



## Nevada Site Office News

### **News Media Contact:**

**Darwin J. Morgan**, 702-295-3521

[morgan@nv.doe.gov](mailto:morgan@nv.doe.gov)

**Kelly K. Snyder**, 702-295-3521

[snyderk@nv.doe.gov](mailto:snyderk@nv.doe.gov)

### **For Immediate Release:**

October 27, 2011

## **National Nuclear Security Administration Conducts Second Seismic Source Physics Experiment**

On October 25, 2011, the National Nuclear Security Administration (NNSA) announced that it has successfully conducted the second seismic Source Physics Experiment (SPE-2) at the Nevada National Security Site (NNSS). This seismic SPE experiment is the second part of a series of eight underground, fully-coupled, high-explosive field tests. The series represents a long-term NNSA research and development effort that aims at improving arms control and nonproliferation treaty verification; the experiment's findings are intended to advance the United States' ability to detect and discriminate "low-yield" nuclear explosions amid the clutter of conventional explosions and small earthquake signals.

SPE-2 included detonating a chemical explosive equivalent to 2,200 pounds of TNT in a contained, confined environment 150 feet below ground. Information gathered from this experiment includes high-resolution accelerometer, infrasound, seismic, explosive performance, and radio frequency data. This data will advance current, state-of-the-art strong ground motion and seismic wave propagation models and algorithms toward a predictive capability.

"These seismic Source Physics Experiments are significant achievements in the United States' efforts to develop, validate and improve on emerging technology that will be used to assure compliance with the Comprehensive Nuclear Test Ban Treaty," said NNSA Deputy Administrator for Defense Nuclear Nonproliferation, Anne Harrington, "The work conducted at the NNSS and by the NNSA's Defense Nuclear Nonproliferation programs serves to advance the implementation of President Obama's nuclear nonproliferation agenda."

The NNSA National Laboratories have already used the data from SPE-1, executed on May 3, 2011, to refine and improve geophysical models and to make pre-shot predictions for SPE-2. The results of SPE-2 and all further experiments will continue to advance the national nuclear security strategy, across the whole of government. The Source Physics Experiments represent a U.S.-interagency wide endeavor, with NNSS, Los Alamos National Laboratory, Lawrence Livermore National Laboratory, Sandia National Laboratories and the Department of Defense's Defense Threat Reduction Agency all serving as partners in SPE-2. Each entity brings their expertise and resources to the experiment and all will share in the data obtained, saving the U.S. taxpayers the expense of conducting separate experiments for the various scientific disciplines that require these data.

Follow the NNSA Nevada Site Office on Facebook at: [www.facebook.com/NNSANevadaSiteOffice](http://www.facebook.com/NNSANevadaSiteOffice)

**NSO-12-01**

**-30-**