

Nevada Site Office's Talbot relays Complex 2030 vision

Jerry Talbot, who recently assumed the position as National Nuclear Security Administration (NNSA) Nevada Site Office (NSO) manager, says Complex 2030 is just one piece of his strategic vision to help the Department of Energy secure America's future.



Jerry Talbot

"The activities that occur at the Nevada Test Site (NTS) provide a very specific value chain," explains Talbot. "That chain includes not only the science that is conducted at the site, but the deliverables we provide to different customers such as the Department of Defense and the Department of Homeland Security."

The NNSA wants to transform today's Nuclear Weapons complex to respond more efficiently to a number of challenges, including those related to the stockpile and the nation's emerging security needs.

The agency's nuclear weapons complex consists of eight major facilities across the country—including the NTS—which collaborate to keep the nation's nuclear stockpile safe and reliable without underground nuclear testing.

Talbot believes the NTS is a secure environment that provides the perfect arena to conduct subcritical and large scale hydrotesting, assemble and disassemble weapons, and store Special Nuclear Materials (SNM).

Additionally, it is an asset as these key programs are directly related to Complex 2030 national security.

"The Nevada Test Site is really the beginning link of the value chain," explains Talbot. "We want to achieve scientific results that are based on quality data. Ultimately, we want to accurately predict how the stockpile will perform without conducting any fissionable nuclear tests."

Another key priority for Talbot is developing Centers of Excellence in the areas of science and experimentation at the NTS. This is right in line with the goal of Complex 2030 to establish a "Distributed Centers of Excellence Transformation Alternative," he says, and critical to transforming the complex into a smaller, more efficient, and more responsive model.

Establishing a stronger base of human capital is another area of emphasis.

"It is imperative that we have highly-qualified, well-trained, and competent individuals to execute the crucial work taking place at the NTS," says Talbot. "Their expertise must have a high-reliability factor, especially in light of the fact that we are conducting non-nuclear tests."

Moving forward, Talbot is committed to fulfilling Energy Secretary Samuel Bodman's top five strategic themes outlined

in DOE's 2006 Strategic Plan. These include ensuring America's nuclear security, promoting America's energy security through reliable, clean, and affordable energy, and enabling the mission through sound management.

Talbot's goals and expectations for the NSO will be explored further in upcoming issues of *SiteLines*.

What is Complex 2030?

Complex 2030 envisions that by the year 2030 there will be

- fewer facilities that are also safer and more secure;
- consolidated special nuclear materials;
- the elimination of duplicative capabilities;
- a consolidated plutonium center, and
- more efficient and uniform business practices throughout the complex.

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NSTec establishes engineering and science scholarships for 2007

National Security Technologies, LLC (NSTec) recently announced the establishment of a scholarship program to benefit eligible graduating high school seniors pursuing an undergraduate degree in engineering or science at a four-year college or university. The first scholarships will be awarded to the graduating class of 2007.

NSTec has made a corporate commitment to building and maintaining an active community outreach program. One of the key components of this program is a

company commitment to local area scholastic development. "This scholarship program will help generate the future leaders of the Nevada Test Site and its related facilities," states **Dr. Stephen M. Younger**, NSTec president.

Scholarships have been established in six different geographic areas, to benefit the local areas where NSTec does business. The six areas are: Nye and Clark Counties, NV; Santa Barbara and Livermore, CA; Los Alamos, NM; and Prince George's County, MD. Students graduating from public high

schools in each of these areas are eligible.

Scholarships will be awarded based on academic achievement and financial need. Applicants will need to submit a supporting essay.

A total of 20 \$5,000 scholarships, with an individual value of \$5,000, are available to be awarded to this year's graduating seniors. For more information, contact **LeeAnn Inadomi** at inadoml@nv.doe.gov.

