SSVEO IFA List

Date:02/27/2003

STS - 99, OV - 105, Endeavour (14)

Time:03:54:PM

Tracking No	Time	Classification	Documentation		Subsystem
MER - 1	**MET:** Prelaunch	Problem	**FIAR**	**IFA** STS-99-V-01	MEC
BOOST-01	**GMT:** 031:16:58		**SPR**	**UA**	**Manager:** Phat Vu
			IPR 99V-0169	**PR** OEL-5-15-2099	714-372-5870
					Engineer: Don Peck
					281-853-1598

Title: GPC I/O Errors and EMEC Preflight BITE Error (ORB)

Summary: During the T-29 minute preflight BITE test of EMEC 2, all four PASS GPCs indicated I/O errors and errors were indicated in the EMEC 2 BITE words. Data evaluation indicated a good preflight BITE command followed by the I/O errors (bad address and parity) detected by all four PASS GPCs. The errors occurred when receiving the first response word. The software then automatically retried the preflight BITE command and received all 18 response words from the preflight BITE test. However, words 8 and 9 had six bits set at 1 that should have been 0.

Following the launch scrub for bad weather, additional testing of EMEC 2 was performed. This testing included 20 cycles of wrap and preflight BITE tests and 30 cycles of a non-critical command, all of which were successful. Additionally, the data evaluation continued and a fault tree was developed and analyzed. The analysis indicated that the problem was most likely in the EMEC; however, it was unable to identify a single failure in the EMEC that could result in the signatures observed and be a non-critical failure. This uncertainty lead to the decision to remove and replace the EMEC. The EMEC was removed, replaced and successfully retested. Following further analysis of the data and computer simulations, a potential failure mode that could cause the errors seen was identified within the control logic of the MIA I/O module. The suspect circuitry is part of the control logic which clears command registers. Additionally, after further analysis, there was no indication of a flight software or GPC problem that could have resulted in the errors seen. The EMEC is undergoing TT&E at NSLD and as of 2/29, the failure had not been duplicated.

Tracking No	Time	Classification	Documentation		Subsystem
MER - 14	**MET:** 009:10:17	Problem	**FIAR**	**IFA** STS-99-V-02	ECLSS
EECOM-01	**GMT:** 052:04:01		**SPR**	**UA**	**Manager:** Kevin Kelly
			IPR 97V-0010	**PR**	714-372-2765

Engineer: Tracey
Riverman
281-853-1619

Title: Supply Water Dump Nozzle Blockage (ORB)

Summary: During the initiation of an Orbiter supply water dump (#15) at 052:04:01 G.m.t. (009:10:17 MET), the dump-nozzle heaters operated nominally and the dump valve was opened. However, no decrease in either the nozzle temperatures or tank quantities was identified, indicating that no water was being dumped. The dump valve was cycled with no response, followed by the closing of the dump valve. Changes in the dump-nozzle temperature profile immediately following this last valve closure indicated that ice was being ejected from the water line and/or the nozzle. The dump valve was opened again and the supply water dump was performed nominally. No additional supply water dumps were performed during the remainder of the mission. Data evaluation indicated peculiarities in several of the dumps performed during the mission, beginning with dump 3.

Troubleshooting determined that the dump valve leaked (internally). The valve was removed and replaced.