

Less Fuel, More Natural Power



PEVs get a charge out of new solar-powered charging stations.

See page 3.

Open House Highlights

Hundreds toured the NNSS to celebrate its 65th year.



See page 6.

Centerra Officers Graduate

Congratulations to the Tactical Response Force-200 class.



See page 10.

NNSS Remedies Fire Suppression Lines at the DAF

By OneVoice Staff Reports

In January 2012, the Nevada National Security Site (NNSS) initiated a priority project: replace the corroded lead-in lines at the Device Assembly Facility (DAF). This included replacing 27 lead-in lines of underground water supply piping. The lead-in lines are part of the fire suppression system (FSS) that helps protect the DAF in case of a fire.

The \$40-million Lead-in Lines Repair Project is underway, replacing the deteriorated piping. The first to be replaced was the 370-West lead-in line. When the 370-West line was uncovered, the need to replace the lead-in lines in the near future became evident.

Constructed in 1989, an FSS was installed throughout the DAF. At the time, the FSS met National Fire Protection Association (NFPA) requirements. The installation included carbon steel underground lead-in lines that supply water for the FSS and the domestic water system. These lines were originally fabricated to provide a longer service life. However, in time, corrosion impacted the structural integrity of the pipe walls, placing the reliability of the system at risk. The results of field inspections on several of the 27 lead-in lines showed that all of the tested lines have varying degrees of corrosion and wall thickness degradation. As a near-term fix, strainers were installed as required by the NFPA. This minimized the

potential for debris to clog the fire sprinkler heads and impact system operation. This approach also requires the strainers to be cleaned periodically.

"All of the issues associated with the existing lead-in lines are being corrected. We are using industry proven construction materials and methods on this project that will provide for a reliable fire suppression system and increased service life," said David Payne, principal fire protection engineer for the Nuclear Operations Directorate.

It is estimated that the entire project will finish in calendar year 2019.



One of the corroded pipes taken from a lead-in line.

"At a Glance" Safety Initiative Promotes Safer Work Habits

By OneVoice Staff Reports

At an April 18 Lead-in Lines project celebration luncheon held in Area 6, Operations & Infrastructure (O&I) Director Patrick Morris thanked the craft for their good work on the project. Afterward, Principal Project Manager David Fink stated that O&I desires a safe work environment for everyone.

The Lead-in Lines project has partnered with Safety & Health to roll out two new enhancements to their project safety program. Fink spoke excitedly about the project's "Free Hands" initiative.

According to the U.S. Bureau of Labor statistics released in 2015, falls, slips and trips account for 27 percent of all injuries and illnesses by event or exposure, costing thousands of dollars. "Prevention is the key. If you are carrying items while walking, the mind toggles between balancing the items and walking. At this point, you are not 100 percent focused on the task. If you remove the variable of carrying, you reduce or eliminate the risk of injury," said NNSS Ergonomist David Pechulis.

Thus begins the NNSS supplying field workers with a new safety vest. These are no ordinary safety vests, however. These "Surveyor" vests have 10 pockets, inside and out, varying in sizes. Moreover,

Continued on page 4



Hard hats lined up, labeled and ready to go. White is for workers, blue for leadership, green for safety, and yellow for visitors.

Out in the Field, Collaboration Brings Success

By Pamela Handor

About a year ago, craft personnel working at the Nevada National Security Site (NNSS) told their management that they felt they were not involved enough with the planning process of their work. The solution occurred when a construction manager addressed this issue as a Corrective Action. He recommended that the Work Planning Group, responsible for planning and scheduling all construction and maintenance work activities at the Nevada National Security Site (NNSS), use the craft more.

A plan was quickly implemented in August 2015 for craft to participate in a six-month rotation program. During this period, they would be assigned in the Planning Department while they put their "craft responsibilities" on hold. It was a phased approach; initially, two craft joined the program, followed by three more in the subsequent months.

After participating in the rotation program, the craft said they had no idea what it took to plan a work package, how many people they had to coordinate with and how many procedures they had to adhere to. They were able to provide a great deal of input, and were able to provide some lessons learned.

"I understand better the work planning process and the timeframe required to plan and coordinate work and get the required approvals," said Maria Davis, a wireperson.

"I believe participating in the rotation program has bridged the gap between the two groups. We understand why they write and put work packages together," said Michael Curtis, laborer foreman.

Added Jim Wentzel, a refrigeration mechanic foreman, "I have worked with building work packages for 10 or 11 years, but did not know the half of building a work package. It opened my way of thinking of the process of planning work."

"I am so very proud of this group for their engagement and willingness to participate in this new program. Their efforts made this program the success that it is," said Cindy Bixby, division manager of Work Planning and Scheduling.

The NNSS plans to continue the process until those in each craft discipline who have the desire has had the opportunity to participate in the program.

Courtesy photo



Craft involved in Work Planning included (l-r): James Wentzel, Mike Curtis, Maria Davis and Daniel Krueth. Not pictured: Jameson Dahn.

Resident Learns About EM's Cleanup

By Kaylyssa Hughes

Carrie Radomski, a resident of Beatty, Nev., had never been to the Nevada National Security Site (NNSS). That changed during a Feb. 25 tour of the Site.

Before visiting the Site, Radomski had attended a Groundwater Open House in her community, seen videos of historical atmospheric tests, and even had friends who worked at the NNSS during nuclear testing. "Now I can say I've seen it," she said. "It's not just a picture; it's not abstract anymore."

Radomski came to the tour interested in the Site's historical significance, as well as how the public is protected from the effects of nuclear testing on the groundwater.

After several educational briefings during the tour on groundwater characterization and sampling, Radomski says she has a better understanding of the program. "My perspective definitely changed. It was heartening to see the people involved in the monitoring. It's like listening to an album, versus seeing someone live in concert. It doesn't remove all suspicion. But it certainly gives you a lot more confidence in the information that you're getting." At the same time, Radomski said she wants to know more. "You see the guy playing the guitar and you understand how he's playing but you don't exactly know what scale he's using. The people that were out there did a great job of condensing information to bring it to an understandable level. But some of the nuance and detail goes way above a lot of our heads."

