

New Experiment Leads NNSS Into Expanded 21st Century Mission

The National Center for Nuclear Security (NCNS) at the Nevada National Security Site (NNSS) this Spring conducted the first in a series of new experiments designed to help experts differentiate between seismic waves created by earthquakes and those caused by underground nuclear testing.

As part of President Obama's emphasis on nonproliferation and arms control treaty verification in the 21st century, the National Nuclear Security Administration (NNSA) has turned to the NNSS to be the proving ground for technologies that will aid in ensuring compliance. The new experiments, called Source Physics Experiments, will provide data to enhance the United States ability to detect and discriminate "low-yield" nuclear explosions amid the clutter of conventional explosions and small earthquake signals.

This experiment is an example of the expanded role NNSS is playing in our nation's nuclear security strategy. It was conducted by the NNSS management and operations contractor National Security Technologies (NSTec) in partnership with the National Laboratories.

For more on Source Physics, see page 3.



Workers break ground for an explosives hole test bed, drilling through a geology of mostly solid granite.

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SITELINES

D'Agostino Applauds RSL Efforts in Japan

Discusses "One NNSA" Concept During All-Hands

National Nuclear Security Administration (NNSA) Administrator Tom D'Agostino paid a visit recently to the Nevada National Security Site (NNSS) to recognize those Remote Sensing Laboratory personnel who aided Japan in their ongoing nuclear crisis.

A team from RSL was deployed shortly after the March 11 earthquake, which triggered a powerful tsunami that knocked out a nuclear power plant at Fukushima and pushed three reactors to the brink of meltdown. D'Agostino said Consequence Management and Assessment and Aerial Survey teams had been on the ground for several weeks in Japan, providing support to officials there.

Before he was finished, D'Agostino also offered encouraging news to all Federal and contractor personnel in attendance at an All-Hands meeting at the North Las Vegas facility: the good work they've been doing has led to a 10

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NNSA Administrator Tom D'Agostino discussed the future of the NNSS with employees during a visit.

NNSS Demonstrates Technology with Local School Partnership



A partnership between the Nevada National Security Site and West Career and Technical Academy gave students an up-close and hands on view of the new high-tech security Mobile Detection Assessment Response System robot, or MDARS, during a demonstration recently at the Las Vegas campus. The mobile robots are used to enhance security in the most remote stretches of the NNSS.

For more on MDARS, see page 6.



Expanded Role

Paramedics see their role play out beyond the boundaries of the NNSS.

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Christmas in April

Workers from RSL-Andrews help a woman in need.

See page 3.

Two NNSA Employees Named NNSA Quarterly Defense Awards

The National Nuclear Security Administration (NNSA) Defense Programs recently announced that two Nevada National Security Site (NNSS) employees are recipients of the Defense Programs' Employee of the Quarter Awards. The awards recognize individuals who have gone beyond the call of duty in supporting the mission of NNSA's Defense Programs.



Lisa Mueller

Lisa Mueller, Nevada Site Office, is recognized for her outstanding oversight and dedicated participation in the team effort to achieve the Barolo Subcritical Experiment Series Level 2 milestone. The project involved detailed nuclear facility

readiness efforts at the Nevada National Security Site U1a Complex and the Device Assembly Facility.

Sonja Spears, National Security Technologies (NSTec) Occupational Medicine's workforce specialist, received the Contractor Employee of the Quarter award for her success with the Wellness Program at the NNSS.

Spears has taken the program from pamphlets and blood pressure checks to one focusing on the overall health of the employee. Sonja was directly responsible for the 'Battle of the Sexes' weight loss challenge, in which more than 100 employees participated, and the Mayo Clinic Diet classes attended by more than 300 members of the workforce.

"The men and women throughout NNSA do outstanding work in implementing President

Obama's nuclear security agenda each and every day," said Don Cook, NNSA's Deputy Administrator for Defense Programs. "The recipients of the Defense Program Employee of the Quarter Awards represent the commitment to service and dedication to improving the way we do business that exists across our enterprise. I thank them for their outstanding work."