Reno High School wins top prize in DOE Regional Science Bowl

Reno High School Team A prevailed over 31 other high school teams from California, Nevada, and Utah at the 16th Annual Nevada Regional Science Bowl. The event took place Feb. 10, 2007, at the University of Nevada, Las Vegas. Reno High School will represent the Nevada region at the national competition in Washington, D.C., on April 26 through April 30.

Teams were quizzed in the areas of math and science during the competition. The competition is put on by the National Nuclear Security Administration Nevada Site Office (NNSA/NSO), and is sponsored by: the Atomic Testing Museum, Bechtel SAIC, Desert Research Institute, National Security Technologies LLC (NSTec), Northrop Grumman, Stoller-Navarro Joint Venture, U.S. Bureau of Reclamation Regional Office and Hoover Dam, DOE, Office of Repository Development, University of Nevada, Las Vegas, and Wackenhut Services, Inc.

"All of Nevada's students who participated in this competition are all winners," says **NSTec President Steve Younger**. "Science is vital to the future of our country, and besides, it's fun! Of course, NSTec's involvement in this significant contribution would not have been possible without our 75 volunteers from NSTec and NNSA's Nevada Site Office who



The winning team, from left to right: Laura Kreidberg, Xuan Wei, Tyler Aas, Scott Baez, Kevin Marshall, and Mike Meinert (coach).

believe in our children's future and the future of our country, its security and stability through science."

Reno High School received \$5,000 to be used in the school's science and math departments, matching team trophies, and an all-expense paid trip to the National Science Bowl competition. Cash prizes were also awarded to: Advanced Technologies Academy (A-TECH) Team A placed second; the Meadows School finished third; Reno High School Team B finished

fourth; Wooster High School tied with Douglas for fifth place; Clark High School team B tied for seventh place with Faith Lutheran Team A; Shadow Ridge Team A, Bonanza High School, Valley High School Team A, and Valley High School Team B all tied for ninth place and Valley High School Team B took home the Good Sportsmanship Award.

The DOE Regional Science Bowl was established in 1991 to motivate high school students to pursue scientific and technical careers and promote math and science literacy. More than 100,000 young men and women from all over the country have participated in this competition. A picture of the winning team can be found at www.nv.doe.gov.

Research facility is a key element of stockpile stewardship

The Joint Actinide Shock Physics Experimental Research (JASPER) Facility, located at the Nevada Test Site, is an alternate experimental method to certify the nation's nuclear weapons stockpile.

JASPER provides a method to generate and measure data pertaining to the properties of materials (radioactive chemical elements) subjected to high shock pressures, temperatures, and strain rate, the point at which the material disintegrates from the pressure as it's shocked.

Data from the experiments is used by the national laboratories to help predict the safety and reliability of the weapons and to validate computer models for weapons applications. Experiment results are used to better predict how materials will react to particular conditions and to ensure confidence in the U.S. nuclear stockpile.

To achieve the high shock pressures, temperatures, and strain rates similar to that of a nuclear weapon, JASPER experiments use a two-stage gas gun. The basic concept of a gas gun is to propel a projectile into a target at extremely high velocities, often exceeding eight kilometers per second. The JASPER gas gun is specifically designed to conduct research on plutonium and other surrogate materials as targets.

The two-stage gas gun consists of a first-stage breech (back chamber where high explosives are loaded) containing gunpowder and a pump tube filled with hydrogen gas; and a second-stage evacuated barrel for guiding the high-velocity projectile to a target containing radioactive material. Hot gases from the burning propellant drive a heavy piston down the pump tube, compressing the gas. At sufficiently high pressures, the gas

eventually breaks a rupture valve and enters the narrow barrel, propelling a projectile, housed in the barrel, toward the target.

