Two astronauts are preparing to step out on a spacewalk to try and fix an ammonia leak at the International Space Station, in a hastily arranged venture outside the orbiting lab, NASA said Friday.

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

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

The latest leak is believed to be linked to a years-old concern that took a turn for the worse on Thursday when it began leaking about five pounds (two kilograms) of ammonia per day, up from its previous level of five pounds per year.

"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 chief flight director Norm Knight 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.

However, NASA said that the crew was not in danger and that the system is running fine with seven of eight available power channels in working order.