The selection of the recipients is determined at each site following its own specific criteria. Recipients are selected from NNSA sites throughout the complex.



Sonja Spears

Two California Schools Top Las Vegas, All Others, For National Science Bowl Titles

A high school team from Sacramento, Calif. and a middle school team from San Ramon, Calif. won the 2011 U.S. Department of Energy (DOE) National Science Bowl recently, besting dozens of the nation's best middle and high schools – among them Coronado High School from Henderson and Hyde Park Middle School from Las Vegas. The competition was held at the National 4-H Youth Conference Center and the National Building Museum in Washington, DC. at the end of April.

Coronado High School, which won the Nevada Regional Science Bowl competition held in February in Las Vegas, battled its way through a field that eventually was beaten out by Mira Loma High – last year's runner up. Hyde Park was among some 39 middle school teams that competed in an academic math and science competition and a model car race. Gale Ranch Middle School eventually won.

At the awards ceremony, U.S. Secretary of Energy Steven Chu spoke to more than 500 students and 100 teacher/coaches about the importance of science education to the nation's economic and technological future. "These students represent

the great promise and potential of America's next great generation," Chu said.

"I have no doubt that the exceptional talent and hard work that earned them the Science Bowl championship will serve them well throughout their lives, as they help our Nation tackle the crucial scientific and engineering challenges we'll face in the years ahead. America's future will always be bright when we continue to invest in and support the young minds that will be tomorrow's innovators, pioneers and leaders. That's what the Science Bowl is all about."



Students from Hyde Park Middle School in Las Vegas compete in the model car race during the National Middle School Science Bowl in Washington, D.C.

Competing were 110 teams from 44 states, the District of Columbia, Puerto Rico and the U.S. Virgin Islands in the weekend-long national finals of the 21st annual DOE National Science Bowl.

Earlier this spring, more than 14,000 students from across the country participated in regional Science Bowls. Sixty-nine high schools and 41 middle school regional Science Bowl champion teams competed in the National Finals in Washington D.C.

DOE created the National Science Bowl in 1991 to encourage students to excel in mathematics and science and to pursue careers in these fields. DOE supports mathematics and science education to help provide a technically trained and diverse workforce for the nation.

More than 200,000 students have participated in the National Science Bowl throughout its 21 year history. The National Science Bowl for Middle School Students was started in 2002 with the math and science competition and car race. The car race provides the students with a "hands-on" science and engineering experience where the teams design, build and race their model cars.

SITELINES

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RSL-Andrews Crew Helps Community During Christmas in April Event

A group of more than 20 employees of the Remote Sensing Laboratory at Andrews Air Force Base in Maryland was joined by spouses, children and Air Force personnel from Joint Base Andrews in helping renovate a woman's home recently as part of Christmas in April. RSL-Andrews is part of the Nevada National Security Site (NNSS) and its growing mission to support national security.

Christmas in April of Prince George County chose the home in District Heights because the homeowner recently suffered a stroke that left one part of her body paralyzed. She also has a son who is confined to a wheelchair and lives in the basement. The home was in need of repairs, which included clearing landscaping, and building a new wheelchair ramp, as well as extensive interior renovations.

NNSS management and operating contractor National Security Technologies (NSTec) donated \$2,500 to purchase replacement windows and help build the new ramp. In addition to building a new ramp and back deck, the crews removed over-grown trees and bushes, and replanted flowers. The crews put in more than 200 hours, and worked until after dark to complete repainting and recarpeting the interior.



Members of the RSL-Andrews crew work to construct a wheelchair ramp for a homeowner in District Heights, Maryland.

"We all really made a difference with this home. The owner was overwhelmed by all of us showing up and doing all these repairs and changes that were needed to get this house back into a good living condition," said Pat Thornberry, Human Resources/Security specialist with RSL-Andrews and volunteer. "It does your heart good when you can reach out to a member of the community like that."

D'Agostino Applauds RSL *Continued from page 1*

percent budget increase and laid the groundwork for a big year.

