

BN team recovers sources in Hawaii

During the summer of 2004, the United States Radiological Threat Reduction (US-RTR) Project Team, composed of BN employees, was tasked with providing a broad range of support to NNSA's Office of Global Radiological Threat Reduction. This support includes assisting domestic organizations in the improvement of cradle-to-grave security, control, and disposition of radioactive material.

The US-RTR project team completed two source recoveries in August 2004 and was tasked in early 2005 to recover sources from a research irradiator at the University of Hawaii. The irradiator, which contains 100 Cobalt-60 sealed sources, was provided by DOE to the university in the 1960s for use in food preservation, insect sterilization and plant mutation experiments. Because the sources are decayed to activity levels below experimental use, the university requested complete decommissioning of the irradiator. The first step in this process was the recovery of the sources.



photo by Craig Lyons

The Hawaii Research Irradiator before recovery efforts began. The sources are submerged in 12 feet of water beneath the framework and decking.

Following many months of preparation, the sources from the Hawaii research irradiator were successfully recovered during the week of March 21, 2005. The sources were taken to the NTS' Radioactive Waste Management Complex and were buried as low-level waste.

"This recovery was so successful due to the outstanding planning and superb execution of a skilled and highly dedicated multi-functional team," said **Jeffrey Reed**, BN deputy project manager, Nuclear Nonproliferation.

Members of the recovery team included: **Jeffrey Reed**; **Kevin McNeil**, health physics/safety; **Ray Watson**, radiological control technician; **Stefan Duke**, waste generation; **Dennis Swick**, waste certification; **Craig Lyons**, senior scientist /subcontract technical representative; **Rob Chapados**, project controls engineer; **Rashelle Mahan**, senior operations specialist; **Sharon Nanez**, senior procurement specialist; **John Birkland**, transportation; and **Yun Ko Lee**, waste generation.



photo by Stefan Duke

A white shielded cask containing 100 Cobalt-60 sources retrieved from the Hawaii Research Irradiator is loaded into an "overpack" for shipment to the NTS.

Secretary of Energy Advisory Board reviews complex

The Secretary of Energy Advisory Board (SEAB) Nuclear Weapons Complex Infrastructure Review Task Force was recently in Nevada as part of a comprehensive review of the nuclear weapons complex. The task force was required to visit all NNSA sites and spent April 7 at the NTS.

Requested by the U.S. House of Representatives, the review must assess the implications of presidential decisions on the size and composition of the stockpile, the cost and operational impacts of the new Design Basis Threat, and the personnel, facilities and budgetary resources required to support a smaller stockpile. The review will evaluate opportunities for consolidation of special nuclear materials, facilities and operations across the complex to minimize security requirements and the environmental impact of continuing operations.

SEAB was chartered in January 1990 to provide the Secretary with timely, balanced, external advice in issues of importance. The members of the board offer a diverse and extensive reservoir of independent technical knowledge, policy understanding and management expertise.

Please visit <http://www.seab.energy.gov> for more information on SEAB or the Nuclear Weapons Complex Infrastructure Review Task Force.

Deputy Secretary of Energy visits Nevada



photo courtesy of LLNL

Deputy Secretary of Energy **Clay Sell**, left, receives a briefing by **Rick Higgs**, LLNL, as he tours the Device Assembly Facility at the Nevada Test Site.

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RSL supports Costa Rican aerial surveys

RSL-Nellis recently provided aerial survey support to Costa Rica with the NNSA/NSO King Air B-200 aircraft. This survey was an airborne science mission conducted under a four-year agreement between the National Aeronautics and Space Administration (NASA) and the Centro Nacional de Alta Tecnologia (CENAT) of Costa Rica. The aircraft was installed with the Laser Vegetation Imaging Sensor (LVIS) equipment and mounting rack which are owned by NASA. The B-200 departed from RSL-Nellis for RSL-Andrews March 14, 2005, where the LVIS sensor equipment was installed and test flown prior to departure for Costa Rica. The B-200 flight crew departed March 19, 2005, to support the LVIS 2005 mission in San Jose, Costa Rica.

The mission's objectives were to acquire airborne Lidar imagery over Costa Rica in order to do the following:

- Assess surface topography
- Tropical forest ecosystems research
- Map canopy height and structure

- Improve land surface carbon predictions
- Ecosystem modeling

"We're very honored to work with NASA and the Costa Rican Government on this worthwhile endeavor," said **Elaine McGlothen**, BN senior operations specialist and project manager. "The type of information that we assisted in gathering will help in understanding the Costa Rican ecosystem and the result of global climate changes. It will also help us to understand the impact of our actions over a period of time."

