ISS-8A / STS-110 Flight Readiness Review

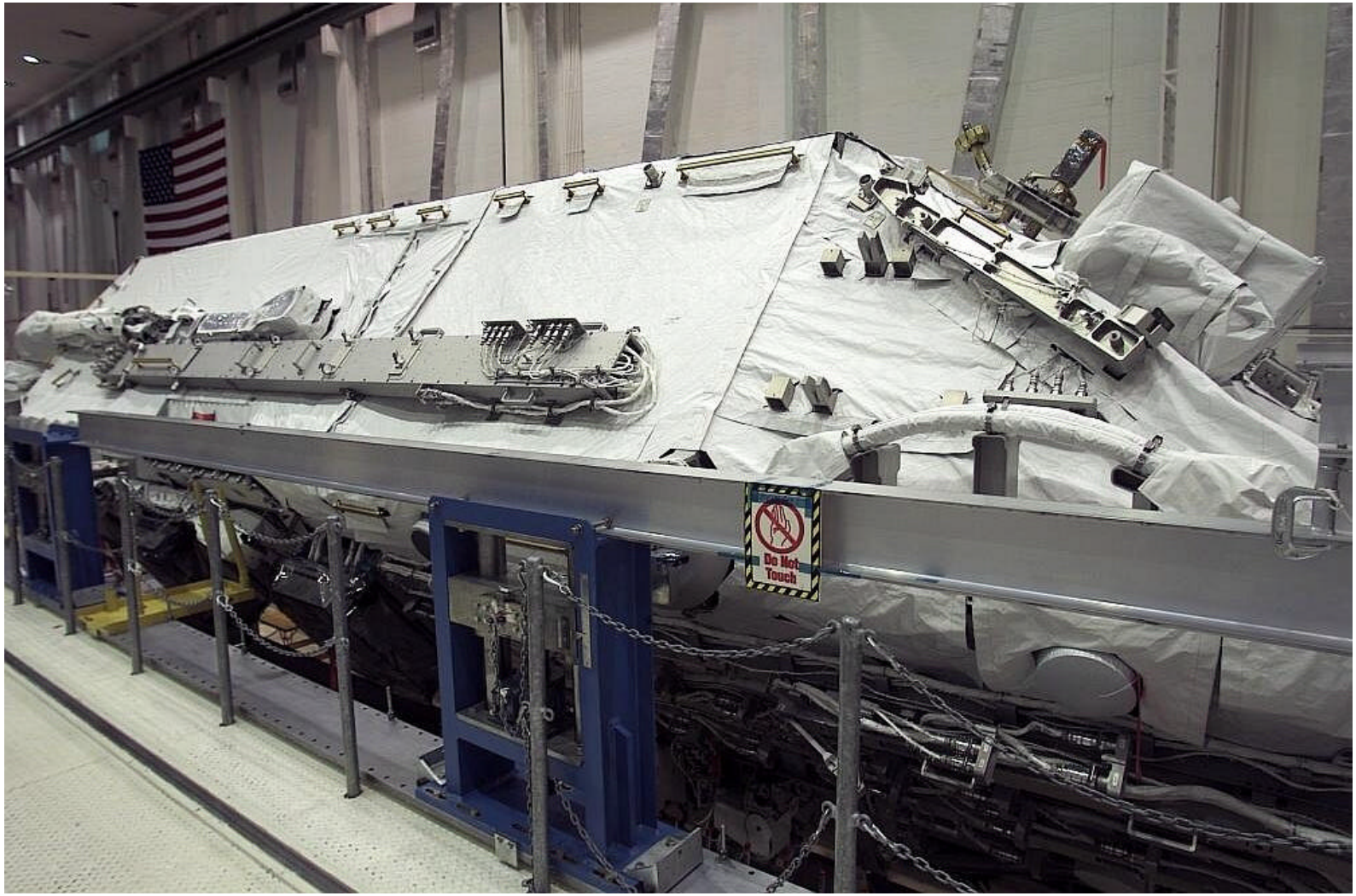
KSC ISS / Payloads Processing Directorate

