land security activities.

Following several briefings from Mike
Canavan, Bechtel
Nevada's assistant general manager of the
combating terrorism
program, and members
of his staff regarding
the National Center for
Combating Terrorism,
Jerry Bussell, special

advisor for homeland security for Governor Kenny Guinn; Jeff Griffin, Federal Emergency Management Agency (FEMA) Region IX regional director; Royal Stockard, director of homeland security for the state of New Mexico; Gregory Jaczko, science policy advisor to Senator Harry Reid; Verdi White, deputy commissioner for the state of Utah; Adjutant General



Jerry Bussell, special advisor for Homeland Security to Governor Kenny Guinn, asks a question after watching a live demonstration of a terrorist attack at the Phoenix Facility.



Steve Curtis (left), NNSA/NSO NCCT program manager; Adjutant General Giles Vanderhoof (center), Nevada National Guard; and Jerry Bussell (right), special advisor for Homeland Security to Governor Kenny Guinn, discuss the Nevada Test Site's unique assets and capabilities for conducting counter-terrorism activities.

Guard; Frank
Siracusa, chief of
emergency
management for
the state of
Nevada; and several other guests
toured facilities at
Area 25 and wit-

nessed a mock

training demon-

Phoenix Facility.

stration at the

After watching the live simulation of a terrorist attack on a nuclear facility by trained test

site employees, Bussell remarked on the level of personnel expertise and the suit ability of Nevada Test Site facilities to conduct counter-terrorism training. "This is an extraordinary place to offer a wide range of real-world exercises and training to the Nation's emergency

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May 2003

Issue 90

A PUBLICATION FOR ALL MEMBERS OF THE NNSA/NSO FAMILY

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Western Homeland Security Advisors tour NTS

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response personnel," Bussell said. "There is no place like it."

The Nevada Test Site is designated as the National Center for Exercise Excellence by the Department of Homeland Security's Office for Domestic Preparedness. The Nation's

military and first responders are prepared for the war against terrorism by integrating realistic training, exercises, testing, evaluation, and technology for combating terrorism.

Training has taken place at the Nevada Test Site since 1999, but following the events of September 11, 2001, the numbers of emergency responders attending training has drastically increased. About 2,000 emergency responders have already been trained in fiscal year 2003. A total of only 2,500 responders were trained during the previous four years.

This feature highlights various components of the Six Sigma process at the National Nuclear Security Administration Nevada Site Office complex. A monthly article will detail the Six Sigma process, individual Process Improvement Projects (PIPs), the team members associated with Six Sigma, or the anticipated benefits and cost savings associated with implementing the PIPs.

Six Sigma recognizes "outstanding" champions and yellow belt

by Jennifer Morton

Bechtel Nevada champions **Robert Braddy** and **Catherine Tharin** and yellow belt **Thomas Fitzmaurice** were recently recognized as outstanding Six Sigma leaders for 2002.

This is the first year the Six Sigma Executive Committee has presented "outstanding" awards to champions and yellow belts who have demonstrated the highest level of engagement in black belt Process Improvement Projects (PIPs). Since champions and yellow belts are vital to the Six Sigma program – champions sponsor PIPs and yellow belts map processes and measure process performance – the Six Sigma Executive Committee plans to recognize an outstanding champion and an outstanding yellow belt twice a year.

During 2002, **Robert Braddy**, acting stockpile stewardship program manager, and **Catherine Tharin**, construction manager, each championed three PIPs which resulted in a combined potential cumulative cost benefit of \$6.1 million. In addition to working with the PIP teams to identify process improvements and remove barriers that might impede the PIP teams' progress, Braddy and Tharin have diligently worked with their PIP teams to implement process improvements, one of the most critical aspects of the champion's role.

Thomas Fitzmaurice, technical manager for the environmental restoration project, was selected as the outstanding yellow belt for 2002. Fitzmaurice participated in three PIPs with a potential cumulative cost benefit of \$4.45 million and initiated Bechtel Nevada's first green belt PIP. A green belt, essentially a cross between a champion and a black belt, identifies new PIPs and uses Six Sigma tools to lead PIPs. In addition, Fitzmaurice was instrumental in the implementation of process improvements for two environmental restoration PIPs.

