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Space Architecture: Habitats, Habitability, and Bases (1)

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NEXTSTEP PHASE 2 GROUND TEST OVERVIEW AND FLIGHT OPERATIONS SUPPORT

Abstract

NASA has embarked on a new mission to explore the Earth/Moon system, and to prepare humans for deep space exploration. The Lunar Outpost – Gateway (or Gateway for short) will be a spaceport capable of supporting crewed and uncrewed operations in lunar vicinity. To develop credible requirements for this mission, and to prepare for mission operations, NASA is developing prototype habitat systems as part of the Next Space Technologies for Exploration Partnerships (NextSTEP) program. In September 2017, the NextSTEP Ground Test team executed a set of habitat tests within the integrated Power, Avionics, and Software (iPAS) environment at JSC. This paper will summarize the goals, test methodology, and ground test activities performed by NASA during these first iPAS tests. This paper will include test results from systems in the habitat, as well as a description of the support provided from the flight operations team for uncrewed and crewed mission phases.