Over a three-week period, data was collected over research sites with a combination of multi-spectral and hyper spectral sensors. The LVIS mission required early daily flights (as weather permitted) flown from the Juan Santamaria International Airport to acquire cloud-free data over selected study sites. The flight times varied from sun up to sun down as sun angle requirements dictated. The NASA LVIS Science Team coordinated the selected study sites with the Costa Rican Science Team and managed the flight schedule accordingly. The Costa Rican scientific community will use the data collected for a better understanding of the topographic and vegetation structure of Costa Rica.



photo courtesy of RSL-Nellis

An aerial view of the Arenal volcano in the northwestern area of Costa Rica. The conical Volcan Arenal is the youngest stratovolcano in Costa Rica and one of its most active.



photo courtesy of RSL-Nellis

An aerial view of Costa Rica from the King Air B-200 during one of the mission flights.

Tucson hosts waste management community

by Dona Merritt

Blue skies, warm weather, and a successful meeting of the minds! That is what the Nevada Site Office Environmental Management (EM) Program encountered while exhibiting at the 32nd Annual Waste Management Symposium in Tucson, Ariz.

Every year, government entities and companies from around the world attend the conference to showcase a wide range of waste management and environmental restoration products and services. The Nevada Site Office EM Program was one of nearly 200 exhibitors at this year's event, which took place February 27 through March 3, 2005.

A highlight of this year's EM exhibit was the Area 5 Radioactive Waste Management Site display model, which was recently updated to depict the five new low-level waste disposal cells that were excavated this past year. Attendees also enjoyed a realistic glimpse of the diverse activities conducted at the NTS as they viewed the groundwater, industrial sites and waste management overview videos. In addition to the extensive exhibits, conference activities included a technical program featuring more than 70 sessions relating to the Symposium's theme: *Global Accomplishments in Environmental*

and Radioactive Waste Management: Cost Effectiveness, Risk Reduction and Technology Implementation. Throughout the week, representatives from the EM Program participated in several oral presentations and poster sessions discussing how these topics relate to waste management operations at the NTS.

To wrap up the week, approximately 50 symposium attendees traveled to Nevada for a first-hand look at waste management activities on the NTS. The group, which was largely composed of individuals from other countries, participated in what was a combined tour of the NTS and Yucca Mountain Project. The tour not only provided insight into the future of waste management at the NTS but also, undoubtedly, inspired ideas for next year's symposium.

The Waste Management Symposium is organized by WM Symposia, Inc., an Arizona non-profit corporation, and hosted by the University of Arizona. The conference is organized in cooperation with DOE, the Nuclear Regulatory Commission, the Environmental Protection Agency, and the International Atomic Energy Agency. Attendees travel from around the world to learn about products, services, and activities that are beneficial to the nuclear waste management community.

Face-to-Face



Name: Gary Pyles
 Company: DOE Nevada Site Office
 Title: Radioactive Waste Acceptance Program Task Manager
 Hometown: Albuquerque, New Mexico
 Hobbies/
 Interests: Biking, soccer, hiking, flying and camping

Key to Acronyms

The following acronyms appear frequently in *SiteLines*:

BEEF	Big Explosives Experimental Facility
BN	Bechtel Nevada
DAF	Device Assembly Facility
EM	Emergency Management
EM	Environmental Management
ES&H	Environment, Safety, and Health
JASPER	Joint Actinide Shock Physics Experimental Research (gas gun)
LANL	Los Alamos National Laboratory
LLNL	Lawrence Livermore National Laboratory
NNSA	National Nuclear Security Administration
NSO	Nevada Site Office
NTS	Nevada Test Site
PIP	Process Improvement Project
RSL-A	Remote Sensing Laboratory - Andrews
RSL-N	Remote Sensing Laboratory - Nellis
SC	NNSA Service Center
SCE	Subcritical Experiment
SNJV	Stoller-Navarro Joint Venture
SNL	Sandia National Laboratories
STL	Special Technologies Laboratory
WSI-NV	Wackenhut Services Incorporated - Nevada

News Briefs

BN Occupational Medicine receives accreditation

BN Occupational Medicine recently achieved three-year accreditation through the Accreditation Association for Ambulatory Health Care (AAAHC). Accreditation is a voluntary process through which an ambulatory health care organization is able to measure the quality of its services and performance against nationally recognized standards. The accreditation certificate is a symbol to others that an organization is committed to providing high-quality care and that it has demonstrated its commitment by measuring up to the Accreditation Association's high standards.

