

Fuel leaks threaten to delay launch of new NASA moon rocket (Update)

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The NASA moon rocket stands ready less than 24 hours before it is scheduled to launch on Pad 39B for the Artemis 1 mission to orbit the moon at the Kennedy Space Center, Sunday, Aug. 28, 2022, in Cape Canaveral, Fla. Credit: AP Photo/John Raoux

Fuel leaks during final liftoff preparations threatened to postpone the launch of NASA's mighty new moon rocket Monday morning on its shakedown flight with three test dummies aboard.

As precious minutes ticked away, NASA repeatedly stopped and started the fueling of the Space Launch System rocket with nearly 1 million gallons of super-cold hydrogen and oxygen because of a leak. The fueling already was running nearly an hour late because of thunderstorms off Florida's Kennedy Space Center.

The leak of highly explosive hydrogen appeared in the same place that saw seepage during a dress rehearsal back in the spring.

Then a second apparent hydrogen leak turned up in a valve that had caused trouble in June but that NASA thought it had fixed, officials said.

Later in the morning, NASA officials spotted what they feared was a crack or some other defect on the core stage—the big orange fuel tank with four main engines on it—but they later said it appeared to be just a buildup of frost.

The rocket was set to lift off on a mission to put a crew capsule into orbit around the moon. The launch represents a milestone in America's quest to put astronauts back on the lunar surface for the first time since the Apollo program ended 50 years ago.

NASA's assistant launch director, Jeremy Graeber, said after the repeated struggles with the first leak that the space agency would have to decide whether to go forward with the Monday morning launch.

"We have a lot of work to get to that point," Graeber cautioned.

If NASA scrubbed Monday's launch, the next attempt wouldn't be until Friday at the earliest.

The 322-foot (98-meter) spaceship is the most powerful rocket ever built by NASA, out-muscling even the Saturn V that took the Apollo

astronauts to the moon.

No astronauts were inside the rocket's Orion capsule. Instead, the test dummies, fitted with sensors to measure vibration, cosmic radiation and other conditions, were strapped in for the six-week mission, scheduled to end with the capsule's splashdown in the Pacific in October.

Even though no one was on board, thousands of people jammed the coast to see the rocket soar. Vice President Kamala Harris was expected among the VIPs.



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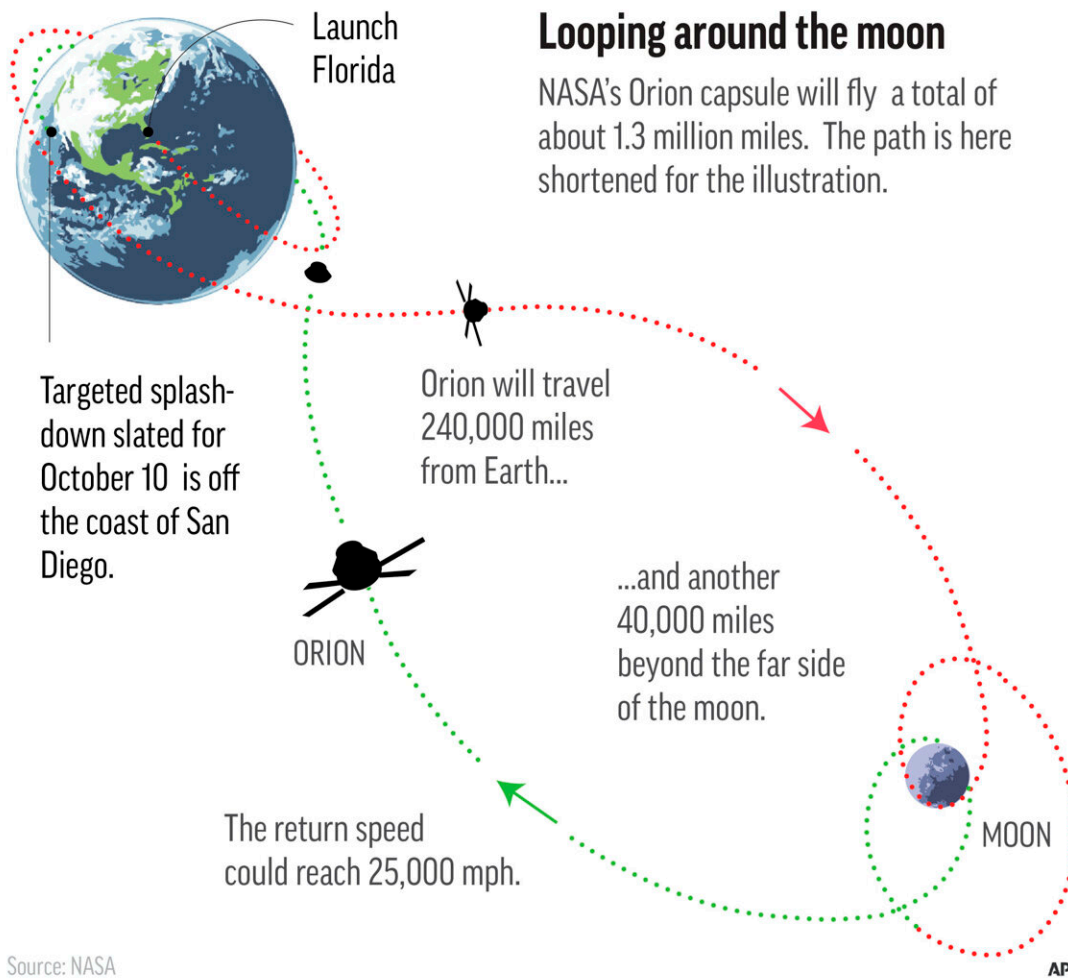
Space Center, Sunday, Aug. 28, 2022, in Cape Canaveral, Fla. Credit: AP Photo/John Raoux

The launch is the first flight in NASA's 21st-century moon-exploration program, named Artemis after Apollo's mythological twin sister.

Assuming the test goes well, astronauts will climb aboard for the second flight and fly around the moon and back as soon as 2024. A two-person lunar landing could follow by the end of 2025.

The problems seen Monday were reminiscent of NASA's space shuttle era, when hydrogen fuel leaks disrupted countdowns and delayed a string of launches back in 1990.





Looping around the moon

NASA's Orion capsule will fly a total of about 1.3 million miles. The path is here shortened for the illustration.

NASA's new moon rocket is set to blast off from Florida's Kennedy Space Center on Monday morning.

Launch director Charlie Blackwell-Thompson and her team also had to deal with a communication problem involving the Orion capsule.

Engineers scrambled to understand an 11-minute delay in the communication lines between launch control and Orion that cropped up late Sunday. Though the problem had cleared by Monday morning,

NASA needed to know why it happened before committing to a launch.

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