D'Agostino, who grew up in Las Vegas and whose father worked at the former Nevada Test Site in the 1960s and 1970s, said the work the RSL team of 32 people has done in helping Japan in the wake of a deadly earthquake and tsunami has gotten the attention of many policy makers and leaders, from the military to Congress and the White House.

Prior to visiting RSL, D'Agostino told a group of about 150 at the All-Hands meeting that front-line commanders in Japan were applauding the technology that the NNSS had provided them. He said it shows the Site has truly become a national security asset which does more than just experiments and tests.



NNSA Administrator Tom D'Agostino told NNSS employees their mission had garnered much positive attention recently on Capitol Hill.

"The attention we're getting now is the kind of attention I like," D'Agostino said. "It shows we've been able to take technology developed for the Cold War and shape it for the challenges we're facing in this century."

With the NNSA reemphasizing its focus on Stockpile Stewardship and pushing out into the type of treaty verification and threat detection technology that will be the mainstay of the National Center for Nuclear Security (NCNS) at NNSS, D'Agostino said he lobbied for a 10 percent increase in the FY 2011 and FY 2012 budgets.

Despite a tenuous budget situation in Washington D.C., the Administrator got what he wanted – at least in the increase for the upcoming fiscal year. The increases will go to life-extension programs for the current warhead stockpile, building a robust treaty verification program and developing technology to fight off cyber security challenges.

D'Agostino told Site employees that the key to success would be what he's called the "One NNSA" concept, or that Federal and contractor employees have a shared fate in the mission performed at sites in the complex. He is bringing together executive leadership from both entities each year to look closer at how to maximize that effort and improve the way the NNSA does business. "People are an incredibly important part of what we do. We need to get specific. Let's be very clear about what NNSA means and the changes that will come as a result from that," D'Agostino said.

Nevada Site Office Deputy Manager Steve Lawrence echoed the Administrator's comments, saying it has been teamwork – both here and in Japan – that has led to the Site's recognition for safe, high-quality, dependable work. "A lot of people have been putting in a lot of time and sacrifice – we're well-recognized across the international community because of it," Lawrence said.

NNSA Begins New Campaign of Verification Experiments at NNSS

Experiment provides data to detect low-yield nuclear explosions

The National Nuclear Security Administration (NNSA) has successfully conducted the first of a new kind of experiment aimed at improving arms control and nonproliferation treaty verification. The new experiments, called Source Physics Experiments, are being conducted at Nevada National Security Site (NNSS) and will provide data to enhance the United States ability to detect and discriminate "low-yield" nuclear explosions amid the clutter of conventional explosions and small earthquake signals.

"By conducting this experiment the United States can validate and improve seismic models and the use of new generation technology to further monitor countries' compliance with the Comprehensive Nuclear Test Ban Treaty," said Anne Harrington, NNSA deputy administrator for Defense Nuclear Nonproliferation. "The experiment marks an important step in strengthening the relationship of the NNSS and NNSA's Defense Nuclear Nonproliferation programs while implementing President Obama's nuclear security agenda."

Source Physics Experiments are an example of the expanded role NNSS is playing in our nation's nuclear security strategy.

The experiment was conducted by the NNSS management and operating contractor National Security Technologies (NSTec) in partnership with Los Alamos National Laboratory, Lawrence Livermore National Laboratory, Sandia National Laboratories and the Department of Defense's Defense Threat Reduction Agency. The experiment was conducted 180 feet beneath the surface of Area 15 at NNSS, using 220 pounds of chemical high explosives.

"Integrating the requirements and needs of the laboratories and other federal agencies has been a hallmark of the NNSS," said Steve Mellington, manager of the NNSA's Nevada Site Office. "With the conduct of the Source Physics Experiment, the NNSS demonstrates its role to meet the future national security requirements of our agency and our country, and our commitment to investing in the future."

This collaborative effort by the NNSA and its national laboratories and the Department of Defense allowed each entity to bring its expertise and resources to the experiment and ultimately share in the data obtained. This saves the government the expense of conducting separate experiments for each group of scientists who need the data to validate models.