"NNSA/NSO is proud of the accomplishments of the BN Occupational Medicine Department," said **Ken Hoar**, NNSA/NSO environment, safety and health supervisor. "The teamwork and dedication of the Occupational Medicine personnel demonstrates to NNSA/NSO the commitment to the highest level of quality medical care for all employees."

Status as an accredited organization means BN Occupational Medicine has passed a series of rigorous and nationally recognized standards for the provision of quality health care, set by the Accreditation Association. BN was "substantially compliant" in all eight required standards which include Rights of Patients; Governance; Administration; Quality of Care; Quality Management and Improvement; Clinical

Records and Health Information; Professional Improvement; and Facilities and Environment. In addition, they achieved substantial compliance in the standards applicable to their organization which include Urgent Care Services; Pharmaceutical Services; Pathology and Medical Laboratory Services; and Employee and Occupational Health Services.



More than 2000 ambulatory health care organizations across the United States are accredited by the AAAHC. Organizations seeking accreditation by the AAAHC undergo an extensive on-site, peer-based survey of their facilities and services. Accreditation is awarded for a period ranging from six months to three years, depending on the level of compliance with the standards.

Ambulatory health care organizations value accreditation as a measure of professional achievement and quality of care. The Accreditation Association certificate of accreditation has become a benchmark of quality, not only to those involved in health care delivery and management, but to the general public.

"For Bechtel Nevada to have an Occupational Medicine department achieve this recognition shows the high level of quality of our personnel as well as the dedication this group has to the workforce," said **Dr. David Snell**, BN medical director.

BN Occupational Medicine operates two clinics for employees – one in the North Las Vegas complex and one at the NTS.

Aviation Operations holds safety stand-down

A safety stand-down was held for all BN Aviation Operations section personnel at the end of March. The stand-down theme was "Safety is Everyone's Business." All non-deployed section personnel and other invitees (approximately 30) from RSL-Nellis and RSL-Andrews were in attendance. The stand-down provided attendees with an opportunity to learn about and reflect on the safety aspects of their job as well as their personal lives. Opening remarks were given by several BN managers including **Cynthia Rivera**, principal deputy general manager; **Alan Will**, deputy operations manager; **Rich Vojtech**, RSL-Andrews department manager; **Bob Hampton**, RSL operations support department manager; and **Tony Shoemaker**, Aviation Operations section manager. Presentations were given at both RSL-Andrews and RSL-Nellis through video teleconferencing.

At RSL-Andrews, Colonel **Marie Charles**, United States Air Force air mobility com-

mand consultant on aerospace physiology, discussed aging and performance, cardiovascular health, and self medication issues. **Kenneth Allen**, Division II operations officer, 5th Coast Guard District, presented information on boating and water safety. From RSL-Nellis, **Stella Balmer**, a public education officer for the North Las Vegas Fire Department, and **Jo Preston**, a crime prevention specialist from the North Las Vegas Police Department, spoke on home fire safety and personal safety respectively. A presentation on suspected unauthorized parts was presented by **Eric Barr**, an Airworthiness and Avionics maintenance inspector from the Federal Aviation Administration (FAA), Las Vegas Flight Standards District Office (FSDO). **Nancy Haugarth**, the safety program manager for the FAA Las Vegas FSDO spoke on temporary flight restrictions. Lastly, human performance was the topic of a presentation given by **Gary Sterling**, BN aviation safety officer.

The safety stand-down was well received by all in attendance and was concluded with closing statements from **Brian Sheridan**, BN deputy general manager, and Shoemaker.

New contract purchase agreements are just in time

BN's procurement department recently implemented Contract Purchase Agreements (CPAs) with existing Just in Time Suppliers for the procurement of uncomplicated, non-stock items. These agreements offer benefits to the customer, procurement, receiving and the vendor.

CPAs allows customers to order non-stock items by entering them into the requisitioning system. Once the order is approved, the system automatically alerts the vendor that an order is ready for download. The requirement is no longer processed through procurement, which had to wait until a buyer was available to process the order. Also, once an item is ordered through the system, re-ordering is done with a click of the mouse.

Other benefits allow procurement to review and measure the vendor performance and

item usage. With this information, procurement can negotiate better discounts based on increased usage. In addition, the process allows buyers and requestors to work on more complex procurements.

The agreements have reduced the receiving time as it is now required that orders are bar-coded by the vendor, allowing the receivers to scan the documents rather than load them manually. The process has also reduced the use of the purchase card system which requires manual receiving and extensive reconciliation. It also eliminates the addition of the standard one percent to five percent surcharge that is paid per credit card order.