When the projectile hits the target, it produces a high-pressure shock wave. In a fraction of a microsecond, the shock wave reverberates through the target. Diagnostic equipment, triggered by the initial wave, measures the properties of the shocked material inside the target during this extremely brief period. The target is disintegrated by the impact of the projectile and contained within the primary confinement chamber. A second confinement chamber protects workers as a safety precaution in the unlikely event that the primary system fails. The data from these experiments is used by the national laboratories to further refine the computer codes used to certify the U.S. nuclear stockpile

Because of the well-controlled environment of the gas gun, JASPER provides scientists with more precise data than can be obtained from conventional, high-explosive experiments. Nested confinement systems assure that radioactive materials are not released into the gas gun building or the environment after target impact. The primary target chamber houses the target material, and an ultra-fast closure valve system traps radioactive contaminants within the chamber after the projectile enters. A secondary confinement chamber assures that if any material escapes from the primary target chamber, it will not migrate

into the building environment.

JASPER is a multi-organizational research facility hosting Lawrence Livermore National Laboratory, Los Alamos National Laboratory, Sandia National Laboratories, the National Nuclear Security Administration and its contractors. Lawrence Livermore National Laboratory maintains the responsibility for overall project management, physics definition, engineering, health, and safety.



This perspective shows the breech end of the gas gun, down the barrel, to the secondary containment chamber. JASPER provides a way to generate and then measure data that is crucial to certify the safety of the stockpile.

Be safety-minded—wash your hands regularly to combat disease

How can you calculate the cost of missed or ineffectual days at school and/or work from illnesses that may have been avoided?

The Centers for Disease Control and Prevention (CDC) notes that an estimated 40 million Americans get sick from germs transmitted by dirty hands. Hand washing, when done correctly, is the single most effective way to prevent the spread of communicable diseases such as colds and the flu.

Germs may be transmitted from person to person, or indirectly by contaminated food, or even inanimate objects such as toys, office machinery, and slot machines. Germs thrive on metal surfaces and can infect people who then touch their eyes, nose, or mouth.

To avoid exposure to germs, follow these CDC guidelines:

Wash your hands often, especially

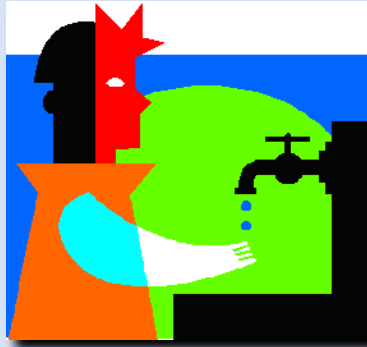
- before, during, and after you prepare food,
- before you eat, and after you use the bathroom,
- after handling animals or animal waste,
- immediately after touching anything that may contaminate your hands,
- when your hands are dirty, and
- more frequently when someone in your home or at work is sick.

What is the correct way to wash your hands?

- Use warm water, first wet the hands and then apply liquid or clean bar soap. Place the bar soap on a rack and allow it to drain.
- Rub the hands vigorously together and scrub all surfaces.
- Continue for 10 to 15 seconds. The soap combined with the scrubbing action helps dislodge and remove germs.
- Rinse well and dry the hands.
- Use a paper towel to shut off the faucet to avoid re-contaminating the hands.

Don't assume that children know how to wash their hands properly. Supervision is an essential element in forming good hygiene habits. Children learn by example; let them observe good hand washing techniques from adults.

Interesting fact: Cold viruses live only in the noses of humans and not in animals except in chimpanzees and other higher primates. Please contact **Bob Skier at (702) 295-7043**, for more information.



Employee offers his paramedic training to assist a colleague in need

One minute a person is sitting at a table at the Andrews Air Force Base Exchange (BX) having lunch, and the next minute that individual is helping to save a life.

Jeff LeDonne was recently hired by Remote Sensing Laboratory-Andrews (RSL) as a pilot. He has been a paramedic for nearly 30 years with his local community and with the Maryland State Police Aviation Division. He had just arrived at the BX when a call came over the loud speaker that medical assistance was needed. A young woman working at a jewelry store in the BX was in distress.