Emergency Planning & Preparedness

Protecting NNSS Resources, Ensuring National Security

As the National Nuclear Security Administration, Nevada Site Office (NNSA/NSO) carries out important national security missions on the Nevada National Security Site (NNSS), ensuring worker safety and protection of resources is of utmost importance.

The NNSS maintains a robust emergency preparedness and planning support network that makes it a daily focus to plan and prepare for any event. Whether faced with potential terrorist threats or work mishaps, the Emergency Management Program is the cornerstone of the Site's strong safety and security record.



The Nevada National Security Site maintains a robust emergency preparedness program to prepare for any emergencies that could occur at the Site.

During the execution of daily missions at the NNSS workers and customers may work with numerous types of chemicals and radiological materials. Despite best efforts to prepare for any event, the worst-case scenario of a hazardous material release is prepared for at a level commensurate with the hazards and risks of work conducted at the Site.

NNSA/NSO has implemented a comprehensive emergency management system to protect workers and the public, property, and the environment from the consequences of these associated hazards. "The framework for a response to an incident typically starts at the facility-level and then increases as more resources are needed to safely mitigate the circumstances," said Davida Matthews, National Security Technologies, LLC Emergency Services and Operations Support

(ESOS) Division manager, who has the overall responsibility for managing all aspects of emergency preparedness, fire and rescue, and emergency operations.

Matthews works closely with NNSA/NSO Emergency Management Program Manager Rob Mignard to ensure the emergency management program meets Department of Energy (DOE) Order 151.1C requirements. The emergency management program includes: developing emergency plans and procedures, delivering training and drills, executing preparedness exercises, and conducting readiness activities, such as management assessments to validate the health of the program. "Partnership Meetings are held monthly at a minimum between NSTec and NSO, which supports a common vision of preparedness," Mignard said.

An ever-present threat to the United States is terrorism as terrorist organizations continue to explore opportunities to obtain Weapons of Mass Destruction (WMD) in the name of their cause. Acts of terrorism can cause catastrophic consequences to people, property, and the environment. Terrorists can attempt to acquire hazardous materials from DOE/NNSA sites to create public fear, injure workers, and cause damage to government property in pursuit of their varying social or political goals. "Our preparedness message is not all doom and gloom, but reflects the need to be prepared to face ongoing threats and challenges," said A.C. Hollins, NSTec Operations and Infrastructure director.

NNSA/NSO and contractors have taken proactive measures at the Site to develop and strengthen regional partnerships and enhance emergency preparedness, response, and prevention capabilities while carrying out their national security missions. Over the past two years, they have conducted numerous terrorism-related drills and exercises that covered a wide range of terrorism scenarios including nuclear terrorism, active shooters, hostage-taking, facility attacks, and others. The combination of drills and exercises has provided depth in knowledge for the emergency



The exercises, which typically involve hundreds of participants role-playing, are designed to present the most realistic scenarios possible to ensure Site workers understand cause-and-effect during the scenario.

& Preparedness

al Security



response organization, emergency management and security personnel, and regional law enforcement.

“Preventing a terrorist attack from occurring is our number one goal, but we must also be prepared and capable of responding to the consequences from an attack,” said David Stuhan, Emergency Service and Operations Support (ESOS) lead exercise planner. Stuhan managed the most-recent Sidewinder-11 emergency exercise planning process and served as the Exercise Director.

The most recent exercise series “SIDEWINDER-11” included a three-part exercise series that included intelligence sharing, local and federal law enforcement tactical operations and evidence collection, which occurred over a two-week time period. These mini-exercise series were followed by a multi-jurisdictional Full Participation Exercise that was conducted on April 20, 2011 and involved the full activation of all NSO Emergency Response Facilities including the Emergency Operations Center (EOC) and the Joint Information Center (JIC) in North Las Vegas; and, the Emergency Management Center (EMC) and Tactical Operations Center (TOC) in Mercury.

Approximately 380 onsite and internal participants assisted with the exercise, with an additional 232 offsite/external participants from 23 agencies, including the State EOC, Nye County EOC, Nellis Air Force Base, University Medical Center, DOE Headquarters, etc. This multi-jurisdictional exercise was the largest and most complex exercise conducted on the NNS. It lasted more than 6 hours.

