



# ONE VOICE

April 2015

A Publication for the Nevada Enterprise (NvE) Complex

## Spreading the Word

CTOS leads the way at FEMA training symposium.

See page 4.



## The Answer Is....

Middle School Science Bowl hailed a success.



See page 6.

## Breaking New Ground

NSTec enters groundbreaking science partnership.



See page 8.

# Use Restriction – What does it Mean?

By Marc Klein, Navarro Research and Engineering

Since 1989, the U.S. Department of Energy Environmental Management (EM) Program has been identifying and addressing areas on the Nevada National Security Site (NNSS) that have been impacted by historical nuclear testing. To date, EM has successfully closed more than 1,000 Corrective Action Sites (CAS), all while ensuring the health and safety of workers, the public and the environment.

Use restrictions have played a key part in this success of health and safety.

When a CAS at the NNSS is characterized, appropriate remediation alternatives are determined based on the extent of the radiological or chemical contamination at that site. Sometimes a site – whether it's an abandoned or demolished facility or a former nuclear test location – cannot be remediated and must be left in place with certain restraints. Those restraints are also known as land use restrictions.

"The use restriction at each site specifies what activities may or may not be performed," said Reed Poderis, Environmental Restoration manager at National Security Technologies (NSTec). "A violation of the controls may result in inadvertent exposure to contamination and/or fines from the State of Nevada."

Held by the NSTec Environmental Restoration group under the Real Estate Operations Permit, more than 230 locations on the NNSS are land-

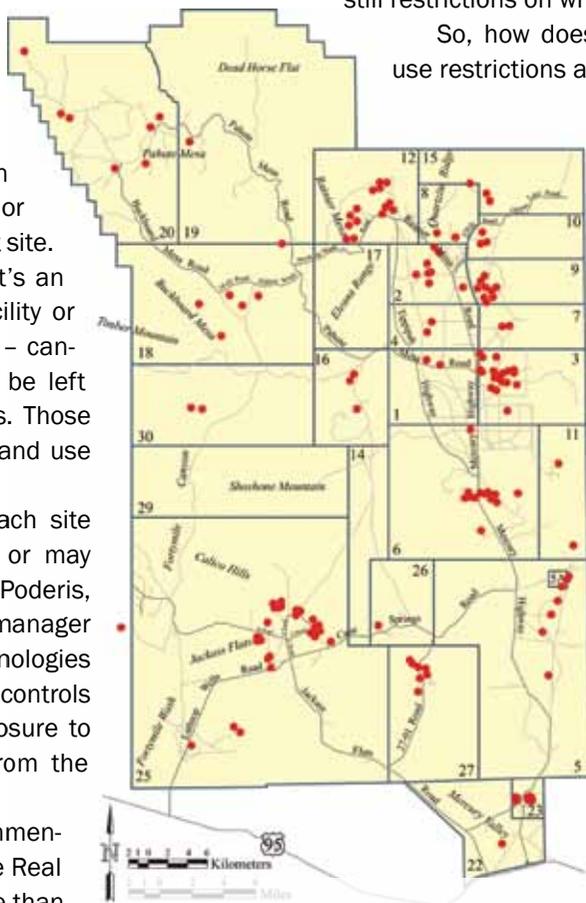
use restricted as a result of contamination that has been left in place. No activities may be performed in these areas without prior approval from NSTec Environmental Restoration, the Nevada Field Office, and in most cases, the State of Nevada. For higher risk locations, warning signs and/or fences are in place at the boundaries of the use restriction. Other areas, based on the level of hazard, are not posted with signs and are safe to walk or drive through. However, there are still restrictions on what activities may be performed.

So, how does one know where all of these use restrictions are located on the NNSS?

There are multiple ways to find out. Staff can look at resources from the NSTec Geographic Information System web service such as the "Known and Potential Hazards" map. One could also work with NSTec Real Estate Services group, which provides support to ensure that the current status of any location is known.

Regardless of the method, it is of the utmost importance that crews know what restrictions apply to a potential work site at the NNSS, if any, before beginning their work. Safety is the name of the game.

"Each site is unique, and no assumptions should be made on what activities may be performed there," said Poderis.



There are more than 230 use-restricted sites (shown as red dots) on the NNSS.

## Scholarship/ Internship Showcase Event Draws Attention of Possible Future NNSS Employees

By Dante Pistone, NSTec

Several University of Nevada, Las Vegas (UNLV) students interested in applying for a new National Security Scholarship attended a showcase event on March 13 at the university. There, they got a first-hand look at the new program, which is funded by National Security Technologies (NSTec). The program also allows for internships with the company.

Sponsored jointly by NSTec and UNLV's College of Engineering, the event featured speakers from the College of Engineering and the College of Sciences along with presenters from NSTec who all spoke about the healthy and growing relationship between the company and the university.