"Bob, Cathy, and Tom showed exceptional leadership in their commitment to Six Sigma," stated **Fred Tarantino**, Bechtel Nevada's general manager.

"The champion and yellow belt's commitment to use the Six Sigma tools to identify improvements and then implement those changes is critical to the success of the Bechtel Nevada Six Sigma effort," said **Marv Wollin**, assistant general manager for business services.

If you are interested in nominating someone to participate in yellow belt or champion training, contact your supervisor. The next champion training session is scheduled for September 2-4, 2003, and the next yellow belt training session is scheduled for September 8-12, 2003.

During 2002 Cathi Tharin championed the following three black belt PIPs:

- U1a Preventive Maintenance
- Unscheduled Heavy Equipment Repairs
- Heavy Truck Repairs

Bob Braddy championed the following three black belt PIPs in 2002:

- JASPER Primary Target Chamber Fabrication Costs
- JASPER Maintenance
- JASPER Gas Gun Experiment Cycle Time

Tom Fitzmaurice participated in the following three black belt PIPs and led the following green belt Pip in 2002:

- Borehole Management
- Field Remediation Activity Work Packages
- Remediation Activity Health and Safety Plans (HASPs)
- Task Agreement Plan (TAP) Improvement (Green belt PIP)

News Briefs

Brooks sworn in as NNSA Administrator

Secretary of Energy Spencer Abraham administered the oath of office to Ambassador Linton F. Brooks to be the administrator of the National Nuclear Security Administration (NNSA) and the undersecretary of energy for nuclear security on May 16, 2003.

Brooks previously served as the deputy administrator for nuclear nonproliferation. Last July, President Bush named him acting administrator when the first NNSA administrator, John Gordon, took an assignment at the National Security Council. The President nominated Brooks to be administrator on February 4, 2003, and he was confirmed by the Senate on May 1.

After the ceremony, Abraham said, "Linton Brooks has done a remarkable job as acting administrator. He brings to NNSA outstanding qualifications and experience. In these times of higher security threats and alerts his leadership is needed overseeing our nation's nuclear weapons complex and international nuclear nonproliferation programs."

BEYOND

THE CALL

Energizers win at area contest

by Kirsten Kellogg

On Saturday, March 15, two members of the Energizers Toastmasters club participated in the Area C-3 contest.

Jennifer Dudley, Los Alamos National Laboratory, competed in the International Speech Contest with a speech titled "I Want to be a Speaker" about how Toastmasters helped her overcome her fear of public speaking. Energizers were represented in the Tall Tales Speech Contest by Ken Mitchell, a retired NNSA/NSO consultant, who told a story about a singing rooster that escaped becoming Thanksgiving dinner entitled "The Unknown Singing Chicken."

Five clubs, including Energizers, make up Area C-3. The competition was tough, but Jennifer and Ken took first place in their contests and will move on to compete at the division level. The area contest was a huge success for the Energizers. Out of the four awards presented, Energizers

took three of them. Congratulations to everyone who participated and especially the winners.

In addition to the first place speeches, fellow Energizer, **Alice Shillock**, Bechtel Nevada, was named the Area C-3 Toastmaster of the Year. This distinct award was given to Alice because of her dedication and commitment to Toastmasters.

Toastmasters is an international organization whose mission is to make effective oral communication a worldwide reality. Through its member clubs, Toastmasters helps men and women learn the arts of speaking, listening and thinking – vital skills that promote self- actualization and enhance leadership potential. The first Toastmasters club was established in 1924 in Santa Ana, California. Today, more than 8,500 clubs meet in more than 70 countries around the world.

If you would like additional information or are interested in joining Energizers, contact **Kirsten Kellogg**, **NNSA/NSO** (702-295-1821).

Key to Acronyms			Administration		
		NSO	Nevada Site Office		
The following acronyms appear frequently in <i>SiteLines</i> :		NTS	Nevada Test Site		
BN	Bechtel Nevada	RSL-A	Remote Sensing Laboratory -		
ES&H	Environment, Safety, and Health		Andrews		
LANL	Los Alamos National Laboratory	RSL-N	Remote Sensing Laboratory - Nellis		
LLNL	Lawrence Livermore National	STL	Special Technologies Laboratory		
	Laboratory	WSI-NV	Wackenhut Services Incorporated		
NNSA	National Nuclear Security		- Nevada		

Well drilling at NLV complex

by Kurt Arnold

A team of Bechtel Nevada employees is playing the role of detective in solving an old mystery and providing a better understanding of its cause.

