



SPACE SHUTTLE PROGRAM
Space Shuttle Vehicle Engineering Office
NASA Johnson Space Center, Houston, Texas



STS-107

FLIGHT READINESS REVIEW

FERRY READINESS

January 9, 2003



STS-107 Flight Readiness Review Ferry Readiness

Presenter Don L. McCormack, Jr.

Date Jan 9, 2003

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Ferry Plan Summary

- Ferry Planning Readiness Review conducted on 12/17/02 with no issues identified
- Ferry Flight Readiness Review to be conducted one day prior to planned ferry date
- Hardware summary:
 - Orbiter: OV-102 (Columbia)
 - NEOM ferry weight (lbs): 231732 (no fluids off-loaded)
 - NEOM ferry center of gravity (in): X_o 1109.7 Y_o -0.2 Z_o 371.9
 - » NEOM mass properties are within specified limits – Orbiter middeck ballast is not required
 - Attach hardware and ferry plugs are ready to support
 - Tailcone 2 ready to support
 - Shuttle Carrier Aircraft (SCA): NASA 911 is ready to support
- Configuration drawings have been released



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Ferry Plan Summary - Continued

- DFRC seven day turnaround with ready-to-ferry on morning of day seven
- Flight plan
 - Three flight legs that will be performed over 2-days
- Prime landing sites, weather alternates and emergency landing fields selected
- Pathfinder: USAF C-141 or C-17 (purge equipment required)
- Purge – purge equipment will be deployed due to the potential for low temperatures at ferry overnight stop locations
 - Purge circuit 1 (OMS/RCS – ambient air temperature below 45 °F for greater than 2 hours)
 - Purge circuit 2 (Spacehab and Orbiter payload heat exchange/water lines requirement for ambient air temperature below 50 °F)
 - The Orbiter also requires that the ambient air temperature at landing be above 40 °F to avoid the potential for payload heat exchanger/water lines freezing prior to purge initiation



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STS-107 FERRY READINESS STATEMENT

A Ferry Planning Readiness Review was conducted in accordance with the Space Shuttle Vehicle Engineering Office flight preparation process plan contained in NSTS 08117, Requirements and Procedures for Certification of Flight Readiness. This certifies that aircraft, equipment, and ferry requirements are ready to support Orbiter ferry operations.

**Don L. McCormack, Jr.
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