MISSION AND PROJECT MANAGEMENT OFFICE

SLSD 7 Soyuz SORR/FRR
Increment 8 Readiness Review and Overview

September 9, 2003
SLSD IRR OBJECTIVES

- To identify any risks, open issues and concerns, including closure plans that could impact SLSD Increment 8 objectives and on-orbit operations.

- Particular focus on those activities required to ensure:
  - Crew Safety and Survival
  - Habitability and Environmental Health
  - Medical and Utilization Operations
Increment 8

I-8 begins: 7 Soyuz
Launch October 18, 2003
I-8 ends: 7 Soyuz Undock
April 29, 2004
Days on ISS– 192
Day in Space- 194

Expeditiion 8 Crew

ISS CDR E8
Michael Foale

ISS FE E8
Alexander Kaleri
Increment 8 Tasks

- Dock Flight 7S TMA to SM Aft port
- Rotate Expedition 7 crew with Expedition 8 crew
- Transfer mandatory crew rotation cargo and perform mandatory tasks consisting of safety briefing
- Perform minimum crew handover of 12 hours per crew member
- Return critical equipment and samples on the 6 Soyuz transport
- Undock 6S TMA from FGB nadir port
- Perform US/Russian medical operations (average of 9 crew hours/week)
- Perform USOS/Russian maintenance activities
- Dock 13P, 14P, 15P, and 8S and perform cargo/propellant/water transfer
- Load and undock 12P, 13P, & 14P
- Planned payloads for I-8
  - Code M- CEO, EarthKam, Misse, SPHERES, ESTER, EPO
  - HLS- Interactions, Journals, Advanced US Epstein-Barr, FOOT Renal Stone
  - Physical Science – MAMS, SAMS, PCGSTES, BCSS FD1, CFE, PFMI, Foam Study, FMVM
  - Binary Colliod Alloy Test, Dust Aerosol Measurement Feasibility (DAFT)
SSCN 8038, Increment 8 IDRD, TCM was conducted on 8/22 and a delta-TCM on 8/29

- One Orlan EVA is planned during Increment 8 stage
- SSCN 8038, I-8 IDRD was presented and technically approved at the MIOCB on 9/4/03 by board members with the exception of SA and OD.

**Section 3.4 Deviations/Waivers**

- Crew size from 3 to 2 due to reduced cargo delivery capability and grounding of Shuttle fleets
- Increment duration of 192 days exceeds on orbit stay requirement of 180 days
- Crew rotation on Soyuz Spacecraft from 2 RSA and 1 NASA or IP to 1 RSA and 1 NASA
- Reduction in Medical Operations from an average of 12 hours/wk to 9 hours/wk (*Medical Operations has been asked to determine if this time can be further reduced to 7.5-8 hours/wk*)
- Reduction in nominal crew provisioning allocations
- Skip Cycle (45-day contingency supply crew provisioning) not being protected due to decreased cargo capability during Increment 8
- Loss of EMU EVA capability due to hardware failures (S/Ns 3005 and 3013). Orlan capability is available and will be used to conduct the one planned EVA during Increment 8 stage.
- Visibility and access to critical Equipment and controls, access to fire ports is not a hazard control, rationale no stowage is blocking any access to any areas that result in a violation of a hazard control.
Current ISS Vehicle Status

- Safety hazard violations have resulted from inaccessible fire ports on the ISS due to excessive on orbit stowage. Of paramount concern is there are more items on board than there is designated stowage. In some instances the stowage in front of some of these ports is 3 layers deep.
  - ISSP is currently assessing on orbit stowed items to determine if any can be disposed of in the Progress.

- On going troubleshooting of on board EMUs (S/N 3005 and 3013) has resulted in no EMU EVA capability during Increment 8.

- Crew rest requirements, including crew work/sleep shift impacts for critical operations remain unresolved.

- There is still a potential for launching a single Progress during Inc. 8 due to the Russian unresolved funding issues. It is assumed that this one flight would be 13P launched in January 2004. SA has identified cargo items to support this scenario.