"As a company, we recognize the importance of science, technology, engineering and mathematics education to the national security of the United States," NSTec President Ray Juzaitis told the group. "That's why our ultimate goal is to transition the best and the brightest in engineering, science and math at UNLV directly into the workforce, not only at the Nevada National Security Site (NNSS), but into the federal research laboratories, private industry, government and academia."

He announced that the company will again fund the scholarship program in 2015 for \$50,000, and will fund 10 internships this year as well.



Raymond J. Juzaitis, Ph.D.

Continued on page 5

## NvE Executive's Corner

**Richard L. Higgs**  
**Manager, Joint**  
**Laboratories of Nevada-**  
**Lawrence Livermore**  
**National Laboratory**



The "Labs," specifically Lawrence Livermore and Los Alamos National Laboratories, have a rich past and a promising future at the Nevada National Security Site (NNSS). More than the legacy of underground nuclear testing and winning of the Cold War, the Labs have a true commitment to the NNSS and to the success of everyone and every contractor at the Site. It is truly a shared fate – we firmly believe that it is the success or failure of us all together. But what is the driver behind the commitment and the recognition of shared fate?

The need for experimental data – the ability of the Labs to conduct and manage their own experiments – is a key to the Labs maintaining their core competency as experimentalists. The Site is and always has been the place where experimentation becomes reality and hard data validates (sometimes with surprises) theory, modeling and simulation. The Labs are committed to the Site, not because of small scale lab and or even large-scale high explosives (HE) and laser-driven experiments, but the highly valued integral experiments with HE and plutonium. Also, those other Global Security and Defense Program experiments can only be conducted in the remote areas away from population centers at the NNSS. The Labs have the best and the brightest theorists, code writers and analysts with capabilities to model and simulate the most complex issues, and, in conjunction with the NNSS contractors, we maintain the best and the brightest experimentalists, engineers and diagnostic physicists. It is the combination of theory and experimental data that is the successful basis of experimental achievement and service to our national security needs. Laboratory designed and conducted experiments at the NNSS enable the Labs to maintain their experimental core competency.

We continue to successfully work with integrated teams of highly skilled workers from the Lab, National Security Technologies (NSTec), Centerra-Nevada and all of the other contractors to accomplish what none of the organizations alone could ever achieve. The Labs' major continuing experimental programs are at the National Criticality Experiments Research Center, Joint Actinide Shock Physics Experimental Research facility, and U1a. The current sequence of planned subcritical experiments at U1a is the Los Alamos National Laboratory (LANL) Lyra Series (Orpheus & Leda); LANL Red Sage Series; and the Lawrence Livermore National Laboratory (LLNL) Sierra Nevada Series (Lamarck and Ediza).

As good as we have been, the national need and the goal of the nation is to do more experiments and to develop with our partners at the NNSS new tools, capabilities and facilities for the next generation of experiments. These include exciting technologies associated with high energy multi-pulse radiography, neutron source and other new diagnostics capabilities being developed collaboratively by LANL, LLNL, NSTec and Sandia National Laboratories. Success is built upon success. The more and better we perform, the more we can accomplish – together.

Operation of the site and its extensive infrastructure underpins our ability to conduct these experiments. NSTec has a big task to accomplish this effectively with ever-declining budgets. Every individual who works to operate and maintain the Site is therefore critical to every experiment. The NNSS supports many missions and many customers, all of which must thrive and be successful to meet the nation's national security needs. We are truly a complex system that has many interdependencies required for us to survive and subsequently thrive. This interdependence depends upon every mission, from Navarro Research and Engineering's environmental remediation efforts, to the myriad missions and Work For Others projects

supported by NSTec, and others, all with the generally invisible and always seamless protection of people and assets by the complex's premier Protective Force of Centerra-Nevada.

We are wholly committed to the success of every organization, project and mission. We are all interdependent with a shared fate, yet our single strongest element is being able to work together. Underpinned by cooperation and communication, we are successful. The better we perform, the more we can do and accomplish.

Thank you for your contribution, and let us know how to help you be successful.

**Rick**



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# ONE VOICE

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# Birddog Bark



# OCC Roles and Responsibilities: OCC Duty Manager

By Leigh Guarino-Davies, NSTec

The Operations Command Center (OCC) is a dynamic team led by the "Duty Manager" or "OCC DM." The OCC DM performs a variety of tasks: monitoring access at all facilities of the National Nuclear Security Administration Nevada Field Office (NNSA/NFO); providing after-hours support; notifying incidents such as a minor vehicle accident or severe weather events; and categorizing and classifying operational emergencies.

The OCC DM, located at the Nevada National Security Site (NNS), supports 24/7 operations and serves as a primary point of contact for the NNSA/NFO.

