National Aeronautics and Space Administration

GROUND SYSTEMS
Development and Operations

EXPLORATION BEGINS HERE



PROGRAM HIGHLIGHTS • FEBRUARY 2013

At NASA's Kennedy Space Center in Florida, the Ground Systems Development and Operations (GSDO) Program office is leading the center's transformation from a historically government-only launch complex to a spaceport bustling with activity involving government and commercial vehicles alike. GSDO is tasked with developing and using the complex equipment required to safely handle a variety of rockets and spacecraft during assembly, transport and launch. For more information about GSDO accomplishments happening around the center, visit: http://go.nasa.gov/groundsystems.

Upgrades to Crawlerway Underway

The Ground Systems Development and Operations (GSDO) Program office at Kennedy Space Center is overseeing upgrades to the crawlerway. Over time, the crawlerway was compacted from the weight of Apollo/Saturn V and space shuttle rollouts, as vehicles were transfported down the road to launch sites.

Workers from Canaveral Construction in Mims, Fla., are regrading the crawlerway leading out to Launch Pad 39B and portions of the crawlerway leading from the Vehicle Assembly Building to Launch Pad 39A. The upgrades will improve the foundation and prepare it to support the weight of NASA's Space Launch System (SLS) and mobile launcher on the crawler-transporter during rollout.

Workers are removing the original Alabama river rock and restoring the layer of lime rock below to its original depth. New river rock will be added on top. For the complete story, visit: http://www.nasa.gov/exploration/systems/ground/crawlerway_upgrades.html.

50 MHz Doppler Radar Wind Profiler Project

The GSDO Program office plans to upgrade decades-old wind measurement equipment near the center's Shuttle Landing Facility (SLF). The 50 MHz Doppler Radar Wind Profiler (DRWP) Project team successfully completed a preliminary design review for a new system on Jan. 18.

The current system, built in the 1980s near the north end of the SLF on the east side of the runway, supports all launches on the Eastern Range. Its antenna comprises more than 100 wire dipoles and occupies about 3.7 acres of ground surround by an eight-sided fence.

The system is used to accurately measure wind speed and direction at 500-foot intervals from 6,000 to 60,000 feet in altitude every five minutes.

The new system's antenna will replace the large array of wire dipoles with 640 three-element Yagi sensors in a staggered antenna array.

For the complete story, visit: http://www.nasa.gov/exploration/systems/ground/new_doppler_radar.html.

Media tours Operations & Checkout high bay

On Jan. 30, a group of media representatives toured the Operations and Checkout Building high bay and viewed the crew module for Orion's Exploration Flight Test 1 (EFT-1), the Ground Test Vehicle (GTA) and service module for EFT-1. Media were updated on future Orion EFT-1 and GTA activities. The flight test will be launched on a Delta IV rocket from Cape Canaveral Air Force Station in 2014.

Speaking to the media were Kennedy Space Center Director Bob Cabana, Orion Production Manager Scott Wilson and Lockheed Martin Orion Production Manager Jules Schneider.

"This is an exciting time at Kennedy Space Center," Cabana said. "We have made tremendous progress in the last year and a half. We have a very positive path forward."

Launch Abort Motor Arrives at KSC

Technicians help remove the launch abort motor built by Alliant Techsystems (ATK) from a truck after arrival at Kennedy Space Center's Launch Abort System Facility. The launch abort motor will be used during Exploration Flight Test 1 (EFT-1). It is part of Orion spacecraft's Launch Abort System, which is designed to safely pull the crew module away from the launch vehicle in the event of an emergency on the launch pad or during the initial ascent of NASA's Space Launch System, or SLS, rocket. Because EFT-1 will not carry a crew, the motor is configured with inert propellant.

Pad 39B Gets New Interface Connections

Various fluid interface connections have been installed at Kennedy's Launch Pad 39B. New system connections include chilled water supply-and-return and conditioned air that will be used to provide the mobile launcher with the necessary commodities during launch operations. The GSDO office at Kennedy is overseeing upgrades and modifications to Pad B to support the launch of the agency's Space Launch System heavy-lift rocket, which is under design, and new Orion spacecraft.

CT-2 Upgraded to Support SLS and Orion

The crawler-transporter-2 (CT-2) was moved from Kennedy's Vehicle Assembly Building (VAB) to the Park Site west of the building on Feb. 11 in order to give the team the opportunity to test the new and improved vibration isolator on the Cummins AC power generators. The transporter also recently received new brakes and mufflers, and the roof deck was painted white. CT-2 was then returned to the VAB where its roller bearings will be replaced. The GSDO office at Kennedy is overseeing the upgrades to CT-2 so that it can carry NASA's SLS heavy-lift rocket, which is under design review, and new Orion spacecraft to the launch pad.

Jeremy Parsons at TDRS-K NASA Social

Jeremy Parsons, the technical manager for operations of the GSDO Program, gave an overview on the ongoing GSDO projects and took questions from social media followers participating in the first day of activities of a NASA Social revolving around NASA's Tracking and Data Relay Satellite-K mission.

NASA Socials are in-person meetings for people who engage with the agency through Twitter, Facebook, Google+ and other social networks. About 50 followers participated in the TDRS-K prelaunch and launch activities and shared them with their fan base.

Design Review for VAB Communications Room

The Vehicle Assembly Building (VAB) team held its 100 percent design review for the project to upgrade the facility's communications room.

The project includes architectural, structural, mechanical and electrical modifications to the new communications room. The room will be used in the future to house communications infrastructure to service High Bay 3 for the Space Launch System and Orion, and High Bay 1 for multiuse operations in the VAB.

Construction is expected to be completed by the end of 2013.

Brian Duffy, the vice president and Johnson Space Center manager for Exploration Systems with ATK Aerospace Systems, talks with members of the media during a viewing of the launch abort motor inside Kennedy's Launch Abort System Facility, Feb. 27.

KSC Honor Awards

The Kennedy Space Center 2012-13 Honor Awards were held on Feb. 15 at the Kennedy Space Center Visitor Complex. Congratulations to the GSDO NASA and contractor employees who received recognition during the ceremony.

KSC Engineer/Scientist of the Year Award

Pravinkumar K. Asar – Contractor Category

Certificates of Appreciation

Jeffery S. Beyer
Kenneth R. Ford
Louis E. Goetz (QinetiQ North America-ESC)
David L. Grau
Steven W. Larchar (QinetiQ North America-ESC)
Kelli C. Maloney
Kevin R. Panik
Laura Poliah (SAIC)
David M. Stark

NASA Group Achievement Awards

Crawler-Transporter 2 Modifications Team
Morpheus Propellants Loading Team
VAB Counterweight Well Access Improvement Team
VAB Relocatable Platform Concept Development Team
VAB Vertical Door Brake Addition Implementation Team

Pravinkumar K. Asar, receives the KSC Engineer/ Scientist of the Year Award in the Contractor category during the KSC Honor Awards ceremony.

Fun Activity Sheets

GSDO now has six new fun activity sheets for kids. Visit the GSDO website at **http://www.nasa.gov/exploration/systems/ground/index.html**. The activity sheets are listed on the left side of the page for download and printing.