LeDonne approached the victim, who was lying on the floor having what appeared to be a seizure, and rendered first aid. He stayed with the victim until medical personnel arrived (approximately 15 minutes) and took over the patient's care.

When asked about his response LeDonne humbly noted that the care he provided, "was purely supportive until she regained consciousness on her own. No special devices, no magic, nothing worth mentioning."

But for one young lady, the care was immediate at a crucial time.

Tony Shoemaker, manager of RSL Aviation, said "It is an honor and a pleasure to have Jeff as a member of the RSL Aviation team. He brings a great deal of experience and education in aviation, law enforcement, and as an Emergency Medical Technician. He is a 'Great Catch' for our organization and will further enhance our organizational excellence and performance."



Bob Summers, director of Homeland Security and Defense Applications, recognizes LeDonne with a "Great Catch" award for exemplary safety behavior on the job.

Behind the scenes, ISM Council performs valuable services to NTS

Of all the letters floating around in the alphabet soup of acronyms associated with the Nevada Test Site (NTS); perhaps the least recognizable is ISMC.

While it often goes unnoticed, the Integrated Safety Management Council (ISM) performs a valuable service in providing a forum for discussion among the Department of Energy (DOE) and its contracting organizations.

Established during fiscal year 2001, the ISMC is a senior-level working group tasked with providing feedback and fostering improvements to Integrated Safety Management System (ISMS) implementation efforts across the NTS complex.

Each year, the council publishes an annual report to introduce improvements to be implemented over the coming year, as well as to critique and learn from the previous year's efforts. To ensure that their yearly goals are being met, both federal and contractor representatives meet once a month to discuss the execution of site-wide initiatives.

One of the results of these monthly meetings is the enhanced integration of NTS contractor processes and activities. The monthly meetings assist the National Nuclear Security Administration Nevada Site Office (NNSA/NSO) to demonstrate their evaluation of contractor ISMS programs. Of greatest benefit for both parties is the forum that these meetings provide for open communication.

According to council chairman Steve Mellington, the ISMC “prides itself on providing a ‘fault-free’ environment for both contractors and federal employees to discuss the challenges or issues they may be facing.”

The continuous dialogue and trust among council members enables them to voice complex issues and observations, adds Mellington.

Council member Mike Kinney elaborates that the group dynamic of the ISMC allows for a “frank discussion by participants regarding specific areas where their organizational performance needs improvement.”

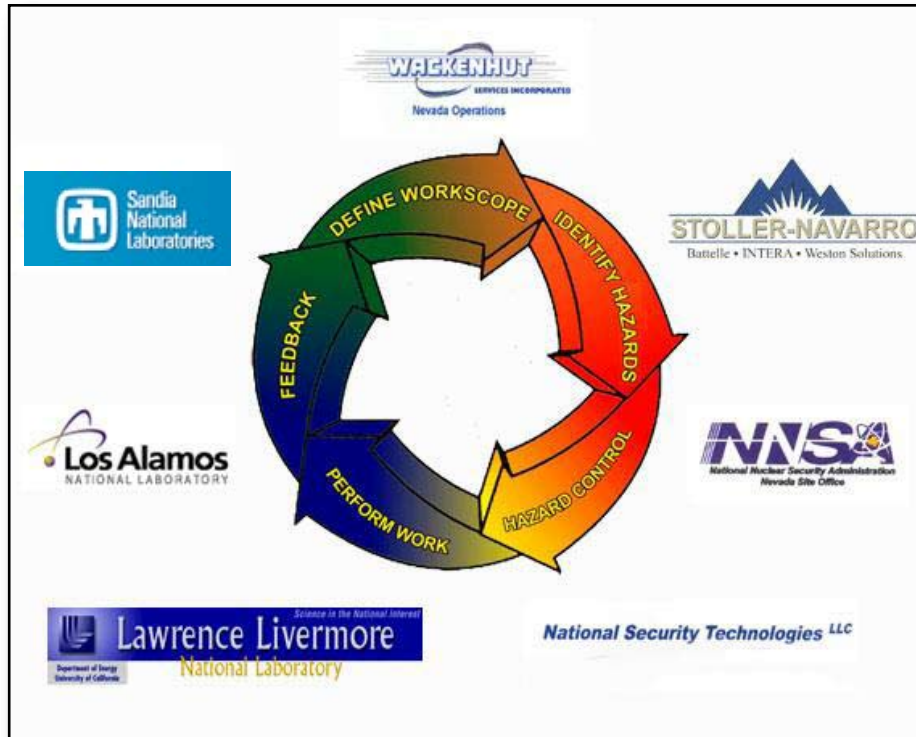
While the ISMC encourages individual members to be objective about their respective organizations, it is also constantly looking to improve itself and correct its own mistakes. For instance, in years past, entire meetings were devoted to tabulating how well each organization