S0 Truss
Mobile Transporter

Agenda

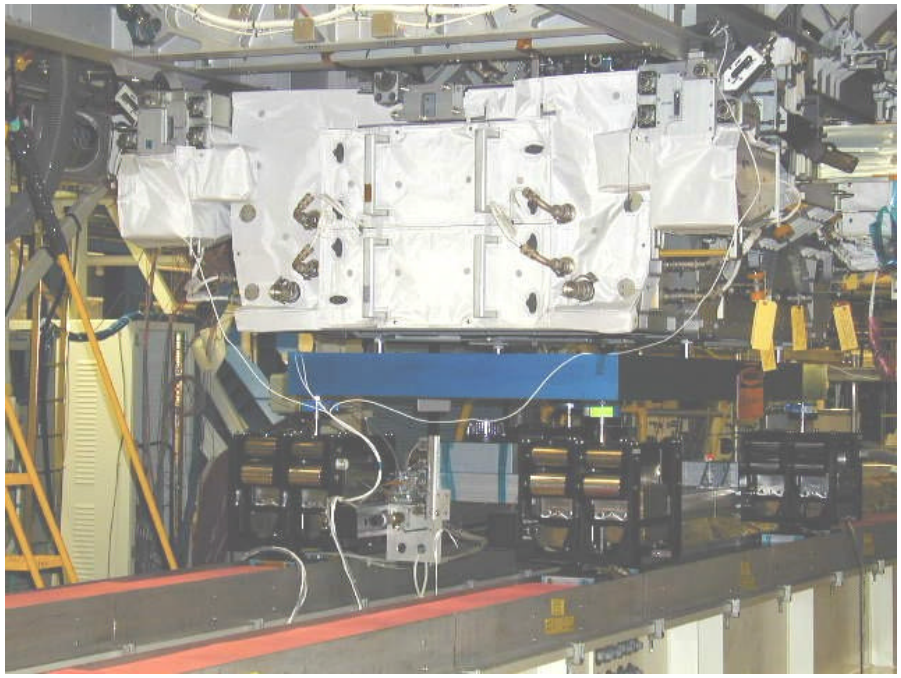
• Acronyms	In Back-Up
• Hardware Images	To Be Briefed
• Processing Milestones	To Be Briefed
• Master Milestone Schedule	In Back-Up
• Middeck Experiment Requirements	To Be Briefed
• Launch Delay Requirements	
◦ Middeck Experiments	To Be Briefed
◦ S0 and Mobile Transporter	None
• Engineering Status	To Be Briefed
• Readiness Certification	To Be Briefed

