

## Second Discovery tanking test

May 8 2005

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Following Space Shuttle Program management discussions this week, a plan was laid out today reflecting how the program will move toward the STS-114 Return to Flight launch.

Preparations are under way for a tanking test no earlier than the week of May 15 to continue troubleshooting two issues that arose during another tanking test on April 14. Engineers are evaluating the liquid hydrogen sensors in the tank that gave intermittent readings during last month's test. These sensors serve as fuel gauges to notify the Space Shuttle Main Engines to shut down when propellants reach a certain level in the tank. This is critical in the safe operation of the main engines. Engineers are continuing to evaluate a liquid hydrogen pressurization relief valve that cycled more times during the tanking test than is standard. This valve opens and closes to ensure the liquid hydrogen stays at the correct temperature.

Following the tanking test, technicians will begin preparations for rolling Space Shuttle Discovery back to the Vehicle Assembly Building (VAB). Once in the VAB, orbiter Discovery most likely will be removed (destacked) from its External Tank (ET) and lowered into the transfer aisle. This will be the eighth time in the program's history that a destacking will be performed following a rollback.

In parallel, the External Tank (ET-121) and Solid Rocket Boosters scheduled to fly with orbiter Atlantis on mission STS-121, is being prepared to fly with Discovery on mission STS-114. The preparation of ET-121 currently is ongoing in the VAB's checkout cell. A new heater will be added to the feedline bellows to minimize the potential for ice

and frost buildup. This heater modification kit arrived yesterday from the tank manufacturing plant in New Orleans and will be installed over the next 24 days. Once Discovery returns to the pad, another tanking test may be performed to test the new modifications.

This week, the STS-114 crew participated in the Terminal Countdown Demonstration Test. This provides the crew and ground teams of each mission an opportunity to participate in various simulated countdown activities, including equipment familiarization and emergency egress training.

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