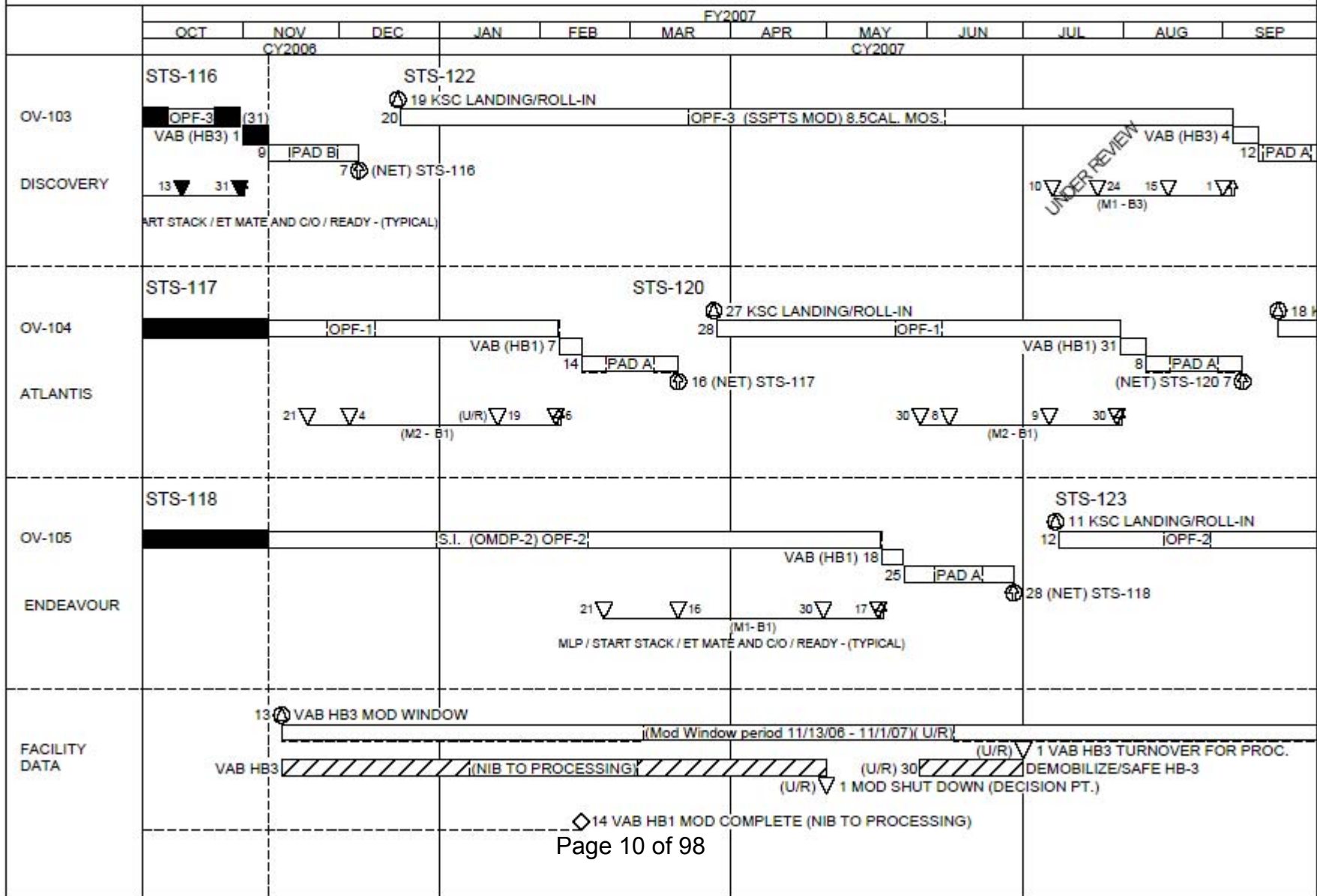


Multi Flow

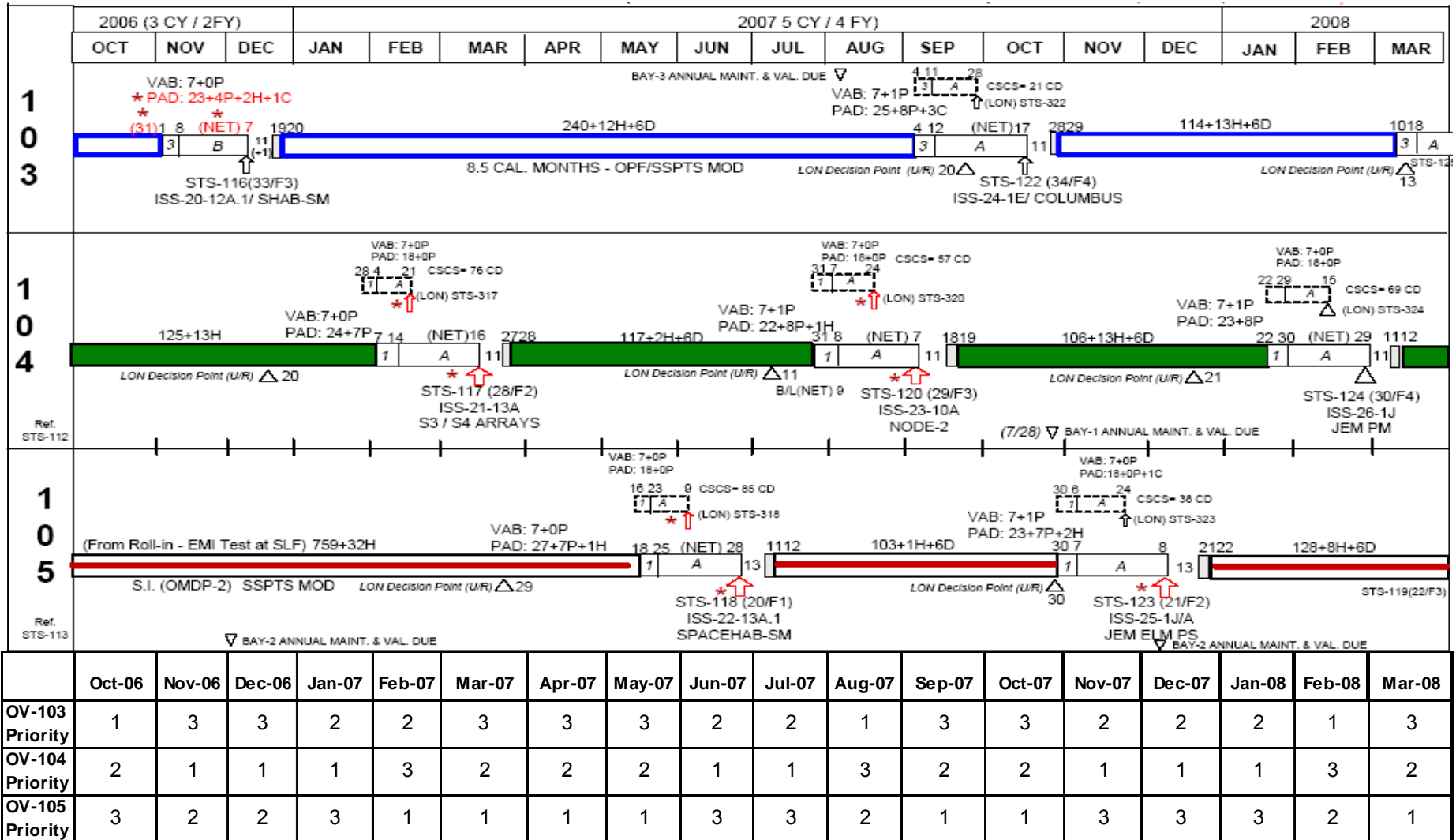
S. Stilson

KSC NEAR TERM MULTIFLOW

SSP APPROVED MANIFEST (REF. CR #S042013FZ)



Vehicle/TPS Manpower Allocation Priority



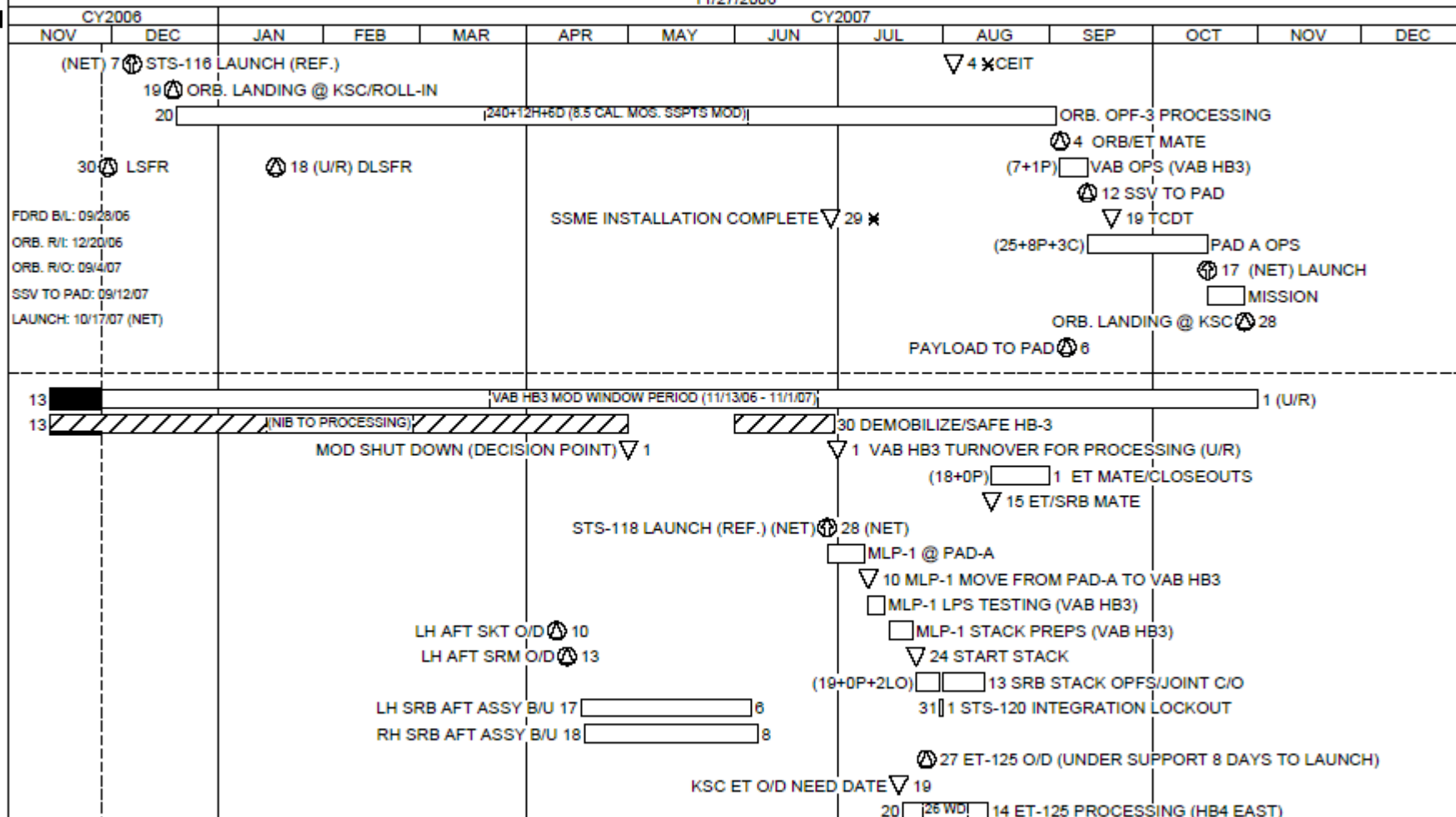
STS-122 KSC Milestone Interface Chart

OPR: USA - J. HAZELTON, INTEG. OPS.
NASA - S. FORD, PH-O

OV-103/34/ ISS-24-1E / COLUMBUS
CREW / DURATION: 7UP - 7DWN / 11
ET 125/ B1132 RSRM 99 / MLP-1 / PAD-A / VAB HB3

(REF. LR 06C-5A)

Status as of:
11/27/2006



THREATS: 1. ET DELIVERY & PROCESSING
2. VAB HB3 DOOR MOD SHUT DOWN (DECISION PT. 5/1/07)

NOTES: 1. TWENTY-FOURTH ISS/SSP FLIGHT

Flight Element Processing

W. Bingham

Flight Element Processing Overview

- OPF Processing Summary
- Modification Summary
- Nonstandard Work Summary
- Issues and Concerns
- Integrated Ops Assessment Summary
- Backup
 - Configuration / Facilities
 - Time & Cycle
 - Interval Requirements
 - Deferred Work
 - OMRS Requirements

STATUS

USA	NASA
C	C
C=Concur	NC=Not-concur

STS-122/OV-103 OPF FLOW MILESTONES
 DOWN: PAYLOAD: ISS-20-12A. 1/SHAB UP: PAYLOAD: ISS-24-1E/COLUMBUS

Creation Date: 3-OCT-2006
 Revision Date: 3-OCT-2006
 Revision : A

OPR: USA-BINGHAM, WAYNE W
 NASA-STILLSON, STEPHANIE S

2006					2007																																
DEC		JAN			FEB			MAR			APR			MAY			JUN			JUL			AUG			SEP											
18	25	1	8	15	22	29	5	12	19	26	5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	3
FLOW MILESTONES																																					
△ 19 KSC LANDING																		PAYLOAD PREMATE TEST COMPLETE 13 △																			
△ 20 ORBITER AT OPF DOOR																		HEAT SHIELD INSTALLATION COMPLETE 14 △																			
△ 20 CRYO OFFLOAD COMPLETE																		ORBITER/PAYLOAD IVT COMPLETE 16 △																			
△ 3 PLBD'S OPEN COMPLETE																		LANDING GEAR FUNCTIONAL COMPLETE 16 △																			
△ 5 PAYLOAD REMOVAL COMPLETE																		SSME TVC CHECKOUT/FINAL FLT CONTROL CYCLING COMPLETE 17 △																			
△ 6 HYPER OFFLOAD COMPLETE																		INTEGRATED HYD OPS COMPLETE 17 △																			
△ 8 TATA REMOVAL COMPLETE																		CEIT COMPLETE 4 △																			
△ 9 KYA REMOVAL COMPLETE																		FINAL PLB DOORS CLOSED 29 △																			
△ 11 BEGIN WINDOWS 1 THRU 6 R&R																		WGT/CG COMPLETE 1 △																			
△ 22 OMS POD FUNCTIONAL COMPLETE																		ROLLOUT FIRST MOTION 4 △																			
△ 24 FUEL CELL SINGLE CELL VOLTAGE TEST COMPLETE																																					
△ 24 POWER DOWN FOR SSPTS MOD																																					
△ 24 HEATSHIELD REMOVAL COMPLETE																																					
△ 26 SSME REMOVAL COMPLETE																																					
△ 30 OBSS REMOVAL COMPLETE																																					
△ 31 RH OMS REMOVAL COMPLETE																																					
△ 2 RMS REMOVAL																																					
△ 17 HYDRAULIC ISO VALVES X-RAY INSPECTION COMPLETE																																					
△ 21 MPS/TVC ISO VALVE INSPECTION COMPLETE																																					
△ 27 DRAG CHUTE INSTALLATION COMPLETE																																					
△ 5 POWERUP POST SSPTS MOD																																					
△ 13 RMS INSTALLATION																																					
△ 15 RMS VERIFICATION COMPLETE																																					
△ 20 RH OMS INSTALLATION COMPLETE																																					
△ 6 WINDOWS 1-6/TILE INSTALLATION COMPLETE																																					
ET DOOR FUNCTIONAL COMPLETE 12 △																																					
NEW BOOM DELIVERY 15 △																																					
OBSS INSTALLATION COMPLETE 16 △																																					
AMMONIA SERVICING COMPLETE 22 △																																					
SSME INSTALLATION COMPLETE 29 △																																					

△ PLAN/BASELINE ◇ DEVIATION FROM BASELINE ▲ ◆ ACTIVITY COMPLETED ○ ACTIVITY CANCELED △ △ ACTIVITY DURATION **** SCHEDULE CHANGE

STS-122 WORK CONTENT

- Standard Up Front and End of Flow Work
- Time and Cycles required for this specific Mission
- Interval Requirements due for this flow and Opportunities as appropriate
- SSPTS Mod
- ECO Sensor Mod
- Lock Bolts
- Deferred Work
- Chits
- Mods
- OMRSD Resets
- SCU's to be Removed and Replaced

STS-122 TPS WORK CONTENT

- Remaining Lock Bolts Require ~ 20 Tile Removal
- Gap Fillers ~1400 to be Accomplished
- In Flight Damage Tile R/R ~ 60
- BRI Tile on MLG Door ~ 28
- Tile Repairs ~ 750

TPS CAVITY COUNT

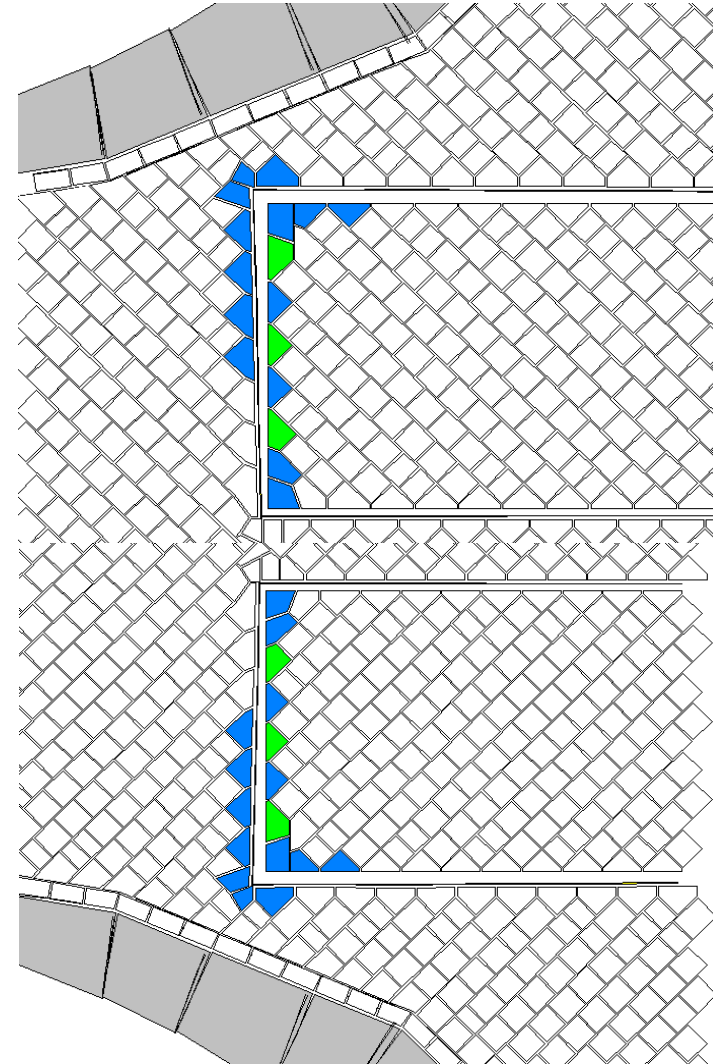
	LSFR
• <u>Standard Work</u>	
• Deferred Tile/ Fib for 1 Flight	19
• In-Flight Damage	60*
• Putty Repair Inspections	10*
• FIB Inspections	20*
• Operational Damage/Processing Support	12*
• Tile Removal from Gap Filler R/R	4*
• MLG Door BRI (Pre Planned)	28
• Lockbolts	20
	Subtotal 173
• <u>Additional Work</u>	
• Additional BRI Tile on MLG Door	0
• BRI Tile on LESS	0
• BRI Tile on Windows	0
• BRI Tile on NLG Door	0
	Total 173