At the Mercury Core Library, the first stop on the tour, Radomski enjoyed hearing the

thought process that goes into where and how to drill wells at the NNSS. In fact, she went home and drew a picture for her husband to help him understand what she had learned.

The tour also stopped at an active drill site, Well ER-3-3. Radomski appreciated the visual aid. "[We see] the drill site and then look across the way and see where the detonation was that we're concerned about monitoring," she said.

At Icecap, the tour group learned how the U.S. worked with the British to develop a cold weather test of a nuclear device, scheduled for the spring of 1993. However, on Oct. 3, 1992, President George H. W. Bush signed the Underground Nuclear Testing Moratorium, halting what would have been the 929th test at the NNSS. Unfortunately for those awaiting the results of the test, this timing made it possible for those on the tour to see exactly what these later test sites looked like just before detonation. Icecap was one of Radomski's favorite stops on the tour. "I had no concept of how some of the underground testing was done," she said. "To see the monitoring cables and measurement devices, when the concept is that when it goes off, it destroys everything... that was amazing."

Radomski left the NNSS feeling grateful for the opportunity to see a place with so much historical value. "It's a great thing to make it available," she said. "It's something that everybody here should see."

For more information on the NNSS, as well as how to sign up for a public tour, visit: www.nv.energy.gov.



Radomski (center right, without sunglasses) and the other tour participants learn about Yucca Flat geology during their visit to Well ER-3-3.

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Site's Solar Power Brings a New Era of Sustainable Technology

By Nicole Soto

The arrival of a new portable solar-powered, plug-in electric vehicle (PEV) charging station at the NNSS will maximize transportation flexibility while minimizing environmental impact.

The Fleet, Fuel and Equipment Services division recently received the new charging station. Located in its Light Fleet parking lot in Mercury, the solar-powered PEV charging station is the first of its kind within the Department of Energy/National Nuclear Security Administration (DOE/NNSA).

The introductory use of this sustainable technology is important in advancing the use of PEVs at the site while greatly reducing the consumption of petroleum fuels.

"The portable design allows us the flexibility to use PEVs in local or remote regions of the NNSS without the burden of locating a nearby power source needed for the fixed pole charging stations," said Site Services Manager Ricky Medina.

The fully transportable charging station can charge multiple PEVs at once, day and night, and it is 100 percent solar-powered. The station is structurally certified to withstand winds up to 110 mph. It also has an on-board energy storage which will maintain power during a blackout or grid failure. Along with its reliability, the charging stations are extremely cost effective.

"It is way less expensive than

installing the fixed/hard-wired charging stations," said Medina. Although this is the first unit to arrive, Medina does not think it will be the last.

"There could very likely be more. We need to ensure the technology works and stands up to the rigorous environmental conditions that are experienced at the NNSS," Medina said.

The new "Executive Order - Planning for Sustainability in the Next Decade" outlined efficient federal operations to "reduce agency greenhouse gas emissions by at least 40 percent over the next decade while at the same time fostering innovation, reducing spending and strengthening the communities in which our federal facilities operate." The NNSS is progressing towards achieving that goal by establishing a fleet mostly comprised of PEVs in relation to petroleum powered vehicles.

Medina believes people will feel good about this change and reducing greenhouse gas emissions. "In the very near future, vehicle manufacturers will release PEVs with greater range than our current models. Some will go in the excess of 200 miles on a single charge," Medina said. He believes that as employees gain more confidence using these vehicles and its convenient charging stations, they will be excited to use this technology.



This portable solar-powered PEV charging station is the first of its kind at the NNSS.

News Briefs

NSTec, LLNL Awarded for BLR Project

Weapons and Complex Integration (WCI), a division within Lawrence Livermore National Laboratory (LLNL), recently awarded NSTec employees for their broadband laser ranging (BLR) project.

Brandon La Lone, Vu Tran, Marylesa Howard and Bruce Marshall (formerly NSTec), along with LLNL's Corey Bennett and Natalie Kostinski, were recognized for their BLR project diagnostic.

This diagnostic, born out of the Site-Directed Research and Development Program at NSTec, provides data related to the displacement of a surface during a dynamic experiment.

La Lone and Marshall developed the diagnostic at NSTec, and with Tran and LLNL's participation, configured it for an experimental setup—its first debut as a diagnostic.

Howard and La Lone developed a thorough analysis routine and provided the entirety of the data analysis to the WCI. WCI works to establish a science-based understanding of nuclear weapons performance and assesses the safety, security and reliability of the stockpile each year. WCI integrates its science, technology and engineering services and its facilities with the work and facilities at other laboratories within the NNSA Complex.

The awards took place at the Design Physics Division Spring Fling Ceremony May 11 in Livermore, Calif.

Congratulations to the NSTec team members!



Left to right: Vu Tran, Marylesa Howard, Corey Bennett (LLNL) and Natalie Kostinski (LLNL) display their WCI awards.

NNSS Buildings are Keen to be "Green"

The Nevada National Security Site (NNSS) has been recognized by the National Nuclear Security Administration (NNSA) for seven "green" buildings that conform to environmental standards.

The NNSA awarded High Performance Sustainable Building (HPSB) plaques to these NNSS "green" buildings, viewed at: <http://nnsa.energy.gov/blog/seven-nnss-buildings-achieve-high-performance-sustainable-building-status>.

- Administration Building B3
- Nevada Support Facility
- Fire Station 1
- Fire Station 2
- Trades Shop Building 6-906
- Metalworkers Craft Shop Building 6-908
- Warehouse Building 23-160

These buildings earned the HPSB status by meeting 28 distinct performance requirements in the areas of energy, water and waste reduction, as well as tenant health and comfort.

The NNSS remains committed to meet federal sustainability goals in the design, construction, maintenance, operation and management of its facilities.