When water was discovered in a source storage vault below the basement floor of building A-1 at the North Las Vegas

facility, in October 1999, an investigation began to determine the source of the rising water. Bechtel Nevada's environmental management department bored 12 small-diameter holes around and in the building to determine the depth of the water and the direction of flow. Eight of these holes were filled and abandoned, and the remaining four (one on the north side of the building and three on the south side) were converted to monitoring wells.

Results of the drilling provided Bechtel Nevada's environmental management with data that indicated a 10-foot difference in the depth of the ground water on two sides of the building. This difference indicated a southeast gradient of the water table below building A1. Testing of the groundwater's quality suggested that the water's source was from an intermediate depth. Their investigation also revealed that the groundwater was rising approximately two inches per month (two feet per year).

What was causing the water to rise? Was the 10-foot difference a true representation of the North Las Vegas complex's geology?

The water level in the four monitoring wells and the source storage value was initially checked once a week, then later once a month, and finally on an unscheduled basis. The routine monitoring led to the discovery of water in the building's elevator shaft, where the water level was approximately equal to the water level in the source storage vault. The elevator shaft was sealed, the source storage vault was removed, and the basement floor was sealed. A sump pump was installed in A-1's basement to keep water below the building from rising into the basement.

Fifteen additional wells (drilled in pairs - one shallow and one deep) were strategically placed around the complex by Bechtel Nevada's construction department to determine the depth and flow of groundwater under the entire North Las Vegas complex and to help develop an approach for mitigating the rise of groundwater. The shallow wells were drilled near the surface aquifer, less than 50 feet deep, whereas the deep wells were drilled to a depth of between 114 and 142 feet below the surface. Two of the well pairs were drilled with a large diameter (four inches) than the other well pairs to allow for various tests. The tests will study the interac-

tions between the shallow and deeper aquifers and determine hydraulic conductivity, specific storage, and sustainable pumping rates for the design of dewatering wells.

Data gathered has helped the Bechtel Nevada team characterize the depth and flow of groundwater across the North Las Vegas complex, but the work is not over. Monitoring of the depth of water continues and the pump tests and computer modeling have yet to be completed. The data have shown that the distribution and movement of water below the North Las Vegas complex are not a simple matter. Two of the deep wells are artesian (water flows naturally to the surface) and a third well is nearly artesian. The gradient of the water surface below building A-1 is steep and probably results from one or more faults that cross the complex. Nearsurface water under the complex appears to be moving upward from a deeper aquifer and is perhaps controlled in part by the presence of sub surface faults.

The plan is to eventually convert the test wells to water production wells.

On the basis of the various tests and computer modeling, pumps will be placed in these wells to draw down the water level below building A-1. Over time, the pumps will draw down the level below a larger area of the complex. In the meantime, the sump pump in the basement is set to cycle on and off to maintain the water level below the basement floor. Water pumped from the sump is currently disposed, but discussions are ongoing to devise a beneficial local use of the water.

The mystery of the source of the water appears solved, but its effect may remain for some time. Although, the Bechtel



Bechtel Nevada's construction department uses a drill rig at the North Las Vegas facility to drill a well pair (one shallow and one deep) to monitor groundwater levels. Data gathered from the wells will assist in determining why groundwater is rising at the North Las Vegas facility.

Well drilling at NLV complex

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Nevada team provided a clearer picture of North Las Vegas complex's hydrogeology, one mystery may remain, what was the actual cause for the rise in the groundwater?

Stu Rawlinson, manager of Bechtel Nevada's environmental management science and technology group, believes that discontinuation of heaving pumping of groundwater in the

Las Vegas valley, coupled with water injection programs (a process where water from surface supplies is pumped into the ground for later use) and some infiltration may be elevating the groundwater to near its previous levels, and in some cases, above its previous

Additional data and research are needed to validate the hypothesis. A collaborative effort with Bechtel Nevada, the City of Las Vegas, the City of North Las Vegas, the Las Vegas Valley Water District, the National Nuclear Security Administration Nevada Site Office may be needed to solve the remaining mystery.