The exercise was initiated by a simulated attack on a nuclear facility that included a release of radiological material, mass casualties, and fatalities. Many of the injured workers were actors played by employees from NSTec, WSI-NV, and NNSA/NSO. These actors or role players were moulaged with gunshot wounds among other injuries. The site security contractor, WSI-NV responded to neutralize the threat, and then took action to assess and secure the scene. Both NNS Fire and Rescue Stations responded to support pre-hospital medical triage and treatment, and hazardous material operations. “Developing a realistic and stressful scenario is fundamentally critical in testing response capabilities,” said Todd Davidson, ESOS exercise planner who also served as the Deputy Exercise Director.

NNSA/NSO emergency response facilities were activated to provide support to field responders. In addition to the onsite response, local, state and federal agencies activated their respective Emergency Operations Centers (EOCs) to coordinate and collaborate on a regional scale to address any impacts to the public. NNSA/NSO established a JIC to get timely emergency information to the media and the public, and worked with numerous supporting agencies and organizations to create common messages and provide assurance that the incident was being managed.

Stuhan said the success of the exercise will continue to drive preparedness in an ongoing effort and continuous cycle of developing and refining plans and procedures, providing training and drills, conducting exercises, and making improvements when shortcomings are identified. “The conduct of exercises such as Sidewinder-11 will continue to enhance regional capabilities to respond in a joint effort with local, state, and federal agencies,” Stuhan said. “We’re working to protect our people and our resources for years to come.”



The Emergency Response Organization conducts several drills and exercises each year to prepare for emergencies, such as Sidewinder-11, a full-participation exercise, held in April.



NNSA/NSO officials staff the Emergency Operations Center during the exercise to maintain total control over the scenario and response.

Puma #3 Comes into NNSS Wildlife Study

Researchers recently added a new subject to their two-year study on pumas living on and around the Nevada National Security Site (formerly the Nevada Test Site). On April 19, 2011, trappers captured and sedated a male puma, and then fitted the animal with a tracking device before releasing it back into the wild.

This latest capture is the third puma in a study, funded by the U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office, that aims to shed light on the ranging and hunting behaviors of pumas in the region. Using Global Positioning System (GPS) satellite collars, researchers are documenting each animal's location six times per day, over continuous 24-hour periods, and physically visiting clusters of several grouped locations to gather information on recent kills.



This 140-pound male puma was the third wild cat found at the NNSS. He was sedated and collared before being released.

"It is important to know what is being hunted and under what circumstances in order to better

understand the risk to potential prey," said wildlife biologist, David Mattson, who is heading up the study. Dr. Mattson of the U.S. Geological Survey, along with a field team from National Security Technologies—NSTec, the management and operating contractor for the Nevada National Security Site (NNSS), eventually wants to track at least eight pumas, whose diets are known to include mule deer, young horses, and rabbits. The study will address concerns over potential risks to workers, who have experienced an increase in puma sightings over the past five years.

Trappers captured the 140-pound puma in the Timber Mountains, located in the west-central area of the NNSS. Since April, the animal has been tracked all the way to the Panamint Mountains west of Death Valley, which indicates a large home range, says NSTec Senior Scientist, Derek Hall. "We typically expect the males to overlap the home range of several females," Hall explained, "but it will be very revealing to see where this puma goes next."

Two female pumas, which were captured and collared several months ago, are already providing insights on the survival strategies of cats in the area. Scientists have tracked both of the animals on and off the Site, documenting their kills along the way.

The latest puma, a five to six year-old male, appeared to be in good condition upon capture. Prior to collaring and releasing the animal, scientists retrieved several measurements and blood and hair samples for laboratory analysis.

Trappers will return to the Site in August or September to resume their search for more subjects.

NNSS Technology Demonstrated at Local School

A partnership between the U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office and a local high school recently gave students a view into the high-tech world of the Nevada National Security Site (NNSS).