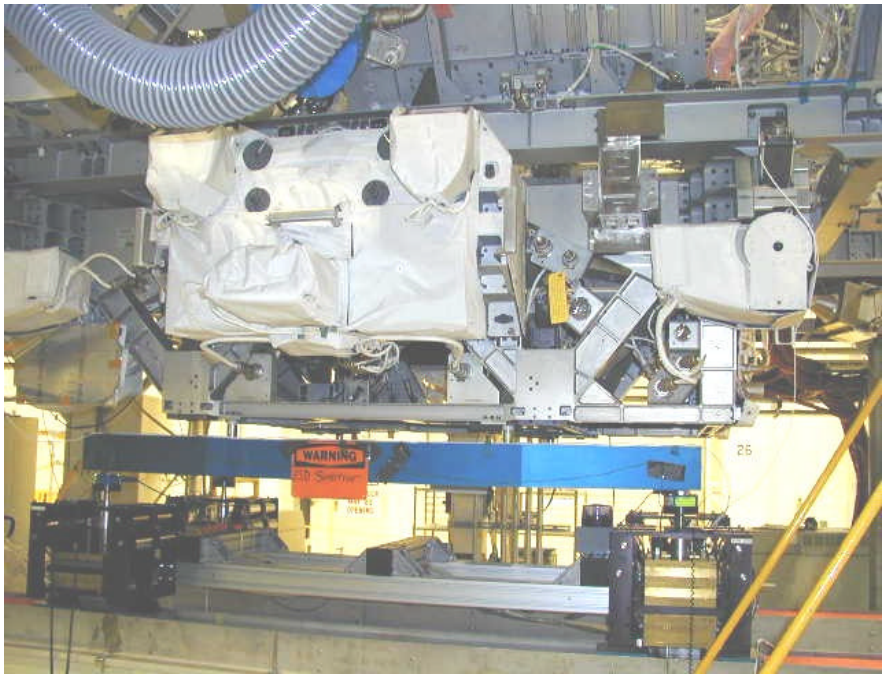
S0 Truss - Zenith



S0 Truss - Nadir

Mobile Transporter





S0 and MT Into Canister

Processing Milestones

• Arrival at KSC	
– S0 Truss	11 June 99
– Mobile Transporter	15 July 99
• Assembly and Checkout	12 June 99 – 20 February 02
• MEIT 2	30 September 00 – 25 June 01
• ARB (DD250)	03 May 01
• Shuttle Integration (O&C)	20 February 02 – 20 March 02
• S0/MT into Canister	21 March 02
• S0/MT to Pad	23 March 02
• Install into Orbiter (Pad)	26 March 02
• Shuttle Integration / Final Closeouts (Pad)	23 March 02 – 01 April 02
• Final PLBD Closure	01 April 02
• Launch	04 April 02

Middeck Experiment Requirements

Payload	Installation	IVT	Ascent Power	Launch Delay Requirement	Post-Landing Destow
BPS (a, c)	</= 19 Hours	Yes	Yes	48 Hours (f)	N/A (c)
PCG-EGN Dewar (a)	</= 24 Hours	No	No	48 Hours (f)	N/A
ZCG-SS (a)	</= 24 Hours	No	No	48 Hours (f)	N/A
CGBA (a)	</= 24 Hours	Yes	Yes	48 Hours (f)	N/A
CPCG-H (a, c)	</= 24 Hours	Yes	Yes	96 Hours (f)	N/A
BTR (b)	Nominal	Yes	No	None	Runway
HRF Urine Tube Dispenser Assy (d)	N/A	N/A	N/A	N/A	Runway
PCG-STES (d, e)	N/A	N/A	No (d)	N/A	Runway
ADVASC-GC (d)	N/A	N/A	N/A	N/A	Runway
ADVASC Stowage 2-3 (d)	N/A	N/A	N/A	N/A	Runway

Notes:

a. Ascent only; hardware to be transferred to ISS.
b. BTR will remain in the middeck and the contents will be swapped from BTR on ISS to BTR in Orbiter.
c. If payload is not transferred to ISS, powered runway destow is required.
d. Descent only; hardware is to be transferred from ISS.
e. During all handling (inside and outside Orbiter), personnel must wear ESD dissipative gloves.
f. Returned to Payload Developer for off-line refurbishment prior to reinstallation.

Engineering Status

OMRSD

- No pending changes
- No open Waivers or Exceptions
- All remaining open requirements have been incorporated into the appropriate scheduled procedures for satisfaction

ACOMC

- No pending changes
- No open Waivers or Exceptions
- All remaining open requirements have been incorporated into the appropriate scheduled procedures for satisfaction

TRD

- No pending changes
- No open Waivers or Exceptions
- No open requirements

Engineering Status

Copper Path

- No pending changes
- No open Waivers or Exceptions
- All requirements have been satisfied

Nonconformances

- One Problem Report remains open as “scheduled work” (PR 2576)
  - Install two labels on Rate Gyro Assemblies – ECD 3/25/02
- All other Problem Reports have been closed or are in closure

Procedures

- All payload processing procedures have either been released or are scheduled to be released and will meet all applicable “on the shelf” requirements

Engineering Status

Launch Commit Criteria

- None

Certificate of Flight Readiness

- No Exceptions

Readiness Certification

Pending resolution of identified constraints and completion of planned work, the KSC ISS / Payloads Processing Directorate is ready to proceed with launch of ISS-8A / STS-110.

