

Discovery valve working, countdown to resume

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"There is no issue in the initial testing," Kennedy Space Center spokesman Allard Beutel told AFP late Wednesday.

Engineers, he said, commanded the liquid hydrogen fill-and-drain valve in Discovery's main propulsion system to open and close five times, "and

it worked."

The tests seemed to indicate that the hydrogen fuel tank valve -- which scuttled a second [launch](#) attempt for Discovery that had been planned for early Wednesday -- was not broken. They suggested that the problems encountered when filling the shuttle's [external fuel tank](#) owed to false readings.

Engineers had tested the function of the valve, which facilitates the flow of liquid hydrogen from the external fuel tank to the three main engines, and had not been able to close it. The valve must be closed for the launch and opened in order to drain the tank if a launch is delayed.

Teams of engineers were also performing a pressure test of the propulsion system, and recording the leak rate of small amounts of [liquid hydrogen](#), NASA said.

The technical team will present the results of its tests and analysis to the mission management team at a meeting Thursday.

NASA has targeted Discovery's third launch attempt for no earlier than Friday at 12:22 am (0422 GMT). But it cautioned that the decision depended "on the results of the testing and a review of the data by the mission management team."

In another sign that the US space agency was optimistic about going ahead with the planned launch, [countdown](#) was set to begin again Thursday at 8:57 am (1257 GMT).

And after thunderstorms led [NASA](#) officials to scrub the first lift-off attempt early Tuesday, the weather conditions also looked promising.

The latest forecasts gave a 70-percent chance of favorable conditions at

the shuttle's rescheduled take-off time from Cape Canaveral, Florida.

But if the valve needed to be replaced, there would be no further launch attempts in August.

The shuttle has until Sunday to launch. After that, any further tries would have to be postponed until October 17 due to scheduling conflicts with rocket launches and tests, as well as upcoming launches to the International Space Station (ISS) from Japan and Russia.

Discovery and its crew of seven astronauts were preparing for a 13-day mission to supply the orbiting station.

A key task during the astronauts' three scheduled spacewalks will be to replace an old liquid ammonia coolant tank, which will be substituted with a new, 1,760-pound (800-kilogram) replacement brought aboard Discovery.

The new freezer will store samples of blood, urine and other materials that will eventually be taken back for study on the effects of zero-gravity.

The seven shuttle astronauts will also be retrieving experiment equipment from outside the ISS and returning it to Earth for processing.

A treadmill named after popular US comedy talkshow host Stephen Colbert will be the second aboard the ISS. Exercise is important for astronauts spending long periods of time in space, because zero-gravity can result in muscle atrophy.

Once the Discovery mission is complete, just six more shuttle flights remain before NASA's three shuttles are retired in September 2010.

The ISS is a project jointly run by 16 countries at a cost of 100 billion dollars -- largely financed by the United States.

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