

Rocket failure casts spotlight on risks of space flight

October 29 2014, by Kerry Sheridan



The Orbital Sciences Corporation Antares rocket explodes moments after launch on October 28, 2014, at NASA's Wallops Flight Facility in Virginia

The explosion of a privately owned rocket on its way toward the International Space Station cast a spotlight on the risks involved with NASA's reliance on the fledgling commercial space industry, experts said Wednesday.

The accident was the first major setback since private companies stepped in to replace US access to space after the 30-year space shuttle program ended in 2011.

As investigators scrambled to find out what caused the failure of Orbital Sciences' Antares rocket just seconds after liftoff Tuesday from Wallops Island, Virginia, NASA was quick to express confidence in the future of government-subsidized commercial space flight.

"Orbital has demonstrated extraordinary capabilities in its first two missions to the station earlier this year, and we know they can replicate that success," said Bill Gerstenmaier, associate administrator of NASA's Human Exploration and Operations Mission Directorate.

Orbital Sciences and SpaceX have won billion-dollar-plus contracts from NASA for multiple journeys to resupply the International Space Station with their respective Cygnus and Dragon cargo carriers.

Tuesday's explosion cost Orbital at least \$200 million but did not hurt anyone on the ground, and NASA said the six-member crew at the space station is well stocked for months to come.

Even though the crew vehicles being developed by SpaceX and Boeing to ferry people to space in the coming years do not use the same kind of rocket technology that malfunctioned six seconds after the seaside launch, experts predicted some jarred nerves after the blast.

"Even though it didn't carry humans, you can foresee the day when private companies will be carrying astronauts to the space station probably as soon as 2017," said space analyst Marco Caceres of the Teal Group in Virginia.

"So it is a little nerve-wracking when you see an explosion of that

magnitude and you think, oh my gosh, there could have been people on there."

Refurbished engines



An unmanned rocket owned by Orbital Sciences Corporation explodes just seconds after launch from Wallops Island, Virginia on October 28, 2014

The rocket that failed was an Antares 130, a more powerful kind of Antares than those that have launched in the past.

However, it used the same engine, a refurbished Soviet-era type known

as an AJ-26.

Back in May, an AJ-26 engine blew up during a ground test at a NASA center in Mississippi.

The Ukrainian-designed engines date back to the 1970s and Aerojet Rocketdyne of Sacramento, California, has a stockpile that it refurbishes for Orbital Sciences.

"The bigger question is should we be buying engines—old engines, particularly—from the Russians? I mean, you can say it is refurbished, and I am sure Aerojet did a wonderful job," Caceres told AFP.

"But the reality is you probably wouldn't put your kids in a car with a refurbished engine that is four decades old. So why would NASA be doing this with very valuable cargo?"

Space analyst John Logsdon said the accident puts Orbital out of action for months, at least, but may hurry its efforts to find a replacement engine to power its cargo launches.

"There will be a hard look at the use of Antares and the use of the Russian engine," Logsdon told AFP.

"Orbital has already said they were going to replace those engines, because there is a limited supply anyway. So this failure could very well speed up this process."

'Rocketry is hard'

Senator Barbara Mikulski, chair of the Senate Appropriations Committee, said she remains supportive of the NASA's goal of "achieving America's independence in transporting supplies to the Space

Station," and was grateful no one was hurt.

"It reminds us that rocketry is still hard. But we must try the hard things to continue advancing science and innovation, and improving lives along the way."

Orbital Sciences' stock fell 16 percent on the New York Stock Exchange, and GenCorp, whose businesses include Aerojet Rocketdyne, dropped six percent as attention turned to the AJ-26 engine's potential role in the disaster.

The blast leaves SpaceX as the sole US cargo supplier for now.

SpaceX uses US-made engines to power the Falcon rockets that send its Dragon cargo ship to the space station, and the California-based outfit's next space station trip is scheduled for December 9.

"Sorry to hear about the @OrbitalSciences launch," SpaceX chief Elon Musk said on Twitter late Tuesday. "Hope they recover soon."

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