National Nuclear Security Administration/Nevada Field Office
P.O. Box 98518, Las Vegas, NV 89193 • 702-295-3521 • fax: 702-295-0154

News Media Contact:
Tracy Bower, (702) 295-0961
bowertl@nv.doe.gov

Melissa Biernacinski, (702) 295-6021
biernama@nv.doe.gov

For Immediate Release:
Jan. 10, 2018

Nevada National Security Site and H3D Partnership Yields Successful Results in Radiation Detection

LAS VEGAS - A partnership between the Nevada National Security Site (NNSS) and H3D, Inc. is improving the ability to detect and identify radioactive sources. The partnership holds promise for using unmanned aerial systems to measure radioactivity in places where manned aircraft access may be a challenge.

Mission Support and Test Services, LLC, the management and operating contractor for the NNSS, and H3D, Inc. have entered into a cooperative research and development agreement (CRADA) to test H3D's high-efficiency radiation detector on unmanned aerial systems provided by the NNSS.

The NNSS Remote Sensing Laboratory (RSL) relies upon state-of-the-art sensors to detect, measure and identify radioactive sources. The sensors are used by the NNSS' counterterrorism and radiological incident response teams stationed at Nellis Air Force Base in Nevada and at Joint Base Andrews in the National Capitol Region.

As part of the research and development efforts, scientists and engineers from the NNSS integrated the H3D sensors with unmanned aerial systems, creating a more flexible and agile vehicle for measuring radiation. The first tests were completed in September at the Unmanned Systems Inc. (USI) facility in Columbia Falls, Montana and data analysis was finalized in December.

"The first test flights provided even better results than we anticipated," said NNSS Site-Directed Research and Development (SDRD) Program Manager Howard Bender. "This CRADA has allowed us to leverage commercialized radiation detectors and UAS technology, enabling us to deploy them an entirely new way and develop a new asset to respond to nuclear emergency situations."

H3D's technology grew out of research conducted at the Nuclear Engineering department at the University of Michigan. The technology was further funded in large part by the Defense Threat Reduction Agency (DTRA). The ongoing partnership between H3D and the NNSS will provide research into the trade-offs between sensitivity and resolution of the compact radiation detectors. Integrating the sensor technology with unmanned aerial vehicles has the potential to enhance the next generation radiation detection capabilities for RSL and other emergency response agencies.

National Nuclear Security Administration/Nevada Field Office
P.O. Box 98518, Las Vegas, NV 89193 • 702-295-3521 • fax: 702-295-0154

"H3D views aerial radiation detection platforms as a key growth area for our organization and, we are fortunate to have NNSS as a partner in this effort," stated H3D President Willy Kaye.

Cooperative research and development agreements like this one allow the federal government to partner with private entities to complement National Nuclear Security Administration (NNSA) missions, foster mutually beneficial partnerships to facilitate cutting-edge research and development, enable U.S. scientific discovery and economic competitiveness, and improve our security and quality of life through innovations in science and technology.

The Nevada National Security Site and its related facilities help ensure the security of the United States and its allies by: supporting the stewardship of the nation's nuclear deterrent; providing nuclear and radiological emergency response capabilities and training; contributing to key nonproliferation and arms control initiatives; executing national-level experiments in support of the National Laboratories; working with national security customers and other federal agencies on important national security activities; and providing long-term environmental stewardship of the NNSS's Cold War legacy.

The NNSS is managed and operated by Mission Support and Test Services LLC (MSTS). MSTS is a limited liability company consisting of Honeywell International Inc. (Honeywell), Jacobs Engineering Group Inc. (Jacobs), and Stoller Newport News Nuclear, Inc. (SN3). The company is dedicated to bringing a service and support approach to the mission of the National Nuclear Security Administration and its labs and plants in the most cost-efficient and value-added manner.

The NNSS falls under the jurisdiction of the NNSA, a semi-autonomous agency within the U.S. Department of Energy (DOE). The Site's operations are government-controlled and contractor-operated. They are overseen by DOE's Nevada Field Office, headquartered in North Las Vegas.

# # #

NR-18-0002