STS-122 BRI Tile Estimate (MLGD)

- **Total MLGD= (28) BRI Tile**

 **BRI TILE R&R for STS-122**

 **BRI TILES (Complete)**



Planned Modifications

- **MCR-19789** **Station To Shuttle Power Transfer System (SSPTS)**
- **MCR-23240** **Elimination of “0” Gage Wire Damage In Lower Wire Trays (in areas where SSPTS work is being performed and deemed necessary)**
- **MCR-19810** **AMEC/EMEC Mounting Nut Mod**
- **MCR-23488** **ECO Sensor Instrumentation**
- **MCR-19743** **BRI-18 Tile MLGD (partial)**
- **MCR-19755** **RMS MPM Over Center Stops**
- **MCR-23467** **WCS Configuration Changes**

Opportunity Modifications

- **MCR-23227** **Connector Saver (ME414-0630) Redesign (OMS Pod, KU-Band)**
- **MCR-23411** **AFT Freon Coldplate Filters (If Freon Loops are to be Deserviced)**

Potential Modifications

- **MCR-19546** Hub Tile (attrition, no authorization required)
- **MCR-19874** BRI-18 Tile, NLGD & other locations (attrition, no authorization required)
- **MCR-19735** WLE Spar “Sneak Flow” Protection, Panels 1-4
- **MCR-19763** Lower WLE Carrier Panel Horse Collar Gap Filler Redesign, Panels 1-4
- **MCR-23440** Polycarbonate Protectors for Orbiter Window Panes
- **MCR-23452** RCC Fiducial Markings

Chits

- J5897 Lockbolts (complete 94)
- J5881A LESS Carrier Panel torque check
- J5930C Corrosion Sampling (Partial)
- J6106A ASA /ATVC/ RJDF removal for Tin whiskers
- J6109 Panel 9L Radiometer R&R
- J6115 Micro Inspection of small AFRSI Blankets
- J6116 Ames Gap Filler Removal
- J6117A Putty Repair Inspections
- J6117B Tile Putty Repair Inspection
- J6119 ET Door Screed Cavity Verification
- J6120 Large Tile Damage Scanning
- J6129 KU Band DA Heater Test (if MPCA removal not performed)
- J5919B 0-Gage Protection (Partial)
- JXXXX OBSS IBA Testing / Post Flight Inspection (OV17032)
- JXXXX Radiator retract flexhose Freon Sniff check (OV17146)

Chits

- J6132 MPCA Removal for Fuse Holder Solder Joints (or J6129 if not performed)
- J6139 Vernier Thruster PC Tube Flush
- J6141 OBSS Shoulder Electrical Contact Verification
- J6165 AMEC / EMEC Tin Whisker Mitigation (Potential)
- J6178 Removal of OV-103 Window Thermal Panes 1-6
- JXXXX Install GPS MAGRS-3S Link -008 software (Potential)
- JXXXX Radar Altimeter R&R for Tin Whisker Insp (Potential)
- J6179 ADTA Replacement (Potential - 2 / 4 units, or 4 / 4 if OEM schedule permits)
- J6104 Gap Filler Pull Test & Inspection
- J6180 Lockbolts – Option 3
- J6170 Close Clearance Pad Measurements
- K6182 Window Cavity Conditioning System Manifold Flow

RCN's That Have Become OMRSD's

- OV16274 DTV Cable Error Bit Check
- OV16832 Body Flap/Crew Hatch/FRCS Thermal Barrier Inspections, Hub and Drain Hole Tile Manual Deflection Test, and NSI
Arrowhead tile Insp
- OV16832 ET Door Paint Stripe
- OV17061 MMOD Post Flight Inspection
- OV17061R2 LESS/RCC Thermography Inspection
- OV17139 MPS/TVC Isolation Valve X-Ray
- OV17103 OBSS MPM Static Clearance Checks
- RCN TBD Fuel Cell mass spec leak check (for FC w/ torch brazed flowmeter, if implemented for STS-122)

ISSUES AND CONCERNS

- **IFA'S Make determinations for 122**
 - **RAC Decisions**
 - **PRT Decisions**
 - **Flight Damaged Tile to be R/R'd**

- **Deferred work Items**
 - **Significant Issues**
 - **RP03-A0082 Attach Point 2 - Attrition –Requires RH Pod removal (need long term plan for rework of attach point # 2)**
 - **NLG Door Stop Bolt Gaps and TPS requirements Landing Gear Cycles**
 - **Elevon Cove Columbium Seal Plan**

 - **2nd / 3rd in Vehicle Processing Scheme**
 - **Resource allocation**
 - **Decision Processes**
 - **Cannibalization by Higher Priority Vehicles**

 - **Suspect Fleet Issues**

ISSUES AND CONCERNS (FLIGHT 35)

- Currently Baseline 110 Days
- Completion of OMRSD /Reset During Flight 35 is Mandatory
- Potential Overflow of Requirements From Flight 34 (STS-122) to Flight 35 Highly likely
- Resources For 110 Days Does not Allow For OMRSD/Reset Requirements Overflow from Flight 34
- IFA's / In Flight Damage from Flight 34
- Suspect Fleet Issues
- Cannibalization by Higher Priority Vehicles

STS-122 Integrated Launch Site Flow Review

Presenter

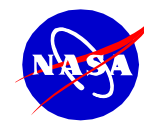
Stephen Reilly

Date

11-30-06

Backup Material

FRWG Presentation (With Minor Changes)



STS-122 LAUNCH SITE FLOW REVIEW

Presenter Amy Houts Gilfriche
Date NOVEMBER 30, 2006

FLIGHT MASS PROPERTIES

<u>CASE</u>	<u>TOUCHDOWN WEIGHT pounds (LIMIT)</u>		<u>MACH 3.5 X C.G. inches (LIMIT)</u>
NOMINAL	206237	(233000)	data unavailable** (1075.7)
RTLS	243174	(245000)	data unavailable** (1077.2)
TAL	241102	(244000)	data unavailable** (1077.2)
AOA	234889	(242000)	data unavailable** (1075.7)
CONT RTRN	205398	(233000)	data unavailable** (1075.7)

** = data unavailable this early in the flow

NOTE: RTLS 25 SEC FRCS DUMP
 TAL 65 SEC FRCS DUMP
 407 LBS. AFT FUS BALLAST



STS-122 Launch Site Flow Review

Presenter	
MK-SIO / A. Swift	
Date	Page
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Mandatory RCNs:

None

Non-Mandatory Value Added RCNs:

OV17212

V05 - OMDP INTERVAL EXTENSION

Preliminary



STS-122 LSFR

Flight Requirements Status

FRWG 11/27/06

PRCB 11/30/06

Ann Patterson, Lead MIM
James Flores, USA Flight Mgr.



STS-122 Flight Requirements Status	Presenter James Flores	
	Date 11/27/06	Page 2

- **Latest Revision: eFRD Basic, September 28, 2006**

- **Closed CR for Revision 001**
 - **FRD 17462-122-0001 – Replace Mini-Boom with OBSS**

- **Open CRs**
 - **No Open CRs**

STS-122/322

Launch Site Flow Review

Flight Software Overview

Tom Stansel

FRWG 11/27/2006

STS-122 LSFR (FSW)

- **Products**

- **STS-122/OV-103 Base software production schedule (available to field)**

- **Shuttle Data Tape**

- April 3, 2007**

- **Mass Memory Unit Contents**

- April 17, 2007**

- **STS-322/OV-103 deliveries will consist of the STS-122 Base SDT/Mass Memory, STS-322 Flight Specific I-Loads (to be released pre-callup) and post call-up changes if required**

- **Open Items**

- **STS-122/OV-103 Flight Specific I-Load DCRs are scheduled for SASCB approval on June 28, 2007**

- **Living SCR to define configuration for STS-322 targeted for approval in May 2007**

- **Concerns/Issues**

- **There are no known issues or concerns with Flight Software in supporting STS-122 or STS-322**

STS-122 LSFR (FSW) - Backup

- **STS-122/OV-103 is the Second Scheduled Flight of Operational Increment (OI) 32 Flight Software (FSW)**
 - SASCBC SCR 98085D documents PASS and BFS OI 32 content
- **STS-122/OV-103 Flight Software Payload Support:**
 - ISS-1E
 - Orbiter Interface Unit (OIU)
 - Sequential Still Video (SSV)
 - Orbiter Docking System (ODS)
 - Trajectory Control System (TCS)
 - Assembly Power Converter Units (APCUs)
 - Station to Shuttle Power Transfer System (SSPTS)
- **Major New Flight Software Support Items:**
 - None

STS-122 LSFR (FSW) - Backup

- **STS-122 Source Changes/Edits for Primary Flight Software (Base)**
 - None
- **STS-122 Patch Implementation for Primary Flight Software (Base)**
 - None
- **STS-122 Patch Implementation for Backup Flight Software (Base)**
 - None

BACKUP

- **Mod Record and MECSLSI Updates**
- **Engineering, Hardware and Certification Status**

Mod Record and MECSLSI Updates

MCR NO.	MCR TITLE	KIT/ MOD RECORD & DESCRIPTION	TECH ORDER IMPACT	REMARKS
Mandatory Mod				
19755	<u>RMS MPM Pedestal Over-Center Stops</u> New Boeing stops to replace GFE stops on RMS MPMs (Shoulder, FWD, MID and AFT locations) due to potential that mission unique loads will exceed MPM over-center mechanism capability.	<u>VK82-544010-003.0005.1</u> - RMS MPM Pedestal Over-Center Stops	M072-544501-087 (Ref) Mod config established at -045 Config waiver taken at flt 33 for unworked dash numbers prior to -087 (MV0082A)	No MECSLSI update required from STS-116 configuration

Engineering, Hardware and Certification Status

MCR NO.	MCR TITLE	Est. Engr Release (MM/DD/YY)	G.O. Engr Need (MM/DD/YY)	Est. Hdwe Delivery (MM/DD/YY)	G.O. Hdwe Need (MM/DD/YY)	MOD/CERT GO / NO-GO	CERT SUBMITTAL DATE	CERT APPROVAL DATE (ESTIMATE)	CERTIFICATION CR / CAR (BOEING)	REMARKS
Mandatory Mods										
19755 Riley / Bacon	RMS MPM Pedestal Over-Center Stops New Boeing stops to replace GFE stops on RMS MPMs (Shoulder, FWD, MID and AFT locations) due to potential that mission unique loads will exceed MPM over-center mechanism capability	Released	N/A	Delivered	N/A	Go	6/9/06 A	6/13/06 A	CAR 08-44-000002-001K	Requirement for new stops dependent upon flight specific loads analysis, completed late in the flow per loads analysis template.
19789 Lee	Shuttle-Station Power Transfer System (SSPTS) Station-Shuttle Power Transfer System (SSPTS) will provide the capability to convert 120 Vdc International Space Station (ISS) secondary power to 28 Vdc Orbiter power to supplement power from the Orbiter fuel cells for Orbiter electrical loads, thereby providing increased on-orbit docked mission duration with the ISS. The SSPTS also provides the capability for converting 28 Vdc Orbiter power to 120 Vdc to feed power to Shuttle payloads. Includes development, delivery and integration of the following: ISS Jumpers provided by Space Station; Routes 120 Vdc SSPTS input power from the ISS Remote Power Controller Modules to the existing APAS 'X' connectors; Power Transfer Units (PTUs) for Shuttle provided by Hamilton Sundstrand Rocketdyne to convert 120 Vdc power from the ISS to 28 Vdc power for use by the Orbiter and converts 28 Vdc Orbiter power to 120 Vdc for use by the Shuttle payloads; Orbiter Mod Kits (wiring, structures, switches, contacts & misc hardware) provided by Boeing used to route the 120 Vdc input power from the APAS 'X' connectors thru the Orbiter to the PTUs, route 28 Vdc output power from the PTU to the Orbiter Main Distribution Control Assembly (MDCA), route 120 Vdc output power from the PTU to the Shuttle payloads, and enables modification to Orbiter A15 Panels and MDCAs.	Released	N/A	Delivered (4a) TBD ROM of March '07 (4b) 12/21/06 (4c)	N/A	(4)	7/6/06 A 7/6/06 A 9/26/05 A 5/11/06 A 1/15/07 P 3/1/07 P	TBD TBD TBD 3/22/07 P 3/22/07 P	CR 09-367000-001Y CAR 15-09-367000-001Y (TCS cert) CR 21-409-0547-0010 CR 21-409-0547-0010 errata CR-21-409-0547-0010 Rev A CAR 01-21-409-0547-0010 (Power Transfer Unit)	(4a) Boeing mod kit hardware delivered (4b) PTU units 3 & 4 delivery for OV-103 (4c) GSE Output Over-voltage Tester (OOVT) delivery date (4) Go for scar / wiring installation. Currently No Go for PTU pending completion of qual testing (2/7/07) and DCR (3/8/07) Note: checkout for initial implementation flows will be by Chit-ERD Dec 2006

Engineering, Hardware and Certification Status

MCR NO.	MCR TITLE	Est. Engr Release (MM/DD/YY)	G.O. Engr Need (MM/DD/YY)	Est. Hdwe Delivery (MM/DD/YY)	G.O. Hdwe Need (MM/DD/YY)	MOD/CERT GO / NO-GO	CERT SUBMITTAL DATE	CERT APPROVAL DATE (ESTIMATE)	CERTIFICATION CR / CAR (BOEING)	REMARKS
Mandatory Mods										
19810 Rodriguez	AMEC/EMEC SMIA Mounting Nut Mod Replaces five nuts, used to mount the serial multiplexer interface adapter (SMIA) sub-module to the multiplexer interface adapter (MIA) module or parent assembly, with smaller diameter nuts to properly fit into their respective SMIA cutout or counterbore. Corrective action for condition found during final inspection following repair of AMEC S/N 4. MC450-0016-0009 revised to MC450-0016-0029 for AMEC and MC450-0016-0007 revised to MC450-0016-0027 for EMEC (interchangeability for OV-103). OV-103 hardware modified during flt 31 flow by restricted MR due to lead time required to implement design change via vendor engineering. This will be a 'paper modification' closing the work performed by MRs (less replacement of the re-ID labels for the internal module and external LRU - ref PR EPD-3-31-1588 & PR EPD-3-31-1590) to the design engineering.	Released	N/A	N/A (27)	N/A (27)	Go	6/17/05 A	2/13/06 A	CR 21-450-0016-0009C CAR 02-21-450-0016-0009C	(27) Modified nuts already installed - MR documentation to be replaced by mod engineering ('paper modification') only less application of SRU / LRU, ID labels provided by vendor to Logistics. Note: Plan is to combine implementation of this mod with fleet LRU recycle plan (NSLD work) for tin whisker mitigation by chit J6165 - EDD for NSLD rework of recycled units ffrom OV-105 (mod completion & tin whisker mitigation) is mid Jan 2007. SRU tin eyelets will be embedded with RTV.
23420 Antonios	0-Gauge Wire Protection for Lower Midbody Wire Tray Implements corrective actions to eliminate damage to 0-gauge harnesses from milson fasteners on wire tray covers and tray clamp fasteners by primarily rotating harness bundle clamps to provide additional clearance to tray cover fasteners and adding chafe protection as required. Works with MCR 19618 Wire Tray Riser Removal to eliminate wire tray risers at some locations to prevent wire harness crowding and associated tray cover bulging.	Released	N/A	Delivered	N/A	Go	N/A	N/A	N/A	Partial implementation likely as dictated by specific wire tray condition and impacts of implementing Wire Tray Riser Removal and SSPTS.
23448 Antonios	ECO Sensor System Instrumentation Implements voltage measurements for all four MPS ECO LO2 and LH2 Sensor Transducer Circuits to provide insight into ECO sensor system performance anomalies. In the event of recurrence, the added measurements will help identify the source and type of the anomaly in the Point Sensor Transducer circuits. However, the added voltage measurements will not be able to differentiate between the ET and Orbiter wiring/transducer anomalies. The Point Sensor Checkout System combined with the added voltage measurements provides tools to assist in allowing deviation of the Launch Commit Criteria which presently requires 4 of 4 ECO sensors to not be indicating dry. In addition, these measurements allow real time discernment of failed wet ECO sensors during ascent.	Released (6) 12/14/06 (7)	10/20/06 (6)	N/A (8) N/A	N/A (8) N/A	Go	1/19/07 P 1/19/07 P 12/15/06 P 12/15/06 P	3/2/07 P 3/2/07 P 2/2/07 P 2/2/07 P	CR 21-770000L CAR 10-21-770000L (Avionics cert) CR 03-350013-001 CAR 168-350013-001 (Structures cert)	Ref OCRD S165037 (6) Avionics/electrical implementation EOs all released (7) Upper level avionics and structures accum / tree-up drawings release (8) Parts (wiring / splices) available on site