The CPAs are just the first step. Future plans include electronic catalogs and Web-based shopping carts allowing for more ease of use and flexibility. Last year procurement reported this process saved approximately \$42,000. As this process improves, procurement looks forward to additional savings in both time and money.



Face-to-Face



Name: Sally A. Perea
Company: Bechtel Nevada
Title: Business Systems Analyst
Hometown: Air Force Brat, but I consider Las Vegas my hometown
Hobbies/
Interests: Shopping, watching home improvement shows and teaching Catechism (Bible Study) to middle schoolers

Submit your SDRD proposals now

Proposals are now being accepted for innovative, high-risk research and development ideas for NTS Directed Research, Development and Demonstration (SDRD) funding. Authors are encouraged to submit their ideas using the fiscal year 2006 Proposal Form, BN-1509, to their operations office for forwarding to **Wil Lewis** by **May 20, 2005**. For more information, contact **Wil Lewis** at (805) 681-2278.

BN Distinguished Visiting Professor completes first year

Dr. Warnick Kernan, a physics professor at the University of Nevada, Las Vegas (UNLV), recently completed the first year of his two-year appointment as BN's Distinguished Visiting Professor.

"Both the members of the administration and other faculty at UNLV were extremely supportive and welcoming," said Kernan. "My first year as the visiting professor was a wonderful experience, and I look forward to the second year."

The Distinguished Visiting Professor program goals include building a strong collaborative relationship between BN and UNLV as well as strengthening science and engineering activities through joint research and development efforts in order to pioneer advances in these fields. The position, funded by BN and subject to annual renewal, requires that the visiting professor be established at UNLV, teaching at least one course per year.

Kernan's course, which was entitled "Nuclear Threat and Detection for Homeland Security," incorporated guest speakers of international caliber and was well received

by the university, students and members of the public who attended the guest lectures. Guest speakers included **John Browne**, former LANL director (Material Controls and Accountability, Nunn-Luger, and International Export Control); **Ralph James**, Brookhaven National Laboratory (Development of Room-Temperature Semiconductor Radiation Detectors); **James Jones**, Idaho National Engineering and Environmental Laboratory (Active Interrogation); **Bob Kelley**, International Atomic Energy Agency (Radiation Detection as a Tool in Difficult Nuclear Nonproliferation States); **Glenn Knoll**, University of Michigan (Nuclear Radiation Detection Fundamentals); **Richard Olsner**, LANL (Monte Carlo Simulation and Radiation Detector Development); **Tony Peurung**, Pacific Northwest National Laboratory (Neutron Detection); **Carolyn Pura**, SNL (Networked Sensors); and **John Valentine**, LLNL (Gamma-Ray Spectroscopy).

Kernan hopes to hold the course again in the spring of 2006. This fall, Kernan is planning to teach introductory nuclear physics to radiochemistry students.

Currently, Kernan is pursuing three separate collaborations on radiation detector development and measurements of the properties of actinides with other faculty members. Additionally, he is assisting with the general BN collaborative effort with University of Nevada campuses.

Beyond the call

And the award goes to . . .

Winning awards is not a common thing for most people, but NNSA/NSO's Operations Security (OPSEC) Program Office has made it a way of life. In the last eight years, the office has won 18 awards. Some of the awards include:

- National OPSEC Individual Achievement Award, presented to the OPSEC Manager in 2000
- Exceptional Service Award in support of DOE Defense Programs
- National Multi-Media Achievement Awards in 1996, 1997, 1999, 2001, 2003 and 2004
- 1998 Special Act Award in support of NNSA/NSO
- 1st place Distinguished Award from the American Society for Industrial Security (ASIS) for the NNSA/NSO OPSEC home page
- 2nd place Distinguished Achievement Award from ASIS for the OPSEC identity theft video
- 1997 National OPSEC Organizational Achievement Award in support of NNSA/NSO
- 2nd place National OPSEC Organizational Achievement Award in 2002 and 2003
- Defense Programs Award of Excellence in 2000, 2001, 2002 and 2003

Continuing with its award-winning ways, the NNSA/NSO OPSEC Program Office will receive the National OPSEC Multi-Media Award (Electronic Version) for the year 2004 for a video entitled *The OPSEC Hunters*. The national OPSEC awards ceremony will take place May 24 in San Diego, Calif. during the National OPSEC Conference.

The annual National OPSEC Awards Program is a top priority for the Interagency OPSEC Support Staff (IOSS). The IOSS is the focal point for OPSEC within the United States Government and understands the importance of acknowledging those individuals and organizations that have excelled in the practice of OPSEC during the past fiscal year. Through this awards program, the IOSS hopes to encourage the devel-

opment of new and exciting OPSEC programs and awareness products.