accomplished that year's performance initiatives. This left little time in meetings for an actual discussion of the results.

To resolve this problem, in 2006 the council improved its efficiency by creating system performance charts. This simple step allowed the council to hold a more productive meeting

devoted to discussing, rather than tabulating, the results; this helped participants concentrate on the most appropriate path forward for the following year.

To date, the ISMC has experienced great success and is being viewed as a national model.



The ISMC is made up of entities from numerous agencies, including the NNSA/NSO, Lawrence Livermore, Los Alamos, and Sandia National Laboratories, NSTec, WSI, DTRA, and SNJV.

Under ISMS, every employee is responsible for identifying, reporting, and possibly even determining ways to mitigate safety hazards—whether it's a faulty electrical line at a work site or an unsafe chair in the office.

Lessons learned: operating program designed to foster safe practices

Last year, Department of Energy (DOE) Order 210.2, DOE Corporate Experience Program, was signed and issued by the Department of Energy's (DOE) deputy secretary. This new order institutionalizes a DOE-wide program to prevent adverse operating incidents and expands the sharing of good work practices among DOE sites.

The Department's Operating Experience Program (OEP), as delineated in this order, has been upgraded from the former DOE Standard 7501-99, *The DOE Corporate Lessons Learned Program*. This ensures systematic, timely attention to identify, evaluate, and implement applicable lessons from both internal and external events.

In announcing the new Order, **Patrice Bubar**, the DOE Deputy Assistant Secretary for Corporate Performance Assessment, said the need for an effective and comprehensive Operating Experience Program was a key lesson learned from both the Columbia space shuttle accident and the Davis-Besse Reactor pressure-vessel corrosion event.

In 2004, the Defense Nuclear Facilities Safety Board (DNFSB), an independent federal agency responsible for safety oversight of DOE's nuclear operations, conducted a series of public hearings to examine DOE's current and proposed methods to ensure safety at its defense nuclear facilities.

While the overall objective was to gather information helpful in assessing DOE's contract management and nuclear safety oversight, the board also sought to determine if DOE could benefit from the Columbia disaster and Davis-Besse event.

One of the products of these hearings was DNFSB Recommendation 2004-1, "Oversight of Complex High Hazard Nuclear Operations." This calls for development of a DOE-wide action plan to address the applicable lessons.

The DOE's response to DNFSB Recommendation 2004-1 also included a commitment to the development, issuance, and application of an order to institutionalize a DOE-wide program to manage operating experience. In addition, DOE committed to demonstrate effective implementation of its requirements within 18 months of the order's issuance.

DOE O 210.2 applies to all prime contractors at the Nevada Test Site.

"This order reinforces the Integrated Safety Management concept of 'feedback and continuous improvement,'" says **Ken Hoar**, Acting Deputy Assistant Manager for Safety Programs for the National Nuclear Security Administration. "It also integrates the lessons learned procedures and processes with existing programs such as quality assurance."