Engineering, Hardware and Certification Status

MCR NO.	MCR TITLE	Est. Engr Release (MM/DD/YY)	G.O. Engr Need (MM/DD/YY)	Est. Hdwe Delivery (MM/DD/YY)	G.O. Hdwe Need (MM/DD/YY)	MOD/CERT GO / NO-GO	CERT SUBMITTAL DATE	CERT APPROVAL DATE (ESTIMATE)	CERTIFICATION CR / CAR (BOEING)	REMARKS
Authorized Non-Flight Specific / Attrition Mods for Opportunity Implementation										
19618 Antonios	Wire Tray Riser Removal (Partial) To be worked as a partial mod with MCR 19789 SSPTS and MCR 23420 0-Gauge Wire Protection implementation. Removes the risers in the bottom of the wire trays; adds protective Teflon sheeting at inter-tray gaps; opens up EMI barrier cutouts and adds grommets on cutout edges; replaces torque set screws with hi-Loks; adds protective coating on payload wire tray cover Milson fastener receptacles.	Released	N/A	Delivered	N/A	Go	N/A	N/A	N/A	Authorized as non-flight specific by PRCBD S115114AC
19546 Barnum	Inboard Elevon Tile Enhancement (Hub Tile Mod) Replaces 2 hub tiles on the inboard elevon area with a single, more robust tile / tile design.	Released	N/A	N/A (16)	N/A	Go	7/18/01 A	9/26/01 A	CAR 25-07-190001-001U	(16) Parts to be fabricated at KSC Attrition authorized PRCBD S086425DB
Opportunity Mods										
19546 Barnum	Inboard Elevon Drain Hole Relocation Elevon structural drain hole will be relocated from the side of the elevon to the top of the elevon. The old drain hole tile will be replaced with a "normal" tile. Provides a new RTV drain plug which will allow drainage and prevent rain water intrusion into the drain hole and elevon cavity (new RTV drain plug authorized under MCR 23422 with engineering released under MCR 19546 mod codes).	Released	N/A	Delivered (1)	N/A	Go	7/18/01 A	9/26/01 A	CAR 25-07-190001-001U	(1) Design center provided kits delivered. Drain hole plug to be fabricated on-site at KSC
19735 Barnum	WLE Spar "Sneak Flow" Protection Implements partial deferral of remaining Non-RTF mandatory panels (1-4)	Released	N/A	N/A (2)	N/A	Go	10/6/04 A 10/6/04 A 10/6/04 A	6/16/05 A 6/16/05 A 6/23/05 A	CR 08-199200-003T CAR 39-08-199200-003T CAR 146-05-100004-002J	(2) Hardware provided by KSC Back-Shop.
19743 Barnum	BRI-18 TPS Hardening - MLG Door Implements TUFi-coated BRI tile which is tougher than the current RCG-coated LI-2200 and FRCL-12 tiles. This MCR authorizes implementation on an attrition basis for the MLGD periphery tile locations.	Released	N/A	See Remarks (17)	See Remarks (17)	Go	10/13/05 A 10/24/05 A 01/25/06 A 9/1/06 A	5/03/06 A 5/03/06 A 5/03/06 A 11/27/06 P	CR 07-190001-001X CAR 28-07-190001-001X CAR 29-07-190001-001X CAR 30-07-190001-001X	(17) Current authorization provides 160 billets of BRI-18 material per vehicle & 50 containers of TUFi/Slurry under MCR 19743, which also will be used to cover attrition implementation under MCR 19874. As of 11/3/06, all of the 480 total billets and all 50 total containers of slurry have been delivered. Will require billet allocation and final KSC backshop fabrication prioritization based on vehicle attrition needs. CAR 30 covers full 17 mission certification.

Engineering, Hardware and Certification Status

Opportunity Mods

19763 Barnum	Lower WLE Carrier Panel Horse Collar Gap Filler Redesign Implements partial deferral of remaining Non-RTF mandatory panels (1-4)	Released	N/A	N/A (3)	N/A	Go	10/6/04 A 10/6/04 A	6/16/05 A 6/16/05 A	CR 08-199200-003T CAR 39-08-199200-003T	(3) Hardware provided by KSC Back-Shop.
19874 Barnum	BRI-18 TPS Hardening - Other Vehicle Areas Implements TUF-I-coated BRI tile which is tougher than the current RCG-coated LI-2200 and FRCL-12 tiles. This MCR authorizes implementation on an attrition basis for the NLGD periphery, ET Door periphery, Window (1-6) carrier panels and lower LESS Carrier Panel locations.	Released	N/A	See Remarks (17)	See Remarks (17)	Go	3/06/06 A 3/06/06 A 9/1/06 A	5/21/06 A 5/21/06 A 11/27/06P	CR 07-391001-001AB CAR 33-07-391001-001AB CAR 34-07-391001-001AB	NLG Door Portion of Mod (17) - Applies to all MCR 19874 material deliverables. Current authorization provides 160 billets of BRI-18 material per vehicle & 50 containers of TUF-I/Slurry under MCR 19743, which also will be used to cover attrition implementation under MCR 19874. As of 11/3/06, all of the 480 total billets and all 50 total containers of slurry have been delivered. Will require billet allocation and final KSC backshop fabrication prioritization based on vehicle attrition needs. CAR 34 covers full 17 mission certification.
		Released (18)	N/A	See Remarks (17)	See Remarks (17)	Go	8/25/06 A 11/7/06 A	11/27/06 P 11/27/06 P	CR 08-199200-003U CAR 40-08-199200-003U CAR 42-08-199200-003U	Lower WLE Carrier Panel Portion of Mod (18) All 14 drawings including tree-up released. Cert submittal covers full 17 flight certification - 'Go' implementation based on completed sequence of environment cycle testing (report released 8/18/06) and additional vehicle area specific analysis. CAR revision 42 superceded CAR 41 document updated environments in the aero thermal analysis.
		Released (19)	N/A	See Remarks (17)	See Remarks (17)	Go	12/1/06 P 12/1/06 P	1/19/07 P 1/19/07 P	CR 07-391001-001AC CAR 35-07-391001-001AC	Window Carrier Panel Portion of Mod (19) All engineering released 7/28/06 due to ground ops request for re-prioritization. Cert submittal will cover full 17 flight certification - 'Go' implementation based on completed sequence of environment cycle testing (report released 8/18/06) and additional vehicle area specific thermal analysis.
		12/21/06 (20)	TBD	See Remarks (17)	See Remarks (17)	No Go (20)	1/31/07 P	3/14/07 P	CR 07-395001-001X CAR 28-07-395001-001X	ET Door Perimeter Portion of Mod (20) SWRI ice impact testing completed 11/7/06. Evaluation of results to be completed and reviewed with OPO late Nov / early Dec 2006 with engineering implementation to begin upon determination of successful test results. Engineering release consists of 2 working level drawings and 1 tree-up and will commence dependent upon testing results.

Engineering, Hardware and Certification Status

MCR NO.	MCR TITLE	Est. Engr Release (MM/DD/YY)	G.O. Engr Need (MM/DD/YY)	Est. Hdwe Delivery (MM/DD/YY)	G.O. Hdwe Need (MM/DD/YY)	MOD/CERT GO / NO-GO	CERT SUBMITTAL DATE	CERT APPROVAL DATE (ESTIMATE)	CERTIFICATION CR / CAR (BOEING)	REMARKS
Opportunity Mods										
23227 Antonios	Connector Saver Redesign Redesigned connector savers (ME414-0630) provide proper interfacial seal and wavy washer engagement retention force to reduce risk of inadvertent demate during use. Implementation at remaining unworked locations (OMS Pods and Ku-Band) as Opportunity.	Released	N/A	N/A	N/A	Go	10/11/05 A 10/11/05 A	3/17/06 A 3/17/06 A	CR 21-770000K CAR 08-21-770000K	Non-implementation will require inspection of existing connector savers and tape
23411 Antonios	Aft Freon Coldplate Loop Filters Adds filters to the Freon Aft Cold-plate (ACP) Network to minimize the risk of flow blockage due to contamination to this network of coldplates. The filters will be installed in both freon loops between the FES tee and the flow meters and will be supported by new structural brackets. The filter has a greater capacity than other 25 micron filters and hence will not add additional periodic maintenance. The filters are off-the-shelf filters from Wintec LLC. Flow restriction due to contamination has occurred twice, both times resulting in significant impacts: STS-109 with near early mission termination & OV-103 post J3 OMM with 9 months of extensive, invasive vehicle inspection and hardware replacement. An off-the-shelf 25 micron filter will be used, built by the current supplier for many Shuttle filters.	Released	TBD	11/22/2006 (23)	11/22/2006 (23)	No-Go (24)	11/30/06 P 11/30/06 P	1/25/07 P 1/25/07 P	CR 24-635100-001H CAR 06-24-635100-001H	(23) Structures kit delivered, 11/22/06 for ECLSS kit. (24) Hardware certification to be by analysis & test - delta qualification for Shuttle vibration environment required was completed by vendor 10/25/06 - Qual test data in review by PRT ECD 11/22/06. Waiver for OVEI requirement of 30 mission cycles will be required as qual test / cert will be for 10 mission cycles (end of program cost & schedule considerations) Mod has no effect on Software, LCC, OMRSD, Flight Rules
23467 Bacon	WCS Configuration Change (CFE) Revises WCS dash number to WCS1000-25 with the following changes: a. Change vendor on dual vane compactor material webbing (new vendor qualification). b. Change WCS commode stove heat shrink material. c. Revise Check Valve gasket and o-ring seat material, check valve lubricant, revise poppet material specification. d. Add back shells to all Fan separators. e. Provides heel cups and inner & outer straps for the WCS foot restraint. Requires update to Boeing installation drawing, V070-623002 to reflect WCS part number change.	11/27/06 (14)	TBD	TBD (15)	TBD	TBD (15)	TBD (15) 11/29/06 (14)	TBD (15) 1/24/07 (14)	TBD (15) USA Cert CR 23-623000-001G CAR 06-23-623000-001G (14) Boeing Cert	(14) Installation drawing & certification is Boeing responsibility - Instl EO 11/27/06, tree-up 12/11/06 (15) WCS hardware delivery and certification is USA CFE responsibility

Engineering, Hardware and Certification Status

MCR NO.	MCR TITLE	Est. Engr Release (MM/DD/YY)	G.O. Engr Need (MM/DD/YY)	Est. Hdwe Delivery (MM/DD/YY)	G.O. Hdwe Need (MM/DD/YY)	MOD/CERT GO / NO-GO	CERT SUBMITTAL DATE	CERT APPROVAL DATE (ESTIMATE)	CERTIFICATION CR / CAR (BOEING)	REMARKS
Potential Mods										
23440 Munoz	MCR 23440 Lexan Covers for Pressure Panes Implements polycarbonate window shields on aft and overhead Orbiter pressure pane interior surface to reduce risk of window breakage. Hazard Report ORBI-009 indicates that failure of the Orbiter Crew Module pressure panes, due to on-orbit impact, may lead to failure of redundant panes that may cause loss of crew & vehicle. Installation training to occur at JSC mockup trainer.	Released (25)	TBD	12/8/06	TBD	No Go (26)	12/1/06 P 12/1/06 P 12/1/06 P 12/1/06 P	1/19/07 P 1/19/07 P 1/19/07 P 1/19/07 P	CR 04-331701-001F CAR 103-04-331701-001F (rear windows) CR 04-331551-001F CAR 103-04-331551-001F (aft windows)	OCRD S165021A targets flight 33 target implementation - will require revision. (25) MAO spec released - window assy drawings released 11/9/06 - tree-up / top accum dwgs ERD 11/22/06 (26) Development testing is required to be completed prior to proceeding with vehicle implementation (window optical & thermal properties, process to join covers to the window pressure panes). Completion of development testing ECD 11/30/06. Certification will be based on optical, thermal, pressure, and compatibility testing. OMRS & Hazard Report updates required
23452 Azama	Fiducial Markings on WLE RCC T-Seals Implements fiducial markings on wing leading edge T-seals 6-11 and nose cap reinforced carbon-carbon (RCC) to facilitate on-orbit imagery X-Y-Z coordinate location identification on RCC inspection areas of interest. Will enable more accurate and expeditious coordinate location identification for inspection and damage assessment activities. Implementation requires successful completion of RCC coupon material compatibility testing and chemical analysis of Sharpie ink marking, radiant heating (ascent) testing and X-Ray diffraction & electron microscopy of marked RCC area cross sections.	3/21/2007 (9a)	TBD	N/A	N/A	No Go (9)	3/23/07 P (9a) 3/23/07 P (9a)	4/3/07 P 4/3/07 P	CAR 41-08-199200-003T (WLE T-Seal cert) CAR 37-08-399200-001R (Nosecap cert)	OCRD S165045A approved 9/18/06 authorizes flight 34 implementation. Effort includes material testing, certification, specification change, drawing changes. (9) Remaining qual testing involves performing multi-mission arc jet effects testing (ECD Late Jan 2007) and cross sectional analysis of the Sharpie marked RCC subjected to multi-mission arc jet test (ECD late Feb 2007). Summary of test results will be evaluated and presented to OPO for a Go/No Go decision in the late February 2007 timeframe based on assumed arc jet test schedule. (9a) Product delivery dates have again moved out due to slip in availability of Arc Jet facility to run multi-mission marking test. <u>Dates noted are estimates only based on assumed start of arc jet testing.</u>

Engineering, Hardware and Certification Status

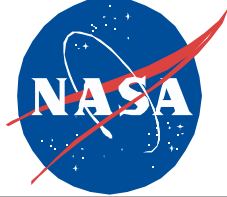
MCR NO.	MCR TITLE	Est. Engr Release (MM/DD/YY)	G.O. Engr Need (MM/DD/YY)	Est. Hdwe Delivery (MM/DD/YY)	G.O. Hdwe Need (MM/DD/YY)	MOD/CERT GO / NO-GO	CERT SUBMITTAL DATE	CERT APPROVAL DATE (ESTIMATE)	CERTIFICATION CR / CAR (BOEING)	REMARKS
Potential Mods - Required for STS-322 LON										
19760	Recumbant Seat Kit Seat 8 Rail Assembly Modifies Recumbent Seat Kit (RSK) Seat 8 rail assemblies to adapt to vehicle-to-vehicle variations during crew on-orbit installation. Modified the design of the recumbent seat 8 rail assembly installation to provide better alignment with the middeck floor attach provisions and easier installation of the rail assembly Eliminates installation difficulties due to vehicle-to-vehicle variations during crew on-orbit installation STS-322 LON ONLY FOR FLIGHT 34	Released	N/A	N/A	N/A	Go	6/29/04 A	5/4/05 A	03-25-39129802-301C	Required for ISS crew return mission with 8th crew member or LON. CCCD Mission Equipment item: M072-660865-009 replaces -010 (MV0865A) M072-660865 C03 ref'd 5/27/04
19798	LON Crew Rescue Recumbent Pallet System No vehicle mods - pallet is manifested due to LON mission requirement. STS-322 LON ONLY FOR FLIGHT 34	Released	N/A	Delivered	N/A	Go	10/5/05 A	4/11/06 A	25-932-660100-001A	Hardware ready to support OV-104 STS-300 or STS-301 LONs CCCD Mission Equipment Item M072-660932 -002 (ADD for OV-103) (MV0932A)



EVA Status

STS-122/1E Launch Site Flow Review

**XA/Linda Thomas
Johnson Space Center
November 30, 2006**



- **Bulkhead PFR, SED33105308-307**
 - Bulkhead PFR installation – Tech Order: M072-661568-029
- **Winches**
 - Forward Winch, SED33101570-327
 - Aft Winch, SED33101570-325
- **Port TSA (Lightweight)**
 - Port LWTSA installation – Tech Order: M072-660850-003
 - Port LWTSA Tools installation – Tech Order: M072-660853-002
- **No Starboard TSA**
- **No Safety Tethers Routed in PLB**
- **No Slidewires**

STS-122
ISS – 1E COLUMBUS, ICC-LITE
LAUNCH SITE FLOW REVIEW

PAYLOAD CARGO ENGINEERING STATUS

MICHAEL BARIDO
281.212.6072
NOVEMBER 30, 2006

STS-122 LSRR

ENGINEERING FLIGHT PRODUCT STATUS

<u>DRAWING NO</u>	<u>TITLE</u>	<u>REV</u>	<u>EO</u>	<u>RELEASED</u>
V072-200202	MECSLSI	NC	-	11-10-06
VA72-200202	CARGO ARRANGEMENT	NC	-	XX-XX-XX
VD72-200202	AVIONICS DIAGRAM	NC	-	XX-XX-XX
VS72-200202	INTEGRATED SCHEMATIC	NC	-	XX-XX-XX
VS70-540XXX	RETENTION SCHEMATIC	NC	-	XX-XX-XX

RESCUE FLIGHT STATUS

- STS-322 RECONFIGURATION ENGINEERING PRODUCTS WILL BE DEVELOPED BY THE ENGINEERING ORDER TO FOLLOW (EOTF) PROCESS.