Dosimeters at risk for exposure

Following the tragic events of September 11, 2001, airports around the world increased their security levels. These changes meant the inspection and screening of millions of air travelers' carry-on and checked baggage. Many airports implemented these inspections through the use of continuous beam x-ray scanning equipment which exposes baggage (and its contents) to low levels of radiation. This has been identified as the cause for several recent false positive measurements on employees carrying dosimeters.

The false positive measurements range from about 100 millirem (mRem) to almost 300 mRem. This amount is several times the normal occupation dose received in a calendar quarter by a typical Nevada Test Site worker.

In order to minimize the effect of airport security on the occupational radiation monitoring program, personnel on

travel who do not need their dosimeter at their destination should leave it at home. If it is needed at the destination, the dosimeter should be transported with your carry-on baggage/packages. Most inspection equipment used for carry-on packages utilizes flash x-ray techniques rather than a continuous beam. Therefore the radiation dose delivered to the package (and dosimeter inside) is much lower so the chance of a false positive reading is lower.

There are a few airports that use continuous beam inspection machines for carry-on baggage also. These usually have a sign that instructs passengers to remove photographic film before passing their bags through them. If you encounter one of these machines, you should request physical inspection of your dosimeter rather than passing it through the inspection machine. If the security personnel require you to pass the dosimeter through one of these machines, notify **Bechtel Nevada Dosimetry** (702-295-2514) so the effect can be evaluated and the dosimeter replaced if needed.

Face-to-Face



Name: Maria Alvarado-McMahon

Employer: Bechtel Nevada

Title: Technical Staff

Hometown: El Paso, Texas

Hobbies/

Interests: Walks with my hus-

band, spending time with our children and grandchildren, summer days in the pool, barbecuing year round, camping, and

golfing

Face-to-Face



Name: Ken Wall

Employer: Shaw

Environmental, Inc.

Title: UGTA Operations

Manager

Hometown: Escondido,

California

Hobbies/

Interests: My nine year-old

son,running, and snowboarding

Lessons Learned

Inadvertently creating hazards

by Dawn Starrett

Many accidents that occur can be traced to a point in time where a worker inadvertently created a hazard.

One way to eliminate accidents is to use tools in a manner that is recommended by the manufacturer. Grounding down a screwdriver to make a better chisel can release beryllium dust. Using a wrench to pound instead of a hammer introduces a new hazard. These examples illustrate the improper use of tools by using them for other unintended purposes, thus creating a hazard.

Match tool sizes and configurations to take advantage of safety features. A worker using a hot knife placed it into a metal tool holder before leaving the work area to take a break. After the worker left, the hot knife fell out of the tool holder and dropped onto a personal CD player. The CD player's plastic housing was heated by the knife and ignited.

Lessons learned: The tool holder was designed to positively lock hot tweezers into place. The hot knife was of a different size and configuration than the hot tweezers.

Consequently, it could not positively lock into the tool holder.

Pay attention to manufacturer warnings. When a researcher mixed 2 percent potassium dichromate in concentrated sulfuric acid, the container developed a leak, wetting adjacent containers, the wood floor of a cabinet, and spilling out onto the room's floor.

Lessons learned: Chemical containers that are stable for their original contents may not be safe when exposed to other chemicals. The Material Safety Data Sheets for the potassium dichromate and concentrated sulfuric acid both indicated their incompatibility. Include a review of manufacturers' warnings in pre-job reviews.

Take the time to find out how to avoid accidents by becoming familiar with tools, safety features, and manufacturer warnings. Share the information that you learn with your coworkers and supervisor. Eliminating the hazards will ensure a safe workplace.

If you have a lessons learned to share, contact your organization's lesson learned point of contact or **Dawn Starrett**, site lessons learned coordinator (702-295-4297).

Material Exchange Program launches new interactive database

by Al Karns

In these days of tight budgets, it has become more difficult for employees to purchase needed supplies and equipment. The Pollution Prevention Office has provided a means to help projects overcome this situation by maintaining a Material Exchange program.

