

NASA fends off tears with shuttle end in sight

July 20 2011, by Kerry Sheridan

NASA astronauts and engineers fought off tears Wednesday as Atlantis made its final approach toward Earth, bringing an end to the 30-year shuttle program and closing a chapter in human spaceflight.

The shuttle was set to roll to a stop early Thursday, exactly 42 years after US astronaut [Neil Armstrong](#) became the first human to step foot on the Moon as part of the [Apollo 11 mission](#).

Atlantis's landing will end an era of US dominance in [human space exploration](#), leaving Russia as the sole taxi to the International Space Station until a replacement US capsule can be built by private industry.

But [NASA administrator](#) Charles Bolden insisted that once the shuttle eases onto the runway at [Kennedy Space Center](#) at 5:56 am (0956 GMT) Thursday, any tears on the faces of NASA employees will reflect both sadness and joy.

"My number one job right now is to ensure that we safely get Atlantis and her crew on the runway tomorrow," Bolden, a former astronaut, said on CNN.

"I will have tears of joy and tears of sadness at that time, but the tears of joy will be because we are already working with commercial companies to put cargo on the International Space Station as early as next year," he said.

"We are working with other commercial companies to put American astronauts and our partner astronauts on the [International Space Station](#) in four or five years."

Bolden has repeatedly brushed off critics who say the [US space agency](#) is in disarray, facing thousands of layoffs, an astronauts corps half the size it had 10 years ago and no human spaceflight program to replace the shuttle.

"We have just not done a good job of telling our story. NASA is very busy," Bolden said. "The president said to us, 2025 for an asteroid and 2030 to Mars. We have a lot of work to do ahead."

Meanwhile, the crew of four US astronauts aboard Atlantis savored their final day in orbit and NASA TV ran live images of the shuttle's view of Earth after a successful mission to restock the ISS for a year with several tons of supplies and food.

Final inspections of the shuttle's heat shield, which protects the spacecraft during its fiery transition into Earth's atmosphere, were completed and NASA said the spacecraft looked to be in good shape for landing.

"Forty-two years ago today, Neil Armstrong walked on the moon and I consider myself fortunate that I was there to actually remember the event," commander Chris Ferguson said to mission control before the crew went to sleep.

"It is kind of interesting to be here on the final night of the shuttle mission. We don't quite know what to think. We are just trying to take it all in."

Ferguson then read a quote by Apollo-era flight director Gene Kranz,

best known for leading mission control's successful effort to save the Apollo 13 astronauts after an oxygen tank exploded on a trip to the Moon.

"I pray that our nation will someday find the courage to accept the risk and challenges to finish the work that we started," the commander said, calling the quote by Kranz "very appropriate."

Over the course of the program, five NASA space shuttles -- Atlantis, Challenger, Columbia, Discovery and Endeavour -- have comprised a fleet designed as the world's first reusable space vehicles.

Besides the prototype Enterprise that never flew in space, only three have survived after Columbia and Challenger were destroyed in accidents that killed their crews.

At a time of US budget austerity, President Barack Obama opted to end Constellation, a project that aimed to put US astronauts back on the Moon by 2020 at a cost of \$97 billion.

Some Constellation projects are being adapted for designing a crew vehicle that could take astronauts to deep space someday.

Mission specialist Rex Walheim said, as the crew sat for a series of TV interviews, that he was optimistic about the future of the US space program, but acknowledged "we're in a kind of a transition period, which is a little bit uncomfortable."

NASA aims to turn over low-orbit space travel and [space station](#) servicing to commercial ventures, with a commercial launcher and capsule built by a private corporation in partnership with NASA ready to fly sometime after 2015.

Until the private sector fills the void, the world's astronauts will rely on Russian Soyuz rockets for rides to the ISS.

NASA flight director Tony Ceccacci said his team was trying to stay focused on getting the shuttle home safely.

"Every time you feel something you have to remember that this thing is not over yet," he told reporters.

"We have a motto in the mission control center that flight controllers don't cry, so we are going to make sure that we keep to that."

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