When an incident occurs at our facilities, the OCC is one of the first to receive notification and ensure prompt response. For operational emergencies involving transportation or general facilities, the OCC DM acts as the Local Emergency Director (LED) and is tasked with categorizing and classifying the emergency. If the LED for an Elevated Risk or High Hazard facility is not available, the OCC DM will, if necessary, categorize and classify an operational emergency event. During an emergency, the OCC DM acts as the "quarterback" of the OCC; ensuring smooth operations while decisions are made, enacting protective actions, safeguarding personnel, and sending emergency notifications.

Many of the notifications made by the OCC DM are time-urgent and either emergent or non-emergent in nature. Because life safety is important and equally bound by time urgency, the OCC maintains multiple systems for relaying these notices. Initial protective action requirements during a hazardous emergency may be the most important notification the OCC DM will make. This type of notification uses a system called "GeoCast® Web," a reverse 911 system. With GeoCast® Web, the OCC DM can pre-record a message that delivers to multiple phones in a selected area. This message will provide the appropriate protective action instructions for personnel in the affected area.

For all other notifications, the DM will use a system called "The Communicator! NXT®." The Communicator! NXT® system has the ability to send messages via voice, email or text, and is used to send out weather warnings/alerts, incident notifications, National Response notifications, activation of the Emergency Operations Center (EOC) Emergency Response Organization, and other response teams.

Another important task the OCC DM is responsible

for is NNS area access. The OCC tracks the whereabouts of personnel at our facilities when working alone. The OCC receives radio transmissions, walk-in requests or phone calls requesting permission to enter Controlled Access Areas. Upon receiving a request, OCC personnel must determine whether or not to allow access based on the current scheduled activities at the NNS. When personnel are entering the Controlled Access Areas of the NNS, they must have a radio and/or cell phone. If the requestor does not have such, the OCC has radios for check-out at Building 23-600 in Mercury. The OCC monitors the NNSA radio net using the call sign "Birddog" to track movement into and out of the controlled access areas. All of the information provided to the OCC when accessing a controlled area is logged into a system called WebEOC®. The OCC will use this information in the event of an emergency for accountability purposes.

Day and night, the OCC DM is on-duty to assist with a multitude of additional requests, such as NNS property removal, facility access, field repair and service, and distribution of housing keys. The OCC DM can also provide housing assistance.

Any inquiry you may have, the OCC DM will find an answer because he or she is always available to support, regardless of time or day. Think of the OCC as your "one-stop shop."

So, in times of emergency, or just for the usual day-to-day activities, the OCC team and the duty manager are watching and ensuring safe operations day and night. The OCC team invites you to stop by for a tour, system demonstrations or just to say "hello;" they're in a limited area, located in Building 23-600 in Mercury (blue box). For coordination purposes, please contact Brandon Jautais at (702) 295-4260.

Got questions? Contact Jautais or Donna Whitehead at (702) 295-7155.

## News Briefs

### NSTec Industrial Hygiene (IH) Laboratory Attains Reaccreditation

Congratulations to National Security Technologies (NSTec)'s Industrial Hygiene (IH) Laboratory for earning recent reaccreditation by the American Industrial Hygiene Association (AIHA).

The Department of Energy (DOE) requires that monitoring analysis used for exposure assessments be performed by accredited laboratories. All laboratory analyses of air sampling data must be performed in a laboratory accredited for metals by the AIHA. The NSTec IH Laboratory, located in Mercury, successfully completed AIHA's recent reaccreditation audit, according to the ISO/IEC 17025:2005 (International Organization for Standardization/International Electrotechnical Commission). This is the main ISO standard used by testing and calibration laboratories and is required every two years.

The NSTec IH Laboratory, which has been AIHA accredited since 2008, provides a unique and valuable service to the company. Its capabilities include providing very sensitive specialty metals analysis for the investigation of facilities, work processes, and worker exposures to maximize worker protection and minimize management costs. The lab performs quantitation of beryllium as well as the identification of the source. This is important because natural beryllium from the desert soil poses no significant health risk, but processed beryllium from operational use of alloys and ceramics poses a known health risk. In addition to beryllium, the lab routinely analyzes samples from work activities such as welding, soldering, lead work, health hazard evaluations, remediation and construction activities. These involve analysis for toxic metals such as aluminum, arsenic, cadmium, chromium, cobalt, copper, iron, lead, magnesium, manganese, nickel, yttrium, zinc and others as required. Additionally, the onsite location adds significant value due to the ability to respond to urgent and specialized project needs.

The continued achievement of the ISO 17025-based AIHA accreditation demonstrates the NSTec IH Laboratory's commitment to excellence and continued ability to provide necessary services to support the NSTec mission.



Certified Industrial Hygienist Wayne Word in the IH Lab.