The OPSEC Hunters video is a seven minute, 50 second video that shows the viewer several areas where sensitive information may be found, such as in open view in vehicles, conversations spoken over non-secure telephones, non-secure and unattended facsimile machines, trash cans, and unprotected and non-secure computers. These scenarios illustrate to the viewer several pathways where sensitive, unclassified information may be inadvertently released to individuals without a valid need-to-know.

In the video, the OPSEC Hunter is seen roaming the site looking for places where sensitive information may be located in improper places. The Hunter displays the notion that sensitive information is uncomfortable out of its environment, and he goes about placing the information back in its proper habitat. The video opens with a NNSA/NSO OPSEC practitioner explaining and providing examples of why it is necessary to protect our sensitive information from inadvertent or unintentional release to our adversaries. The video closes with the OPSEC practitioner reminding employees to use effective OPSEC practices at work, home or on travel.

This video, in a light-hearted, humorous way, reminds employees not to discard or send sensitive unclassified information in a way that can be intercepted by our adversaries. The script was written by NNSA/NSO OPSEC professionals and is based on the Crocodile Hunter, Steve Irwin. This further illustrates the point that OPSEC practitioners can draw ideas on how to convey the OPSEC message from many different, creative sources. The use of OPSEC program office personnel in the video itself also provides familiarity to local viewers and serves as a way to market the OPSEC program.

For more information on the NNSA/NSO OPSEC program, please contact **Wayne Morris** at (702) 295-3335.

Kudos to BN



Mary P. O'Donnell, BN assistant general manager for human programs and communications, presents Dr. James E. Powell, BN president and general manager, with a certificate of appreciation from the Pahrump Special Olympics. BN supported this year's team with a monetary donation.

Face-to-Face



Name: Robert Pelayo

Company: WSI-Nevada

Job Title: IS Specialist

Hometown: Las Vegas, Nevada

Hobbies/

Interests: The great outdoors, camping, fishing and hunting with my four boys, cooking wild game, especially barbecuing, and learning new technology in computers and networks

This feature highlights various components of the Six Sigma process at the NNSA/NSO complex. A monthly article will detail the Six Sigma process, individual PIPs, the team members associated with Six Sigma, or the anticipated benefits and cost savings associated with implementing the PIPs.

Design for Six Sigma results in \$2.6 million in financial benefit

by Dennis Barker and Scott Doney

Design for Six Sigma (DFSS) is a Six Sigma methodology focused on planning new projects, processes or products. DFSS is an advantage when there is a lack of data, the Cost of Poor Quality is not known, or where processes are nonexistent or so flawed that total redesign is the preferred option. The DFSS process relies on two basic Six Sigma tools: Quality Function Deployment (QFD) and Failure Modes and Effects Analysis (FMEA). QFD is a structured tool for capturing customer requirements, mapping them to design features in a new process or product design, and measuring competitive benchmarks against the proposed design and the customer requirements. FMEA is used to identify and evaluate the possible failure modes of the design features from the Quality Function Deployment, identify corrective actions, and mitigate risks.

LANL and BN project managers recently used DFSS tools for the *Krakatau* subcritical experiment (SCE) at the NTS. Subcritical experiments like *Krakatau* are complex operations involving the interface of multiple organizations and diverse groups of personnel. A QFD identified "Scope of Work" as a critical design feature. A map of the

scope of work development process revealed "Determine Scientific Requirements and Allowables" as a key step. Application of the XY Matrix tool and mapping costs to benefits resulted in the determination that planned Pyrometry and Borescope experiments could be eliminated without adversely affecting customer requirements.

DFSS tools are tailor made for the type of work performed by the Stockpile Stewardship program. The application of DFSS tools on *Krakatau* thus far resulted in the reduction of \$2.6 million in planned Pyrometry and Borescope work scope from the *Krakatau* SCE. A baseline change request was executed to apply the funds to other more critical NNSA work scope.

This cost reduction in the diagnostic area allowed the Stockpile Stewardship program to meet the August 2005 *Kerini* confirmatory experiment schedule and to conduct the *Krakatau* experiment in the first quarter of fiscal year 2006.

LANL is embracing the BN Six Sigma program, and their test directors are requesting BN Champions, Black Belts, and Yellow Belts perform Six Sigma work on all subcritical experiments. This is a great example of collaboration between BN and the National Laboratories to accomplish our joint goals.

Currently, the *Krakatau* DFSS team is conducting a Failure Modes and Effects Analysis in order to identify additional benefits.

