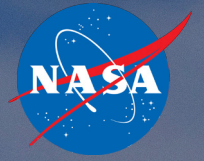


National Aeronautics and
Space Administration



EXPLORATION GROUND SYSTEMS

H I G H L I G H T S

DECEMBER 2017

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About 450,000 gallons of water flowed at high speed from a holding tank through new and modified piping and valves, the flame trench, flame deflector nozzles and mobile launcher interface risers during a wet flow test at Launch Pad 39B at NASA's Kennedy Space Center in Florida. At peak flow, the water reached about 100 feet in the air above the pad surface. Photo credit: NASA/Kim Shiflett

WATER DELUGE TEST A SUCCESS AT LAUNCH PAD 39B

When NASA's new [Space Launch System](#) (SLS) rocket lifts off, its four RS-25 engines and two solid rocket boosters will produce a combined 8.4 million pounds of thrust, and with that comes a torrent of heat and noise. To help protect the SLS rocket and [Orion](#) spacecraft from the extreme acoustic and temperature environment, water will spray onto the launch pad during ignition and liftoff.

During a water deluge test in December, thousands of gallons of water flowed into the flame trench and through upgraded systems at NASA Kennedy Space Center's [Launch Pad 39B](#). Upgrades included corrosion control and refurbishment of the elevated water storage tank and all of the piping that runs from it through the valve complex at the tank's base and into the north end of the pad, replacement of all six main operating valves and actuators, installation of new bypass valves and 60-inch supply piping, new

flame deflector piping and crest spray nozzles, and refurbishment or replacement of all piping under the pad surface.

The test was a milestone for [Exploration Ground Systems](#) to confirm and baseline the performance of the pad's Ignition Overpressure and Sound Suppression (IOP/SS) systems, including new portions of the system that were upgraded after the Space Shuttle Program. The IOP/SS systems reduce the effects of acoustic energy and main engine ignition at liftoff, and reduces sound pressure levels experienced by the vehicle during ascent.

"Test of the upgraded and new portions of the system and a new controls system went very smoothly," said Regina Spellman, pad senior project manager. Read the full story at <http://www.nasa.gov/feature/water-deluge-test-a-success-at-launch-pad-39b>.

Wes Mosedale

Lead NASA Test Director



Wes Mosedale is a lead NASA test director in Exploration Ground Systems at NASA's Kennedy Space Center in Florida.

Currently, he is working at the center's Launch Equipment Test Facility, serving as the NASA test manager for the Interim Cryogenic Propulsion Stage Umbilical. He is helping lead the verification testing of the umbilical prior to its delivery to the mobile launcher.

"My most memorable achievement during my time at Kennedy was earning a Silver Snoopy Award in 2011 for my work during the launch countdown of the final two space shuttle missions. It was an incredible honor to receive such a prestigious award," Mosedale said.

Mosedale said being a member of the launch team for a successful mission is an incredible feeling, and he wanted to have that opportunity again for the first launch of NASA's Space Launch System rocket and Orion spacecraft on Exploration Mission-1.

Mosedale started working at Kennedy in 2003 as a systems engineer with United Space Alliance. He worked on the orbiter/booster hydraulic systems, before moving to the NASA Launch and Landing Office in 2008.

One of his fondest memories was riding out to the launch pad on the crawler-transporter with the flight crew during space shuttle Discovery's rollout for the STS-131 mission.

"It really was cool to interact with the astronauts and see how excited they were to watch the rocket they would launch on roll out to the pad," Mosedale said.

He first became interested in space from his grandfather. "His stories and experiences sparked my interest in being part of the space program. He was one of the Air Force I pilots for President John F. Kennedy. He would tell me stories about his trips with the president to Cape Canaveral in the early 1960s, and the excitement of witnessing the space race firsthand," Mosedale said.

He earned a bachelor's degree in mechanical engineering in 2003 from North Carolina State University in Raleigh, and a master's in engineering management in 2007 from the University of Central Florida.

Mosedale's hometown is Manteo, North Carolina, a small town on the Outer Banks.

He and his wife, Stephanie, will celebrate their 10-year anniversary in June. They have one daughter, Madison, and are expecting their second daughter at the end of February.

Mosedale has two freshwater clown loaches, named Rufus and Lonnie, that are more than 15 years old. "At the time of purchase, I did not realize they lived quite so long," Mosedale said.

His first car was 1986 Ford Bronco II. Mosedale said it needed quite a bit of work, and tinkering with cars helped to foster his desire to be an engineer. Some of his hobbies include boating and offshore fishing.



Exploration Ground Systems (EGS) monitored the Space Launch System (SLS) System Integration Lab (SIL), as SLS flight software verification dry runs were performed using the EGS Advanced Hardware Launch Control Center Emulator, which is installed at the SIL and monitored from Firing Room 3 in the Launch Control Center. Greg Koch begins to see prelaunch data being displayed. The test went through prelaunch countdown and liftoff and successfully completed the mission. Photo credit: NASA

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