# CTOS Participates in FEMA Training Symposium

By Terry Brooker, NSTec

The Federal Emergency Management Agency's (FEMA) Center for Domestic Preparedness (CDP) hosted the National State Administrative Agency (NSAA) Training Symposium recently, and CTOS was there. CTOS - Counter Terrorism Operations Support - used their instructors and outreach staff to conduct an elaborate demonstration of their capabilities. This included training and networking with representatives from 39 states and four territories, as well as Washington, D.C.

A division of National Security Technologies (NSTec)'s Global Security directorate, CTOS is part of the National Domestic Preparedness Consortium (NDPC) and is one of seven nationally recognized organizations that provide preparedness training for first responders.

"The symposium is designed to educate everyone about the high-quality training that is available - where to get it, how to access it and how the training can be used to improve and increase the safety and security of their communities," said Dr. Karl Kim, NDPC chairman.

The demonstration took months of planning and preparation with radiation control technicians (RCT), logistics personnel and several instructors developing the demonstration. CTOS's Brian Richardson assembled the team from both the New York City and North Las Vegas CTOS offices. Dave Dixon was the responsible RCT for the event, which included responsibility for sources needed for demonstration. Experienced instructors John Brenner, Mario Guerrero, Hank Blackwell and Dave Kao developed the subject matter and talking points as well as the progression of events.

"This is our opportunity to have some fun and employ some theatrical staging to drive home the importance of our training. We want these representatives to return to their states and territories with the idea firmly planted in their heads to get their first responders signed up for CTOS training," said Rhonda Hopkins, CTOS



CTOS Division Manager Rhonda Hopkins presented the "Fukushima Nuclear Power Plant Disaster - Lessons Learned from World Responders." The presentation to the symposium's attendees was based on her experience working the tragedy.

manager.

Lasting nearly two hours, CTOS conducted the demonstration each day during the symposium. They gave an overview on training, target disciplines and cost, and details.

More than 140 State Administrative Agency (SAA) representatives attended the event. SAA reps are responsible for overseeing and managing preparedness training for state and local response agencies. They coordinate all training through the NDPC and must remain fully aware of the threats, hazards and risks that may impact their states.

"We interacted with attendees by engaging in general conversation, answering questions and conducting professional discussions ranging from detection equipment, how and where training can be

provided, exercise support, and additional considerations when developing a response or prevention plan," said Richardson. "The face-to-face time was very beneficial and according to attendees, greatly increased their knowledge of what support is available to them."

CTOS staff split the SAA attendees into groups and issued personal radiation detectors, radiation isotope identification devices and backpacks containing portable radiation detectors. This was the first step in introducing them to the knowledge and skill sets responders gain during CTOS training. The attendees learned some basics on surveying people, places and packages using the steps of the Alarm Response Guide (ARG) for both primary and secondary screening. They learned how CTOS trains responders on types of equipment, the ARG, and the



The Federal Emergency Management Agency's Center for Domestic Preparedness attendees gather at the bi-annual National State Administrative Agency Training Symposium.

combination of knowledge and skills required to address a situation based on everything that needed to be considered in the circumstance. The attendees concluded the prevention mission by validating their success in finding a radiological dispersal device (RDD) located in the mail room of a courthouse.

With the detectors still in hand, the attendees were transitioned to a response mission with the simulated “detonation” of an RDD. The RDD “detonated” and all the detectors alarmed – indicating the explosion had just spread radiological material, creating the injuries, surprise and panic that would result in a real detonation. They learned of the many factors responders must consider during a radiological event. The attendees were then led into a courtroom scenario where the detonation occurred. After identifying possible victims and describing the next level of action for each, the attendees were then introduced

to radiological technical decontamination. To complete the mock experience, the attendees received an out-brief that included instructions for obtaining CTOS resident, mobile and web-based training.

The end result was a success. Throughout the demonstration, the attendees were very attentive and asked many questions. Many of the evaluations said they believed CTOS conducted the best demonstration of the symposium. Others mentioned the explanation about available assets for training and support and that they now have a greater understanding of something they previously knew nothing about.

Since the inception of CTOS in 1998, more than 160,000 first responders and emergency managers across all 50 states and U.S. territories have been trained. This was just one opportunity CTOS has to exhibit capabilities to critical decision makers for first responder training.



Representing CTOS at the information booth are Elsie Gorden-Millender, national CTOS curriculum delivery and master training scheduler, and Randall Whitt, western regional manager.

## Train the Trainer Courses

NSTec's Counter Terrorism Operations Support (CTOS) continues to extend its unique radiological-response expertise to other training venues several times each year.