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or follow us on Twitter: www.twitter.com/NNSANevada

DOE, NNSA Dignitaries Visit the NNSS, Labs

By *OneVoice* Staff Reports

In May, dignitaries from the Department of Energy (DOE) and the National Nuclear Security Administration

(NNSA) visited the Nevada National Security Site (NNSS) and its outlying offices.



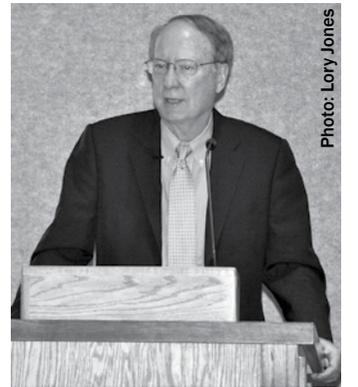
Left to right: Keith Harlow, associate deputy director, Department of Energy (DOE) Office of Intelligence and Counterintelligence; Monica Sanchez, acting deputy assistant manager for National Security, Nevada Field Office; Dr. Sherwood-Randall; Melissa Hunt, director of National Security Technologies' Global Security Directorate; and Steve Black, director, DOE Office of Intelligence and Counterintelligence.

In California, Deputy Secretary of Energy Dr. Elizabeth Sherwood-Randall visited the Special Technologies Laboratory (STL) in Santa Barbara, Calif., to learn about STL's technical capabilities and areas of mission support. She also held an all-hands meeting, where she praised lab employees as "silent patriots . . . [who] directly support the men and women at the pointy end of the spear of America's national security, defense and intelligence communities. We—and they—thank you for it."

In Nevada, NNSA Administrator Frank Klotz (right) began his visit by holding an all-hands meeting at the North Las Vegas Facility. Klotz presented service awards to several longtime federal and Centerra-Nevada employees, as well as recognition to the Nevada Field Office, National Security Technologies and Centerra-Nevada for their joint efforts on the Automatic Transfer Switch project. He then spoke about the NNSA's fiscal year 2017 budget request and answered employees' questions.

The following day, he visited the Remote Sensing Laboratory-Nellis and the Site, where he was briefed about current programs and capabilities.

Several photos are available on his Twitter feed, @FrankKlotzNNSA.



"At a Glance" Safety Initiative

Continued from page 1

there is a full pocket across the back, large enough to house drawings, clipboards, notebooks, and any other small tool required for the job and therefore freeing up the workers' hands. "The vests are that beneficial," Fink said. You will even see Fink proudly wearing his vest walking around the North Las Vegas grounds.

The Lead-in Line project is also rolling out an "At a Glance" initiative. The purpose of this is to help facilitate the quick-answering of questions for workers. "At a Glance" workers in white hard hats can identify leadership in blue hats, safety representatives in green, and visitors in florescent yellow. Names and directorates in reflective tape on the hard hats are also key elements of the "At a Glance" initiative. This effectively provides enhanced visibility in low-light work evolutions.

Lastly, the Lead-in Lines project, along with Safety & Health, is opening dialog with the craft to drive innovation in safety and process improvement. For instance, the team is exploring the use of bump caps as Personal Protective Equipment (PPE) in certain approved applications and situations. Bump caps are for use in close-fitting spaces where a traditional hard hat is not optimal for the worker's comfort and protection. They resemble a traditional ball cap with a short brim. The outer skin is covered with a soft material with a rigid liner that acts to protect the head against bumps and



Bump caps will assist workers in avoiding bumps and cuts when required to work in small, constricted areas.

cuts. Bump caps are also brightly colored so the wearer can be better seen. The caps were originally developed by the aircraft industry for use in building and repairing aircraft in small, tight spaces.

The safety initiatives are offshoots of the Collective Expectations for Safety Excellence and Continuous Improvement program implemented in 2015.

"These 'safety conscious' efforts target the whole workforce, not just staff. Senior management has an investment in employee safety, of course, so they have gone forward with some of their tenets. These include fostering an environment where people can get work done safely, compliantly, productively and



in an environmentally protective manner. Be visible in the field. Communicate with the workforce. Ensure successful completion of mission in a safe and compliant manner. These help the craft maintain situational awareness, take pride in their work and workplace, and be their 'brothers' and sisters' keeper'—some of the many desired outcomes mentioned in the Collective Expectations program that have now become real," said Mike Kinney, Occupational Safety and Health manager.

"We're being progressive in implementing better safety tools for improved safety habits. We're showing that we appreciate the many issues our craft face every day in their jobs," added Fink.

Advisory Board Lays Out Recommended Budget Priorities

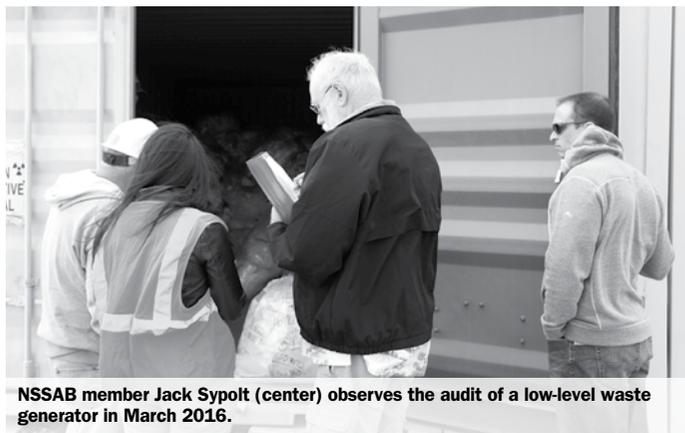
By Dona Merritt

During the Nevada Site Specific Advisory Board (NSSAB) meeting recently, members served well into the night in order to provide the Nevada Field Office their recommendations on the funding priority for Environmental Management activities in fiscal year 2018. While it might seem a little early, the input of this hard-working group of Southern Nevada residents will be considered both locally and by leaders at Department of Energy (DOE) headquarters when submitting the federal budget request—a process that begins two years in advance.