Experts recently facilitated two 85-minute demonstrations of the high-tech security MDARS robot, or Mobile Detection Assessment Response System, at West Career and Technical Academy (CTA). Engineering and robotics students eagerly watched as the team displayed the many features of the MDARS robot, ranging from remotely driving around the parking lot to halting a group of student volunteer "trespassers."

Students were also given a chance to peek inside some of the compartments of the MDARS robot, viewing the inner-workings of the mobile unit. "This was a tremendous opportunity for students to connect classroom studies with real-world applications," said Mitchell Johnson, West CTA's Civil and Environmental Engineering Program leader.

The NNSS has deployed the MDARS robot to provide security to remote areas of the vast 1,360-square mile site. The unit, which is remotely operated from a command center, can operate at speeds up to 20 miles per hour and can go for 16 hours without having to be refueled. The robots are used to patrol gates, locks and other barriers.

The partnership with West CTA was initially



Student volunteers pose as "trespassers" to display the Mobile Detection Assessment Response System, robot's (MDARS) "halt" alert.

formed by the Nevada Site Office Environmental Management Program which pursues outreach initiatives with schools in an effort to foster awareness, educate and engage the community with regards to ongoing environmental activities at the NNSS, as a result of historic nuclear testing activities conducted from 1951 to 1992.

As an enthusiastic community partner with West CTA, the Environmental Management Program has already provided guest speakers, participated in Career Day and a school-wide Project Based Learning activity, and is a member of the Engineering Advisory Board.

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Please fill out this survey, and send it to *SiteLines* editor, P.O. Box 98521, M/S NSF119, Las Vegas, NV 89193-8521 by Friday, July 8. **If you include your name and contact information, you will be eligible for one of several drawings for free movie tickets.**

SiteLines is quarterly print publication for the National Nuclear Security Administration Nevada Site Office. It is available to the public by mail delivery, at a Nevada National Security Site facility, or through the Nevada Site Office website. Stories reflect the overall mission, programs and personnel that carry out the goals of the NNSS. We would like to know what you think. This survey will help us discover if you feel you're receiving the right amount of information that you need or want to know about the NNSS. We also want to know how we can improve the stories we share with you in *SiteLines*, because your input matters to us. Your feedback also will be documented in a future issue.

NNSS Paramedics Lift Level of Care For Site Workers, Nearby Communities

Seeing a Nevada National Security Site (NNSS) Fire and Rescue ambulance isn't a surprising sight in Pahrump or Armagosa Valley because most people who live there know the Site provides mutual aid to remote areas of Nye County.

But at least one Armagosa Valley resident has NNSS paramedics to thank for his life after he suffered a heart attack recently – a sign of the increasing role Site first responders are having in the health and safety of all who live and work in the Region.

"The guy is up and walking around today because of the level of care we're able to provide," NNSS Fire Chief Charles Fauerbach said. "We're at least an hour away from definitive care at a hospital in Las Vegas— we have to offer an advanced level of medical service for the people of who work at the Site, and those who reside in nearby areas," Fauerbach said. "Providing anything less than a paramedic-level response would be a disservice."

Indeed, medical care at the NNSS has come a long way from the 1950s testing era when military trained corpsman provided first aid and clinical care to Test Site workers. At one time, the population of Mercury was over 14,000 – warranting some six fire stations and 10 medical aid stations. Firefighters trained in essential skills needed to deal with potential emergencies while medics administered medical care.

Through the 1980s, the corpsmen were highly specialized in general medicine and did their part to treat everything from mining and drilling accidents, to injuries from vehicle wrecks. They were adept at suturing and wound closures, minor surgeries, casting, X-rays, administering antibiotics, and at one point in the early days, actually performed dialysis. At the height of testing, more than 65 medics worked independently throughout the Site.



NNSS Fire and Rescue personnel train at an advanced level to prepare for emergencies like this – and to ensure they maintain local, state and federal certifications in life-saving.

By the early 1980s, several corpsman who were also certified paramedics were hired, and they brought the kind of paramedic experience to the NNSS that municipalities around Nevada were starting to rely on. That led to a shift from hiring military trained corpsman to hiring certified paramedics with field response experience, and training them in the clinical functions necessary for the Site's mission.

