



# STS-131 SSP Flight Readiness Review Flight Software Summary



Pre-decisional. Internal Use Only.



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## STS-131 FLIGHT SOFTWARE SUMMARY

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- **Fourth flight of PASS and BFS Operational Increment 34 (OI-34)**
  - No changes from the STS-130 software systems
  
- **Fourth flight of MEDS Multifunction Display Unit Function (MDUF) VI 6.00 and second flight of MEDS Integrated Display Processor (IDP) VI 7.01**
  - No changes from STS-130 software
  
- **Fifth flight of MAGRS-3S Link 613-9966-008 GPS FSW**
  - No changes from STS-130 software





## FSW READINESS SUMMARY

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- **Integrated Avionics Verification (IAV) is complete**
  - A total of 14 cases were executed and analyzed in support of STS-131
    - Included testing of full flight system (PASS/BFS STS-131/OI-34 with flight-specific I-Loads; MEDS VI 7.01/6.00 (IDP/MDUF); MAGRS-3S Link 8; and SSME AD08/DA05 software)
- **SAIL facility will be in a condition of readiness for mission support**
- **Formal Software Readiness Review (SRR) was conducted on 02/11/10**
  - No known constraints
- **With the completion of planned open work, FSW will be ready to support STS-131 launch**



## LAUNCH ON NEED STATUS

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- **In the event of call-up, the STS-132 flight software products would be flown on OV-104**
  - OI-34 STS-132 Base Load and associated products
  - Flight specific I-Load patches for STS-132 (full payload bay)
  - OI-34 compatible MEDS IDP and MDUF software (VI 7.01/6.00)
  - MAGRS-3S Link 8
- **Completion of the development and verification of flight-specific FSW products for STS-132 will be performed in time to support the 05/14/10 target launch date**
- **Formal Software Readiness Review to be conducted after call-up**





**STS-131 FLIGHT SOFTWARE  
 FLIGHT READINESS STATEMENT**

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Full compliance with SPOC Flight Software CoFR requirements is documented in the STS-131 Software Readiness Review packages along with signed readiness statements and identification of open work.

Pending completion of standard open work and identified non-standard open work, Flight Software is ready to support flight.

*/s/ Patti A. French*

*3/01/2010*

**Patti A. French**                      **Date**  
**Associate Program Manager**  
**USA Flight Software**



**STS-131  
 SSP Flight Readiness Review  
 PGSC**





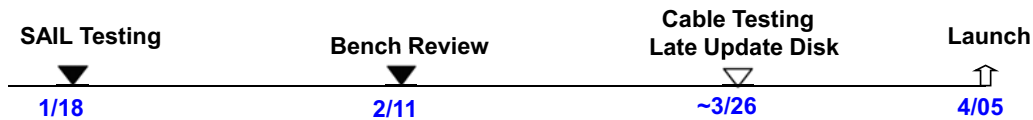
**Payload and General Support Computer Readiness – STS-131**

Presenter	MS4/E. Jones	
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- **Hardware and Software Summary**
  - STS-131 will be the eighteenth flight of the IBM ThinkPad A31p PGSC
    - Seven PGSC units (Two currently planned for ISS transfer)
    - Twelfth flight of the A31p Docking Station (OCA and WinDecom)
    - Tenth flight of Netgear Wireless Access Point.
      - Note: No network issues observed during STS-130
    - New software
      - None

- **IFA Summary**
  - None

▪ **PGSC Milestones**



**STS-131 Non Standard Open Work**

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	ECD
<b>Systems Safety</b> <ul style="list-style-type: none"> <li>- Disposition of STS-130-I-001, Unexpected Debris/Expected Debris Exceeding Mass Allowable Prior to Pad Clearance (Liftoff Debris)</li> <li>- Disposition of STS-130-I-002, ET TPS Losses from the Intertank</li> <li>- Disposition of STS-130-I-003, Ceramic Insert Protruding Near Window #2</li> </ul>	03/09/10 03/23/09 03/09/10
<b>Loads &amp; Dynamics</b> <ul style="list-style-type: none"> <li>- Delta FMA required for late mass change</li> </ul>	03/09/10





## Alternate/Dissenting Opinions

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- **Alternate/dissenting opinions were actively solicited at the SE&I STS-131 Pre-FRR.**
  - No dissenting opinions were identified.



## CoFR Endorsement

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The Space Shuttle Program, Systems Engineering and Integration Office's Flight Preparation Process Plan, documented in NSTS 08117, Requirements and Procedures for Certification of Flight Readiness have been satisfied. Required products and other responsibilities identified in NSTS 08117, paragraph 8.5.12 and Appendix M, have been or will be scheduled for completion. All technical functions and responsibilities are ready and the Systems Engineering and Integration Office is prepared to sign the Certificate of Flight Readiness for STS-131, pending completion of open work.

/s/Donald S. Noah

Donald S. Noah  
 Manager Systems Engineering and Integration Office





## LON Status

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- SE&I has identified no technical or schedule constraints to the support of LON requirements for STS-131 using the SSP baseline “Fly the Next Flight” approach