Nevada Field Office (NFO) representatives provided technical briefings to the Board, describing the nine major activities planned for fiscal year 2018. The tasks include characterizing contaminated groundwater, conducting environmental restoration at contaminated soils sites on U.S. Air Force controlled land, and disposing waste. The Board listened, discussed and evaluated how funding should be allocated.

Throughout the evening, the Board asked key questions regarding risks (to the public and if tasks were not conducted), how prioritization would impact the efficient use of taxpayer dollars, and equity in funding. NSSAB Chair Donna Hruska said, “The Board has brought up on a national level at our Chairs meeting... that because we [NNSS] take the waste from the other sites that we should be elevated in importance and, therefore, in budget.”

Though it was not an item for budget prioritization, NFO Environmental Management Assistant Manager Scott Wade noted that the budget request to President Obama included funding for community and regulatory outreach for the State of



NSSAB member Jack Sypolt (center) observes the audit of a low-level waste generator in March 2016.

Nevada and coordination with Native American tribes.

After tallying the votes, the Board recommended disposal operations at the Area 5 Radioactive Waste Management Complex as the highest budget priority. The Board ranked annual groundwater sampling as the second highest priority, followed by groundwater characterization activities at Pahute Mesa. Characterization and closure of contaminated soils sites on U.S. Air Force land adjacent to the NNSS ranked sixth in priority above tasks planned to support Yucca Flat and Rainier Mesa groundwater characterization and closure.

Board member Edward Rosemark remarked that groundwater characterization of Pahute Mesa is a “top priority because it affects the local environment, and a whole lot more.”

Learn more about the planned Environmental Management activities for fiscal year 2018, the formal recommendation made, general information on the Board’s members, meetings and more by visiting: <http://www.nv.energy.gov/nssab/default.aspx>.



NSSAB Chair Donna Hruska leads discussions during a recent meeting.

HFC Gets “Feed”back from Customers

By Nicole Soto

Housing, Feeding and Custodial (HFC) is getting an idea of what people like and don’t like about the food services at Mercury Cafeteria and the Bistro at the Nevada National Security Site (NNSS). HFC has implemented its first “Show on the Road” to gain valuable feedback from customers, as well as spreading awareness on their menu cycle and promotional items.

In April, HFC kick-started their “Show on the Road” by visiting seven departments at the NNSS through focus group sessions. HFC asked: Why don’t some people eat at the cafeterias? What can HFC do to gain more business from them? “We were letting people know what we do and what services we provide them,” said HFC Manager Mike Madrid. In these focus group sessions, “they’re hesitant to talk, then after a while, they get comfortable.”

These focus groups told Feeding what they’re doing well and what could be improved. So far, the feedback has been helpful. “We want to make sure we’re doing the best to provide options for them,” Madrid said.

A factor possibly impacting the number of people who eat in the cafeterias is a lack of knowledge about the menu and the promotions offered. Madrid finds that a lot of people are unaware that there is a six-week menu cycle. HFC offers holiday specials as well as blue plate specials—\$5 meals that include a drink and a side.

“We just recently implemented five new entrée items. We’ve got good response. We ran all of them just recently, but most people didn’t know,” Madrid said.

After all these years that HFC has served the NNSS, it may be refreshing for employees to know that HFC still cares. Interchangeable poster boards in buildings throughout the Site reflect the day’s menu. There is even an email club for people who want to sign up. Just contact Madrid at MADRIDMA@nv.doe.gov.

In the future, there will also be an online survey available for people to give feedback. Madrid says people can email him if they have any ideas or concerns.

NvE Calendar of Events

- July – Family Days at the National Atomic Testing Museum.
- July 26 – 7th Annual Groundwater Open House, 4-7 p.m., Amargosa Community Center, 821 E. Amargosa Farm Rd., Amargosa Valley, Nev.
- Aug. 9 – North Las Vegas Blood Drive

Photos: Marc Klein

Open House Celebrates

By Lory Jones

Almost 600 Nevada Enterprise employees and their families lined up early in the morning May 7 to tour the Nevada National Security Site (NNSS), celebrating its 65 years in existence.

Undeterred by the threat of thunderstorms, everyone showed up at 6 a.m. on a dark Saturday morning. They picked up their commemorative badges and their information bags in Bldg. B3 at the North Las Vegas Facility (or in Pahrump, Nev., where many live), then filed onto 12 buses.

Exhibits and demonstrations, held in the expansive bay area at Fire Station 1 in Mercury, highlighted fascinating displays of Centerra-Nevada's weaponry and vehicles, scientific experiments, infrastructure drilling and facility improvements, wildlife, mine rescue and many others. Attendees also toured the Operations Command Center, an emergency center open 24/7 that serves the National Nuclear Security Administration Nevada Field Office (NNSA/NFO) sites and facilities.

After lunch at the Mercury Cafeteria, they boarded buses again for a tour of the Site's forward areas. This included Frenchman Flat where several atmospheric nuclear tests were conducted in the 1950s; Area 5's Radioactive Waste Management Complex; U1a/U1h Complex; Icecap; iconic Sedan Crater; the T-1 Training area; and the historic Apple II houses.

The rainstorm did happen after all, closing off the Apple II houses and Sedan Crater tour for some of the buses. Despite the foul weather, everyone seemed to enjoy themselves. When they returned to work the following week, employees were surveyed about their favorite part of the tour. The majority of those who answered said, "Showing my family where I work." Indeed, the NNSS is a unique place to work.

Photos: Lory Jones, Ari Rosenberg



Brad Janota is holding a fiber optic cable in a yellow casing (right) that will replace the thicker, older copper wiring (left). Janota is a key team member supporting the Site's consolidation strategy/plan, including support for the Site's anticipated new infrastructure — replacing a variety of aged buildings with moderate-sized, state-of-the-art facilities.



Matt Miele (left) from Occupational Medicine tests this young man's grip. He explained why grip strength is important and how to increase grip strength. Attendees also had the chance to have their blood pressure taken and spin for a prize.



Derek Hall (left) is the Site's wildlife expert. On display are a few of the many wild animals that roam the Site.