ENGINEERING OPEN WORK

- CIR DATAPACK 01-16-2007 (U/R)

STANDARDIZATION

- MISSION CONFIGURATION DOES COMPLY WITH ORBITER/PAYLOAD INTEGRATION STANDARDIZATION DOCUMENT NSTS 60523

STS-122 LSRR

PAYLOAD ICDS/PIRNS

PIRNS THAT IMPACT FLIGHT PRODUCTS

<u>PIRN #</u>	<u>ICD/PAYLOAD</u>	<u>TITLE</u>	<u>ECD</u>
A05221	ICD-A-21396 COLUMBUS	MECH. UPDATES, CLEARANCE VIOLATIONS	01-12-07
A05243	ICD-A-21396 COLUMBUS	ADD SSPTS DATA	12-22-06
A05268	ICD-A-21396-ICCL	ICD BASELINE	12-22-06

ISSUES/CONCERNS

- NONE



Discovery STS-122

Launch Site Flow Review

Space Shuttle Main Engine

30 November 2006

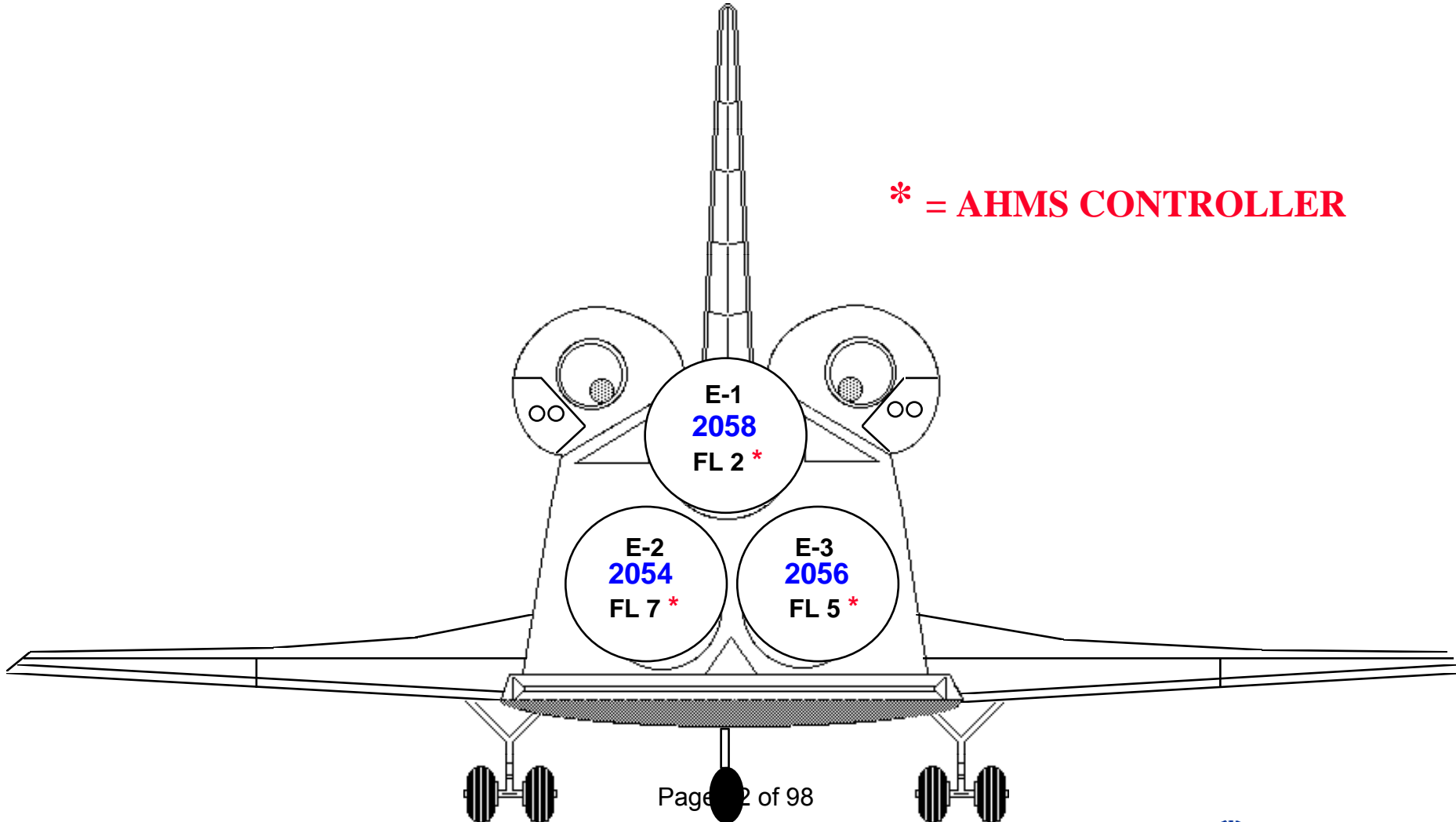
SSME- KSC
Page 51 of 98
Greg Hale
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STS-122 Launch Site Flow Review

Engine Allocation/Location

*** = AHMS CONTROLLER**





STS-122 Launch Site Flow Review

SSME Planned Modifications

- Work approved by shuttle project action request (SPAR) or Level II change request (CR)

ECP	Kit No	Description Impact	Weight CR No.	SPAR No./	Engine	Status
1477	2R091569-10	Transducer Covers	+0 LB	ME-0219 RB ME-0217 R01	2058 2054	In-Work In-Work
1480	2R091575-10	AHMS Controller	-3 LB	ME-0191 R16	2056	In-Work
1507	2R091569-10	No Step Decals	+0 LB	ME-0219 RB ME-0217 R02	2058 2054	In-Work In-Work
1511	2R091613-10	AHMS Weight Updates	+0 LB	ME-0216 R4	2056	In-Work



STS-122 Launch Site Flow Review

Rocketdyne Action Requests (RAR)

- All work to be performed in the engine shop

RAR Number	ENGINE	SPAR	DESCRIPTION	STATUS
1566	2056	ME-0220R01	Dye Pen HPFTP Speed Sensors	CLOSED

ISS AND SPACECRAFT PROCESSING STS-122 LAUNCH SITE FLOW REVIEW

- ISS Mission 1E Payload Complement

- COLUMBUS
- ICC LITE
 - SOLAR
 - EUTEF
 - NTA ascent & descent
 - CMG descent



ISS AND SPACECRAFT PROCESSING – SHUTTLE INTEGRATED OPERATIONS

SSPF

- Columbus Ext Closeouts Complete 23 July 2007(U/R)
- Columbus Hatch Closure 06 Aug 2007(U/R)
- Columbus ICD Walkdown 20 Aug 2007(U/R)
- ICC-LITE On Dock 27 Aug 2007 (U/R)
- Columbus and ICC LITE Transfer to Canister 05 Sep 2006 (U/R)

PAD

- Payload Transfer To Pad 10 Sep 2007 (U/R)
- Columbus and ICC-LITE IVT 20 Sep 2007 (U/R)
- Launch (N.E.T.) 17 Oct 2007 (U/R)



ISS AND SPACECRAFT PROCESSING SUMMARY

- **NO ISSUES OR CONCERNS**
- **The KSC STS-122 ISS and Spacecraft Processing Team is ready to process the 1E Mission payload complement**



BACKUP

Configuration / Facilities

- **OV-103: Flight 34**
- **OMS Pods: LP03 / RP01**
- **ET: 125**
- **SRB: BI – 132**
- **SSME: 2058 (#1), 2054 (#2), 2056 (#3)**
- **Payload: ISS-24-1E COLUMBUS**
- **Flight Software: OI-32**
- **Firing Room: 4**
- **OPF Bay: 3**
- **MLP: 1**
- **VAB High Bay: 3**
- **Pad: A**

Time & Cycle

System	Part Number Serial Number Requirement Separ	Lot #	Part Description Location Requirement Description Separ Description	Birth Date	Expiration Date
APU	MC201-0001-0600 000403 C00AA0.090.012		IAPU COMPLETE ASSEMBLY APU#2 9 MONTH INACTIVE WETTED TIME ON ORBITER		04/17/2007
APU	MC201-0001-0601 000207 C00AA0.090.010-B		IAPU COMPLETE ASSEMBLY APU#3 4 YEARS FROM INSTALLATION	12/13/1999	12/13/2003
APU	MC201-0001-0601 000207 C00AA0.090.012		IAPU COMPLETE ASSEMBLY APU#3 9 MONTH INACTIVE WETTED TIME ON ORBITER		UNKNOWN
APU	MC201-0001-0601 000310 C00AA0.090.012		IAPU COMPLETE ASSEMBLY APU#1 9 MONTH INACTIVE WETTED TIME ON ORBITER		04/17/2007
COM	MC478-0153-0001 000004 C00AA0.160.001		GPS RECEIVER (GPS MAGR'S) AVIONICS BAY 3B 12 MONTHS, R&R BATTERIES		01/30/2007
ECLSS	V070-613526-063 EA0306 C00AA0.030.005		IMU MUFFLER REFURBISH 10 YR FROM DOM OF OLDEST FOAM	10/09/1997	10/09/2007

Time & Cycle (continued)

ECLSS	V828-643251-009 AA0518496 C00AA0.030.009	ISS FORWARD TUNNEL MUFFLER-FAN ASSEMBLY 10 YEARS FROM D.O.M. OF OLDEST FOAM	10/09/1997	10/09/2007

INS	ME435-0055-0004 1004 C00AA0.140.004	MADS RECORDER 6 MONTHS OF NON-OPERATION		03/19/2007
PVD	V070-381120-003 EA3259 V05AEA.023.001	WCCS DESICCANT CANISTER L/H FWD OUTER CENTER INSPECT 150 DAYS AFTER REFURB(EXCL OPF)	05/12/2006	10/09/2006

PVD	V070-381120-003 J66946 V05AEA.023.002	WCCS DESICCANT CANISTER R/H SIDE OVHD CENTER INSPECT 100 DAYS AFTER REFURB(EXCL OPF)	05/12/2006	08/20/2006

PVD	V070-381120-003 J66949 V05AEA.023.001	WCCS DESICCANT CANISTER R/H FWD OUTER CENTER INSPECT 150 DAYS AFTER REFURB(EXCL OPF)	05/12/2006	10/09/2006

PVD	V070-381120-003 S03656 V05AEA.023.002	WCCS DESICCANT CANISTER L/H SIDE OVHD CENTER INSPECT 100 DAYS AFTER REFURB(EXCL OPF)	05/12/2006	08/20/2006

Time & Cycle (continued)

PVD	V070-381120-004 278539 V05AEA.023.001	WCCS DESICCANT CANISTER R/H FWD OUTER LOWER INSPECT 150 DAYS AFTER REFURB(EXCL OPF)	05/12/2006	10/09/2006

PVD	V070-381120-004 278541 V05AEA.023.001	WCCS DESICCANT CANISTER L/H FWD OUTER LOWER INSPECT 150 DAYS AFTER REFURB(EXCL OPF)	05/12/2006	10/09/2006

PVD	V070-381120-005 120349 V05AEA.023.002	WCCS DESICCANT CANISTER R/H SIDE OVHD SIDE INSPECT 100 DAYS AFTER REFURB(EXCL OPF) TS	05/12/2006	08/20/2006

PVD	V070-381120-005 EK9756 V05AEA.023.002	WCCS DESICCANT CANISTER L/H SIDE OVHD SIDE INSPECT 100 DAYS AFTER REFURB(EXCL OPF)	05/12/2006	08/20/2006

PVD	V070-381128-003 J57167 V05AEA.023.001	WCCS DESICCANT CANISTER LH FWD INNER INSPECT 150 DAYS AFTER REFURB(EXCL OPF)	05/12/2006	10/09/2006

PVD	V070-381128-003 J57168 V05AEA.023.001	WCCS DESICCANT CANISTER RH FWD INNER INSPECT 150 DAYS AFTER REFURB(EXCL OPF)	05/12/2006	10/09/2006

Time & Cycle (continued)

PVD	V070-383146-001 FL0525726 V05AEA.023.001		WCCS DESICCANT CANISTER SIDE HATCH SIDE HATCH OUT-OUTER INSPECT 150 DAYS AFTER REFURB(EXCL OPF)	05/12/2006	10/09/2006

PVD	V070-383146-001 USABUPVD331245 V05AEA.023.001		WCCS DESICCANT CANISTER SIDE HATCH SIDE HATCH INNER INSPECT 150 DAYS AFTER REFURB(EXCL OPF)	05/12/2006	10/09/2006

PVD	V070-383146-001 USABUPVD331245A V05AEA.023.001		WCCS DESICCANT CANISTER SIDE HATCH SIDE HATCH MID-OUTER INSPECT 150 DAYS AFTER REFURB(EXCL OPF)	05/12/2006	10/09/2006
PYRO	SEB26100001-250 001122 C00AA0.110.043	MDP	HAZ. GAS NASA STANDARD INITIATOR 10 YR AGE LIFE FROM DATE OF MFG	09/30/1995	09/30/2007

PYRO	SEB26100001-250 001123 C00AA0.110.043	MDP	HAZ. GAS NASA STANDARD INITIATOR 10 YR AGE LIFE FROM DATE OF MFG	09/30/1995	09/30/2007

PYRO	SEB26100001-250 001124 C00AA0.110.043	MDP	HAZ. GAS NASA STANDARD INITIATOR 10 YR AGE LIFE FROM DATE OF MFG	09/30/1995	09/30/2007

Time & Cycle (continued)

PYRO	SEB26100001-250 001125 C00AA0.110.043	MDP	HAZ. GAS NASA STANDARD INITIATOR 10 YR AGE LIFE FROM DATE OF MFG	09/30/1995	09/30/2007

PYRO	SEB26100001-250 001131 C00AA0.110.043	MDP	HAZ. GAS NASA STANDARD INITIATOR 10 YR AGE LIFE FROM DATE OF MFG	09/30/1995	09/30/2007

PYRO	SEB26100001-250 001132 C00AA0.110.043	MDP	HAZ. GAS NASA STANDARD INITIATOR 10 YR AGE LIFE FROM DATE OF MFG	09/30/1995	09/30/2007

PYRO	SED26139100-701 60880-00073 C00AA0.010.135	HWJ	REEFING LINE CUTTER (MC621-0076-0011) DRAG CHUTE 4&7 YR RECERT, 10 YR LIFE FROM DT OF MFG	07/31/1997	07/31/2007

PYRO	SED26139100-701 60880-00074 C00AA0.010.135	HWJ	REEFING LINE CUTTER (MC621-0076-0011) DRAG CHUTE 4&7 YR RECERT, 10 YR LIFE FROM DT OF MFG	07/31/1997	07/31/2007

PYRO	SKD26100100-301 000045 C00AA0.110.035	HCH	CARTRIDGE, NLG THRUSTER FWD 4&7YR RECERT,10 YR LIFE FROM ORIG CERT	06/30/2000	06/30/2007

Time & Cycle (continued)

PYRO	SKD26100100-301 000046 C00AA0.110.035	HCH	CARTRIDGE, NLG THRUSTER AFT 4&7YR RECERT,10 YR LIFE FROM ORIG CERT	06/30/2000	06/30/2007

PYRO	SKD26100102-301 000001 C00AA0.110.037	NAA	CARTRIDGE, MLG UPLOCK RELEASE THRUSTER 4&7YR RECERT,10 YR LIFE FROM DT OF MFG	02/28/2003	02/28/2007

PYRO	SKD26100102-301 000003 C00AA0.110.037	NAA	CARTRIDGE, MLG UPLOCK RELEASE THRUSTER 4&7YR RECERT,10 YR LIFE FROM DT OF MFG	02/28/2003	02/28/2007

RCS	MC284-0418-0011 L78400032 C00AA0.070.005		HE REG, OXID UNTESTED 18 MO, LK/FUNC PER V42BB0.020	03/10/1992	03/13/2007

RCS	MC284-0418-0012 A82200061 C00AA0.070.005		HE REG, FUEL UNTESTED 18 MO, LK/FUNC PER V42BB0.020	03/09/1992	05/21/2007

RCS	MC284-0418-0012 H82200071 C00AA0.070.005		HE REG, FUEL UNTESTED 18 MO, LK/FUNC PER V42BB0.020	03/09/1992	05/21/2007

Time & Cycle (continued)

RCS	MC284-0418-0021 M80200044 C00AA0.070.005	HE REG, OXID FRC3 UNTESTED 18 MO, LK/FUNC PER V42BB0.020		03/13/2007

RCS	MC284-0421-0011 241D091405 C00AA0.070.001	RELIEF VALVE, OXID 2 YR LEAK/FUNC TEST PER V42BB0.070	03/12/1992	09/13/2007

RCS	MC284-0421-0012 268G170605 C00AA0.070.001	RELIEF VALVE, FUEL 2 YR LEAK/FUNC TEST PER V42BB0.070	03/12/1992	09/13/2007

Time & Cycle (continued)

OMS	1186804-39	GN2 RELIEF VLV RV001 (PR001) 2YR LK/FUNC		
	0000131		02/04/1992	10/27/2007
	C00AA0.080.002	2 YR LEAK/FUNC TEST PER V43CB0.193		

OMS	73A620101-1001	VALVE, HI PRESS ISO (SOLENOID), OMS		
	000018			03/20/2007
	C00AA0.080.009	18 MO VALVE LEAK TEST PER V43CB0.010		

OMS	73A620101-1001	VALVE, HI PRESS ISO (SOLENOID), OMS		
	000025			03/20/2007
	C00AA0.080.009	18 MO VALVE LEAK TEST PER V43CB0.010		

OMS	73P620002-1002	HE PRESS REG. OXID		
	CMP0023		05/01/1992	03/20/2007
	C00AA0.080.003-C	18 MO LEAK/FUNCTIONAL TEST /V43CB0.030		

OMS	73P620002-1003	HE PRESS REG. FUEL		
	CMP0039		05/01/1992	03/20/2007
	C00AA0.080.003-C	18 MO LEAK/FUNCTIONAL TEST /V43CB0.030		

OMS	MC284-0421-0015	RELIEF VALVE, OXID		
	241D091205		04/05/1991	09/21/2007
	C00AA0.080.001	2 YR LEAK/FUNC TEST REQD PER V43CB0.100		

Time & Cycle (continued)

OMS	MC284-0421-0016 241D091305 C00AA0.080.001	RELIEF VALVE, FUEL 2 YR LEAK/FUNC TEST REQD PER V43CB0.100	04/05/1991	09/21/2007

RCS	MC284-0418-0011 B81200047 C00AA0.070.005	HE REG, OXID UNTESTED 18 MO, LK/FUNC PER V42BB0.020	05/01/1992	03/19/2007

RCS	MC284-0418-0011 K81200056 C00AA0.070.005	HE REG, OXID UNTESTED 18 MO, LK/FUNC PER V42BB0.020	05/01/1992	03/19/2007

RCS	MC284-0418-0012 G82200070 C00AA0.070.005	HE REG, FUEL UNTESTED 18 MO, LK/FUNC PER V42BB0.020	05/01/1992	03/16/2007

RCS	MC284-0418-0012 M81200060 C00AA0.070.005	HE REG, FUEL UNTESTED 18 MO, LK/FUNC PER V42BB0.020	05/01/1992	03/16/2007

RCS	MC284-0419-0011 7CRP0022 C00AA0.070.004	I/V, HE, OXID IF UNTESTED 18MO LK TEST PER V42BB0.010	08/02/1991	03/16/2007

Time & Cycle (continued)

RCS	MC284-0419-0021 3CRP0094 C00AA0.070.004	I/V, HE, OXID IF UNTESTED 18MO LK TEST PER V42BB0.010		03/16/2007

RCS	MC284-0419-0022 3CRP0089 C00AA0.070.004	I/V, HE, FUEL IF UNTESTED 18MO LK TEST PER V42BB0.010		03/16/2007

RCS	MC284-0419-0022 9CRP0074 C00AA0.070.004	I/V, HE, FUEL IF UNTESTED 18MO LK TEST PER V42BB0.010	08/02/1991	03/16/2007

RCS	MC284-0421-0011 268G170507 C00AA0.070.001	RELIEF VALVE, OXID 2 YR LEAK/FUNC TEST PER V42BB0.070	04/05/1991	09/20/2007

RCS	MC284-0421-0012 268G170602 C00AA0.070.001	RELIEF VALVE, FUEL 2 YR LEAK/FUNC TEST PER V42BB0.070	04/05/1991	09/19/2007

Time & Cycle (continued)

