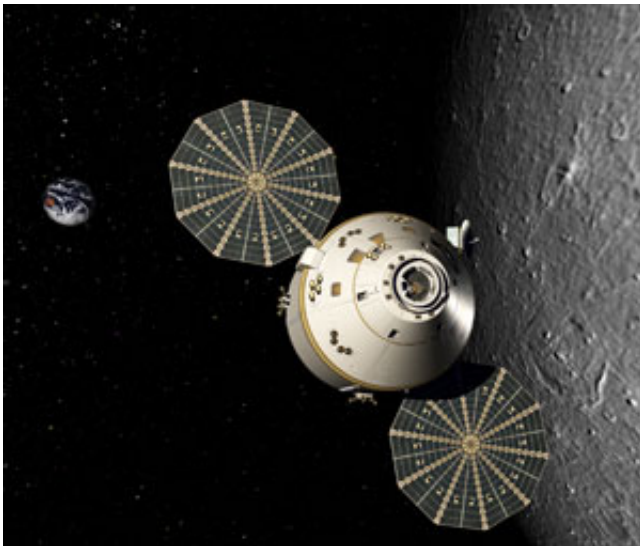


# NASA Completes Milestone Review of Next Human Spacecraft System

November 16 2006

---



Orion in lunar orbit. Image credit: Lockheed Martin Corp.

NASA has completed a milestone first review of all systems for the Orion spacecraft and the Ares I and Ares V rockets. The review brings the agency a step closer to launching the nation's next human space vehicle.

NASA completed the thorough systems requirements review of the Constellation Program this week. Review results provide the foundation for design, development, construction and operation of the rockets and spacecraft necessary to take explorers to Earth orbit, the moon, and

eventually to Mars.

"This review is a critical step in making the system a reality," said Constellation Program Manager Jeff Hanley of NASA's Johnson Space Center, Houston. "I am proud of this dedicated and diligent NASA-wide team. We have established the foundation for a safe and strong transportation system and infrastructure. It is a historic first step."

This is the first system requirements review NASA has completed for a human spacecraft system since a review of the space shuttle's development held in October 1972. The Constellation Program system requirements are the product of 12 months of work by a NASA-wide team.

The system requirements review is one in a series of reviews that will occur before NASA and its contractors build the Orion capsule, the Ares launch vehicles, and establish ground and mission operations. The review guidelines narrow the scope and add detail to the system design.

"We are confident these first requirements provide an exceptional framework for the vehicle system," said Chris Hardcastle, Constellation Program systems engineering and integration manager at Johnson. "This team has done a significant amount of analysis which will bear out as we continue with our systems engineering approach and refine our requirements for the next human space transportation system."

An example of the activity was a review and analysis that confirmed the planned Ares I launch system has sufficient thrust to put the Orion spacecraft in orbit. In fact, the Ares I thrust provides a 15 percent margin of performance in addition to the energy needed to put the fully crewed and supplied Orion into orbit for a lunar mission. Engineers established Orion's take off weight for lunar missions at over 61,000 pounds.

Each Constellation project also is preparing for a narrower, project-level systems review, according to the following schedule:

- \* Orion crew exploration vehicle, February 2007
- \* Ground operations (launch support), February 2007
- \* Mission operations (mission support), March 2007
- \* Extravehicular activity (space suits), March 2007

Once the project-level reviews are complete, the Constellation Program will hold another full review to reconcile the baseline from this first review with any updates from the project reviews. A lunar architecture systems review of equipment associated with surface exploration and science activities on the moon is expected in the spring of 2009.

For more information about NASA's Constellation Program, visit:

[www.nasa.gov/constellation](http://www.nasa.gov/constellation)

Source: NASA

Citation: NASA Completes Milestone Review of Next Human Spacecraft System (2006, November 16) retrieved 20 April 2024 from <https://phys.org/news/2006-11-nasa-milestone-human-spacecraft.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.