For links to web sites for screening external organization operating experience documents, please go to <http://www.eh.doe.gov/ll/links.html>

Face-to-Face

Constance Moore

Company: Stoller-Navarro
Joint Venture

Title: Helpdesk
Representative

Hometown: None, she was a
Navy brat
who moved all over the country.

Hobbies: While normally an analytical person, Moore enjoys counted cross stitch because it allows her to be creative.



Moore believes her most significant contribution to the company so far is that she located the software suite that is used to manage employees' workstations. This software easily keeps computers at the Cheyenne and NSF sites current with critical security patches, and also allows applications to be pushed out upon request. With several years of experience as a Desktop Support Technician under her belt, Moore is adept at troubleshooting. She made a decision to learn touch typing and to train in the Microsoft Office Suite, so that she can apply and support the applications. If she could have any job, she would be an astronomer. Most people don't know that Constance attended a school for the deaf between the fifth and eighth grades.

Face-to-Face

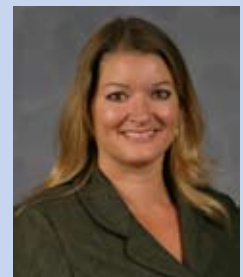
Kat Lacher

Company: Northrop Grumman

Title: Counterintelligence
technical expert

Hometown: Homosassa, Fla.

Hobbies: Learning to play guitar,
painting, hiking,
photography, and going
to concerts.



Lacher believes her most significant contribution to the company so far has been providing technical knowledge to help Counterintelligence address cyber-threats. This experience has taught Kat to provide quick response and to be persistent to identify and resolve concerns. If she could have any job she wanted, she would be a writer. Most people wouldn't know that Kat plans on retiring to Belize.

March is National Nutrition Month

This month's theme for National Nutrition Month is 100 percent Fad Free, a topic which will educate consumers on the difference between fad and realistic diets. Discussion of proper nutrition has been replaced with unscientific, sometimes unhealthy, and even dangerous advice by untrained experts who dub themselves as nutrition gurus.

Please make a note of these sound nutritional principles and guidance

- Develop an eating plan for lifelong health. Get back to the basics and use the **Dietary Guidelines 2005** and **MyPyramid** as your guide. (See Web site information at the end of this article.)
- Eat all foods in moderation.
- Ignore unreasonable diet claims that sound too good to be true.
- Get regular physical activity for good overall health.
- Base your nutritional decisions upon proven scientific data.

The balancing act: Eat well and move your body

1. Make small changes today to create good eating habits

Add one low-fat dairy product every day, such as an 8-ounce glass of skim milk. Add two servings of fruits or vegetables to your meals. Choose three whole grain products every day.

2. Plan physical activity into your daily routine

- Go for a 15- to 30-minute walk during your lunch break.
- Take the stairs rather than the elevator.
- Walk the dog after work.
- Play games, dance, or walk with your children.
- Let the bus drop you off before or after your usual stop and walk the rest of the way to work.
- Ride a bike, go dancing, or take a class at the gym two or three times per week.



3. Fit wise food choices into hectic lifestyles

- Take your time eating. Feeling full sooner may result in less calorie intake.
- Plan ahead where you usually eat and ask for nutrition information so you can make informed decisions on food choices.
- Pack your lunch at home and "brown bag it." This will let you eat foods you enjoy in portion sizes that are appropriate.
- Snack on nutrient-dense foods in quantities that are calorie conscious. Examples include fat-free yogurt, fruit cups, and reduced fat cookies.

4. Make a note of these healthy eating tips

- Choose salad, fruits, or vegetables rather than fries.
- Ask for reduced calorie dressing.
- Choose water, fat-free milk, or diet sodas rather than regular soft drinks.
- Order thin crust pizza and choose low fat toppings such as vegetables.
- Choose chicken tacos or bean burritos. Skip the cheese and double the salsa.
- Enjoy so-called comfort food like fried chicken but remove the skin and breading.
- Ask for grilled or roasted chicken sandwiches and add lettuce, tomato, and mustard.
- Order the two-piece chicken rather than the four-piece combo.
- Avoid mayonnaise and replace with ketchup, BBQ sauce, mustard, or salsa.
- Always check for healthy options at your favorite quick serve restaurants.