OMS	1186804-29 00000101 C00AA0.080.002	GN2 RELIEF VALVE RV001 2 YR LEAK/FUNC TEST PER V43CB0.193		11/09/2007

OMS	73A620101-1003 000034 C00AA0.080.009	VALVE, HI PRESS ISO (SOLENOID), OMS 18 MO VALVE LEAK TEST PER V43CB0.010		03/20/2007

OMS	73A620101-1003 000035 C00AA0.080.009	VALVE, HI PRESS ISO (SOLENOID), OMS 18 MO VALVE LEAK TEST PER V43CB0.010		03/20/2007

OMS	73P620002-1003 CMP0008 C00AA0.080.003-C	HE PRESS REG. OXID 18 MO LEAK/FUNCTIONAL TEST /V43CB0.030	04/20/1992	03/20/2007

OMS	73P620002-1003 CMP0042 C00AA0.080.003-C	HE PRESS REG. FUEL 18 MO LEAK/FUNCTIONAL TEST /V43CB0.030	04/20/1992	03/20/2007

OMS	MC284-0421-0015 268G170701 C00AA0.080.001	RELIEF VALVE, OXID 2 YR LEAK/FUNC TEST REQD PER V43CB0.100	06/13/1990	09/21/2007

Time & Cycle (continued)

OMS	MC284-0421-0016 268G170803 C00AA0.080.001	RELIEF VALVE, FUEL 2 YR LEAK/FUNC TEST REQD PER V43CB0.100	04/28/1992	09/21/2007

RCS	MC284-0418-0011 C78400025 C00AA0.070.005	HE REG, OXID UNTESTED 18 MO, LK/FUNC PER V42BB0.020	05/01/1992	03/19/2007

RCS	MC284-0418-0011 D78400029 C00AA0.070.005	HE REG, OXID UNTESTED 18 MO, LK/FUNC PER V42BB0.020	04/02/1992	03/19/2007

RCS	MC284-0418-0022 H80200039 C00AA0.070.005	HE REG, FUEL UNTESTED 18 MO, LK/FUNC PER V42BB0.020	04/13/1992	03/16/2007

RCS	MC284-0418-0022 L85400078 C00AA0.070.005	HE REG, FUEL UNTESTED 18 MO, LK/FUNC PER V42BB0.020	04/13/1992	03/16/2007

RCS	MC284-0419-0011 0CRP0049 C00AA0.070.004	I/V, HE, OXID IF UNTESTED 18MO LK TEST PER V42BB0.010	04/02/1992	03/16/2007

Time & Cycle (continued)

RCS	MC284-0419-0011 0CRP0050 C00AA0.070.004	I/V, HE, OXID IF UNTESTED 18MO LK TEST PER V42BB0.010	04/02/1992	03/16/2007

RCS	MC284-0419-0012 CRP0043 C00AA0.070.004	I/V, HE, FUEL IF UNTESTED 18MO LK TEST PER V42BB0.010	04/14/1992	03/16/2007

RCS	MC284-0419-0022 0CRP0064 C00AA0.070.004	I/V, HE, FUEL IF UNTESTED 18MO LK TEST PER V42BB0.010	08/02/1991	03/16/2007

RCS	MC284-0421-0011 241D091403 C00AA0.070.001	RELIEF VALVE, OXID 2 YR LEAK/FUNC TEST PER V42BB0.070		09/19/2007

RCS	MC284-0421-0012 268G170603 C00AA0.070.001	RELIEF VALVE, FUEL 2 YR LEAK/FUNC TEST PER V42BB0.070	04/16/1992	09/19/2007

Interval Requirements

OMRS NO	SYS	EL	FLT INT	TIME	TITLE	PER FLT	FLT 32	PER MO/YR	REQ FLT	REQ MO/YR	WAD NUMBER	Remarks
V30DA0.151	STR	O	0	3Y	INT DETAIL INSP - X0582 FRAME FWD SID	31	U	03/05	NA	03/08	V30-XXXXX	3 YR FROM PER V30DA0.011 PER 03/2005
V30DAE.032	STR	AL	I-5	0	FLEX SECT INT DTL INSP	NA	U	NA	14	NA	V30-14802	AL02 FB14
V30DAE.037	STR	AL	I-5	0	FLEX SECT EXT DTL INSP	10	U	NA	15	NA	V30-14802	AL02 - IF FLEX SECTION IS REMOVED
V30DC0.080	STR	O	I-5	0	MLG INBD TRUNNION DTL INSP	31	U	NA	36	NA	V30-14680	
V30DE0.010	STR	O	I-12	4.5	WING CARRY THRU INTL DTL INSP	31	U	03/05	43	09/09	V30-14210	FB43
V30DE0.020	STR	O	I-6	0	WING CARRY THRU INT DTL INSP	31	U	NA	37	NA	V30-14381	
V30DE0.040	STR	O	I-5	0	WING CARRY THRU SPEC DTL INTL INSP	31	U	NA	36	NA	V30-15366	
V30EC0.025	STR	O	I-5	0	LWR DECK SPC DTL INT INSP - WING ATC	31	U	NA	36	NA	V30-15336	AFT WING BOLT TORQUE
V30EC0.205	STR	O	I-37	0	SPEC DET INSP - X01440 FRAME LUGS	NA	NA	NA	38	NA	TPS	DOV10831 BEFORE FLT 38
V30KD0.050	STR	O	I-6	0	LMG OUTBD TRUNNION DET INSP	31	U	NA	37	NA	V30-14697	RCN DOV10917 - I-5 TO I-6
V30LD0.050	STR	O	I-6	0	RMG OUTBD TRUNNION DET INSP	31	U	NA	37	NA	V30-14696	RCN DOV10917 - I-5 TO I-6
V30MA0.020	STR	O	I-12	4.5	LIE EXTERNAL SURVEIL INSP	31	U	03/05	43	09/09	V30-14221	RCN DOV10917
V30MA0.040	STR	O	I-12	4.5	LIE SPEC DTL INT INSP	31	U	03/05	43	09/09	V30-14428	RCN DOV10917 - NEW
V30MA0.060	STR	O	I-12	4.5	LIE DETAIL INTERNAL INSP	31	U	03/05	43	09/09	V30-14405	RCN DOV10917
V30MB0.040	STR	O	I-12	4.5	LOE SPEC DTL INT INSP	31	U	03/05	43	09/09	V30-14428	RCN DOV10917 - NEW
V30NA0.040	STR	O	I-12	4.5	RIE SPEC DTL INT INSP	31	U	03/05	43	09/09	V30-14428	RCN DOV10917 - NEW
V30NA0.040	STR	O	I-12	4.5	ROE SPEC DTL INT INSP	31	U	03/05	43	09/09	V30-14428	RCN DOV10917 - NEW
V31MCZ.010	ORB	O	I-5	0	WING EXT BOX ZNL INTRNL DETAIL INSP	31	U	NA	36	NA	V31-14190	DKV11989
V31NCZ.010	ORB	O	I-5	0	WING EXT BOX ZNL INTRNL DETAIL INSP	31	U	NA	36	NA	V31-14191	DKV11989
V37AA0.070	MEQ	O	2	0	OPEN RT PBD TO 88 DEG - MTR1	31	U	NA	33	NA	V5006	ODD
V37AA0.080	MEQ	O	2	0	OPEN RT PBD TO 88 DEG - MTR 2	32	O	NA	34	NA	V5006	EVEN
V37AA0.090	MEQ	O	2	0	CLOSE RT PBD FROM 88 DEG - MTR 1	32	O	NA	34	NA	V5006	EVEN
V37AA0.100	MEQ	O	2	0	CLOSE RT PBD FROM 88 DEG - MTR 2	31	U	NA	33	NA	V5018.001	ODD
V37AB0.070	MEQ	O	2	0	OPEN LT PBD TO 88 DEG - MTR 1	31	U	NA	33	NA	V5006	ODD
V37AB0.080	MEQ	O	2	0	OPEN LT PBD TO 88 DEG - MTR 2	32	O	NA	34	NA	V5006	EVEN
V37AB0.090	MEQ	O	2	0	CLOSE LT PBD FROM 88 DEG - MTR 1	32	O	NA	34	NA	V5006	EVEN
V37AB0.100	MEQ	O	2	0	CLOSE LT PBD FROM 88 DEG - MTR 2	31	U	NA	33	NA	V5018.001	ODD
V37AE0.020	MEQ	O	2	0	RELEASE PBD CL 5-8 LATCH - MTR 1	31	U	NA	33	NA	V5006	ODD
V37AE0.021	MEQ	O	2	0	LATCH PBD CL 5-8 LATCH - MTR 1	32	O	NA	34	NA	V5006	EVEN
V37AE0.030	MEQ	O	2	0	RELEASE PBD CL 5-8 LATCH - MTR 2	32	O	NA	34	NA	V5006	EVEN
V37AE0.031	MEQ	O	2	0	LATCH PBD CL 5-8 LATCH - MTR 2	31	U	NA	33	NA	V5018.001	ODD
V37AE0.050	MEQ	O	2	0	RELEASE PBD CL 9-12 LATCH - MTR 1	31	U	NA	33	NA	V5006	ODD
V37AE0.051	MEQ	O	2	0	LATCH PBD CL 9-12 LATCH - MTR 1	32	O	NA	34	NA	V5006	EVEN
V37AE0.060	MEQ	O	2	0	RELEASE PBD CL 9-12 LATCH - MTR 2	32	O	NA	34	NA	V5006	EVEN
V37AE0.061	MEQ	O	2	0	LATCH PBD CL 9-12 LATCH - MTR 2	31	U	NA	33	NA	V5018.001	ODD
V37AE0.080	MEQ	O	2	0	RELEASE PBD CL 1-4 LATCH - MTR 1	31	U	NA	33	NA	V5006	ODD
V37AE0.081	MEQ	O	2	0	LATCH PBD CL 1-4 LATCH - MTR 1	32	O	NA	34	NA	V5006	EVEN
V37AE0.090	MEQ	O	2	0	RELEASE PBD CL 1-4 LATCH - MTR 2	32	O	NA	34	NA	V5006	EVEN
V37AE0.091	MEQ	O	2	0	LATCH PBD CL 1-4 LATCH - MTR 2	31	U	NA	33	NA	V5018.001	ODD
V37AE0.110	MEQ	O	2	0	RELEASE PBD CL 13-16 LATCH - MTR 1	31	U	NA	33	NA	V5006	ODD
V37AE0.111	MEQ	O	2	0	LATCH PBD CL 13-16 LATCH - MTR 1	32	O	NA	34	NA	V5006	EVEN
V37AE0.120	MEQ	O	2	0	RELEASE PBD CL 13-16 LATCH - MTR 2	32	O	NA	34	NA	V5006	EVEN
V37AE0.121	MEQ	O	2	0	LATCH PBD CL 13-16 LATCH - MTR 2	33	NA	NA	33	NA	V5018.001	ODD

Interval Requirements (continued)

V37AE0.140	MEQ	O	2	0	RELEASE RT FWD BHD LATCH - MTR 1	31	U	NA	33	NA	V5006	ODD
V37AE0.141	MEQ	O	2	0	LATCH RT FWD BHD LATCH - MTR 1	32	O	NA	34	NA	V5006	EVEN
V37AE0.150	MEQ	O	2	0	RELEASE RT FWD BHD LATCH - MTR 2	32	O	NA	34	NA	V5006	EVEN
V37AE0.151	MEQ	O	2	0	LATCH RT FWD BHD LATCH - MTR 2	31	U	NA	33	NA	V5018.001	ODD
V37AE0.170	MEQ	O	2	0	RELEASE RT AFT BHD LATCH - MTR 1	31	U	NA	33	NA	V5006	ODD
V37AE0.171	MEQ	O	2	0	LATCH RT AFT BHD LATCH - MTR 1	32	O	NA	34	NA	V5006	EVEN
V37AE0.180	MEQ	O	2	0	RELEASE RT AFT BHD LATCH - MTR 2	32	O	NA	34	NA	V5006	EVEN
V37AE0.181	MEQ	O	2	0	LATCH RT AFT BHD LATCH - MTR 2	31	U	NA	33	NA	V5018.001	ODD
V37AE0.200	MEQ	O	2	0	RELEASE LT FWD BHD LATCH - MTR 1	31	U	NA	33	NA	V5006	ODD
V37AE0.201	MEQ	O	2	0	LATCH LT FWD BHD LATCH - MTR 1	32	O	NA	34	NA	V5006	EVEN
V37AE0.210	MEQ	O	2	0	RELEASE LT FWD BHD LATCH - MTR 2	32	O	NA	34	NA	V5006	EVEN
V37AE0.211	MEQ	O	2	0	LATCH LT FWD BHD LATCH - MTR 2	31	U	NA	33	NA	V5018.001	ODD
V37AE0.230	MEQ	O	2	0	RELEASE LT AFT BHD LATCH - MTR 1	31	U	NA	33	NA	V5006	ODD
V37AE0.231	MEQ	O	2	0	LATCH LT AFT BHD LATCH - MTR 1	32	O	NA	34	NA	V5006	EVEN
V37AE0.240	MEQ	O	2	0	RELEASE LT AFT BHD LATCH - MTR 2	32	O	NA	34	NA	V5006	EVEN
V37AE0.241	MEQ	O	2	0	LATCH LT AFT BHD LATCH - MTR 2	31	U	NA	33	NA	V5018.001	ODD
V41AY0.013	MPS	O	3	0	LO2 BLEED CK VLV HOUSING EXT LK CK	31	U	NA	34	NA	V1009.004	
V41BG0.115	MPS	O	3	0	RV4 MPS RLF VLV FUNCT	31	U	NA	34	NA	V1263	
V41BH0.031-A	MPS	O	I-5	0	PV10 FILL VLV RELIEF VLV VALID	29	U	NA	34	NA	V1009.004	
V41BH0.031-B	MPS	O	I-5	0	PV12 FILL VLV RELIEF VLV VALID	29	U	NA	34	NA	V1009.005	
V41BH0.040	MPS	O	I-5	0	PV17 LH2 RTLS DUMP VLV RLF VLV FUNCT	31	U	NA	36	NA	V1009.005	
V41BH0.050	MPS	O	I-5	0	LO2 OVBD BLD VLV RLF VLV FUNCT	31	U	NA	36	NA	V1009.004	
V41BH0.090	MPS	O	I-5	0	LH2 HIPT BLD VLV RLF VLV FUNCT	31	U	NA	36	NA	V1009.005	
V41BI0.091	MPS	O	2	0	PV9 LO2 OUTBD F/D VLV LOW PRESS CYC	32	U	NA	34	NA	V1009.008	
V41BI0.101	MPS	O	2	0	PV10 LO2 INBD F/D VLV LOW PRESS CYC	32	C	NA	34	NA	V1009.008	
V41BI0.111	MPS	O	2	0	PV11 LH2 OUTBD F/D VLV LOW PRESS CYC	32	C	NA	34	NA	V1009.008	
V41BI0.121	MPS	O	2	0	PV12 LH2 INBD F/D VLV LOW PRESS CYC	32	C	NA	34	NA	V1009.008	
V41BV0.010	MPS	O	I-10	0	PD12 LO2 F/D DISC INSERT/SEAL REPLAC	29	U	NA	39	NA	V1009.001	
V41BV0.011	MPS	O	I-10	0	PD11 LH2 F/D DISC INSERT/SEAL REPLAC	29	U	NA	39	NA	V1009.001	
V42BB0.020-A	RCS	LP	3	0	LEFT POD REG LK/FUNCT TEST	35	U	NA	38	NA	V1180VL2	LP01
V42BB0.020-B	RCS	RP	3	0	RIGHT POD REG LK/FUNCT TEST	33	U	NA	36	NA	V1180VL2	RP03
V42BB0.020-C	RCS	FR	3	0	FRCS REG LK/FUNCT TEST	32	U	NA	35	NA	V1181	FR03
V42BB0.201-A	RCS	LP	3	0	LEFT POD PRESS DECAY - LOW PRESS H	34	U	NA	37	NA	V1180VL2	LP01
V42BB0.201-B	RCS	RP	3	0	RIGHT POD PRESS DECAY - LOW PRESS	32	U	NA	35	NA	V1180VL3	RP03
V42BB0.201-C	RCS	FR	3	0	FRCS PRESS DECAY - LOW PRESS HE SY	31	U	NA	34	NA	V1181	FR03
V42BE0.035-A	RCS	LP	3	0	LEFT POD HE SYSTEM SAMPLE	34	U	NA	37	NA	V1180VL4	LP01
V42BE0.035-B	RCS	RP	3	0	RIGHT POD HE SYSTEM SAMPLE	32	U	NA	35	NA	V1180VL4	RP03
V42BE0.035-C	RCS	FR	3	0	FRCS HE SYSTEM SAMPLE	31	U	NA	34	NA	V1181	FR03
V43CB0.030-A	OMS	LP	3	0	LEFT POD REG LK/FUNCT	35	U	NA	38	NA	V1180VL2	LP01
V43CB0.030-B	OMS	RP	3	0	RIGHT POD REG LK/FUNCT	33	U	NA	36	NA	V1180VL3	RP03
V43CB0.221-A	OMS	LP	3	0	LEFT POD PRESS DECAY - LOW PRESS H	34	U	NA	37	NA	V118VL2	LP01
V43CB0.221-B	OMS	RP	3	0	RIGHT POD PRESS DECAY - LOW PRESS	32	U	NA	35	NA	V1180VL3	RP03
V43CE0.080-A	OMS	LP	3	0	LEFT POD HELIUM SYSTEM SAMPLE	34	U	NA	37	NA	V1180VL4	LP01
V43CE0.080-B	OMS	RP	3	0	RIGHT POD HELIUM SYSTEM SAMPLE	32	U	NA	35	NA	V1180VL4	RP03
V46AD0.040-A	APU	O	3	0	APU 1	35	NA	NA	35	NA	V1196	

Interval Requirements (continued)

