

NASA Gives Space Station Crew 'Go' to Drink Recycled Water

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(PhysOrg.com) -- NASA's Mission Control gave the Expedition 19 astronaut crew aboard the International Space Station a "go" to drink water that the station's new recycling system has purified.

Mission Control radioed the news to the crew Wednesday, following a report from the [Water](#) Recovery System team that station program managers approved. The decision is an important milestone in the development of the station's environmental and life support systems, which will begin supporting six-person crews at the end of May.

Expedition 19 Commander Gennady Padalka and Flight Engineers Mike Barratt and Koichi Wakata celebrated the decision with a toast in the Destiny laboratory.

"This has been the stuff of science fiction. Everybody's talked about recycling water in a closed loop system, but nobody's ever done it before. Here we are today with the first round of recycled water," said Barratt. "We're really happy for this day and for the team that put this together. This is the kind of technology that will get us to the moon and further."

"This is an important milestone in the development of the space station," said Kirk Shireman, [International Space Station](#) deputy program manager at NASA's Johnson Space Center in Houston. "This system will reduce the amount of water we must launch to the station once the shuttle retires and also test out a key technology required for sending

humans on long duration missions to the moon and Mars."

Space shuttle Endeavour's STS-126 mission delivered the Water Recovery System to the station in November 2008. Mission Specialist Don Pettit and Expedition 18 Commander Mike Fincke installed the equipment before Endeavour's departure. The system has been processing urine into purified water since shuttle Discovery's STS-119 crew delivered and installed a replacement Urine Processing Assembly in March. The system is tied into the station's Waste and Hygiene Compartment toilet and recovers and recycles moisture from the station's atmosphere.

The crews of STS-126, Expedition 18 and STS-119 returned samples of the recycled water to Earth. A total of 5.28 gallons (20 liters) of recycled water were tested for purity at the Water and Microbiology Laboratories at Johnson. A special Space Station Program Control Board meeting on April 27 reviewed the analysis, which showed contaminants were well below established limits, and concurred that the water is safe and healthy to drink. Mission managers elected to postpone consumption until a sticky check valve in the Urine Processing Assembly was removed May 18.

Space station crews will monitor the purity of the recycled water with on-board equipment and periodically send down samples for testing on Earth.

Provided by JPL/NASA ([news](#) : [web](#))

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