

# NASA repairing leak on space shuttle fuel tank

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The space shuttle Endeavour sits on Launch Pad 39-A hours after being scrubbed due a hydrogen leak Saturday morning, June 13, 2009 at the Kennedy Space Center in Cape Canaveral, Fla. Seven astronauts were scheduled to liftoff on a trip to the international space station. (AP Photo/Chris O'Meara)

(AP) -- NASA is repairing a leaky hydrogen gas line on Endeavour's fuel tank in hopes of launching the shuttle on its space station construction mission Wednesday, four days after the first try was called off.

But another NASA mission, involving a pair of science spacecraft bound

for the moon, is scheduled to blast off Wednesday. Top space agency officials will decide Monday whether to bump the moon mission to make way for Endeavour.

Mission management team chairman LeRoy Cain said it's likely Endeavour will go first - if the repair effort goes well, no other shuttle problems crop up and the weather cooperates.

"A lot of things have to go our way," Cain said Sunday.

Hydrogen gas began leaking from a vent line hookup on Endeavour's external tank during fueling early Saturday, and the countdown was halted just hours before the scheduled morning liftoff.

The same kind of leak postponed a [shuttle launch](#) in March. Technicians replaced the vent line hookup and a pair of Teflon seals back then, and the leak did not recur. NASA is hoping for similar results this time. The hookup and seal replacements on Endeavour's tank were expected to be completed Monday morning.

Engineers never determined why the vent line leaked in March. Finding the cause has taken on new urgency.

NASA finds itself in the difficult and unusual position of having to choose between two [space missions](#) that both have a relatively short time to launch.

Endeavour must fly by this weekend, otherwise the mission to deliver the final piece of the Japanese [space station](#) lab must wait until mid-July because of unfavorable sun angles that would heat up the shuttle. The moon mission - NASA's first in a decade - must be launched by Saturday as well, otherwise it will have to wait until the end of the month for another shot.

One of the lunar spacecraft, an orbiter, is designed to map the moon so NASA can determine where best to put an outpost for astronauts in years to come. The other craft will smash into a shadowed crater at one of the moon's poles to check for signs of frozen water.

Cain said NASA could maximize the number of launch attempts for both missions if it tries to launch Endeavour on Wednesday. The Air Force would need a day to reconfigure its systems for the unmanned Atlas V rocket, then NASA could try to launch its lunar spacecraft Friday, with Saturday as a backup.

Endeavour's seven astronauts were sticking around Kennedy Space Center, to be ready to go whenever they get the call.

If the shuttle launch ends up bumping into July, there would be a ripple effect for the following few shuttle launches, Cain said. But the space agency could still meet a 2010 deadline, he said, for finishing the international space station and retiring the three remaining shuttles. At that point, NASA would focus on new spacecraft intended for landing astronauts on the moon by 2020.

As for the launch weather, forecasters put the odds of favorable conditions at 70 percent for Endeavour early Wednesday morning. The Atlas rocket with the lunar spacecraft, on the other hand, would have a 60 percent chance of taking off in its Wednesday afternoon slot, because of the increased likelihood of storm clouds.

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On the Net:

NASA: <http://spaceflight.nasa.gov>

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