In the early 1990's, the military trained corpsman received additional training and became certified as paramedics as well. NNSS Fire Department and Occupational Medicine Paramedic Service merged together under one roof in August of 1996. That merger has proven a cornerstone to the group's success, both at NNSS and where offsite mutual aid agreements exist.

In fact, medical service at the NNSS has come full circle with paramedics now conducting drug screenings and other services at the two new fire stations in Mercury and in Area 6. While medical assistants still handle routine issues at the NNSS Medical Clinic, paramedics are able to help with other medical services while being available for life-threatening issues. That helps improve turn-around time for NNSS employees in the field, Fauerbach said. Today, the paramedics at NNSS represent a front-line response unparalleled in providing acute emergency care in remote locations.

Highly Trained

Even with an emphasis on paramedic training, however, the state of Nevada and local jurisdictions had very limited regulation of medical service requirements prior to the 1990s. That's when the U.S. Department of Energy began urging its Sites to obtain state and/or national certifications. That's about the time Battalion Chief Doug Rierson arrived at NNSS.

Rierson, who oversees the paramedics on "C" shift, said the NNSS Occupational Medicine Department, Paramedic Service took the initiative to contract with University Medical Center to provide EMS bridge courses. State officials eventually wrote a test for Site paramedics that would become the standard for paramedic level emergency responders outside of Clark County. "By 1995, we started seeing a lot more mutual aid responses, and that required advanced paramedic life support service and an increased level of care," Rierson said.

Even under the same roof, paramedics and firefighters initially co-existed as two separate groups. In 1996, Fauerbach decided to increase continuity by initiating cross-training for paramedics to ensure they received certifications



Off-site vehicle accidents are the primary incidents NNSS Fire and Rescue personnel respond to as part of the mutual aid agreements they have with Nye County.

in hazmat technician, and together with the hazmat trained firefighters, formed the NNSS HAZMAT Response Team.

As paramedics and firefighters continued to work side by side at emergency scenes, cross-training eventually expanded into technical rescue, wildland fire training and entry level structural firefighter training. The firefighters also received cross-training at emergency medical technician basic and intermediate levels to better support paramedics during emergency medical services operations.

Today, NNSS Fire and Rescue has 22 paramedics, including three dedicated EMS instructors that help keep all training and certifications current. Paramedics and firefighters continue to serve side-by-side, increasing the department's ability to serve Site workers and the public. "We've moved to more of a team concept," Rierson said. "Let's face it – if we're working, somebody is having a bad day. The types of calls we see are becoming more complex, and it's important that paramedics and firefighters understand what the other is doing."

Into the Future

In keeping with NNSS Fire and Rescue's goals to provide the best medical service, Fauerbach said paramedics continue to train in the latest advancements – among them new advances in cardiac life support.

New medical technologies are examining advancements such as core cooling – or keeping a patient who has suffered a cardiac arrest cool during transport, which helps protect the brain function. "We're looking into things that will have a huge impact on patients –there is always something new on the horizon that we need to evaluate" Fauerbach said.

That means a lot to Site employees who may find themselves in need of emergency medical attention while they're working or commuting along U.S. Highway 95. It also means a lot to those offsite communities who one day may have to rely on NNSS Fire and Rescue to save their lives.

"With enhanced training, we can do more for our patients. That's important since it takes us an hour or more to transport patients to definitive care. We're seeing that we've become a huge asset for the whole area," Rierson said.

Experts Share Updates on Groundwater at Beatty Open House

Groundwater on and near the Nevada National Security Site (NNSS) was the topic of discussion at a recent open house in Beatty, Nevada.

On May 25, residents of Beatty, Amargosa Valley, Pahrump and other neighboring communities gathered for the 3rd Annual Groundwater Open House to learn about the extensive work being done to address groundwater contamination from historic underground nuclear tests.

