

ISS Crew Watch Hurricanes Brew, Prepare for Spacewalk

October 24 2005

The 12th international space station crew turned its attention last week to experiment work aboard their microgravity home and laboratory. They also captured spectacular images of Hurricane Wilma and prepared for a spacewalk.

Expedition 12 Commander Bill McArthur and Flight Engineer Valery Tokarev began reviewing procedures for the first station-based spacewalk using U.S. suits since 2003.

During the November 7, five and one half hour spacewalk, they will install a new video camera on the far end of the station's P1 (port) truss. They also will remove a probe that measured the electrical potential around the station from the top of the P6 truss.

Last Thursday, the station's atmosphere was repressurized with oxygen from storage tanks on the docked Progress supply ship. Russian specialists are preparing a troubleshooting plan for the Elektron, the primary oxygen generation system on the station. It stopped working late last week.

Russian technical specialists are examining what caused the abort of a planned altitude reboost Tuesday using Progress fuel and thrusters.

Mission managers believe Russian navigation computers properly shut down the thrusters when they lost information about how they were performing. A planned test firing of the thrusters Wednesday will gather

more data for Russian engineers.

McArthur checked out a system to analyze exhaled gases inside the station. The Pulmonary Function System took more than eight years of design, development and testing on Earth by U.S. and European Space Agency scientists. It was delivered to the station by the shuttle Discovery in July.

McArthur and Tokarev conducted the first of three sessions with the Renal Stone experiment. They collected urine samples for return to Earth and logged all food and drink consumed during a 24-hour period.

This ongoing experiment investigates whether potassium citrate can be used to reduce the risk of kidney stone formation for space travelers. The citrate minimizes kidney stone development on Earth.

Since urine calcium levels are typically much higher in space, astronauts are susceptible to an increased risk of developing kidney stones. An understanding of the crew's diet during the urine collection timeframes will help researchers.

They will determine if the excess calcium in the urine is due to diet or a response to the microgravity environment. The payload operations team at NASA's Marshall Space Flight Center coordinates U.S. science activities on the station.

During their six-month mission, McArthur and Tokarev will conduct at least two spacewalks and oversee the arrival of the next Progress supply vehicle in December. They also will relocate their Soyuz spacecraft to free the Russian Pirs docking port for a later spacewalk. Pirs doubles as an airlock and docking module.

Copyright 2005 by Space Daily, Distributed United Press International

Citation: ISS Crew Watch Hurricanes Brew, Prepare for Spacewalk (2005, October 24) retrieved 23 April 2024 from <https://phys.org/news/2005-10-iss-crew-hurricanes-brew-spacewalk.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.