In its “train the trainer” or TTT courses, CTOS has the unique ability to train participants – that is, future trainers – with Sealed Radiological Sources (SRS). Using SRS enables course participants to experience the manner in which a personal radiation detector, or PRD, would act in response to detection of an actual radiological source. This helps prepare them for their role as primary screeners. They leave the TTT courses with a greater knowledge of the PRD and their important role as a primary screener. Currently the Train-the-Trainer course is only offered at the Nevada National Security Site (NNSS).

In tandem with the TTT training are the Primary Screener PRD (PS/PRD) courses. The first line of defense within our borders is the primary screener, so these screening activities must be conducted with the PRD, as well as other detection equipment. The PS/PRD courses are available to first responders, as well as other public and private

non-governmental personnel.

The PS/PRD courses, held multiple times each month, teach participants how to perform basic Preventive Radiological/Nuclear Detection (PRND) operations. Course participants learn how their job is integrated into the nation's Global Nuclear Detection Architecture's objective to address the threat of terrorist attacks using radiological/nuclear material. The course evaluates participants on knowledge, skills and abilities in their role. Through scenario-based drills, participants are trained to detect, locate and adjudicate potential threats involving people, vehicles, packages and facilities. This course meets the primary core capability identified in the National Preparedness Goal of screening, search and detection, as well as addressing threat and hazard identification.

Many of these PS/PRD courses are offered as a mobile course (a course taken to an outside jurisdiction) to train groups from a hosting agency; many are taught at the NNSS. Often the courses are offered more than once during any given week by CTOS traveling to different locations.

## Scholarship/ Internship Showcase

*Continued from page 1*

Juzaitis noted that this infusion of new talent into the national security mission is more important than ever, given the dramatic changes that have occurred in the nation's security posture in recent years, along with the resulting evolution of the mission of the NNSS.

Rama Venkat, dean of the College of Engineering and Tim Porter, dean of the College of Sciences, both applauded the strong relationship between the company and the colleges. They noted that the university benefits by being able to offer their best and brightest students a real opportunity to gain first-hand experience in their chosen field, along with strong prospects for a job after they graduate.

“NSTec has set a perfect example for how a company can work with the university to create a pipeline for our students to enter the workforce,” Venkat said.

The Deans recognized Mike Mohar, deputy director of NSTec's Remote Sensing Lab at Nellis Air Force Base, and Eric Machorro, mathematician/senior scientist of the Analysis, Software & Drafting department in NSTec's Defense Experimentation & Stockpile Stewardship (DE&SS) directorate, for their hard work and dedication in helping to make the scholarship program a reality.

Shari Morrison, manager of NSTec's Organizational Learning and Outreach, told the group that more of the students who accept the company's scholarship and internship opportunities need to take the next logical step in the process and actually become full-time employees of the company.

Aaron Luttmann, a principal scientist for the company who mentors many UNLV interns at NSTec, told the students not to expect to spend their internship time making photocopies, filing or doing other office tasks. “As interns, you'll be working directly on some very important projects with our scientists and engineers,” he said. Luttmann called out specific fields of work, including radiation detection, seismology, plasma physics and shock physics.

Margaret Cook, NSTec's Readiness in Technical Base & Facilities (RTBF) Critical Skills Program manager, outlined what the RTBF program does to nurture and preserve the technical vitality of the DE&SS program at the NNSS. She said the internship programs, along with the career/professional development programs, the critical skills hiring programs, and the cross-training and advanced training programs, all play an important role in sustaining the knowledge base for the future of the NNSS.

Following the presentations, Juzaitis presented scholarship certificates to the 2014-2015 recipients: Nicholas Banas, Christian Childs, Andrew Poland, Emma Tran and Brianna Yee. Carlos Galvez and Alexandra Miteva also received certificates but were not present.

Feedback from many of the students after the event indicated that they would give serious consideration to applying for the scholarships and internships, and to going to work for NSTec after their education is completed. The showcase was so successful, organizers said it may become an annual event to draw the attention of students and the community to the scholarship and internship programs and the great work being done by both the company and the university.

# Hyde Park Middle School Wins Third Consecutive Science Bowl

By *OneVoice* Staff Reports

For the third consecutive year, Hyde Park Middle School's Blue team defended its Nevada Science Bowl championship, winning the 2015 middle school event held in early March.