V46AD0.040-B	APU	O	3	0	APU 2	32	O	NA	35	NA	V1196	
V46AD0.040-C	APU	O	3	0	APU 3	32	O	NA	35	NA	V1196	
V46AD0.040-G	APU	O	3	0	APU 1	32	O	NA	35	NA	V1196	
V46AD0.040-H	APU	O	3	0	APU 2	32	O	NA	35	NA	V1196	
V46AD0.040-I	APU	O	3	0	APU 3	32	O	NA	35	NA	V1196	
V46AD0.040-J	APU	O	3	0	APU 1	32	O	NA	35	NA	V1196	
V46AD0.040-K	APU	O	3	0	APU 2	32	O	NA	35	NA	V1196	
V46AD0.040-L	APU	O	3	0	APU 3	32	O	NA	35	NA	V1196	
V46AD0.041-A	APU	O	3	0	APU 1	32	O	NA	35	NA	V1196	
V46AD0.041-B	APU	O	3	0	APU 2	32	O	NA	35	NA	V1196	
V46AD0.041-C	APU	O	3	0	APU 3	32	O	NA	35	NA	V1196	
V46AG0.015-A	APU	O	3	0	APU 1 OIL SAMPLE & ADJUST	32	U	NA	35	NA	V1078	I-3 FROM V46AG0.020-G FLT 31
V46AG0.015-B	APU	O	3	0	APU 2 OIL SAMPLE & ADJUST	32	U	NA	35	NA	V1078	I-3 FROM V46AG0.030-G FLT 31
V46AG0.015-C	APU	O	3	0	APU 3 OIL SAMPLE & ADJUST	28	U	NA	34	NA	V1078	I-3 FROM V46AG0.040-G FLT 31
V46AL0.300-A	APU	O	3	0	APU 1	31	U	NA	34	NA	V1019VL3	
V46AL0.300-B	APU	O	3	0	APU 2	32	U	NA	35	NA	V1019VL3	
V46AL0.300-C	APU	O	3	0	APU 3	31	U	NA	34	NA	V1019VL3	
V46AL0.375-A	APU	O	3	0	APU 1-A	32	U	NA	35	NA	V1019VL3	
V46AL0.375-B	APU	O	3	0	APU 1-B	32	U	NA	35	NA	V1019VL3	
V46AL0.375-C	APU	O	3	0	APU 2-A	31	U	NA	34	NA	V1019VL3	
V46AL0.375-D	APU	O	3	0	APU 2-B	31	U	NA	34	NA	V1019VL3	
V46AL0.375-E	APU	O	3	0	APU 3-A	31	U	NA	34	NA	V1019VL3	
V46AL0.375-F	APU	O	3	0	APU 3-B	31	U	NA	34	NA	V1019VL3	
V51AC0.060-A	MEQ	O	2	0	NLG STRUT FLUID LEVEL CHECK	31	C	NA	33	NA	V1165.008	
V51AC0.060-B	MEQ	O	2	0	LMG STRUT FLUID LEVEL CHECK	31	C	NA	33	NA	V1165.007	
V51AC0.060-C	MEQ	O	2	0	RMG STRUT FLUID LEVEL CHECK	31	C	NA	33	NA	V1165.007	
V55AM0.191-A	PYM	O	I-5	0	RISER/LOCK PIN ENGAGEMENT	30	U	NA	35	NA	V5012.002	
V55AM0.191-B	PYM	O	I-5	0	ATTENUATION BLOCK HEIGHT	30	U	NA	35	NA	V5012.002	
V55AM0.191-C	PYM	O	I-5	0	ATTENUATION PLATES THICKNESS	30	U	NA	35	NA	V5012.002	
V56AA0.300-A	MEQ	O	3	0	RH ET DR LCH LD/TRQ LIM SLP TST - MTR	32	U	NA	35	NA	V1283	
V56AA0.300-B	MEQ	O	3	0	RH ET DR LCH LD/TRQ LIM SLP TST - MTR	32	U	NA	35	NA	V1283	
V56AA0.300-C	MEQ	O	3	0	LH ET DR LCH LD/TRQ LIM SLP TST - MTR	32	U	NA	35	NA	V1283	
V56AA0.300-D	MEQ	O	3	0	LH ET DR LCH LD/TRQ LIM SLP TST - MTR	32	U	NA	35	NA	V1283	
V58AR0.020-A	HYD	O	3	0	UMB RET LOX 1 ACT UNCOM EXT	31	U	NA	34	NA	V9002.013	
V58AR0.020-B	HYD	O	3	0	UMB RET LOX 2 ACT UNCOM EXT	31	U	NA	34	NA	V9002.013	
V58AR0.020-C	HYD	O	3	0	UMB RET LOX 3 ACT UNCOM EXT	31	U	NA	34	NA	V9002.013	
V58AR0.020-D	HYD	O	3	0	UMB RET LH2 1 ACT UNCOM EXT	31	U	NA	34	NA	V9002.013	
V58AR0.020-E	HYD	O	3	0	UMB RET LH2 2 ACT UNCOM EXT	31	U	NA	34	NA	V9002.013	
V58AR0.020-F	HYD	O	3	0	UMB RET LH2 3 ACT UNCOM EXT	31	U	NA	34	NA	V9002.013	
V61AW0.090	ECL	O	I-5	0	8.0 PSIA EMERG CABIN REG (1.82)	32	U	NA	37	NA	V1217.002	
V62AF0.060	FCP	O	3	0	MICROBIAL CHECK VALVE LIFE LIMIT	31	U	NA	34	NA	V1055.001	
V66AA0.036	FCS	O	3	0	FLIGHT DATA FILE BOX INSPECTION	31	U	NA	34	NA	FCS-X-XX-XXX	
V66AH0.080	FCS	O	3	0	HOOK AND LOOP FASTENER (HLF) INSP	31	U	NA	34	NA	FCS-X-XX-XXX	
V66AIL.060	FCS	O	I-10	2Y	PCES CONTROLLED DEPLOYMENT TEST	31	U	01/05	41	01/07	FCS-X-XX-XXX	
V79AR0.010-A	EFC	O	4	0	LEFT INBOARD ELEVON FREQ RESP	35	U	NA	35	NA	V1043	

Interval Requirements (continued)

V79AR0.010-B	EFC	O	4	0	LEFT OUTBOARD ELEVON FREQ RESP	31	U	NA	35	NA	V1043	
V79AR0.010-C	EFC	O	4	0	RIGHT INBOARD ELEVON FREQ RESP	31	U	NA	35	NA	V1043	
V79AR0.010-D	EFC	O	4	0	RIGHT OUTBOARD ELEVON FREQ RESP	31	U	NA	35	NA	V1043	
V79AR0.010-E	EFC	O	4	0	RUDDER FREQ RESP	31	U	NA	35	NA	V1043	
V79AR0.010-F	EFC	O	4	0	SPEEDBRAKE FREQ RESP	31	U	NA	35	NA	V1043	
V79AR0.020-A	EFC	O	4	0	LEFT INBOARD ELEVON STEP RESP	31	U	NA	35	NA	V1043	
V79AR0.020-B	EFC	O	4	0	LEFT OUTBOARD ELEVON STEP RESP	31	U	NA	35	NA	V1043	
V79AR0.020-C	EFC	O	4	0	RIGHT INBOARD ELEVON STEP RESP	31	U	NA	35	NA	V1043	
V79AR0.020-D	EFC	O	4	0	RIGHT OUTBOARD ELEVON STEP RESP	31	U	NA	35	NA	V1043	
V79AR0.020-E	EFC	O	4	0	RUDDER STEP RESP	31	U	NA	35	NA	V1043	
V79AR0.020-F	EFC	O	4	0	SPEEDBRAKE STEP RESP	31	U	NA	35	NA	V1043	
V79AR0.025-A	EFC	O	4	0	LIB ELEVON DPF TEST (REF R-1, R-3)	31	U	NA	35	NA	V1337	
V79AR0.025-B	EFC	O	4	0	LOB ELEVON DPF TEST (REF R-2, R-3)	31	U	NA	35	NA	V1337	
V79AR0.025-C	EFC	O	4	0	RIB ELEVON DPF TEST (REF R-1, R-3)	31	U	NA	35	NA	V1337	
V79AR0.025-D	EFC	O	4	0	ROB ELEVON DPF TEST (REF R-2, R-3)	31	U	NA	35	NA	V1337	
V79AV0.010-A	EFC	O	4	0	1 PITCH ACTUATOR FREQ RESP	31	U	NA	35	NA	V1043	
V79AV0.010-B	EFC	O	4	0	1 YAW ACTUATOR FREQ RESP	31	U	NA	35	NA	V1043	
V79AV0.010-C	EFC	O	4	0	2 PITCH ACTUATOR FREQ RESP	31	U	NA	35	NA	V1043	
V79AV0.010-D	EFC	O	4	0	2 YAW ACTUATOR FREQ RESP	31	U	NA	35	NA	V1043	
V79AV0.010-E	EFC	O	4	0	3 PITCH ACTUATOR FREQ RESP	31	U	NA	35	NA	V1043	
V79AV0.010-F	EFC	O	4	0	3 YAW ACTUATOR FREQ RESP	31	U	NA	35	NA	V1043	
V79AV0.030-A	EFC	O	4	0	MPS ENG 1P STEP RESP	31	U	NA	35	NA	V1043	
V79AV0.030-B	EFC	O	4	0	MPS ENG 1Y STEP RESP	31	U	NA	35	NA	V1043	
V79AV0.030-C	EFC	O	4	0	MPS ENG 2P STEP RESP	31	U	NA	35	NA	V1043	
V79AV0.030-D	EFC	O	4	0	MPS ENG 2Y STEP RESP	31	U	NA	35	NA	V1043	
V79AV0.030-E	EFC	O	4	0	MPS ENG 3P STEP RESP	31	U	NA	35	NA	V1043	
V79AV0.030-F	EFC	O	4	0	MPS ENG 3Y STEP RESP	31	U	NA	35	NA	V1043	
V79AV0.045-A	EFC	O	4	0	MPS ENG 1 PITCH DPF TEST (REF R-1)	31	U	NA	35	NA	V1337	
V79AV0.045-B	EFC	O	4	0	MPS ENG 2 PITCH DPF TEST (REF R-1)	31	U	NA	35	NA	V1337	
V79AV0.045-C	EFC	O	4	0	MPS ENG 3 PITCH DPF TEST (REF R-1)	31	U	NA	35	NA	V1337	
V79AV0.045-D	EFC	O	4	0	MPS ENG 1 YAW DPF TEST (REF R-2)	31	U	NA	35	NA	V1337	
V79AV0.045-E	EFC	O	4	0	MPS ENG 2 YAW DPF TEST (REF R-2)	31	U	NA	35	NA	V1337	
V79AV0.045-F	EFC	O	4	0	MPS ENG 3 YAW DPF TEST (REF R-2)	31	U	NA	35	NA	V1337	

Deferred Work

Original WAD No.	Deferred WAD No.	Def Flight	Date PMRB Approved	Program Board Actions	Problem Description
APU-3-32-0650	APU-3-A0035	34	05/02/2006 Polysulfide inspection	PMRB approved for deferral to Flt 34 of OV-103.	APU 1 fuel drain ref. line elbow is female dynatube and fuel pump relief valve end is male,non-dynatube.
APU-3-32-0651	APU-3-A0037	34	05/02/2006 Polysulfide inspection	PMRB approved for deferral to Flt 34 of OV-103.	APU 2 fuel drain ref. line elbow is female dynatube and fuel pump relief valve end is male,non-dynatube.
APU-3-32-0652	APU-3-A0036	34	05/02/2006 Polysulfide inspection	PMRB approved for deferral to Flt 34 of OV-103.	APU 3 fuel drain ref. line elbow is female dynatube and fuel pump relief valve end is male,non-dynatube.
ECL-3-32-1899	ECL-3-A0108	33	05/05/2006 J6148 TPS to address redefer	PMRB approved for deferral to Flt 33 of OV-103.	STBD FWD Radiator retract flexhose has flattened and separated braids.
ECL-3-32-1900	ECL-3-A0109	33	05/05/2006 J6148 TPS to address redefer	PMRB approved for deferral to Flt 33 of OV-103.	STBD AFT Radiator retract flexhose has flattened and separated braids.
ECL-3-32-1901	ECL-3-A0110	33	05/05/2006 J6148 TPS to address redefer	PMRB approved for deferral to Flt 33 of OV-103.	Port FWD Radiator retract flexhose has flattened and separated braids.
ECL-3-32-1902	ECL-3-A0111	33	05/05/2006 J6148 TPS to address redefer	PMRB approved for deferral to Flt 33 of OV-103.	Port AFT Radiator retract flexhose has flattened and separated braids.
116V-0024 INS-33-1022			Defer to next flight & repin connector next flight to use spare MADS PCM channel		
INS-3-31-0967	INS-3-A0104	33	03/14/2006 Work fit. 34	PMRB approved for deferral to Flt 33 of OV-103.	MADS measurement, V07P9083A, is reading low at 4 count.
INS-3-32-1004	INS-3-A0111	33	05/02/2006 Defer and work fit 34	PMRB approval for deferral to Flt 33 of OV-103. PMRB(4-11-06) returned to engineering technical rationale for not performing coax checkout(also eng note explaining previous work) and coordinate with user for potential loss of measurement.	MADS accelerometer measurement (E41D1614A) did not show a response to tap test.
INS-3-33-1012			defer one flight and see if msmt. works. continue t/s next flow		E41D1614A Erratic
MEQ-3-33-1642			Redefer to 34 Re-check fluid level		If GN2 found again in HYD chamber, Vendor will disassemble strut and replace seal
MEQ-3-32-1559	MEQ-3-A0136	33	01/10/2006 Inspect each flow No rework re-defer	PMRB approved for deferral to F/F based on Flt to Flt evaluation. Added to rationale visible trunnion surfaces and DFL to thermal barriers.	Dry film lube and anodized coating are missing from the R/H ADP trunnion box. Minimal deformation of V070-592039-001 and V070-592040 Thermal barriers. MRB approved to apply Lubri-bond spray on lube to accessible surfaces. Inspect after each flt. The minimal deformation does not affect the sealing to the trunnion box
PVD-3-31-0912	PVD-3-A0060	34	01/31/2006 When canister is re-worked	PMRB approved for deferral to Flt 34 of OV-103.	WCCS desiccant canister screen incorrectly manufactured.
RP03-32-1111	RP03-A0081	34	03/28/2006 Pod removal	PMRB approved for deferral to (FLT 34 OF RP03) FLT 33 OF OV-103.	Connector savers do not maintain locking feature when axial pressure is applied. MRB approved for installation of MBO135-062 aluminum tape at the receptacle/connector, saver/connector interface to insure no loss of bayonet detent will occur.

Deferred Work (continued)

Original WAD No.	Deferred WAD No.	Def Flight	Date PMRB Approved	Program Board Actions	Problem Description
RP03-32-1274	RP03-A0079	F/F	03/04/2003 Pod removal	PMRB CHRM approved for deferral to future FLT (OMDP) of RP03. Approved Waiver WK10299.	RRCS oxidizer GHE tank out dynatube fitting mass spec leak rate is 8x10(-4), S/B NMT 5x10(-4).
RP03-32-1275	RP03-A0078	F/F	03/04/2003 Pod removal	PMRB CHRM approved for deferral to future FLT (OMDP) of RP03. Approved waiver WK10304.	RRCS oxid GHE system secondary regulator lock up pressure is 280 PSIA, S/B NMT 279 PSIA.
RP03-32-1419	RP03-A0080	F/F	07/09/2004 Pod removal	PMRB approved (6-15-04) for deferral to future FLT (RP03 removal) of RP03. PMRB (6-15-04) on hold for NSE concurrence.	DSC OR1 and DSC OR2 mounting bolts (4 of 6) have no thread protrusion. MRB approved removal of nut element (6 of 6) and use nut and washer.
RP03-32-1470	RP03-A0082	F/F	05/09/2006 Pod removal	PMRB approval for deferral to F/F (RP03 removal) of OV-103/RP03. PMRB(5-2-06) on hold for JSC concurrence.	RP03 Attach point 2 bolts for locations #8 & #11 could not be obtained.
RP03-32-1493	RP03-A0084	F/F	07/11/2005 Pod removal	PMRB approved for deferral to Future Flt (Flt 40/OMM) of RP03, approved Exception EK10452.	RRCS FUEL GHE Tank P1 pressure transducer measurement is expected to fail 3-pt cal verification accuracy of 63.5 psi.
RP03-32-1495	RP03-A0083	F/F	07/11/2005 Pod removal	PMRB approved for deferral to Future Flt (OMM) of RP03.	ROM Oxid benchmark is 48.80% s/b 44.02 to 46.02%.
RP03-33-1499	RP03-A0085	34	04/25/2006 Pod removal	PMRB approved for deferral to Flt 34 of OV-103.	ROMS fuel A leg primary regulator flow is 263 SPIA S/B 265 to 277. Use as is based on OMRS waiver and past data.
RP03-33-1505	RP03-A0086	F/F	06/26/2006 Pod removal	PMRB approved for deferral to F/F (Door removal) of OV-103.	Suspect ID applied to -1022 Door. is 1012 S/B -1022. Inspect for and or re - ID after flt. Not a hardware issue.
RP03-33-1506	RP03-A0087	F/F	07/01/2006 Pod removal	PMRB approved for deferral to Future Flt (59-02 Door removal) of OV-103.	GSE Servicing Panel Access Door (59-02 Door) ID'd as -1008 is -1004.
STR-3-30-7193	STR-3-A0431	33	05/09/2006 Fit to fit to reapply loctite	PMRB approval for deferral to F/F (window #8 removal) of OV-103. PMRB (2-24-06) on hold for LSS concurrence for use of locking compound on	Window #8 fasteners (5 of 36) have less than two in lbs of running torque. MRB approved installation of fastener using locking compound.
STR-3-31-8895	STR-3-A0471	33	6/13/2006	PMRB approved for deferral to Flt 33 of OV-103.	Mid Fuselage structural assy, Hi-Lok Collars (54 of 94) were replaced with ME114-0022-0110 and MD153-1001-005 washers to increase footprint area. S/B ME114-0024-0110 Hi-Lok Collars. All lock bolts are suspect for improper heat treat. Inspection of Lockbol
TCS-3-31-3427	TCS-3-A0091	F/F	10/15/2004 RH pod removal	PMRB approved for dererral to future FLT (RP03 removal) of OV-103.	Blanket is pinched under attach point 2 strap.
TPS-STR-3-32-023	TPS-STR-3-A029	33	5/2/2006	PMRB approved for deferral to Flt 33 of OV-103.	Fastener sampling per CHIT J5897.
TPS-TES-3-32-100	TPS-TES-3-A007	33	6/28/2006	PMRB approved for deferral to Flt 33 of OV-103.	Wing RCC sampling for Zinc.