Susan Kelley (left), Kathryn Miller and Marcus Brown prove that "cool people do cool stuff in the Nuclear Operations Directorate" with their giveaway sunglasses.

the Site's 65 Years



Lorayne Kennel and Dan Clayton came from New Mexico Operations to display their projects at the Los Alamos and Sandia offices.



Jeff Wurtz (right) uses a "slice of Earth" model to demonstrate how groundwater relates to and is affected by community resources and the natural water cycle.



During the mine rescue demonstration, mine rescuers Justin Putman (standing, left), Ruben Vallejo, Tyrone Knox and Marcy Villanueva apply a self-contained breathing apparatus to an "unconscious" dummy.



Centerra-Nevada's Daniel Sands explains the capabilities of this Bearcat armored vehicle and its purpose at the NNSS.



The Feeding department keeps the food line humming in the Mercury Cafeteria, where everyone picked up their pre-ordered meals.



After lunch, it's time to head back to the buses for a tour of the forward areas.

NSTec Employees Honored with President's Awards

By *OneVoice Staff Reports*

During his recent all-hands meetings, National Security Technologies (NSTec) President Jim Holt recognized employees with his President's Awards for doing outstanding work. *Photos: Kirsten Kellogg, Nancy Holt*

Institutional Visits' Tour Historians

NSTec's Institutional Visitors Program continues to be a significant contributor to the Nevada National Security Site (NNSS) public affairs and outreach effort. During fiscal year 2015, the visitor program helped plan and coordinate 214 visits involving 3,022 participants. It successfully supported a number of high-level Department of Energy and National Nuclear Security Administration visits to the Site. Without these historians, NSTec would not be able to host the large number of programmatic and public tours that it does. These tour historians are extremely knowledgeable about the Site from a historical perspective as well as current missions and programs. The Site relies heavily on their expertise and asks them to conduct tours regularly, and sometimes at the spur of the moment.



Left to right: Kevin Kinter, Richard Ivy, Richard Reed, Ernie Williams, Robert Keller, John Spahn and Holt. Not pictured: Dario Luna.

Executive Office Support

Jeff Lewis (center, below) was awarded for his outstanding support to the Executive Office of the President. Lewis has been extremely helpful with the many high-level NNSS tours requiring Executive Office presence, as well as "other duties as assigned." He is very knowledgeable about the NNSS and can be consistently counted on to assist when needed. Many visits would not be successful without Lewis' help and willingness to serve as an escort. Posing with Lewis are Operations Vice President Roy Bridges, Program Integration Vice President Raffi Papazian and Holt.



Urchin Team

Urchin is a compact, ultra-low-power hardware platform that provides platform flexibility at extremely low power. Developed by Special Technologies Laboratory's site-directed research and development team, Urchin integrates energy harvesting, microprocessor interpretive power, and low-energy communications with ultra-low chemical (and other) sensors. Operating without a battery, Urchin lies in wait. Once the material of interest is detected, Urchin "wakes up" and assesses the situation. If Urchin determines it is important, the gathered information is reported to a Bluetooth-enabled device. Urchin enables semantic sensing and is the bridge between sensors and a useable device. For the first time, persistent stealthy monitoring can be deployed into denied areas, with situational information wirelessly communicated upon signal detection. When Urchins form a semantic network, they can alert personnel to verify or act on detected threats, protecting lives and property.



Sashi Ono (above), a subcontractor, with Melissa Hunt. Not pictured: Stephan Weeks and James Kornell

Electrical Precautionary Check

Robert Taylor, Tom Wardrop and Jack Woods (in Hawaiian shirts, left to right) were honored for performing a contingency electrical check on a lockout/tagout (LO/TO) and preventing potential injuries. On Dec. 1, 2015, while performing a maintenance work package, electrical energy was discovered before replacing anchor bolts that secure the PVC fabric cover for an Area 5 building. Per the Type III work package, a single-point and single-source LO/TO was installed. An absence of energy verification was performed on the panel to bring the building to cold and dark status. However, before drilling into the concrete to replace various anchor bolts, Taylor, Wardrop and Woods, along with Area 5 Environmental & Waste Management ironworkers, performed a precautionary check by plugging the drill into a nearby outlet. The drill had power. The workers stopped, immediately notified supervision and a Stop Work was initiated. During the manager's meeting on Dec. 2, the ironworker foreman explained that, although the panel was under LO/TO, since he did not witness that work himself, he preferred to perform his own contingency check to ensure the building was cold and dark. This thought process is one that has been instilled in the workforce to work safely and with deliberate speed.



Industrial Waste Plant Fire Support

Marcee Raymer, Lee Stahl and Bill Nicosia (not pictured) were recognized for their support to the state of Nevada following a fire at a plant in Beatty, Nev. On Oct. 18, 2015, a fire broke out at U.S. Ecology, a plant that processes hazardous and radioactive waste in Nye County, Nev. Although no radiation was detected from fly-overs and ground testing, there was concern about the fire's source within the closed low-level waste cell and the impact this incident could have elsewhere. The state of Nevada requested NNSA's assistance to further investigate the incident. The Nevada Field Office (NFO) contacted several NSTec subject matter experts (SMEs) on criticality, radiation monitoring and safety/security for both records review and field support. Raymer from Emergency Management, Safeguards & Security, Stahl from Nuclear Operations, and Nicosia from Environmental & Waste Management, supported this effort. All three employees received recognition from NFO Deputy Manager Carol Sohn, who also participated in the team and had daily interactions with the SMEs. Sohn's recognition expressed appreciation for the professionalism and timely support providing critical information to the state and U.S. Ecology. This support required a great deal of these individuals' personal time and commitment. In addition, the State recognized the superb level of support which will continue to positively impact relations with Nevada in the future.



Marcee Raymer (in left photo) and Lee Stahl (right photo). Posing with Stahl are NSTec Nuclear Operations Deputy Director Ron Piburn (left) and Director Chip Martin.