A series of posters and displays on such topics as drilling, hydrology, radiation, computer modeling, and groundwater sampling lined the Beatty Community Center providing community members the opportunity to move at their own pace and speak one-on-one with experts on each subject.

While the U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office sponsored the open house, a variety of organizations participated in the event, including Nye County, the State of Nevada Divisions of Environmental Protection and Water Resources, U.S. Geological Survey, Desert Research Institute, and the Nevada Site Specific Advisory Board. Subjects like water rights, the State of Nevada's role as regulator, and independent monitoring were part of the discussion. In addition, various contractor and federal staff working on the Nevada Site Office groundwater characterization and environmental monitoring programs shared information on the team's integrated efforts to protect the public from contaminated groundwater.

The role of computer modeling was also a featured topic at the open house—particularly how data from sampling is used to develop computerized three-dimensional images of groundwater flow patterns beneath the NNSS surface. Guests were able to see real model images as well as speak directly to the computer

Representatives of the Community Environmental Monitoring Program and the Routine Radiological Environmental Monitoring Program were also on hand to answer questions from attendees. These groups regularly test water samples from sources on and around the Site—increasing the range and scope of monitoring, which helps maintain public and worker safety.

“Protecting the public is always our top concern,” commented Deputy Federal Project Director, Rob Boehlecke, who spent the evening talking to open house guests. “A major part of that responsibility is keeping people informed about the real day-to-day work that is being done to ensure their safety.”

Answering questions about public involvement opportunities were members of the volunteer-based, Nevada Site Specific Advisory Board. Board members spoke with open house attendees about the Board's overall role, which is to provide the Nevada Site

Office recommendations on NNSS Environmental Management Programs, as well as their specific involvement in the NNSS groundwater program.

“I believe this year's Open House was the best one yet, and we look forward to going back into the community to do it again,” said Bill Wilborn, federal lead for groundwater characterization. To provide feedback on this year's Open House or suggestions for the next one, please contact Environmental Management Public Involvement at envmgt@nv.doe.gov or 702-295-3521.



Open house attendees study a map that details groundwater wells and springs throughout the Nevada National Security Site.

modeling experts who use these detailed visuals to better understand how contaminants behave in groundwater.

“People want to know how this affects them,” remarked Amargosa Valley resident Jack Sypolt, who spent more than an hour speaking with experts and studying NNSS maps. He said he was especially interested in the drilling component of the process, and how dozens of wells, extending several thousands of feet beneath the surface, are being placed on and surrounding the NNSS to test groundwater. “What I learned is that there is contaminant flow,” Sypolt explained, “but it is moving very slowly, and that is good.”

NNSS Security Engineer Wins 2010 Security Professional of the Year

Stephen Scott, senior technical security engineer for the Nevada Site Office, has been awarded Federal Security Professional of the Year for his work at the Nevada National Security Site (NNSS), the National Nuclear Security Administration (NNSA) announced recently.



Stephen Scott

The awards recognize one federal and one contractor employee whose contributions to security programs within the NNSA enterprise exemplify the excellence and commitment for which NNSA is known. Scott joined Bartola Torres from Los Alamos National Laboratory (LANL), who won as Contractor Security Professional of the Year.

Scott is recognized as a leader and strong advocate for security technology. He spearheaded the deployment of a wireless network around the Device Assembly Facility to improve tactical communications, secured

funding for the Technology Deployment Integration Center to assess new security technologies, and facilitated a memorandum of understanding with the Air Force to establish Unmanned Aerial Vehicle support at the NNSS.

Scott's most notable achievement in 2010 was the successful deployment of the Mobile Detection Assessment Response System (MDARS) robot in Area 5 of the NNSS. These security robots received unprecedented national-level media attention, including CBS News, Fox News and Defense News. As a result, the Nevada Site Office received four additional MDARS from the Army for future deployment at NNSS.

“I am extremely honored, but in reality this award represents more than just my work on these various projects,” Scott said. “It reflects the tremendous support I have received from NNSA, DOE/HSS and my site office leadership, and the incredibly talented engineers and technicians at our site who work with me each day to implement and deploy new security technologies that protect our nation's assets.”

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