KSC ISS / Payloads Processing Directorate
Back-Up Material

Acronyms

- ACOMC — Assembly and Checkout Operations and Maintenance Configuration
- ADVASC-GC — Advanced Astroculture – Growth Chamber
- ARB — Acceptance Review Board
- BPS — Biomass Production System
- BTR — Biotechnology Refrigerator
- CGBA — Commercial Generic Bioprocessing Apparatus
- CPCG-H — Commercial Protein Crystal Growth – High Density
- HRF — Human Research Facility
- HSI — Hardware / Software Integration Test
- IVT — Interface Verification Test
- MEIT — Multi-Element Integrated Test
- MT — Mobile Transporter
- OMRSD — Operations and Maintenance Requirements and Specifications Document
- PCG-EGN — Protein Crystal Growth – Enhanced Gaseous Nitrogen
- PCG-STES — Protein Crystal Growth – Single Locker Thermal Enclosure System
- TC — Test Configuration
- TRD — Test Requirement Drawing
- ZCG-SS — Zeolite Crystal Growth – Sample Stowage

STS-110 ISS-13-08A - S0: MT, GPS, NODE 2 & NODE 3 UMBILICALS, A/L SPUR, PWP

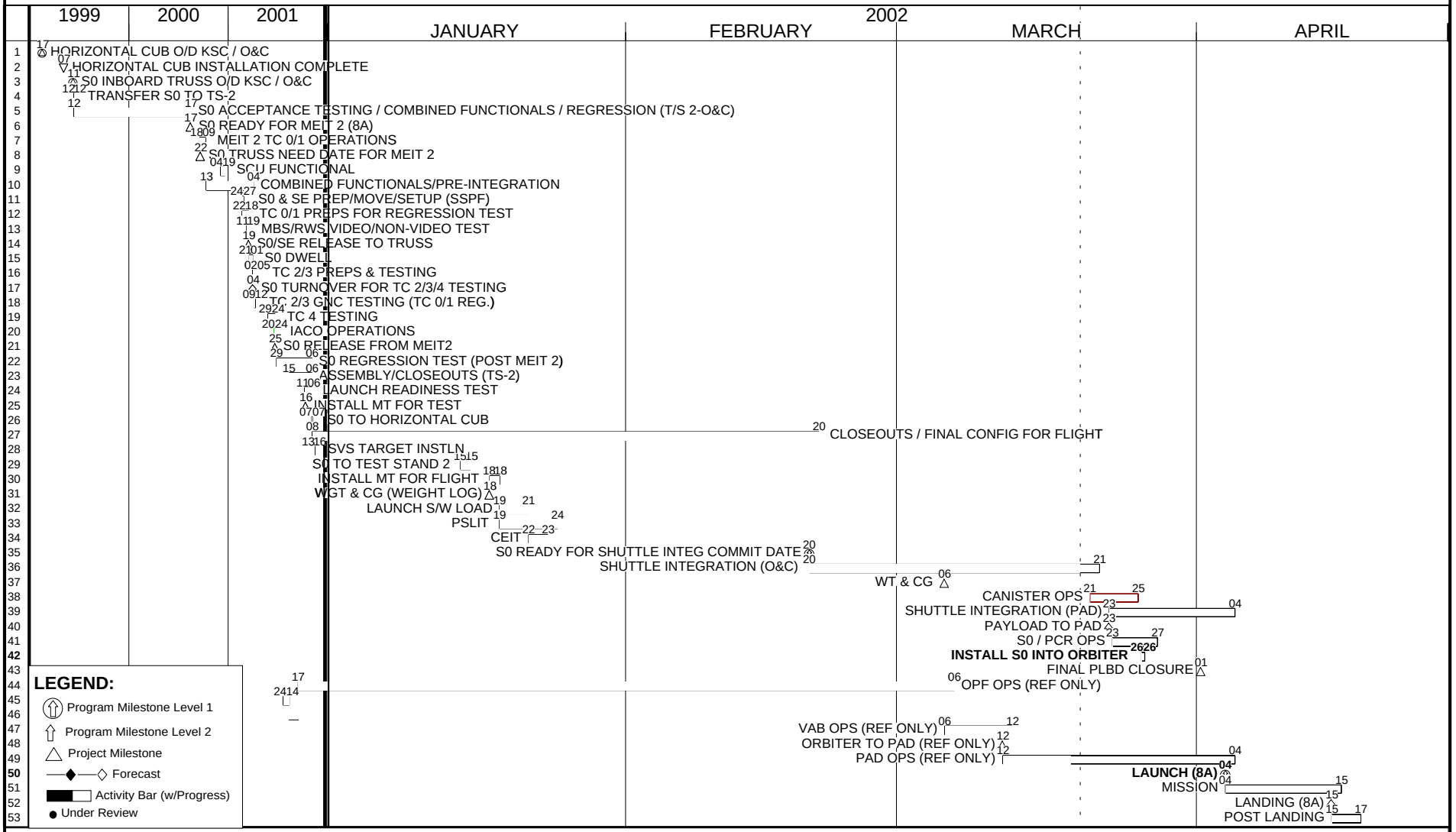
MASTER MILESTONE SCHEDULE

OPF BAY: 2 PAD: B ORBITER: 104 Atlantis

NASA: B . JIMENEA

BOEING PGOC: S. HOFFMAN

MANIFEST: REV F-3 SSCN 5493 STATUS AS OF: 20 MAR 02 REV: M



THREATS: 1. Verification of Mated QD primary seal integrity (hydraulic lockup issue) necessitated late P/L Pad Xport

ISS-8A / STS-110 Flight Readiness Review

OMRS/ACOMC No.	OMRS/ACOMC TITLE	WAD No.	REMARKS
P01000.010-B	HAZARDS INSP - POST-INSTL	R6600	
P01000.050	PAYLOAD CLOSEOUT INSPECTION	R59110	
P183EB.100	CGBA-ICM DC POWER I/F	S0007	Middeck
P228EB.105	DC PWR I/F ORB - 22 DEG	S0007	Middeck
P357AB.200	S0 TRUNNION INSPECTION	R6600	
P357BB.100-B	S0 CONTAM - PRIOR TO ORB INST	E1012	
P357BB.100-C	S0 CONTAM - PRIOR TO FINAL PL	E1012	
