KSC COUNTDOWN

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Discovery's External Tank testing successful

▲ Shuttle Update: Friday's External Tank (ET) tanking test on Discovery was successful.

The test involved filling the ET with liquid oxygen and liquid hydrogen propellants to evaluate how it performs under "cryo-load," when the tank is filled with the two ultra-low-temperature propellants. This portion of the test is about 11 hours and included a simulated countdown through the T minus 31 second hold.

Prior to the test, workers added new tank instrumentation to help troubleshoot two issues that arose during an April 14 tanking test. The instrumentation will provide data to analyze the liquid hydrogen sensors that gave intermittent readings, and the liquid hydrogen pressurization relief valve that cycled more times than standard.

Space Shuttle Discovery is currently set to roll to the Vehicle Assembly Building early Thursday. Once there, orbiter Discovery will be detached from its ET and lowered into the transfer aisle. Around June 7, Discovery will be lifted and attached to its new ET and Solid Rocket Boosters, and finally, rolled back out to the pad in mid June.

▲ ELV Update: NASA successfully launched a new environmental satellite May 20 for the National Oceanic and Atmospheric Administration (NOAA). It will improve weather forecasting and monitor environmental events around the world. The NOAA-18 (N) spacecraft lifted off at 6:22 a.m. EDT from Vandenberg Air Force Base, Calif., on a Boeing Delta II 7320-10 expendable launch vehicle.

Approximately 65 minutes later, the spacecraft separated from the Delta II second stage. The solar array boom and antennas were successfully deployed, and the spacecraft was placed in an orbit that was exactly on target. NOAA-N was renamed NOAA-18 after achieving orbit. NASA will transfer operational control to NOAA 21 days spacecraft after launch. NASA's comprehensive on-orbit checkout period is expected to last approximately 45 days. For images of the launch, information about NOAA-N and the polar-orbiting satellites, visit **http://www.nasa.gov/noaa-n**.

NOAA-N launches to monitor weather and environment

■ **FSRI Competitions** – The four university teams (Colorado School of Mines, Florida Institute of Technology, Massachusetts Institute of Technology and Purdue University) selected as finalists in the NASA/Florida Space Research Institute (FSRI) In-Situ Resource Utilization Design Competition are preparing for a Debus Center event Wednesday where the winning team will be named. The teams demonstrated the feasibility of using lunar regolith (unconsolidated material that overlies bedrock) as a source for oxygen, water and other commodities necessary for lunar exploration and research operations.

NASA and FSRI awarded each team $12,000 for their design efforts. For details, contact Edward Ellegood at 452-2653, ext. 204.

NASA and FSRI also announced the Centennial Challenges competition. The challenge, known as MoonROx (Moon Regolith Oxygen), will award $250,000 to the first team that can extract breathable oxygen from simulated lunar soil before June 1, 2008. For more information, visit **http://centennialchallenges.nasa.gov**.

■ **Speakers Needed** – Employees knowledgeable on Return to Flight activities are encouraged to speak on June 13 or 14 to Tennessee teachers. A NASA engineer, preferably female, is needed to speak during a Girls Robotics Summer Camp July 13. Each session will last approximately 20 minutes, followed by a ten-minute question session. Both will be held at the KSCVC's Center for Space Education. To volunteer, e-mail *patricia.j.gillis@nasa.gov*.

■ **Did You Know?** Employees are entitled to free limited-access KSCVC tickets by showing a badge at the Will Call window. For further information, call 449-4444.

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