Direct specific questions to the Occupational Medicine Department, **Karen Sondrol-Maxwell, RN, at (702) 295-1474**. Or you can visit the American Dietetic Association Web site: eatright.org

The following acronyms appear frequently in SiteLines:

BEEF	Big Explosives Experimental Facility	NSTec	National Security Technologies, LLC
CTOS	Counter Terrorism Operations Support	NTS	Nevada Test Site
DAF	Device Assembly Facility	PIP	Process Improvement Project
DOE	Department of Energy	R-MAD	Reactor Maintenance, Assembly, and Disassembly Facility
EM	Emergency Management	RSL-A	Remote Sensing Laboratory - Andrews
EM	Environmental Management	RSL-N	Remote Sensing Laboratory - Nellis
ES&H	Environment, Safety, and Health	SC	NNSA Service Center
FRMAC	Federal Radiological Monitoring and Assessment Center	SCE	Subcritical Experiment
JASPER	Joint Actinide Shock Physics Experimental Research (gas gun)	SNJV	Stoller-Navarro Joint Venture
LANL	Los Alamos National Laboratory	SNL	Sandia National Laboratories
LLNL	Lawrence Livermore National Laboratory	STL	Special Technologies Laboratory
NNSA	National Nuclear Security Administration	WSI-NV	Wackenhut Services Inc. - Nevada
NSO	Nevada Site Office		

SiteLines

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Milestones

Desert Research Institute

20 years Karl Pohlmann
10 years Thomas Ballard

National Security Technologies, LLC

30 years Alan McGibbon, Sheryl Pfeuffer, John Truax
25 years Gary Chilton, John Clymo, Janet Cowley,
Naomi Munyan, Michael Ruggiero, Suzanne Scafiro
20 years Roderick Adams, David Anderson, Lynn Elizalde,
Juanita Kuhn-Matusky, Kenneth Lamison Jr.,
Robert Richmond
15 years James Pedalino
10 years Charles Harris, Deborah Mellor
5 years Randall Bridges, David Cooper, Kathy Gallegos,
Raymond Gignac, Leslie Gimbel, Morris Kaufman,
David Rudolph, Richard Ruud, William Skyles,
Ryan Smrha, David Stuhan, Nevada Tolladay,
Gabriel Torres, Cynthia Truffa, Edward Wood,
Gary Work

NNSA/NSO

20 years Monica Sanchez

Wackenhut Services, Inc.

20 years William Stinson
25 years Sandra Marshall

New Hires

Lorinda Apodaca-Fowler, Jorge Ceron, Alexander Dellaverson,
Terri Dishion, Douglas Frenette, Murray Kolander, Rebecca Lind,
Ryan Martin, Michal Odyniec, Ebony Williams

In Memory

Deceased Former Employees

Henry Buckley
Peggy Crenshaw
William Hacker
Ardith Kullberg
Howard Waite
Carl Whittington

Retirees

William Kuhlow, NSTec
Cletus Pierce, NSTec
Rudolf Rehfeld, NSTec
Scott Richardson, WSI
Rex Sommers, WSI
Donald Peterson, WSI
Maxwell Taylor, NSTec
Paul Wargo, NSTec

Calendar of Events

March 11

Daylight saving time begins. Please adjust clocks one hour ahead.

March 20

NTS Public Tour, open to the public. Sedan Crater, Non-Proliferation Test and Evaluation Complex, Bilby Crater, Area 5 Low-level Radioactive Waste Management Site, Apple II houses. Contact **Brenda Carter, NSTec, at (702) 295-0944.**