Created in 1998, the Material Exchange program has helped projects acquire usable supplies, chemicals, and equipment at no cost while diverting more than 202 tons of materials from landfills. The Material Exchange program is a useful tool for employees, but a newer interactive database allows users to access and post information more efficiently.

The Pollution Prevention Office has created a new Material Exchange database for use by all employees. The database is available on Bechtel Nevada's intranet web page (only accessible to employees using their login name and password).

To access the new Material Exchange database:

- Go to the Bechtel Nevada homepage (bnhome).
- Under "Daily Needs," choose "Material Exchange" and then "Go."

To view a list of available materials:

- On the left-hand side of the page is the main menu. Click on the "Search Listings" button.
- First-time users need to fill out their required information. Fill in the blanks and hit "Submit." The screen will display the information you submitted.
- Click on "Verify Information" if it is correct; click on "Modify Information" if you need to change something.
- Once your information has been verified, the screen will show the list of available materials. Each line in the list contains an item, a brief description of that item, and the quantity available.

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Inadvertently creating hazards

cont. from page 6

• To the left of each item is a "Request" button. Click on the "Request" button, fill in the quantity of that item that you would like, and hit "Submit." An email message is sent to the Material Exchange point of contact notifying them of your request.

To view the items you have requested:

• Click on "Shopping Cart" from the main menu on the left hand side of the page.

If you have materials that are useable, but your group no longer has a need for them:

- Click on the "Add New Item(s)" button from the main menu on the left-hand side of the page.
- Fill in the "Item," "Description," and "Quantity" blanks and hit submit. The item is now in the list of available materials. You can add as many items as you want. An e-mail message is sent to the Material Exchange point of contact notifying them of the addition to the list.

If you have questions concerning the Material Exchange program or the new database, contact Dodie Haworth (702-295-0656) or Al Karns (702-295-5689).

ace-to-Face



Name: Edna White

Company: NNSA Service

Center

Job Title: Management

Analyst

Hometown: Kinston, North

Carolina

Hobbies/

Interests: Traveling, meeting

new people, reading, and having fun

Retirements

Ephraim Allred - BN **Beverly Colbert - NNSA/NSO** Steve Leedom - NNSA/NSO Ruby Lopez-Owens - NNSA/NSO Marla Murray - NNSA/NSO Bill West - NNSA/NSO Alice Wiggins - NNSA/NSO

In Memory

Jeanne Bowman-Sowder - former contractor employee Lawrence Hupke - BN Robert Hutchinson - former contractor employee Gene Sasso - former contractor employee

In the Next Issue of SiteLines ...

- Record drought in Southwest
- Teachers recognized with luncheon
- Spring: The season of outreach activites