Parking lot safety

by Dolores Nizich

Do you know the rules for parking within the NNSA/NSO North Las Vegas (NLV) complex?

Parking lots are one of the likeliest places for involvement in a fender bender. People seem to suspend their good judgment when looking for a parking space. Some people ignore the posted traffic signs such as "Stop", "Yield", "Speed Limit" or the directional arrows when they are traveling through the NLV complex. They consider these signs and other traffic safety information as optional in parking lots because they are on government property and not subject to a ticket. Others ignore the traffic lanes to cut diagonally across the lot.

Pedestrians are also at risk for an accident as they do not always use the designated crosswalks and may not be aware that vehicles are moving through the parking lot as they enter or exit. Drivers may not always see pedestrians if pedestrians are walking in areas other than designated walkways. The best way to protect yourself is to remain aware of everything moving for 360 degrees around you. Watch for cars that might cut diagonally across the lot. Be safe and use the designated crosswalks and always stay aware of vehicles.

If you are driving in and around the complex, drive slowly and obey the 15 miles per hour speed limit. If you find a space away from the building where fewer cars are parked, you may have several advantages:

- The doors on your car are exposed to fewer parking lot dings.
- You will find a spot faster which will make up for the time it takes to walk to your destination.
- The extended walk is good from a health standpoint.

SAFETY TIPS:

- Watch for cars cutting diagonally across parking lots; drive slowly and use your turn signals.
- When backing out of a parking lot space, stay aware of waiting cars, others who are backing out at the same time and other vehicles that may be speeding through lanes.
- Do not park between spots; it takes up room that another person could use.
- Avoid parking close to large vehicles if possible, as it will decrease your ability to see the area around you.

REMEMBER:

- Do not park in fire lanes (red curbing).
- Do not park in crosshatched areas. These are designated as "no parking" spaces.
- Do not park in a loading zone, on the grass, or in "no parking" areas or other non-designated areas.
- If the sign says "Government Vehicles Only," it means no private vehicles are permitted to park in these parking spots.
- Do not park in disabled parking spaces unless you have a special permit issued by the Nevada Department of Motor Vehicles and it is prominently displayed on the vehicle.

Your safety is important to us. Drive carefully and stay safe.



MILESTONES

Bechtel Nevada

40 years	<i>Las Vegas – Martha Wallace</i>
35 years	<i>Las Vegas – Frances Guinn</i>
30 years	<i>Las Vegas – Ruth Barge, Odisey Brabham, Rayford Patterson</i>
25 years	<i>Las Vegas – Dennis Jeffrey, Jack Korous, Vefa Yucel; Nevada Test Site – George Baca, Gabriel Kline</i>
20 years	<i>Las Vegas – Mark Fiscus; Nevada Test Site – Jeffrey Wojcik; Livermore Operations – Mary Karrick</i>
15 years	<i>Las Vegas – Steven Becker, Dean Dennis, Steve Nacht; Nevada Test Site – David Davison, Stephen Hett, William Paskiet, Marlene Peck, Kenneth Shaver; Livermore Operations – Bette Culver</i>
5 years	<i>Las Vegas – Christopher Coskey, Steven Gardner, Graham Giles, Chan Jung, Craig Marianno, Nancy Tufano; Nevada Test Site – Quentin Aukeman, Kirk Francom, Timothy Herting, Kevin</i>

McNeil; Livermore Operations – Kent Marlett, Donald Max; Los Alamos Operations – Howard Bender III, Juliette Martinez; Remote Sensing Laboratory-Andrews – Charles Torian; Special Technologies Laboratory – Roger Bernal

New Hires *Las Vegas – Linda Doering, Richard Kelley; Nevada Test Site – Garth Beers, Randy Blair, Brandon Jautaikis, Michele Kelly, Elizabeth Leonard, Gregory Miller, Jessica Oswald, Everett Poore, Alicia Riano, Michael Snyder, Jim Stuart, Shawn Yount; Remote Sensing Laboratory-Andrews – William Weintraub*

Sandia National Laboratories
35 years **Jerry Chael**

Wackenhut Services Incorporated - Nevada
20 years **Ivory Hughes**

15 years **Richard Shook**

— Compiled by Kirsten Kellogg

Lessons Learned

Drive safely – PBS is watching

BN's People Based Safety (PBS) process is reducing at-risk behaviors and increasing safety awareness throughout the company. One recent initiative at the North Las Vegas (NLV) facility identified several areas of concern in the parking lot and driving arenas.