P357DB.100	PAYLOAD BAY PRELAUNCH PURGE	S08110	
P357EB.100	BTR DC POWER ORBITER I/F	P1100E	Middeck
P357EB.200	BPS DC POWER ORBITER I/F	S0007	Middeck
P357ED.200	S0 TRUSS STATIC BOND	CM-4-25-006	
U9063TC.010-B	VERIFY FINAL FLIGHT CLOSEOUT	PM051	
A-0008A-OCE-0001	8A FINAL LAUNCH CONFIGURATION CHECKLIST	R58110	
A-0008A-TIV-001 (-1)	INBOARD TRUSS INTERFACE VERIF	BHB-TRUSS-S0-ELE-T156	
A-0008A-TIV-001 (-2)	INBOARD TRUSS INTERFACE VERIF	BHB-TRUSS-S0-ELE-T156	
A-OITCS-TCS-001	ITCS HARDWARE & FLUID CONTAM. CTRL	TPS-UT-ADVASC-T103	Post Flight

Unexplained Anomalies

- **IPR SS-MEIT-02-TC23-003** – EVSW 2 switch matrix fails self test
- **IPR SS-MEIT-02-TC23-0059** – Capture Latch failed to reach intermediate position
- **IPR BHB-TRUSS-S0-0074** – Signal Conditioner Unit (SCU) set gains command failed during SDMS acceptance testing
- **IPR BHB-TRUSS-S0-0129 and 0130** – An anomalous noise was displayed during SDMS acceptance testing
- **IP000267** – Bolt Tight Switch indications for MBA S0-P1-1 read OPEN when CLOSED was expected
- **IP000283** – Lab LT-A IFHX Bypass Valve did not move to the Bypass/Close condition

- **All Unexplained Anomalies have been dispositioned, reviewed, and approved by the appropriate Boards.**

Lost and Found Problem Reports

Lost Items:

- One green “Ready For Launch” tag
- Four green “Configured for Flight” tags
- If tags were present they would have been found during final closeout inspections

Found Items:

- Six (6) washers
- One (1) captive nut
- One (1) nut
- One (1) ferrule dispenser (non-flight)
- Search of adjacent areas where items were found showed no missing hardware

- **All Lost and Found Problem Reports have been dispositioned, reviewed, and approved by the appropriate Boards.**