Name: William Jarvey

Employer: Wackenhut Services

Inc. - Nevada

Title: Plans Analyst

Hometown: Oconto Falls,

Hobbies/

Interests: Fishing, scuba diving,

and grandkids

Wisconsin



Bechtel Nevada Russell, Roger Schroeder, Ingrid Siddoway, Anna Strong; Los Alamos 35 years Operations - Irene Cata, Angela Tipton; Las Vegas - Douglas Tichenor; Livermore Operations - Patricia Hill Livermore Operations - Sky Marshall, Ke-Xun Kevin Sun; Special Technologies 30 years Las Vegas - Michael Neuhauser Laboratory - Kristine Becker 25 years Las Vegas - Nancy Ashbaugh, Sigmund National Nuclear Security Administration Nevada Site Drellack, Raymond Liu, Nellie **Office** Williams; Nevada Test Site - Helen Johnson, Timothy Parson, Elaine 15 years Angela Avery Solzano, Katherine Spoeneman Los Alamos National Laboratory 20 years Las Vegas - Yolanda Chavez, Fred Zajac: Nevada Test Site - Kenneth 25 years Harry Reisch Jensen, Charles Lowery, Robert Schuette, Mark Tefft; Los Alamos 5 years Dale Cain Operations - Robert Hilko Desert Research Institute 15 years Las Vegas - Thomas Cranford Jr., Linda Middaugh; Nevada Test Site - Richard 25 years Wallace McKay Ely, Stuart Rawlinson, Douglas Trone 15 years Jeanette Chapman, David Mouat, 10 years **Ronald Nicholson** Las Vegas - Ruby Howard 5 years Las Vegas - Laura Evora, Teresa Shaw E&I Garbaccio, Jean Palmieri, Benny Willeford Jr., Nevada Test Site - George 5 years Afief Fadil, Fred Nawrocki, Carrye Corrow, Tom Champion, Patrick Hull, Putz Anita Katterheinrich, Dennis Morrell, Patricia Thomas, Kenneth Watts; **Environmental Protection Agency** Special Technologies Laboratory - Eliseo **Pizano** 30 years Robert Mosley New Hires Professional Analysis, Inc. Las Vegas - Debora Bryson, Crystal Corbin, Patricia Ewing, Richard Folle, Shelly Galetto, Richard Greenwold, 10 years **Shirley Doty** Judy Hawkins, Robert Henderson, Adam Howard, Yuanjia Huang, Batis Wackenhut Services Inc. Malekpour, Carlos Perez Jr., John Potter, Jessica Pruett, Jade Siddoway, 15 years Glenn Murakami, Darlene Smith Jodi Steward-Courson, John Williams, Connie White Yelder; Nevada Test Site -10 years Karilyn Espinosa Wolfgang Exner, Debora Boyd, Laura Burton, Laura Cool, Joseph Davis,

Compiled by Tamiko Brown

Paula deLespinasse, Andrew Dudley,

Douglas Good, Beverly Grover, Molly Gutknecht, MaryLou Hewitt, John Klobchar, Alex Norwood Jr., Dudley



June 10

Energizers Toastmasters club meeting. Pioche Conference Room (C205), Nevada Support Facility. Contact **Kirsten Kellogg, NNSA/NV (702-295-1821).**

June 24

Energizers Toastmasters club meeting. Pioche Conference Room (C205), Nevada Support Facility. Contact **Kirsten Kellogg, NNSA/NV (702-295-1821).**

June 26

NTS Public Tour, open to interested members of the public. CP-1, Sedan Crater, Frenchman Flat, HAZMAT Spill Center, Bilby Crater, Area 5 Low-level Radioactive Waste Management Site, Apple II houses. Contact **Brenda Carter, BN (702-295-0944)**.

July 4

NNSA/NSO and contractor offices closed in observance of Fourth of July.

July 9

Community Advisory Board meeting. Location and time to be determined. Contact **Kelly Kozeliski**, **NNSA/NV** (702-295-2836).

July 22

NTS Public Tour, open to interested members of the public. CP-1, Sedan Crater, Frenchman Flat, HAZMAT Spill Center, Bilby Crater, Area 5 Low-level Radioactive Waste Management Site, Apple II houses. Contact **Brenda Carter, BN (702-295-0944)**.

August 9-10

Relay for Life. Pahrump High School, Pahrump, Nevada. Relay begins August 9 at 6:00 p.m. and ends August 10 at 9:00 a.m. For additional information and registration, contact **Mitzi Sears, BN (702-295-7828)**.

August 21

NTS Public Tour, open to interested members of the public. CP-1, Sedan Crater, Frenchman Flat, HAZMAT Spill Center, Bilby Crater, Area 5 Low-level Radioactive Waste Management Site, Apple II houses. Contact **Brenda Carter, BN (702-295-0944)**.

Declassified Film Showings

For information on declassified film showings at NTS CP-1, contact **Denise Langendorf (702-295-4015)**. For information on declassified film showings at NTS Yucca Mountain, contact **Rod Rodriguez (702-295-5825)**.

Upcoming Conferences and Trade Shows

June 23-25

Safety 2003 - "Advancing the EH&S Profession." Colorado Convention Center, Denver, Colorado. For additional information, call **ASSE** (847-699-2929).

July 20-24

American Radiation Safety Conference and Exposition. Town and Country Inn, San Diego, California. For additional information, visit www.hps.org/newsandevents/meetings.

November 15-19

International Association of Emergency Managers' 2003 Mid-Year Meeting. The Rosen Centre Hotel, Orlando, Florida. For additional information, visit www.jaem.com/conferences.html.