Deferred Work (Potentials)

Original WAD No.	Deferred WAD No.	Def Flight	Date PMRB Approved	Program Board Actions	Problem Description
CM-3-31-0616	CM-3-A0085	F/F	09/21/2004 If Airlock removed	PMRB approved for deferral to future FLT (external airlock removal) of OV-103.	External airlock light weight keel latch retainer screw did not engage the inset locking feature.
FCP-3-31-0490	FCP-3-A0043	F/F	03/22/2005 Upon tank removal	PMRB approved for Deferral to Future Flt (OMDP) of OV-103. This was a process escape. RC Action.	Five PRSD tanks VAC-ION Pump Magnet bolts (2ea) did not have Super Koropon applied during installation to the shank and under the washer.
FCP-3-32-0506	FCP-3-A0050	F/F	10/11/2005 Upon FC removal	PMRB approved for deferral to Future Flt (Fuel Cell #1 removal) of OV-103.	Fuel Cell #1 wire harness has exposed conductor with damaged kapton.
FRC3-32-1074	FRC3-A0045	F/F	04/25/2006 Perform inspection if FRCS removed	PMRB approved for deferral to Future Flt (FRCS Removal) of OV-103.	Suspect entrapped residual oxidizer in the FRCS structure in the vicinity of the R/H oxidizer service panel. MRB approved the use of MB0110-021, Dinol AV-30, on the inner FRCS structure near the area of the oxidizer service panel. Dinol AV-30 is not considered hyper-compatible and will degrade when exposed to hypergolic fuels but will not adversely react and the FRCS will continue to function per design intent with a positive margin of safety.
FRC3-32-1096	FRC3-A0046	F/F	05/09/2006 Rework upon FRCS removal	PMRB approved for deferral to Future Flt (FRCS removal) of OV-103.	Carrier Panel nutplate (1 of 4) discrepant, element disengaged from cage and screw seized in nut.
FRC3-32-1097	FRC3-A0049	FF	06/20/2006 Rework upon FRCS removal	PMRB approval for deferral to Future Flt (FRCS removal) of OV-103. PMRB (6-16-06) on hold for LSS to clarify intent of RTV Bond.	FRCS C/P, V070-390311-008, Fasteners (2 of 4) discrepant.
FRC3-32-1099	FRC3-A0047	F/F	05/09/2006 Rework upon FRCS removal	PMRB approved for deferral to Future Flt (FRCS removal) of OV-103.	Carrier Panel nutplate (1 of 3) discrepant, element disengaged from cage and screw seized in nut
INS-3-31-0950	INS-3-A0097	F/F	11/01/2005 If tank removed	PMRB approved for Deferral to Future Flt (PRSD H2 Tank#1 removal) of OV-103.	Bay 6 MADS Measurement V34G9898A has open circuit between -3 and -2 vendor leads. Need access to sensor, located behind PRSD H2 tank #1
INS-3-32-0981	INS-3-A0107	F/F	01/31/2006 If RCC #9 is removed	PMRB approved for deferral to F/F (LH RCC Panel #9 removal) of OV-103.	MADS measurement V09T9926A has consistently produced higher than expected temperature readings since the installation.
LP01-25-0849	LP01-A0057	F/F	02/22/2002 Pod removal	PMRB approved for deferral to future FLT (OMDP) of LP01.	POD to stinger attach points (1 of 4) fittings (2) bolt holes worn, deformation/elongation.
LP01-25-0901	LP01-A0058	F/F	03/10/2005 Pod removal	PMRB approved for Deferral to F/F (OMDP) of LP01.	LOMS Oxid PROP Tank gaging indicated 43.2 percent at benchmark. (S/B 45.12 1 percent)
LP01-28-0933	LP01-A0063	F/F	03/08/2005 Pod removal	PMRB approved for Deferral to F/F (OMDP) for OV-103.	Based upon nominal values, fwd probe electronic module is out of alignment.
LP01-31-0963	LP01-A0069	F/F	04/12/2000 Pod removal	PMRB approved for deferral to future FLT (LV201 removal) of LP01.	LRCS helium isolation valve B LV201 VP1 indicated opened when commanded closed during helium tank vent (70-80 DEG from ambient).
LP01-34-1091	LP01-A0075	35	03/28/2006 Pod removal	PMRB approved for deferral to Flt 33 of OV-103.	Connector savers do not maintain locking feature when axial pressure is applied. MRB approved for installation of MBO135-062 aluminum tape at the receptacle/connector, saver/connector interface to insure no loss of bayonet detent will occur.

Deferred Work (Potentials) continued

LP01-34-2100	LP01-A0073	F/F	04/02/2004 Pod removal	PMRB approved for deferral to future FLT (DSC removal at HMF) of LP01.	DSC OL1 mounting bolts (4 of 6) have no thread protrusion.
LP01-34-2101	LP01-A0074	F/F	04/02/2004 Pod removal	PMRB approved for deferral to future FLT (DSC removal at HMF) of LP01.	DSC OL2 mounting bolts (4 of 6) have no thread protrusion.
LP01-34-2132	LP01-A0076	F/F	01/18/2005 Thruster removal	PMRB approved for deferral to F/F (OMM) of LP01. PMRB discussion on cancellation of EO for safety wire of dynatube with seal savers.	Thruster L1U fuel and Oxid Dynatube fittings cannot be safety wired, No safety wire holes.
LP01-34-2133	LP01-A0077	F/F	01/18/2005 Thruster removal	PMRB approved for deferral to F/F (OMM) of LP01. PMRB discussion on cancellation of EO for safety wire of dynatube with seal savers.	Thruster L4U fuel and Oxid Dynatube fittings cannot be safety wired, No safety wire holes.
LP01-34-2142	LP01-A0078	F/F	01/25/2005 Pod removal	PMRB approved for deferral to F/F (Pod Removal) of OV-103. PMRB had a concern whether a LAF PR was required. Engineering added to rationale that close out inspection was performed at the Y-Web door area prior to POD being moved from HMF to OPF. There is no concern for FOD or LAF items in this area.	Wire Harness going to PT-216 is missing clamp.
LP01-35-2154	LP01-A0079	F/F	05/16/2006 Pod removal	PMRB approved for deferral to F/F (Door removal) of OV-103/LP01.	LH OMS/RCS HE Tank access door assembly has suspect incorrect ID (-1045/-1069).
MEQ-3-31-1407	MEQ-3-A0110	33	01/17/2006 Redefer ADP removal req	PMRB approved for deferral to FLT 33 of OV-103.	L/H ADP heater wire teflon sleeve is not properly seated ; potential for wire chaffing where the wires exit trunnion teflon sleeve.
MEQ-3-31-1408	MEQ-3-A0111	33	09/30/2005 Redefer ADP removal req	PMRB approved for deferral to FLT 32 of OV-103.	R/H ADP heater wire has potential for wire chaffing where the wires exit trunnion teflon sleeve.
MEQ-3-31-1448	MEQ-3-A0118	33	11/29/2005 If RMS shldr base removed	PMRB approved for Deferral to F/F (OMDP) (Fit to Fit Torque check) of OV-103. Cause code changed from 2 Design to T Operational Degrad.	Suspect fretting on base of shoulder MPM assy in the bare aluminum (grounding path) areas around the four 5/16 fastener holes.
MEQ-3-31-1463	MEQ-3-A0115	F/F	02/15/2005 If Boom Shldr base removed	PMRB approved for deferral to F/F (OBSS shoulder MPM removal) of OV-103.	3 each fasteners at the MPM shoulder installation failed running torque.
MEQ-3-31-1482	MEQ-3-A0114	F/F	11/29/2005 If Boom Shldr base removed	PMRB approved for Deferral to F/F (OMDP) (Fit to Fit Torque check) of OV-103.	MPM assy roller brace V070-544892-001 has gouges (2 defect areas) on hook roller brace both sides. Starboard Shoulder MPM 5/16" attach holes (4) fretting in the bare aluminum (grounding
MEQ-3-32-1587	MEQ-3-A0140	33	05/16/2006 If RMS removed	PMRB approved for deferral to Fit 33 of OV-103.	RMS Manipulator Arm AFT Pedestal phenolic pad(fwd o/b edge) scrapings, small defect on O/B saddle face, and during V1175, RMS cycled wrist 13 degrees with MRL's unlatched (s/b latched) and scraped small shavings at fwd i/b and aft o/b edges.
MEQ-3-32-1602	MEQ-3-A0138	33	05/05/2006 STR env. Seal to be made better or re-defer	PMRB approved for deferral to Fit 33 of OV-103.	RH FWD otbd MLG doorstop bolt is .006", S/B .000.
MEQ-3-32-1603	MEQ-3-A0139	33	05/05/2006 same as A0138	PMRB approved for deferral to Fit 33 of OV-103.	LH FWD inbd MLG doorstop bolt is .007", S/B .000.
MEQ-3-32-1611	MEQ-3-A0143	33	06/23/2006 If RMS removed	PMRB approved for deferral to Fit 33 of OV-103. Changed analysis to Page 80 of 98	MPM bolts missing lockwire thru set screw.

Deferred Work (Potentials) continued

MEQ-3-32-1615	MEQ-3-A0142	33	05/16/2006 If ADP removed	PMRB approved for deferral to Flt 33 of OV-103.	L/H ADP did not fully stow when cycled in single motor mode.
MPS-3-J3-1623	MPS-3-A0093	33	03/21/2006 Look at each flow	PMRB approved for deferral to flight 32 of OV-103. PMRB approved on 3/23/04. Returned to PMRB for review of ET tank data. Page 1 updated to include PD5 height. PMRB approved for deferral to Future Flt (Based on a Flt to Flt Inspection/Evaluation) of OV-103. PMRB approved on 3/23/04.	PD3, PD4, and PD5 installation are suspect due to load cells failing post test calibration. Estimated max load of 5218 LBS was applied during belleville spring operations (S/B 5000 minus 30/plus 0). PD5 average interface height is 0.141 INCHES (S/B 0.135 to 0.140 INCHES).
OEL-3-27-1716	OEL-3-A0033	F/F	10/19/1999 Only if SMCH tray is removed	PMRB approved for deferral to future FLT (LH bay 2 SMCH wire tray removal/OMDP) of OV-103.	LH bay 2 clamp fasteners (2) retorque could not be performed with wire tray installed.
OEL-3-31-4235	OEL-3-A0056	F/F	10/15/2004 Only if airlock removed	PMRB approved for deferral to future FLT (external airlock removal) of OV-103.	FWD tunnel assy V828-344101 was not re-ID to a -003 per EO C04.
OEL-3-31-4394	OEL-3-A0057	F/F	10/15/2004 Only if airlock removed	PMRB approved for deferral to future FLT (external airlock removal) of OV-103.	Connector plate V070-794182 was not re-ID to from a -031 to a -035.
OEL-3-31-4487	OEL-3-A0058	F/F	10/15/2004 Only if tank removed	PMRB approved for restricted list "use as repaired" (O2 PRSD tank #2 removal) of OV-103.	NoneCABLE 2M1846A16 HAS 3 LOCATIONS WITH DAMAGED SHIELDING BAY 3, DAMAGED PRIMARY INSULATION AT ONE LOCATION. RIGHT UPPER cable TRAY X-693 X-708 X-712
OEL-3-31-4535	OEL-3-A0066	F/F	03/18/2005 Only if R12 is removed	PMRB approved for Deferral to F/F (Panel R12 removal) of OV-103.	Harness at the backshell of 30P9498 is suspected to be hard against the shroud of panel R-12.
OEL-3-31-4538	OEL-3-A0067	F/F	03/18/2005 Only if R12 is removed	PMRB approved for Deferral to F/F (Panel R12 removal) of OV-103.	Harness at backshell of 30P9497 is suspected to be hard against the shroud of panel R-12.
OEL-3-31-4583	OEL-3-A0062	F/F	01/14/2005 Only if mission station removed	PMRB approved for deferral to F/F (OMDP) of OV-103	Cannot RE-ID feed through connector panel assembly due to connector interference.
OEL-3-31-4703	OEL-3-A0070	F/F	03/25/2005 No work unless BF PDU removed	PMRB approved for Deferral to F/F (OMM/removal of PDU) of OV-103.	Harness V070-775939-002 and V070-775937-004 are not routed per drawing.
STR-3-27-6820	STR-3-A0370	F/F	05/16/2006 Work if window removed	PMRB approved for deferral to F/F (window #6 removal) of OV-103.	Thermal Window #6 nutplates / inserts (17 of 50) failed minimum running torque of 2.0 inch pounds.
STR-3-27-6856	STR-3-A0364	F/F	11/08/2005 Work if window removed	PMRB approved for deferral to future FLT (window #4 removal) of OV-103.	Window #4 nutplates/insert (32 of 45) have zero running torque.
STR-3-28-6973	STR-3-A0381	F/F	08/11/2006 Work if window removed	PMRB approved for deferral to F/F (window #1 removal) of OV-103.	Thermal Window #1 nutplates / inserts (40 of 50) failed minimum running torque of 2.0 inch pounds. MRB approved installation of fasteners using loctite applied to fasteners.
STR-3-28-6973	STR-3-A0381	F/F	08/11/2006 Work if window removed	PMRB approval for deferral to F/F (window #1 removal) of OV-103. PMRB approval for Eng drawing or drawing-invoked spec noncompliance.	1.Window #1 thermal pane cavity frame has 14 nutplates and eight inserts below running torque of 2. MRB approved installation of fasteners using loctite applied to fasteners.
STR-3-30-7210	STR-3-A0486	F/F	05/11/2001 Work if Window removal	PMRB approved for deferral to future FLT (window #7 removal) of	Window #7 nutplates/insert (3 of 43) have zero running torque.

Deferred Work (Potentials) continued

STR-3-31-7287	STR-3-A0446	F/F	08/04/2006 Work if Window removal	PMRB approved for deferral to Future Flt (Window #2 removal and replacement) of OV-103.	Thermal Window #2 nutplates / inserts (44 of 52) failed minimum running torque of 2.0 inch pounds. MRB approved installation of fasteners using loctite applied to fasteners.
STR-3-31-7287	STR-3-A0446	F/F	08/04/2006 Work if Window removal	PMRB approved for deferral to future FLT window #2 removal of OV-103.	Window #2 nutplates and rosan inserts have low running torque, also unable to apply locking compound to inserts and nutplates.
STR-3-31-8324	STR-3-A0455 Inspect gen area unless str inspect drives curtain	34	01/14/2005 Requires secondary seal curtain removal	PMRB approval for deferral to future flt(flt 34) of OV-103(PMRB(02-24-04 & 12-14-04)) returned to engineering for CCRB approval prior to PMRB per JSC request.	L/H Wing elevon seal hinge tubes have active corrosion. Corrosion was cleaned up and a coating of calcium grease was applied. Post flight (33) evaluation required.
STR-3-31-8325	STR-3-A0454 Inspect gen area unless str inspect drives curtain	34	01/14/2005 Requires secondary seal curtain removal	PMRB approval for deferral to future flt(flt 34) of OV-103(PMRB(02-24-04 & 12-14-04)) returned to engineering for CCRB approval prior to PMRB per JSC request.	R/H Wing elevon seal hinge tubes have active corrosion. Corrosion was cleaned up and a coating of calcium grease was applied. Post flight (33) evaluation required.
STR-3-31-8463	STR-3-A0445	F/F	08/11/2006 Work if Window removal	PMRB approved for deferral to Future FLT (Window 5 removal or 12 Flts) of OV-103.	Window #5 fastener locations (33 of 52) failed minimum running torque requirement of 2.0 in lbs. MRB approved installation of fasteners using loctite on fasteners only.
STR-3-31-8695	STR-3-A0456 Inspect gen area unless str inspect drives curtain rem	F/F	01/25/2005 secondary seal curtain removal	PMRB approved for deferral to F/F (secondary seal curtain removal) OF OV-103. PMRB (11-30-04) returned to engineering for additional information on interference and correcting problem description.	LH outboard Elevon Cove V070-198850-012 has one nutplate on seal retainer does not have fastener installed. There are 11 other fasteners installed to provide sufficient support.
STR-3-31-8696	STR-3-A0467	F/F	03/18/2005 Chin panel removal	PMRB approved for deferral to F/F (chin panel removal) of OV-103.	Splice plate assy MD112-3002-0308 screws (3) have high running torque and screw will not engage to nut plate. MRB to install fasteners with locking compound, and install jo-bolt with washers.
STR-3-31-8796	STR-3-A0461 Inspect gen area unless str inspect drives curtain	F/F	02/02/2005 secondary seal curtain removal	PMRB approved for deferral to F/F (secondary seal curtain removal) of OV-103. (Re-scheduled from 01/27/05)	Cove tube has countersink and installed fastener in wrong location.
STR-3-31-8830	STR-3-A0464	F/F	02/08/2005 removal of fwd water separator	PMRB approved for Deferral to F/F (OMDP/removal of water separator) of OV-103.	V070-336006-014 Assembly and intercostal do not have the correct dash numbers applied.
STR-3-32-9152	STR-3-A0480	F/F	04/11/2006 Window removal	PMRB approved for deferral to Future FLT (Window 3 removal or 12 Flts) of OV-103.	Window #3 fastener locations (5 of 45) failed minimum running torque requirement of 2.0 in lbs.
STR-3-32-9158	STR-3-A0482	F/F	05/02/2006 Fwd Water Pump removal	PMRB approved for deferral to F/F (panel removal) of OV-103.	Water coolant pump support strut fasteners (5 of 8) have insufficient thread protrusion.
STR-3-J3-7859	STR-3-A0444	F/F	02/26/2004 Radiator latch removal	PMRB approved for deferral to future FLT (OMDP) of OV-103. PMRB (2-24-04) on hold for JSC and NASA Quality concurrence.	L/H PLBD expansion joint 2 location #5 shear pin binding due to out of round FWD bearing. Bearing will be replaced at OMDP.
STR-3-33-9209		34	If FRCS removed	Ref. IPR-116V-0015	Inspect STR components

OMRS Reset Requirements

SUBSYSTEM	OMRS REQMT	TITLE	DESCRIPTION
MECH Sep/Hatch	V59BA0.050	Y STAR TRACKER DOOR/PNL SEAL SURFACE INSP	Visual inspection of seal surface. Assures no evidence of damage to the star tracker door sealing surface.
MECH Sep/Hatch	V59BB0.050	Z STAR TRK DOOR/PNL SEAL SURFACE INSP	Same as V59BA0.050
PV&D	V05AN0.060-B	PURGE DUCT CHECK VALVE INSPECTION - AFT	Verifies purge circuit # 1 aft check valve open and close freely. Note: this partial has 3 valves - 2 valves for the OMS Pod 1 for the vertical stabilizer
PV&D	V05AN0.070	1307 BKHD CHECK VALVE INSPECTION	Verifies the 1307 bulkhead check valves open and close when required to ensure proper purging of the aft fuselage and vehicle compartmentation. Prevents possible transfer of hazardous fluids from one compartment to another, which may result in a flammable condition.
PV&D	V05AR0.014	ORB COMPARTMENT STRUCT LEAKAGE TEST (OV-103)	Ensures structural loads between compartment stay within acceptable limits. Prevents possible loss of crew and vehicle due to excessive structural loads resulting from an improper distribution of structural leakage area.
TPS	V09AW0.050	TPS SUBSTRATE CORROSION INSPECTION	Identifies integrity of structure under TPS <u>Consequence of non-performance:</u> Reduced structures margins with potential loss of TPS
ATCS	V63AF0.010	FCL 1 RAD FLOW CONTROL C/O (CONTR A)	FCL 1 Radiator controllers A/B auto and manual functional checkout.
ATCS	V63AF0.021	FCL 1 RAD FLOW CNTRL A FAULT DETECT C/O	Radiator flow controller automatic shutdown verification test.
ATCS	V63AF0.031	FCL 1 RAD FLOW CNTRL B FAULT DETECT C/O	Radiator flow controller automatic shutdown verification test.
ATCS	V63AF0.040	FCL 2 RAD FLOW CONTROL C/O (CONTR A)	FCL 2 Radiator controllers A/B auto and manual functional checkout.
ATCS	V63AF0.051	FCL 2 RAD FLOW CNTRL A FAULT DETECT C/O	Radiator flow controller automatic shutdown verification test.
ATCS	V63AF0.061	FCL 2 RAD FLOW CNTRL B FAULT DETECT C/O	Radiator flow controller automatic shutdown verification test.
ATCS	V63AH0.060	FES PRI A CONTROLLER FUNC TEST	Flash Evap Primary A controller functional verification test.