The Information Systems Department PBS observers were out in force in October 2004 wearing their orange safety vests and utilizing a speed meter on loan from the City of North Las Vegas. In the cold and wet weather, observers obtained data on the behavior of our drivers and pedestrians. The team observed 2,249 vehicles and 929 pedestrians. The at-risk observations consisted of the following: 1.7 percent of vehicles were driving the wrong way; 36 percent of vehicles were speeding; 0.6 percent of vehicles failed to stop at stop signs or crosswalks; 2.8 percent of drivers were unaware of their surroundings; 0.2 percent near misses were witnessed; and no accidents were observed.



photo courtesy of Martha Wallace

PBS observers conduct a vehicle watch in October 2004. Several recommendations came from the effort.

One fairly obvious at-risk behavior was the high percentage of vehicles speeding. As a result of these observations, speed limits were reduced from 25 miles per hour (mph) to 15 mph, and signage was posted in more visible areas. When exiting the NLV facility, it is a down-hill drive and maintaining the 15 mph speed limit requires the vigilant attention of drivers.

Other ideas suggested to senior management and the NLV facility manager were to review adding additional cross walks and speed limit signs, issue proper parking rules, address walking areas that are extremely slippery when wet, address drivers speeding in government vehicles, and utilize flags for golf cars to increase their visibility in the parking lots.

The results of the observations by the PBS observers are applicable to all facilities utilized by NNSA and its contractors. Slow down if you are driving too fast. Reduce any at risk behavior that may cause an accident.

For more information on this and other Lessons Learned, please contact **Doris Burnett** at (702) 295-5580.

Here comes the sun – Heat-related illnesses

by Mario Vasquez

The desert we live in requires unique preparation with each season. Rains can easily turn to floods, and sunny days can turn into scorching 100 plus degree days. As we move toward the warmer time of the year, it is important to remind everyone of the ever present hazard of heat-related illnesses. Whether at work or play we need to keep in mind the potential dangers of our hot, dry, desert climate. So, as a reminder, here are the signs of the three major forms of heat illnesses: **heat cramps**, **heat exhaustion**, and **heat stroke**. Keep in mind that heat stroke can be a life threatening condition.

Heat Cramps

Muscle spasms or heat cramps usually affect the arms, legs, or stomach. Heat cramps are caused by heavy sweating and the loss of electrolytes, such as sodium and potassium. Often the cramps do not occur until sometime after your exposure to the heat, usually at night, or when relaxing. Heat cramps can be quite painful but usually do not result in permanent damage. To prevent heat cramps it is necessary to replace the water and electrolytes you lose during the day. Drink electrolyte solutions, such as Gatorade, during the day or eat more fruits like bananas that are high in potassium.

Heat Exhaustion

A more serious condition is heat exhaustion. As the name implies, the body's internal air-conditioning system has overworked but hasn't completely shut down. This is a sign that the surface blood vessels and capillaries which originally enlarged to cool the blood have collapsed because there are not sufficient body fluids and necessary minerals. In other words, you do not drink enough fluids to replace what you are sweating away.

The signs of heat exhaustion include: headache, heavy sweating, intense thirst, dizziness, fatigue, loss of coordination, nausea, impaired judgment, loss of appetite, hyper-ventilation, tingling in hands or feet, anxiety, cool moist skin, weak and rapid pulse (120-200) and low to normal blood pressure.

Anybody showing these signs should immediately be moved to a cool, shaded area, air-conditioned building or car. Have the person lie down with their feet slightly elevated. Loosen their clothing, apply cool, wet cloths or fan them. The goal is to try to cool them down. Provide them with lukewarm drinking water or an electrolyte drink. Most importantly, have them checked by medical personnel. After a heat exhaustion event, the person should avoid strenuous activity for at least a day and should continue to drink water to replace lost body fluids.

Heat Stroke

The most serious of the heat related illnesses is heat stroke. It can be a life threatening illness with a high death rate. Heat stroke is caused by the body depleting its supply of

water and electrolytes and the body temperature rising to deadly levels. A person may first experience heat cramps then heat exhaustion before progressing into the heat stroke stage. This is not always the case particularly when a person has experienced heat stroke in the past. Heat stroke is sometimes mistaken for a heart attack so it is very important to recognize the signs and symptoms of heat stroke. Check for these signs anytime an employee collapses while working in a hot environment.

Signs of heat stroke include a high body temperature (103° F); clear absence of sweating (usually); hot red or flushed dry skin; rapid pulse; difficulty breathing; constricted pupils; any/all the signs or symptoms of heat exhaustion such as dizziness, headache, nausea, vomiting, or confusion. In more severe cases, look for bizarre behavior, high blood pressure, seizure or convulsions, collapse, loss of consciousness and a body temperature over 108° F.

