

ISS crew ready for spacewalk after 'serious' ammonia leak (Update)

May 10 2013, by Stuart Williams

The International Space Station crew Friday were preparing for an emergency spacewalk to fix a ["very serious" leak of ammonia](#) from the orbiting laboratory's power system seeping into space.

NASA emphasised that the lives of the multinational crew were not in danger but both Russian and US space experts were scrambling to swiftly fix the problem.

The spacewalk by Americans Tom Marshburn and Chris Cassidy is set to begin Saturday at 1215 GMT. Their main goal is to try and spot the source of the leak, said Michael Suffredini, International Space Station Program manager.

"We are going to get them outside and see if we can't lay eyes on the leak source," Suffredini told reporters.

"Most probably the cause is the pump itself so we are going to go ahead and change out that pump."

The two American astronauts have each done three spacewalks during the shuttle era, and two of them were done as a team.

NASA said the leak of ammonia, which is used to cool the station's power system, was coming from the same general area as in a previous episode in November last year.

A meteorite or a piece of orbital debris is suspected to have hit the cooling radiator and caused the problem, which Suffredini described as an "annoyance because of all the work we have to do to work around the problem."

The issue took a turn for the worse on Thursday when it began leaking about five pounds of ammonia per day, up from its previous level of five pounds per year.

Norm Knight, NASA chief flight director, said the spacewalk is "probably one of the faster ones" that the US space agency has had to assemble, and described it as "precedent-setting" at the space station for that reason.

The US space agency said on its website that while the rate of ammonia leaking from the station's truss structure had increased, the "station continues to operate normally otherwise and the crew is in no danger."

Earlier, ISS commander Chris Hadfield of Canada in a dramatic exchange with mission control said the crew were witnessing a "very steady stream of flakes or bits" of ammonia drifting into space.

The flakes were moving "evenly and repeatedly enough that it looks like they were coming from a point source," he added in a recording of the conversation posted by NASA.

Hadfield later tweeted from the space station that the leak was a "serious situation" but had "been stabilised" thanks to efforts by the crew.

"Indeed, they have a serious defect, very serious," Vladimir Solovyov, flight director for the Russian segment of the space station, was quoted as saying by the Interfax news agency.

Crucially, both Marshburn and Cassidy have solid spacewalk experience. Marshburn logged 18 hours 59 minutes of extra-vehicular activity (EVA) during a 2009 mission while Cassidy recorded 18 hours and five minutes, also in 2009.

Another Russian official however played down the danger from the leak, saying it only affected the US segment of the station.

"This is not critical," the state RIA Novosti news agency quoted Alexei Krasnov, head of manned flight programmes at the Russian Space Agency, as saying.

"It's not the first time such a situation has happened, unfortunately," Krasnov said.

There has been no official statement from the Russian Space Agency.

The space news website Spaceflight101 called the leak "major."

Hadfield, Marshburn and Russian cosmonaut Roman Romanenko are set to return to Earth early on May 14 after completing their half-year stint aboard the station.

Saturday's six and a half hour spacewalk will not interfere with their planned departure from the space station, NASA said.

Since 2009 there have been teams of six astronauts and cosmonauts aboard the space station, whose capacity was previously limited to only three people.

Russia has suffered several recent setbacks in its space programme, notably losing expensive satellites and an unmanned supply ship to the ISS but the manned missions have been flawless.

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