NSTec Mathematicians Partner with Universities to Solve Data Analysis Problems

By Marylesa Howard and Aaron Luttmann

When transitioning from college to career, one of the biggest challenges students face is learning how to take what they were taught in the classroom and transform that into skills for solving real-world problems.

Addressing this challenge for math students, the National Science Foundation and the Mathematical Association of America (MAA) began the Preparation for Industrial Careers in Mathematical Sciences (PICMath) program. This program helps college and university professors design courses for math students that are focused on solving real problems provided by industrial partners.

Defense Experimentation & Stockpile Stewardship (DE&SS) has a long history of strong academic

partnerships. DE&SS' Signal Processing and Applied Mathematics team, which includes Marylesa Howard and Aaron Luttmann, is active in the MAA. So it was no surprise when PICMath Director Dr. Suzanne Weekes of Worcester Polytechnic Institute in Massachusetts asked Howard and Luttmann to get involved right away when the program began.

With the support of Vice President of Program Integration Raffi Papazian (formerly DE&SS director), Luttmann and Howard partnered in spring 2015 with a PICMath student team from Winona State University in Minnesota. The project was so successful that the PICMath director invited Howard to speak at the annual PICMath faculty workshop at Brigham Young University in Utah. Luttmann served as a project reviewer for 12 other industry university projects.

In the program's second year, NSTec was asked to submit two projects for PICMath teams. Howard is now collaborating with students from Lee University in Tennessee on a project titled, "Broadband Laser Ranging Diagnostic Analysis." Luttmann is collaborating with students at Elon University in North Carolina on a project titled "X-ray Imaging Performance Analysis." Both teams are working with real, non-classified NSTec data and developing data analysis techniques. During the



NSTec Senior Scientist Marylesa Howard presented mathematical research to undergraduate math students during a colloquium at Lee University.

semester, Luttmann and Howard have regular conference calls with the university teams to answer students' questions. By the end of the semester, the teams will have submitted to NSTec and the PICMath program a report on their accomplishments. Their work will also be presented at the Society of Industrial and Applied Mathematics annual meeting in Boston this July.

NSTec's PICMath partnership continues, with Luttmann speaking at the PICMath faculty workshop at BYU held this spring. He is, once again, a project reviewer for the entire PICMath program.



NSTec Principal Scientist Aaron Luttmann (left) at Elon University with (left to right) PICMath students Kelly Reagan (Midlothian, Va.), Emily Swanson (Mahtomedi, Minn.) and Nathan Pool (Pittsburgh, Pa).

Courtesy photos

SPE-5 Successfully Conducted

By *OneVoice* Staff Reports

On April 26, a team led by the Nevada National Security Site (NNSS)'s Global Security directorate successfully detonated the fifth experiment in the Source Physics Experiment (SPE) series, called SPE-5.

SPE-5 was the largest SPE shot to date, and the seismic signals generated were about five times larger than previous SPE experiments. It revealed new details about how seismic waves are generated from explosions and how they travel great distances.

It is important that the United States has the capability to monitor the globe for clandestine nuclear explosions. Sometimes for smaller explosions, it can be difficult to differentiate an explosion from natural seismic activity, such as earthquakes. SPE shots are designed to provide the research and development community with data required to better understand the signals generated from small explosions in comparison to earthquakes and other signals.

SPE shot execution represents a collaborative effort across the National Nuclear Security Administration complex. National Security Technologies is responsible for the test bed development, maintains the seismic network (with the University of Nevada, Reno), lowers the canister into the hole and stems the charge. Lawrence Livermore National Laboratory is responsible for designing the explosive canister, detonating the shot and fielding several diagnostics. Sandia National Laboratories provided diagnostic and engineering support to SPE campaigns. Los Alamos National Laboratory designed the confinement plan and provided



Courtesy photo

diagnostics as well. The laboratories and the NNSS share the data and conduct the research required to meet the project goals.

Multiple directorates also participate in SPE, including timing, firing and diagnostics support from Defense Experimentation & Stockpile Stewardship, construction support from Operations & Infrastructure and facility support from Nuclear Operations.

Ashley Isaacs, project manager for SPE, noted that "while SPE is a challenging project with many aspects that must be closely monitored, it is all worth it to see the excitement on the scientists' faces when they see the shot has detonated and produced their data."

Because the shot had a larger yield than previous shots, it generated more data. Said Bob White, diagnostics coordinator for SPE-5, "There were over 2,500 channels of data deployed for SPE-5, which is about five times more channels than we've had for any previous SPE shot." The data from these channels are excellent with a high-quality return rate greater than 95 percent.

The success of this experiment was the result of the hard work of more than 350 scientists, engineers and technicians, four small businesses, three national laboratories, a university and a Naval warfare station.

The SPE team has already started working on their next shot: SPE-6 will be the final SPE explosion conducted in hard rock (granite).

First TRF-200 Class Graduates

By *Roxie Frehner*

Centerra-Nevada is extremely proud to announce the graduation of its first Tactical Response Force-200 (TRF-200) Special Response Team class since 2010.

At the recent graduation ceremony, Centerra-Nevada General Manager Martin Glasser presented Roger Proehl, the lead instructor, with a commemorative Centerra-Nevada coin for his outstanding contribution to the team. Glasser also recognized Security Police Officer III (SPO) Bryant Craig, who received the Top Gun Score Award, scoring 399 out of 400 possible points.

In his keynote speech, Nevada Field Office Manager Steve Lawrence thanked and congratulated the graduating class for their hard work and commitment.

This class was comprised of more than 74 years of military experience with previous service in the U.S. Army, Marine Corps and Air Force, and military occupations that included infantry, military police, security forces, amphibious assault, combat arms training and Special Forces. The graduates completed more than 200 hours of extensive training in weapons, tactics and other specialized subjects and endured an exhaustive and rigorous training program.

Congratulations to these outstanding individuals.

