



**SPACE SHUTTLE PROGRAM**  
**Flight Software Office**  
NASA Johnson Space Center, Houston, Texas



# **Flight Software Office (FSO) STS-122 In-Flight Anomaly Review SR 4151**

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**PRCB Feb. 21, 2008**



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### FSO STS-122 IFA Review, Overview

Presenter

A. CURRIE

Date

2/21/2008

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Tracking #	Description	IFA?	IIFA?
STS-122-S-001	Suspect PGSC 3Com Network Card	Y	N
STS-122-S-002	Backup RPOP not receiving TCS Data during undock	Y	N
STS-122-S-003	RPOP not receiving HHL data during docking	Y	N



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### FSO STS-122 IFA Review Discussion

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- **STS-122-S-001 – Suspect PGSC 3Com Network Card**

- On FD11, Orbiter Communications Adapter (OCA) officer reported an intermittent problem with the KFX Payload General Support Computer (PGSC) dropping off the network. Problem persisted until the Ethernet PCMCIA (3Com) card was swapped and system rebooted.

- **IFA?** – Yes, operation restored after card replaced
- **IIFA?** – No, does not impact integrated hazards or multiple elements (per NSTS 08126), no mission impact due to availability of four spare 3Com cards
- **Post flight plan** – Hardware will be tested post flight, if failure verified, FIAR will be written; Starting with STS-123, new wireless access points will replace 3Com network hardware

- **STS-122-S-002 – Backup RPOP Not Receiving TCS Data During Undock**

- During rendezvous and docking operations, the HHL was operational but its data was not downloaded to the Rendezvous Proximity Operators Program (RPOP) PGSC. Post-docking analysis of downlinked RPOP and Trajectory Control Sensor (TCS) data indicated that the backup RPOP/TCS laptop did not receive TCS data during rendezvous. The problem was reproduced during rendezvous tools checkout on FD11, and the RS-422 Quatech card was replaced to restore proper operation.

- **IFA?** – Yes, operation restored after card replaced
- **IIFA?** – No, does not impact integrated hazards or multiple elements (per NSTS 08126), no mission impact due to availability of three spare cards and redundant TCS PGSC
- **Post flight plan** – Hardware will be tested post flight, if failure verified, FIAR will be written



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- **STS-122-S-003 – Handheld Lidar (HHL) Data Not Feeding Into RPOP**

- During rendezvous and docking operations, the HHL was operational but its data was not downloaded to the Rendezvous Proximity Operators Program (RPOP) Payload General Support Computer (PGSC). During rendezvous tools checkout on FD11, the RS-232 HHL interface cable was replaced in the course of completing the checkout procedure and verifying proper operation

- **IFA?** – Yes, operation restored after cable replaced
- **IIFA?** – No, does not impact integrated hazards or multiple elements (per NSTS 08126), no mission impact due to availability of spare cable and manual workarounds for HHL use
- **Post flight plan** – Hardware will be tested post flight, if failure verified, FIAR will be written