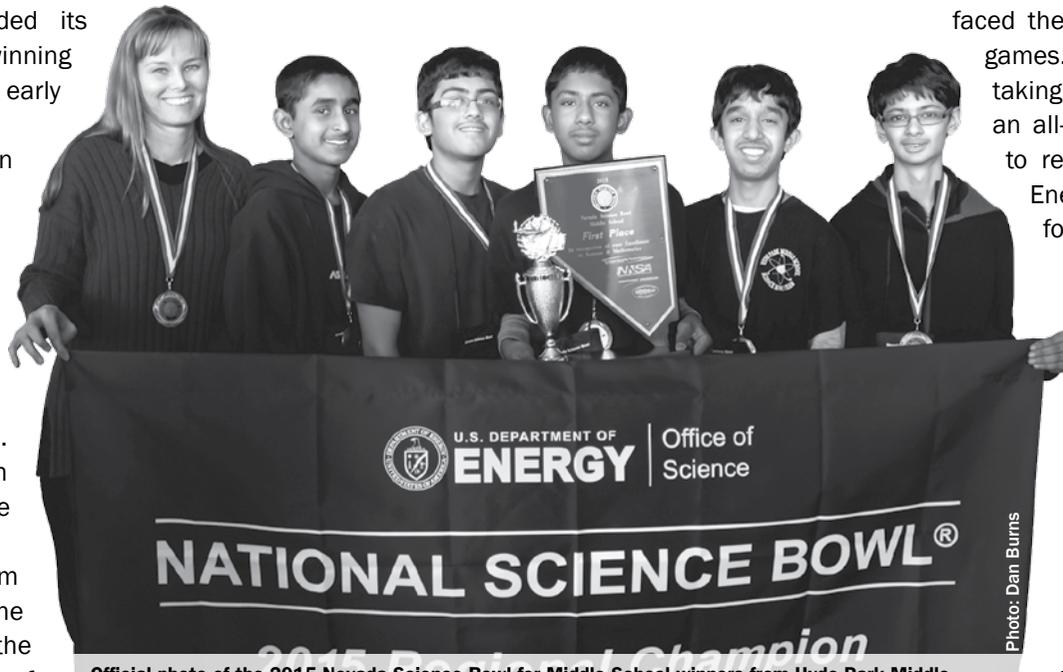
The Meadows School and Roy Martin Middle School, both located in Las Vegas, had their best teams fighting it out for third place. Roy Martin lost a tight game and went home with the fourth place trophy. Meadows then faced the Hyde Park Green team. Hyde Park jumped out to a quick lead and Meadows fought back in the end. However, the Hyde Park Green team was too much and Meadows took the third place trophy.

Hyde Park, still the only school from Las Vegas to advance a team to the double elimination competition in the nationals, faced the envious situation of

having two teams. It was Blue vs. Green. Green's only

loss was to the Blue team, who was undefeated. Green faced the daunting task of winning two straight games. However, Blue won in convincing fashion, taking home the first place trophy and earning an all-expenses-paid trip to Washington, D.C. to represent Nevada in the Department of Energy's National Science Bowl, scheduled for April 30-May 5.

The Nevada Science Bowl encourages and fosters student growth in math and science. Sponsors of the Nevada Science Bowl include: U.S. Department of Energy National Nuclear Security Administration Nevada Field Office, National Security Technologies, Northrop Grumman, Navarro Research and Engineering, U.S. Department of the Interior, Centerra-Nevada, Barrick Gold, Caesars Entertainment, VegasPBS and the National Atomic Testing Museum.



Official photo of the 2015 Nevada Science Bowl for Middle School winners from Hyde Park Middle School (l-r): Amy Wetjen (coach), Vidhu Ramakrishnan, Abhay Nayyar, Ashish Kalakuntla, Moulin Patel and Anik Patel.

Photo: Dan Burns

# NSTec Sponsors Local School in Mock Trial Championship Event

By *OneVoice* Staff Reports

The Mock Trial Purple Team from Advanced Technologies Academy (A-Tech) in Las Vegas turned to National Security Technologies (NSTec) this year to help them advance to the Mock Trial State Championship Competition in Reno, Nev.

NSTec corporate attorney Laurence Irwin has served as one of the coaches and mentors to the high school

students from A-Tech throughout their competition season. The group earned a berth in the State Championship the weekend of March 6-7. They won third place out of eight teams – missing a spot in the championship round by one point.

NSTec also donated funds to A-Tech to help the team travel to Reno. The company has a strong community outreach program and embraced the opportunity to help the students.

A-Tech was also the only team to capture three individual awards: Pablo Cortez (Best Witness), Collin Ermi (Best Witness), and Gabriel Wan (Best Counsel).



A-Tech's Mock Trial Purple Team (l-r): Gabriel Wan, Vivienne Reschman, Sarina Dass, Collin Ermi, Dakota Armstrong (official timekeeper), Pablo Cortez, Jessica Caigoy, A'asia Krieger and Jamie Alexander. Coach Lara Bouchard is not pictured.

Photos: Advanced Technologies Academy



Attorney Laurence Irwin poses with the third place trophy and fellow A-Tech coach Amy Yonesawa, Esq.