OMRS Reset Requirements (continued)

SUBSYSTEM	OMRS REQMT	TITLE	DESCRIPTION
ATCS	V63AH0.063	FES PRI B CONTROLLER FUNC TEST	Flash Evap Primary B controller functional verification test.
ATCS	V63AN0.010	NH3 BOILER FLUSH	Flushes the NH3 heat exchanger with IPA to remove built up corrosive oil residue
HYD/WSB	V58AI0.005	LDG GR EXTEND ISO VLV INTERNAL LK CK	Verifies no excessive internal leakage of the Isolation Valve. Excessive leakage could cause loss of redundancy within the Landing Gear and NWS systems.
HYD/WSB	V58AI0.008	BRAKE ISOLATION VLV INTERNAL LK CK	Verifies no excessive internal leakage of the Isolation Valve. Excessive leakage could cause loss of redundancy within the Brake system.
Life Support	V61AQ0.020	CBN POS PRESS RELIEF VLVS (ITEM 1.1)	LRU test. Functional and leakage verification of vlv assembly
Life Support	V61AQ0.030	CBN NEG PRESS RELIEF VLV (ITEM 1.86)	LRU test. Functional and leakage verification of vlv assembly
Life Support	V61AT0.063	O2 REG RELIEF VALVE TEST (1.7)	Crack and reseal test for relief valve assembly.
Life Support	V61AT0.089	EMERG BREATH CK VLV LEAKAGE TEST	Check valve crack and reseal leakage verification
Life Support	V61AT0.091	EMERGENCY BREATHING SYSTEM REG C/O	Regulator assembly flow, lockup and leak check verification
Life Support	V61AW0.035	GN2 REG/REL VLV (1.25) (SYS 1 & 2)	Crack and reseal test for relief valve assembly.
Life Support	V64AC0.012	HATCH VERIFICATION	Test performs Hatch equalization valves function and leak check. Test also verifies the Hatch pressure guage functions properly.
Life Support	V64AC0.026	CREW CABIN PURGE VALVE ASSY C/O	Test performs Crew Cabin Purge and Isolation valve internal leak and flow checks.
Life Support	V64AC0.050	EXT AIRLOCK NEG PRESS RELIEF VLVS C/O	LRU test. Functional and leakage verification of vlv assembly
Life Support	V64AC0.050	EXT AIRLOCK NEG PRESS RELIEF VLVS C/O	LRU test. Functional and leakage verification of vlv assembly
Life Support (File II)	C00AB0.230004	HYDROGEN/WATER SEPARATOR	Clean the hydrogen separator at NSLD
MPS	V41AK0.050	750 HELIUM REGULATOR PRESSURE TRANSDUCER PERIODIC CALIBRATION	Records data to update actual calibration curves
OMS/RCS	V42BE0.130	VERNIER THRUSTER PC TUBE FLUSH	Water flush of thruster Pc tube to remove Fuel/Ox Reaction Products (FORP) to prevent Pc tube burnthrough.



STS-122 Launch Site Flow Review

Presenter	Amy Houts-Gilfriche	
Date	11-30-06	

Backup Material

- **SSP Systems Drawings** Attachment 1
- **SSP Authorized Modifications/Non-Standard Work** Attachment 2
- **SSP OMRS Waivers and Exceptions** Attachment 3
- **Launch Window** (Not Available)
- **Open Configuration Waivers** Attachment 4



STS-122 Launch Site Flow Review

Presenter	Amy Houts-Gilfriche	
Date	11-30-06	

SSP System Drawings

The Drawings Baseline Was Released By PRCB S115122B on 11-09-06

- V072-000001-268 (Rev. UU01) Space Shuttle System (Rel. 11-10-06)
 - V072-200202-001 (Rev. NEW) Mission Equipment Cargo Support (Rel. 11-02-06)
 - SGD32104445-301 (Rev. TBD) Crew Compartment Configuration (Rel. TBD)
 - 001 Descent
 - V070-000001-003 Orbiter General Assembly
 - V070-410100-017 SSME Installation
 - 10100-0061-168 Integrated SRB General Assembly (BI-132)
 - 80901000000-510 External Tank Assembly (ET-125)
- STS-122 LSRR + 18 days Mission Configuration Product Plan (MCP) was last published on 11-20-06 and will be republished at ORR -14 days on TBD.



STS-122 Launch Site Flow Review

Presenter	Amy Houts-Gilfriche	
Date	11-30-06	

SSP System Drawings - Cont'd

Ferry Configuration

- V072-000001-269 (Rev. UU01) Space Shuttle System Drawing (Rel. 11-10-06)
- V072-200202-002 (Rev. NEW) Mission Equipment Cargo Support (Rel. 11-02-06)
- SGD321004445-302 (Rev. TBD) Crew Compartment Configuration (Rel. TBD)
- V072-30055-027 (Rev. BL01) Ferry Flight Configuration (Rel. 06-21-06)

SCA 905



STS-122 Launch Site Flow Review

Presenter	Amy Houts-Gilfriche	
Date	11-30-06	

Modification Impact Report

Mission Equipment Modifications and Orbiter Modifications analyzed for impact to OMRSD, LCC, ICD, EMI, Software, and GSE.

A total of 19 MCRs have been approved and/or pending mods

Current MCR impact status:

No impacts for all six disciplines

8

One or more disciplines with impacts, documentation approved and/or pending approval

4

MCRs 19112, 19533, 19563, and 19755 impacts are closed



STS-122 Launch Site Flow Review

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Modification Impact Report

Possible impacts still under review

7

MCRs 18888, 19114, 19343, 19789, 23411, and 23440 are being reviewed for OMRSD impacts

MCR 19789 is being reviewed for ICD impacts

MCR 23448 is being reviewed for EMI impacts

underlined MCRs have impacts in other disciplines

MCR/ECP	STAT SITE	ITEM/KIT NUMBER TCTI NUMBER	SEQ EISN NO.	DESCRIPTION / GENERAL REMARKS	PRCB AUTHDATE	PRIO FLT
	AUTH KSC	J6106A	0103 000 SPAR	ASA #1 & #2, ATVC #1 & #2, & RJDF #2 R&R FOR OV-103, FLT 34 CHIT J6106A SUPERSEDES J6106 IN ITS ENTIRETY.	ORB-0079R10 2006-09-25	MAND 034
	AUTH KSC	J6139	0103 000 SPAR	POST STS-116 VERNIER THRUSTER PC TUBE FLUSH	ORB-0079R11 2006-10-04	MAND 034
	AUTH KSC	J6141	0103 001 SPAR	PERFORM MEASUREMNTS ON OBSS SHOULDER AFTER OV-103 FLTS 33&34	ORB-0079 R12 2006-10-24	MAND 034
	AUTH KSC	J6170	0103 001 SPAR	STS-116 CLOSE CLEARANCE PAD MEASUREMENTS	ORB-0079 R13 2006-10-25	MAND 034

TOTAL MODS = 4

MCR/ECP	STAT	ITEM/KIT NUMBER	SEQ	DESCRIPTION / GENERAL REMARKS	PRCB AUTHDATE	PRIo FLT
-----	SITE	TCTI NUMBER	EISN NO.	-----	-----	-----
008814	APPD KSC	K710-710026-001	0001 000	MINI BOOM CIH - MOD KIT ADDED PER KIT EO NEW. KEEP W/MCR 23455 MODS NO PRGM AUTH REQ'D	NOT REQD	034
	APPD KSC	K845-773014-001	0001 000	MINI BOOM, VIDEO/ETHERNET ADDED PER V845-773959 NEW NO PRGM AUTH REQ'D	NOT REQD	034

TOTAL MODS = 2

ACTIVE WAIVERS FOR
OV-103 (STS-116)

Item #	Authority	Date	Waiver Description	Effectivity	Wad
47	S052310A	02/14/91	Fly with FRSI instead of tile	OV-103, Flight 12 & Subs (flight by flight evaluation)	OK TO RETIRE S061954B MV 4-2 RTF-130 Briefing
53	S052428A	03/27/91	Allows specified flights to fly with interim TPS repair after each mission to minimize damage to surrounding tile during ferry flight	STS-37, STS-39, STS-40, STS-42 thru STS-999	STAYS OPEN
101	S076972	11/19/91	Permit the modified GPCs (AP101-S) Battery Back-up Unit to fly with annotated fastener improvements without rolling the LRU Part Number	STS-42, STS-44, STS-47 and STS-49 thru STS-999	STAYS OPEN
327	S115114VR5	03/17/05	Partial installation of M072-784633-014 (harness installation - interface panel - MADS #3). The M072-784663-014 Technical Order was established to incorporate the crossover bracket modification at locations X0863 and X0750. The dash number configuration for the Technical Order was not baselined until January 25, 2005 (PRCBD S115114VR2). This area was closed out before this time and would cause significant impact to verify configuration of this Technical Order dash number -014.	OV-103, Flight 31 OV-103, Flight 32 WAIVER for STS-121	INS-3-28-279 (installed Tech Order)
***** SEE NSTS 07700 VOLUME IV BOOK 2 FOR COMPLETE DETAILS *****					
328	S115114WR1	04/07/05	Partial installation of M072-794500-004, for Integrated Vehicle Health Monitoring (IVHM) harness installation, calls for the removal of the unused IVHM harness and routing hardware. This requirement was manifested after the Bay 13 Longerons Bridge installation was complete. With the installation of the bridge, the removal of the IVHM harness is no longer possible without the removal of the bridge.	OV-103, Flight 31 OV-103, Flight 32 WAIVER for STS-121	OEL-3-31-304 PTL OEL-3-31-4432 PTL
***** SEE NSTS 07700 VOLUME IV BOOK 2 FOR COMPLETE DETAILS *****					

ACTIVE WAIVERS FOR
OV-103 (STS-116)

Item #	Authority	Date	Waiver Description	Effectivity	Wad
329	S115114AM	08/15/05	<p>The following requirements are waived to allow OV-103, Flight 31 to fly (ferry) with the following out-of-configuration conditions:</p> <ol style="list-style-type: none">1) V070-391139-025 (blanket under window #1 removed for ferry flight)2) M072-421502-002 (did not perform acetone wipe prior to universal thruster plug assemblies - procedural omission)3) V070-753110-003 (camera mount will not be installed for ferry flight) <p>***** SEE NSTS 07700 VOLUME IV BOOK 2 FOR COMPLETE DETAILS *****</p>	OV-103, Flight 31	Ferry Flight from Dryden
330	S115114VR15	09/16/05	<p>The following requirement is waived to allow OV-103 to ferry from DFRC to KSC with the following out-of-configuration condition:</p> <p>TCS blanket V070-362917-001 located at Door #44 NOT installed.</p> <p>***** SEE NSTS 07700 VOLUME IV BOOK 2 FOR COMPLETE DETAILS *****</p>	OV-103, Flight 31 Ferry Flight	Ferry Flight from Dryden

ACTIVE WAIVERS FOR
OV-103 (STS-116)

Item #	Authority	Date	Waiver Description	Effectivity	Wad
331	S115114VR15	09/16/05	<p>The following requirement is waived to allow OV-103 to ferry from DFRC to KSC with the following out-of-configuration condition:</p> <ol style="list-style-type: none">1) Two switches on Panel A15 will ferry without switch guards (P/N G070-700904-001). In lieu of switch guards at two locations, tape was installed.2) Eight GSE switch guards were left installed and not removed as required by Technical Order M072-710700-002 as called out in the ferry flight drawing.3) Three switch guards are not installed on Panel L4 for TACAN circuit breakers. The procedure does not include the switch guard installation. <p>***** SEE NSTS 07700 VOLUME IV BOOK 2 FOR COMPLETE DETAILS *****</p>	OV-103, Flight 31 Ferry Flight	Ferry Flight from Dryden
332	S115121TR8	05/04/06	<p>The following requirement is waived to allow OV-103 to fly with the following out-of-configuration condition:</p> <p>M072-794500-004 IVHM harness installation Bay 13 called out by MECSLSI V072-200201 NOT removed from OV-103.</p> <p>During STS-114 processing this Tech Order configuration called for the removal of an un-used IVHM harness along with the routing hardware. At the time the Tech Order was made a requirement for Flight 31, the Bay 13 longeron had already been installed for flight. The harness was demated and stowed in place per MR and was deferred to a future flight at which time Bay 13 longeron will be removed since the Bay 13 longeron was not removed this flight, a configuration waiver is needed for STS-121.</p>	OV-103, Flight 32	

ACTIVE WAIVERS FOR
OV-103 (STS-116)

Item #	Authority	Date	Waiver Description	Effectivity	Wad
333	S115121TR8	05/04/06	<p>The following requirement is waived to allow OV-103 to fly with the following out-of-configuration condition:</p> <p>Partial installation of M072-784633-014 (harness installation - interface panel - MADS#3). The M072-784633-014 Tech Order was established to incorporate the crossover bracket modification at locations X0863 and X0750. The dash number configuration for the Tech Order was not baselined until January 25, 2005 (PRCBD S115114VR2). This area was closed out before this time and would cause significant impact to verify configuration of this Tech Order dash number -014.</p> <p>***** SEE NSTS 07700 VOLUME IV BOOK 2 FOR COMPLETE DETAILS *****</p>	OV-103, Flight 32	
335	S115116NR2	08/18/06	<p>The following requirement is waived to allow OV-103 to fly with the following out-of-configuration condition:</p> <p>M072-794500-004 IVHM harness installation Bay 13 called out by MECSLSI V072-200195 not removed from OV-103.</p> <p>During STS-114 processing, this Tech Order configuration called for the removal of an unused IVHM harness along with the routing hardware. At the time the Tech Order was made a requirement for Flight 31, the Bay 13 longeron had already been installed for flight. The harness was demated and stowed in place per MR and was deferred to a future flight at which time Bay 13 longeron will be removed since the Bay 13 longeron was not removed this flight, a configuration waiver is needed for STS-116.</p>	OV-103, Flight 33	

ACTIVE WAIVERS FOR
OV-103 (STS-116)

Item #	Authority	Date	Waiver Description	Effectivity	Wad
336	S115116NR2	08/18/06	<p>The following requirement is waived to allow OV-103 to fly with the following out-of-configuration condition:</p> <p>M072-794500-004 IVHM harness installation Bay 13 called out by MECSLSI V072-200201.</p> <p>During OMDP, the crossover bracket modification was successfully implemented at all four locations with no technical issues by engineering defined by Orbiter drawings as well as three Tech Orders (M072-794011, M072-794021 and M072-794051). The M072-784633-014 Tech Order was established to incorporate the crossover bracket modification at two locations (X0863 and X0750).</p> <p>At the X0863 location, M072-784633-014 called for the removal of a clamp and six screws to reflect the change harness mounting due to the new wire tray shape. TPS OEL-3-31-245 incorporated the electrical portion of this modification per the vehicle drawings as well as the three tank set harness Tech Orders. During STS-114 processing, the WAD was reviewed and it was determined that an error exists in the M072-784633 engineering. This Tech Order reflects harness routing at the X0863 that does not reflect the as-built configuration on the Orbiter. A one flight configuration waiver was processed and approved for STS-114 and STS-121. All hardware on this Tech Order supports MADS wire routing, there were no observed wire routing violations noted during Flight 31 midbody closeout and all MADS testing will be completed and verified. No technical issue with hardware, installation, or function of MADS. There was no access to this area this flow to perform wire routing as-designed condition. A configuration waiver is needed for STS-116 for this Tech Order.</p>	OV-103, Flight 33	

ACTIVE WAIVERS FOR
OV-103 (STS-116)

Item #	Authority	Date	Waiver Description	Effectivity	Wad
337	S115116NR4	10/27/06	<p>Tech Order M072-544501-087 - install, M072-544501-027 - remove, -087 configuration is for the new over-center stops being installed. Mission-unique loads will not require these new stops. Program decision was made to not remove the RMS.</p> <p>This configuration will incorporate the over-center stops mod, the change is to all four MPM locations. The new stops, replace existing GFE stops, incorporate a stronger design to address mission-unique loads that have a potential to exceed the current mechanism capability. The decision was made not to incorporate this mod during STS-116 flow due to the low potential for load exceedence. Since -087 established the over-center stops mod along with other mods that were completed for this flow,a configuration waiver is needed for STS-116. In addition the removal of the -027 from the previous mission was not completed.</p>	OV-103, Flight 33	
338	S115116NR4	10/27/06	<p>Tech Order M072-794021-026 install, M072-794021-019 remove, -026 configuration is for the new over-center stops being installed. The change is rerouting and retaping of the wire harnesses near the over-center stops to alleviate any interference. Program decision was made to not remove the RMS.</p> <p>This configuration would reroute and retape harnesses on the MPMs to support the over-center stops mod. Since -026 established a new configuration in support of the over-center stop mod and this was not worked this flight, a configuration waiver is needed for STS-116. In addition, the removal of the -019 from the previous mission was not completed.</p>	OV-103, Flight 33	