



# GSDO

GROUND SYSTEMS  
DEVELOPMENT & OPERATIONS

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## PROGRAM HIGHLIGHTS • NOVEMBER 2013

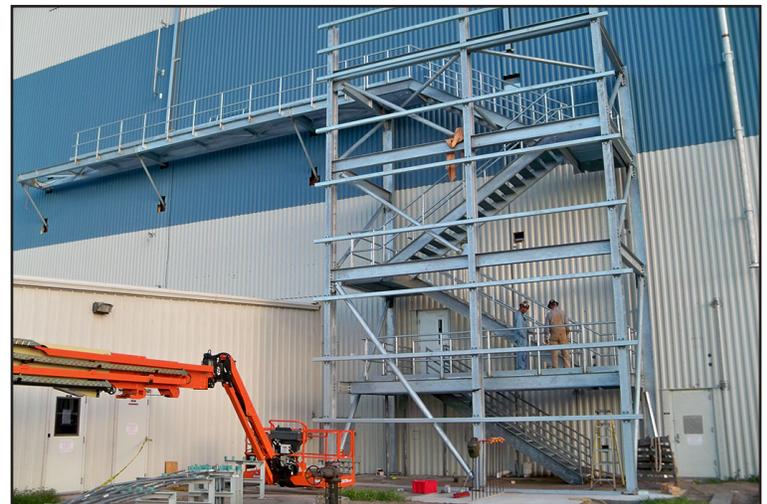
At NASA's Kennedy Space Center in Florida, the Ground Systems Development and Operations (GSDO) Program Office is leading the center's transformation from a historically government-only launch complex to a spaceport bustling with activity involving government and commercial vehicles alike. GSDO is tasked 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 MPPF Underway to Support Orion Processing

The Multi-Payload Processing Facility (MPPF) at NASA's Kennedy Space Center in Florida is undergoing extensive upgrades and modernizations to support processing of Orion spacecraft for the agency's exploration missions. The building once supported the processing of various payloads and spacecraft for the agency's Space Shuttle and Launch Services Programs.

The 19,647-square-foot building, originally constructed in 1995, primarily will be used for Orion hypergolic fueling, ammonia servicing and high-pressure gas servicing and checkout before being transported to the Vehicle Assembly Building for integration with the Space Launch System.

The facility also will be used for installation of time-critical crew equipment and to



Construction workers continue to work on the emergency egress stairway on the exterior of the MPPF at Kennedy Space Center on Nov. 5. Photo credit: NASA/Skip Williams

process crew modules that have returned from space to be returned to the Operations and Checkout Building for possible reuse. Ground support equipment also will be stored and maintained in the MPPF.

GSDO is overseeing upgrades to accommodate the Orion spacecraft. These upgrades include installing new pneumatics systems for gaseous helium, gaseous oxygen, gaseous nitrogen and breathable air; hypergolic systems for monomethylhydrazine, hydrazine and nitrogen tetroxide, and a ground cooling system.

For the complete story, visit <http://go.nasa.gov/181479z>.



New environmental control system piping was installed at the MPPF at Kennedy Space Center, shown here Nov. 5. Photo credit: NASA/Skip Williams

# NASA Awards GSDO Support Contract

NASA selected Millennium Engineering and Integration Company of Satellite Beach, Fla., to provide support to the Ground Systems Development and Operations Program at Kennedy Space Center.

The contract will begin in February 2014, following a 30-day phase-in period.

GSDO provides support to NASA's Orion spacecraft and Space Launch System rocket. The contract work includes ground and spaceflight systems planning and design; project management and integration; operations, integration and analysis; technical requirements development; management and compliance; and cost, risk and schedule integration and analysis.

Subcontractors to Millennium are Avatar Technologies of Melbourne, Fla.; Booz Allen Hamilton of McLean, Va.; All Points Logistics LLC of Merritt Island, Fla.; and Red Canyon Engineering and Software of Denver.



*An artist concept of NASA's Space Launch System and Orion spacecraft on the mobile launcher at Launch Pad 39B at NASA's Kennedy Space Center in Florida.*



*Left: Ground support equipment technicians assist as a crane is used to move a new jacking, equalizing and leveling (JEL) hydraulic cylinder closer for installation on crawler-transporter 1 at the crawler transporter maintenance facility at NASA's Kennedy Space Center in Florida. New JEL hydraulic cylinders will be installed on CT-1 to test them for increased load carrying capacity and reliability. Photo credit: NASA/ Jim Grossman*

*Below: Technicians attach the fourth and final OGIVE panel on the Orion ground test vehicle in Vehicle Assembly Building high bay 4 at NASA's Kennedy Space Center in Florida. The OGIVE panels enclose and protect the Orion spacecraft and attach to the Launch Abort System. The test vehicle is being used by GSDO for path finding operations, including simulated manufacturing, assembly and stacking procedures. Photo credit: NASA/Kim Shiflett*



## Employee Spotlight - Stephen Cox

Stephen Cox, the Element Operations manager for the Communication Element Integration Team (EIT) and the Command and Control End-to-End EIT, was named the GSDO Employee of the Year for 2013. He had been selected as Employee of the Month for August 2013.

In his role, Cox was instrumental in the renovation and development activities for the Launch Control Center firing rooms and the communication systems deployed throughout Kennedy Space Center. He did so while building a strong operations team with some very creative initiatives, while ensuring the user community requirements were being met.

His achievements include executing the transition of the firing rooms and preparing them for future programs and multiusers. He continued preparation of Firing Room 1 for GSDO support to NASA's Space Launch System and the Orion spacecraft; dismantling and clean-up of Firing Rooms 2 and 3 for future renovation and use; and implementing the Firing Room 4 multiuse design which will provide synergy and efficiencies within the GSDO Program.

Cox supported the planning of the GSDO operations community support to Exploration Flight Test-1, the first mission for Orion that will send the spacecraft about 3,600 miles from Earth's surface before it returns to

Earth for a splash-down in the Pacific Ocean.

He recently led and integrated the effort to develop requirements for the Vehicle Assembly Building wireless communication system and deployed the communications system at Launch Pad 39B.

Cox has worked at Kennedy for 22 years. His first car was a green 1971 Ford Pinto. His next car was a 1975 Camaro. "Much more fun to drive into the high school parking lot," Cox said.

Cox said growing up with the Apollo Program and seeing the Saturn V launches, it is difficult to think he would be doing anything else but launching rockets.

His hobbies include torturing his family and friends with bad jokes, making furniture and fixing things.

Cox is married to wife Deborah. They have four children: Kelly, Stephanie, Amanda and James. "I am truly blessed beyond measure," Cox said.



GSDO Deputy Program Manager Jennifer Kunz and GSDO Program Manager Mike Bolger congratulate Employee of the Year for 2013 Stephen Cox.



Construction workers continue to remove the bricks from the flame trench walls that are below and between the left and right crawlerway tracks at Launch Pad 39B on Nov. 19. GSDO is leading the efforts to refurbish the pad to support NASA's Space Launch System and other launch vehicles. Photo credit: NASA/Kim Shiflett



All of the old crawler track panels have been removed from the surface of Launch Pad 39B and construction workers continue to repair the concrete surface and catacomb roof below Nov. 19. Framing for the new crawler track panels is being installed in repaired areas of the pad surface. Photo credit: NASA/Kim Shiflett