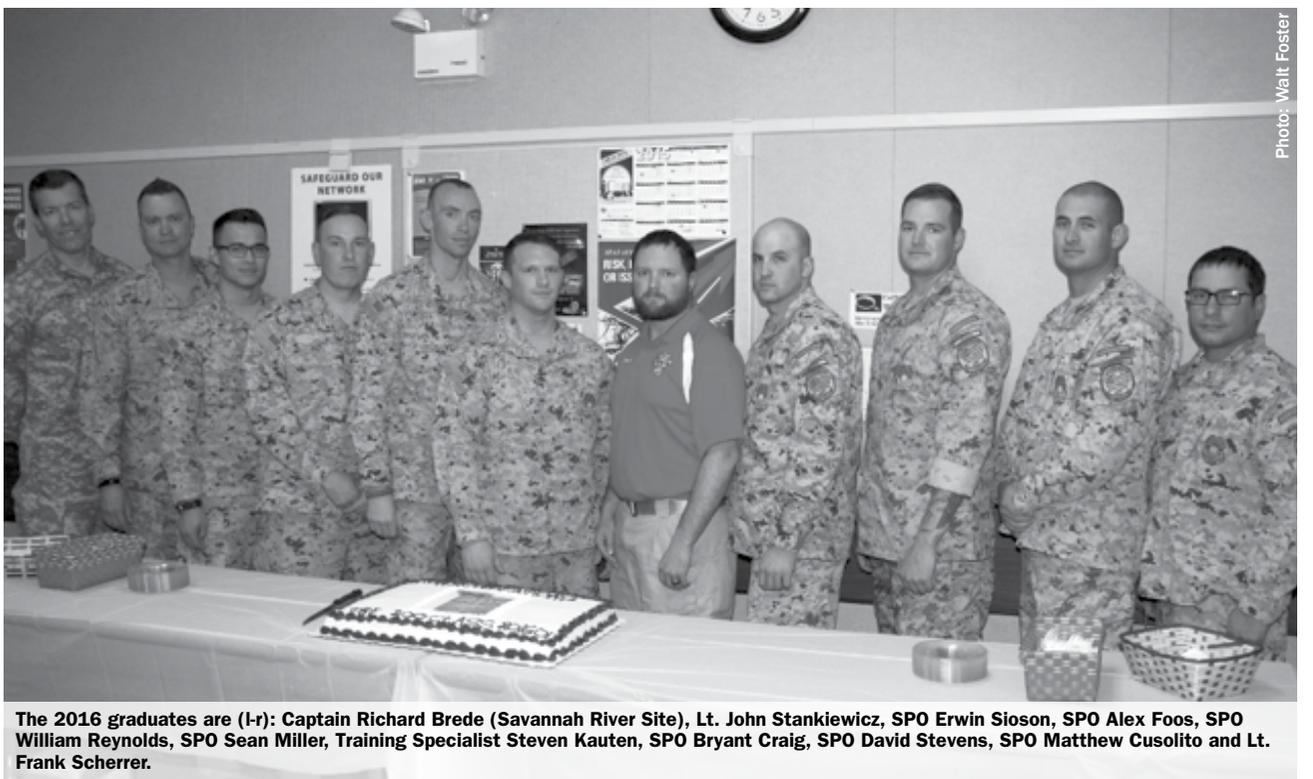


Photo: Walt Foster

The 2016 graduates are (l-r): Captain Richard Brede (Savannah River Site), Lt. John Stankiewicz, SPO Erwin Sioson, SPO Alex Foos, SPO William Reynolds, SPO Sean Miller, Training Specialist Steven Kauten, SPO Bryant Craig, SPO David Stevens, SPO Matthew Cusolito and Lt. Frank Scherrer.

Safety Walkabouts Revealed Improvements, Good Processes

By Lory Jones

During the first quarter of 2016, National Security Technologies (NSTec) had a series of tripping incidents that resulted in abrasions and stiches—even surgery for a broken bone. The Occupational Safety and Health (OS&H) Division encouraged NSTec managers to conduct a “Safety Walkabout” of their areas with members of their organization. During the walkabout, personnel accompanied their manager to identify potential process improvements as well as facility conditions that could be improved.

“These Safety Walkabouts were informal in nature,

did not require the use of a checklist or completion of any forms, and participation was not mandatory. The goal of these Safety Walkabouts was to further enhance awareness of the work environment, strengthen working relationships with organizational personnel, and reduce potential hazards in the workplace,” said Mission Assurance & Safety (MAS) Director Al Rubalcaba, who oversaw the walkabouts.

What the Teams Found

After completing the walkabout, each manager generated an email summarizing results, including number of participants, items that were observed, and overall impression of the process.

Nuclear Operations Directorate Manager Marcus Brown and his team conducted their safety walkabout at the U1a Complex. He was accompanied by Mark Hopkins and Chris Forbes, both senior nuclear facility operations specialists there. Brown also met with Safety Specialist Lauren Patrick.

Wrote Brown in an email to OS&H, “This attention to a Safety First philosophy was evident during the course of the entire walkabout. Miners and operators made sure that non-miner (visitor) personnel were informed of all potential hazards in the immediate work area. The housekeeping is outstanding. . . All issues identified during the walkabout were promptly addressed. The safety culture at the U1a Complex facility is remarkable.”

As manager of Quality Control and Calibration Services, Glenda Cates led her walkabout with Aaron Kramer, Patrick Dixon, Steven Frey Jr., Marty Reynolds and Russ Walker at the Standards & Calibration Laboratories in Bldg. A13 at the North Las Vegas facility. Concurrently, John Wagner, supervisor of the Welding, Inspection & Testing group, performed his walkabout in the Materials Testing Laboratory in Bldg. 23-190 in Mercury with Steve Lemme, senior quality control inspector.

They found tripping hazards from cords, clutter, lack of space for the measuring and testing equipment, equipment that needed to be pushed further back into their places, a partial plug-in, and a compressed gas bottle valve that was not fully turned off.

“It was interesting to find and correct all of these items in about 15 short minutes. We shared our findings the next morning and encouraged others in our group to look around their work spaces . . . and fix them,” Wagner wrote in his report. As for the measuring and testing equipment, Cates said, “This issue has been elevated to senior management and is being addressed in the Pillars [for operational excellence].”