## NvE Calendar of Events

- May 2 – NSTec Company Picnic, "Carnival"
- May 16 – City of Las Vegas Corporate Challenge Closing Ceremony, Lorenzi Park, Las Vegas
- May 20 – Nevada Site Specific Advisory Board meeting ([nv.energy.gov/nssab](http://nv.energy.gov/nssab))



# NVE VOICES

## Jeffrey Koch



### Current Position

As manager of National Security Technologies (NSTec)'s Science and Advanced Technology department at Livermore Operations, Jeff is responsible for maintaining and enhancing capabilities and work scope related to stockpile stewardship missions in NSTec's Defense Experimentation & Stockpile Stewardship directorate, as well as career guidance for a team of 11 scientists.

### Career Path (past 10 years)

- Adjunct Professor of Astronomy, Diablo Valley College, Pleasant Hill, Calif. (2013 - present)
- Consultant, Revera Inc., Santa Clara, Calif. (2013 - 2014)
- Physicist and Group Leader, Lawrence Livermore National Laboratory, Livermore, Calif. (1996 - 2013)

### Notables (awards, honors, achievements, published works, etc.)

- More than 200 published professional papers and patents
- Nuclear Weapons Program Award of Excellence, Department of Energy Defense Programs
- Numerous Lasers and NIF (National Ignition Facility) Programs Awards, Lawrence Livermore National Laboratory

### Education

- Ph.D. in Applied Science, University of California/Davis
- Master of Science, Applied Science, University of California/Davis
- Bachelor of Science with Honors in Physics, Michigan State University, East Lansing, Mich.

### Jeff, you're relatively new to the Site mission. Why did you join LO?

"I think it's a great opportunity to make a difference, and help guide LO into new and expanded roles and responsibilities in collaboration with the national laboratories. The national security missions are important to me. And so are the people."

### What was your first impression as a new employee?

"Everyone I met was pleasant, helpful and smiling."

### What do people NOT know about you (special talent, hobby, desire, etc.)?

"I build plastic model cars, motorcycles, airplanes, rockets, etc. as a Zen thing, and I have dozens of finished models around my house."

### What or who inspires you, and why?

"Maybe Elizabeth Fraser (of Cocteau Twins). A gifted singer, she worked tirelessly for years to perfect an art for the sake of art, not for fame or fortune, and didn't let criticism slow her down or stop her from following her own muse."

## Paula Birch



### Current Position

As an Administrative Assistant I for Centerra-Nevada's Safety, Training and Performance, Paula is responsible for providing skilled routine and non-routine administrative support to the director, Safety, Training and Performance and staff.

### Career Path (past 10 years)

- Education Director/Admin. & Finance Team Volunteer, Reconciliation Apostolic Ministries, Las Vegas, Nev. (10/2005 - Present)
- Accounting Assistant, Tangerine Office Systems, Henderson, Nev. (2008 - 2011)
- Accounts Payable Clerk, Santa Barbara Farms Wholesale Florist, Las Vegas, Nev. (2006 - 2007)
- Secretary/ Building Treasurer/Bookkeeper, Elkhart Community Schools, Elkhart, Ind. (1998 - 2005)

### Notables (awards, honors, achievements, published works, etc.)

- Safety Bravo, Centerra-Nevada
- November Staff of the Month, Tangerine Office Systems, Nev.
- Classified Staff of the Year, Memorial High School, Ind.
- Classified Staff of the Year, Elkhart Community Schools, Ind.
- Certificate of Appreciation of Notable Contribution to Bangor Public Schools, Mich.

### Education

- Personal Care Attendant Certificate, Purrfect Nursing Services, Las Vegas, Nev.
- Degree in progress, Accounting AAS, College of Southern Nevada (CSN), Las Vegas
- Certificate in progress, Bookkeeping, CSN, Las Vegas

### Paula, why did you join Centerra-Nevada?

"I wanted a career in a larger company where I could make a positive difference and be proud to support and help progress the mission statement of the company. Centerra-Nevada also provided me the opportunity to work in the area of my background/skills while I am learning the rich history of Nevada."

### What do you enjoy most about your job?

"I enjoy the variety of my duties and I am always learning something new or refreshing what I have learned previously."

### What do people NOT know about you (special talent, hobby, desire, etc.)?

"My husband and I will celebrate 22 years this month, we have a blended family of six children, and I am a grandmother of 12, soon to be 13 in June, and I love it!"



A Publication for the Nevada Enterprise (NvE) Complex

# Isotope Production Agreement to Benefit Medical Patients

By Dante Pistone, NSTec

Medical patients, both locally and potentially nationwide, should be the beneficiaries of the first-ever public-private partnership agreement between National Security Technologies (NSTec) and Henderson, Nevada-based Global Medical Isotope Systems, LLC (GMIS).

In March, the two companies announced their R&D agreement, which aims to enable production of an essential radioactive isotope used in millions of medical diagnostic imaging procedures every year.

