All systems go for next communication spacecraft

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Three TDRS satellites, the International Space Station (ISS) and Hubble Space Telescope orbit a blue-green Earth in this artist's concept. The TDRS network facilitates around the clock communication access between ground stations and other satellites and the ISS. Credit: NASA/Goddard Space Flight Center

The most recent evaluations of NASA's Tracking and Data Relay Satellite (TDRS) project confirmed all systems go for a third generation upgrade of the orbiting communications network. TDRS-K is scheduled for launch aboard an Atlas V rocket from Cape Canaveral, Florida in the fall of 2012.

Approval to move forward came during a recent Agency Project Management Council (APMC) meeting at NASA Headquarters. "I am very proud of the entire TDRS civil servant and contractor team for successfully completing this milestone and demonstrating that the TDRS project is ready to proceed into the integration phase," said Jeff

Gramling, TDRS Project Manager. "I am excited to see the TDRS-K satellite enter the thermal vacuum chamber and begin environmental testing." Testing will occur within the Boeing Space Systems Facility in El Segundo, California.

APMC approval allows the project to enter Phase D that will include spacecraft integration and testing. During this phase the spacecraft reflectors will be mounted, the thermal panels and batteries will be installed before the spacecraft will have to endure the rigors of the vibration and acoustic testing. Finally, the spacecraft must pass a pre-ship review prior to being transported to Florida for launch.

Prior to the APMC approval, the project successfully completed a combined Pre-Environment Review (PER) and Systems Integration Review (SIR) in August of this year. The SIR is a significant milestone in the NASA mission lifecycle. During the upcoming environmental test phase, various segments and subsystems are scrutinized for their viability under the same harsh conditions they will endure within the vacuum of space.

"Successful completion of the environmental testing phase of the project will be the last step before we ship the TDRS-K spacecraft to the launch site," said Dave Littmann, TDRS Deputy Project Manager. "Through a rigorous testing program, we will ensure this satellite, once on-orbit, is capable of meeting its functional and performance requirements, to provide reliable services to the customers of NASA's Space Network."

This next generation space communications satellite is part of a follow-on spacecraft fleet being developed and deployed to replenish NASA's Space Network. The TDRS Project Office at Goddard Space Flight Center manages the TDRS development effort. TDRS is the responsibility of the Space Communications and Navigation (SCaN) office within the Human Exploration and Operations (HEO) Mission

Directorate at NASA Headquarters in Washington D.C. Operations of the network is the responsibility of the Space Network Project at Goddard.

In December 2007, NASA signed a contract for Boeing Space Systems to build two, third generation TDRS spacecraft for launch in 2012 and 2013. Within the contract were the required modifications that will enable the White Sands Complex ground system to support the new spacecraft.

The launch of TDRS-K will begin the replenishment of the fleet through the development and deployment of the next generation spacecraft. These satellites will ensure NASA's Space Network continues to provide around-the-clock, high throughput communications services to NASA's missions and serving the scientific community and human spaceflight program for years to come.

Provided by NASA's Goddard Space Flight Center