Remote Sensing Laboratory-Andrews Operations Manager Dennis Dugan and captain pilot Tim Rourke, a safety representative there, conducted their safety walkabout March 2 in their office/deployment building. As they went through the facility, Dana McCoy, Kathy Meade and Jacqueline Beckvermit accompanied them through their areas.

Some of the issues they found: a personal space heater connected to a power strip; cardboard boxes near electrical outlet; items sitting on top of the overhead cabinets with doors that slide upward; and no stop signs or signage to proceed with caution at a parking lot intersection. All of these safety issues were either corrected immediately or were noted for further action.

“All of the participants have a higher degree of safety awareness now and will keep an eye on their areas,” said Dugan. “On-the-spot corrections were made and Tim Rourke created a list of things we and our facility team will follow up on.”

MAS awarded Brown, Cates and Dugan \$500 for their efforts. Team members received a \$25 Great Catch award for their participation. Award recipients were recognized by members of NSTec’s President Safety Committee.



Photo: Michael Rickard

Left to right: Chris Forbes, Marcus Brown and Mark Hopkins

Centerra Donates to Local School

By Roxie Frehner

“Sometimes it’s the small things that we do that can have a huge impact on the lives of those around us.” ~ Anonymous

Recently, Centerra Group LLC, represented by Centerra-Nevada staff, donated \$5,000 to their Business Focus School Partner, Jacob E. Manch Elementary School, and principal Anthony Nunez.

Nunez said that he is extremely grateful for the continued support of Centerra-Nevada and the generosity of the gift. The school will use the funds to purchase new computer equipment for the students. Nunez said

he was also pleased with the school’s recent improvements and the many accomplishments made by the entire school faculty and students to help define their Leader in Me program.

J.E. Manch Elementary School supports approximately 900 students from pre-kindergarten to fifth grade with 43 full-time teachers.



Courtesy photo

Front row, l-r: Centerra-Nevada General Manager Martin Glasser presents a \$5,000 check to Principal Anthony Nunez. Next to Nunez are Centerra-Nevada’s Roxie Frehner, Trudy Rocha and Bobby McGregor; back row: Scott Damron, Hugh Holland and William Colley.

Tribal Connections to NNSS Could Aid Revegetation Efforts

By Kaylyssa Hughes

To help revegetate the complex terrain of the Mojave Desert, the Department of Energy's Environmental Management Program at the Nevada National Security Site (NNSS) is reaching out to the people who know the land the best.

Representatives from the Consolidated Group of Tribes and Organizations (CGTO) were asked by the Nevada Field Office (NFO) to develop recommendations on how to revegetate 92 acres of land at the NNSS Area 5 Radioactive Waste Management Complex. Area 5 is a facility dedicated to the permanent disposal of low-level and mixed low-level waste generated primarily by environmental cleanup activities at Department of Energy facilities across the United States.

NFO attempted to revegetate portions of the acreage three times between 2011 and 2015. All attempts failed despite irrigation, varying seeding

methods and use of mulch. No issues were found with seed quality when tested, and there are no contaminants present in the top soil at Area 5.

Currently, the site is a bare landscape with a few weeds growing under the irrigation equipment. In stark contrast is the nearby natural vegetation, with its variety of mature shrubs and desert grasses. After the failed attempts at seeding the area, those working on the project considered transplanting the healthy flora.

Instead, the NFO is hoping to incorporate the knowledge and wisdom gained from traditions and practical skills passed down among tribal groups for thousands of years.

The six chosen CGTO members represent three broad ethnic groups: Southern Paiute, Western Shoshone and Owens Valley Paiute. Two members from each group will work on the project along with CGTO spokesperson Richard Arnold and ethnobotanist Dr. Jeremy Spoon of Portland State University Department of Anthropology.

Arnold agrees they are the right group for the job: "The land is out of balance... and the only way that can be corrected is with tribal intervention. That's why [the CGTO] is involved. We have a cultural responsibility and serve as the voice of the land."

Representatives from the CGTO met with the NFO staff to discuss the project on March 25 during the first of three planned meetings on the topic. The NFO presented information to the CGTO representatives on past revegetation attempts, as well as details of the disposal cells construction



Representatives from the CGTO listen and take notes during NFO EM presentations on March 25.

and conditions. The presentations inspired questions, in-depth discussions and preliminary ideas from the tribal group.

The next meeting, which will include a visit to the NNSS, is scheduled for June. Visiting the Site will be integral to the CGTO's recommendations. "It's important for tribal people to see, feel, communicate and interact with the land," Arnold said. As they prepare for the meetings in June, the CGTO representatives will consider the information presented in the first meeting, conduct research and review existing ethnographical literature.

The project is the first time NFO is separately funding tribal activity. According to Scott Wade, assistant manager for Environmental Management at NFO, this demonstrates a commitment to provide for greater involvement from the tribal groups.

Arnold believes this commitment goes both ways, saying that the tribal groups and NFO should come together on issues concerning the land. "We need to be all on the same page, singing the same song," Arnold says. "Only then will the land hear our message and begin to heal."

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Photos: Grant Bowler (DRI), Colleen Beck



Left to right: Jeremy Spoon, Ph.D., Portland State University; Maurice Frank-Churchill, Duckwater Shoshone Tribe; Michael Clifford, Ph.D., Desert Research Institute; Ross Stone, Big Pine Paiute Tribe; Kenny Anderson, Las Vegas Paiute Tribe; Barbara Durham, Timbisha Shoshone Tribe; Alissa Silvas, NNSS; Danelle Gutierrez, Big Pine Paiute Tribe; Betty Cornelius, Colorado River Indian Tribes; Scott Wade, Department of Energy/NFO; Richard Arnold, Pahrump Paiute Tribe, CGTO spokesperson; Kate Barcalow, Portland State University; Colleen Beck, Ph.D., Desert Research Institute.