Known primarily as the management and operations contractor for the Nevada National Security Site (NNSS), NSTec is leveraging its traditional national security role with the signing of its first Cooperative Research and Development Agreement, or CRADA. CRADAs are routinely used by the Department of

Energy laboratories to enhance skills while supporting non-laboratory partners.

The five-year CRADA calls for NSTec researchers to provide technical integration, modeling, materials and design support to GMIS's mission. The CRADA will use the capabilities of NSTec's Remote Sensing Laboratory (RSL), located at Nellis Air Force Base in Las Vegas and at Joint Base Andrews near Washington, D.C. In its national security role, NSTec develops advanced technologies for radiation detection and has substantial radiological emergency response capability.

"We are excited to have our first CRADA, and doubly excited that it's with a high-tech business right here in southern Nevada," said Dr. Chris Deeney, NSTec Program Integration vice president and chief technology officer.

"This partnership will make a critical, yet diminishing, resource more accessible to the medical imaging community, and take advantage of NSTec's expertise in radioactive materials handling which dates back to the early 1950s and the operations at the NNSS," said Dr. Francis Tsang, GMIS's chief technology officer.

The agreement describes NSTec's technical integration, modeling, materials and design support to GMIS's mission in developing and deploying a ground-breaking approach in producing the radioactive isotope, molybdenum-99 (Mo-99).

"By introducing a safe, decentralized, on-demand production system using non-enriched uranium, we're answering the critical supply needs of the medical imaging community, while complying with the nuclear nonproliferation objectives of the U.S.," Tsang said.

The U.S. terminated its domestic Mo-99 production

in the 1990s, but continues to import the isotope from Canada and Europe. In addition, U.S. and global demand for Mo-99 has grown substantially in recent years.

NSTec brings to the CRADA staff of nuclear and health physicists, skilled physics and electronics technicians, a variety of radiological materials, and an extensive inventory of radiation detection equipment that will greatly benefit the mission of GMIS. These capabilities include the ability to assist with experimental work, perform computer simulations, provide guidance and direction, and furnish equipment as needed to support the goals of the CRADA.

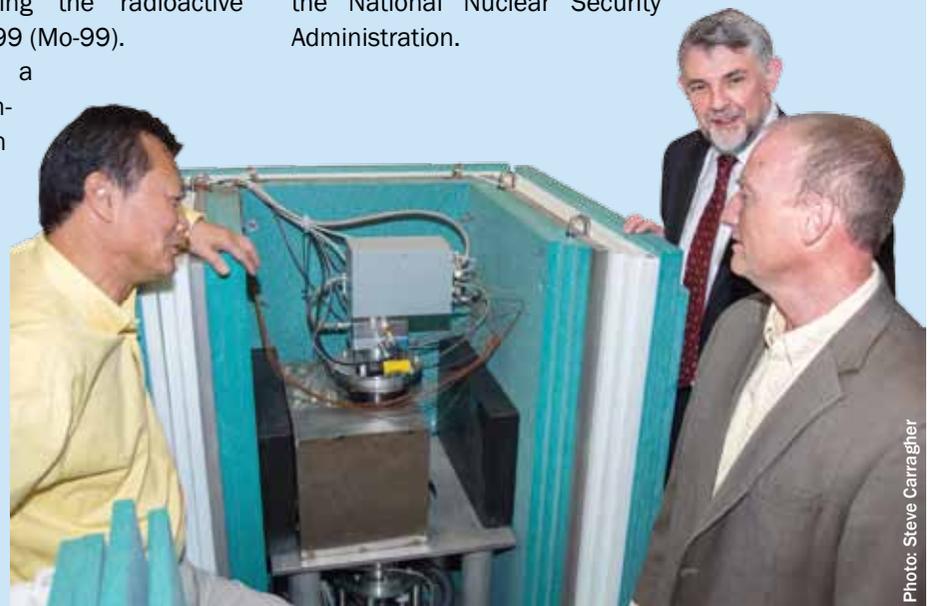
"Our contributions in science and technologies have helped national security for decades, from the Cold War to the war on terror," said Deeney. "We see this agreement as a chance to apply our expertise to improving global security by helping others to improve global health."

Deeney credited a "real team effort" for reaching this important milestone, extending kudos to Redhills Ventures, a Nevada investment company, for funding GMIS; the University of Nevada, Las Vegas (UNLV) for helping to develop the chemistry behind the isotope production process; and GMIS for designing, developing and advancing the technology. He pointed out that NSTec is exceptionally proud of their skilled team and its reputation that was built by decades of support from the Department of Energy and the National Nuclear Security Administration.

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Dr. Francis Tsang of Global Medical Isotope Systems, Dr. Chris Deeney of National Security Technologies, and Zane Wilson of GMIS observe the electrically powered neutron source that generates isotopes for medical imaging in GMIS's southern Nevada facility.

Photo: Steve Carraigher