If a person experiences heat stroke, **every second counts**. Call 911 and get an ambulance on the way as soon as possible. It is critical to lower the victim's body temperature as fast as possible. Follow the same procedures you would for heat exhaustion, but do not try to give them water if they are unconscious. Move them to a shaded or air conditioned space, pour water on them, fan them or apply cold packs.

We live in a climate where anyone can suffer from a heat illness, but by taking a few simple precautions, they can be prevented. These precautions include:

- Condition yourself for working or playing in hot environments – start slowly then build up to more physical work or activities. Allow your body to adjust over a few days. Remember that people with medical conditions like diabetes may not tolerate heat as well as others. Know your physical limitations.
- Carry and drink lots of liquids. Do not wait until you're thirsty. By then, there's a good chance you are already on your way to becoming dehydrated. Electrolyte drinks are good for replacing both water and minerals lost through sweating but fruits can also help. Avoid drinking alcohol, and avoid caffeinated beverages like coffee and soda if you plan to participate in physical activities outdoors.
- Take a break if you start feeling overheated or you notice you are getting a headache. Cool off for a few minutes before going back to work or play.
- Wear light-weight, light colored clothing when out in the sun. Make use of shade when possible. A hat and/or umbrella are some things to consider on a hike.
- Take advantage of fans and air-conditioners.
- Get enough sleep at night.

With a little common sense and awareness of the signs of heat-related illnesses, you can enjoy work or play in our desert climate.

In Memory

Billy Blair – former contractor employee
Henry C. Brock – former contractor employee
Carl T. Green – former contractor employee
Edward Kelemen – former contractor employee
Clark G. Lawson – former contractor employee
T. E. Newman – former contractor employee
Robert E. Stewart – former contractor employee



Sun, sand and skin cancer?

by Karen Sondrol-Maxwell

As the weather gets warmer our thoughts turn to picnics, barbecues, pool parties and even yard work. But, have you thought of the consequences of overexposure to the sun? During the past several decades the incidence and mortality of skin cancer has increased exponentially and is continuing to increase every year. More than one million Americans are diagnosed with skin cancer each year and almost half of all Americans will have had some type of skin cancer by the time they reach the age of 65. It is reaching epidemic proportions.

There are three types of skin cancer: basal cell carcinoma; squamous cell carcinoma; and melanoma (the most serious type of skin cancer). All three of these cancers are related to sun exposure, especially when this exposure has resulted in sunburn and blistering.

Basal cell carcinoma is the most common. It arises from epithelial cells, which form the bulk of the outermost layer of your skin. It can appear as a red patch, or irritated area, a small pink pearly lump, white or yellow scar-like area, smooth growth with a dent in the center, or an open sore that bleeds or oozes. These areas can become quite large and disfiguring. This type of cancer rarely spreads throughout the body and death from this is rare.

Squamous cell carcinoma arises from the epithelial cells, also. The most common sites are the ears, face and the mouth. It usually arises from a precancerous lesion that appears as a rough, flat pink spot that is raised above the skin level and is firm to the touch. This type of cancer can spread to other parts of the body and is more aggressive than basal cell carcinoma.

Basal cell and squamous cell carcinomas are highly curable. They may be treated with surgery or radiation therapy.

Melanoma originates in the melanocytes (the cells containing color). According to the American Academy of Dermatology, one person dies from malignant melanoma every hour. Since 1973 new cases of melanoma have increased by 150 percent. Most melanomas begin on or near an existing mole. Melanoma does spread to other places on the skin, lymph nodes, lungs, liver, brain or bones.

Sunburn as a child is the cause of most melanomas in later years. Anyone can get melanoma, but the following are some risk factors:

- a person with a high number of moles
- red or fair hair, blue eyes, fair skin and freckles
- a person who tans with difficulty and burns in the sun
- a strong history of this type of cancer in two or more family members (a person with a first degree relative has a 2.24 fold higher risk of melanoma)
- three or more episodes of blistering before age 20
- three or more years spent at an outdoor job as a teen

Skin changes can also indicate an increased risk of developing melanoma:

- a new mole appearing after age 30
- a new mole at any age in an area of the body that is rarely exposed to the sun
- at least 20 moles greater than two millimeters
- five moles greater than five millimeters
- freckles caused by sun exposure
- one or more moles that resemble a melanoma called dysplastic nevi

Some warning signs of melanoma include:

- change in the size, shape or color of a mole or the mole is asymmetrical – one half is not similar to the other half
- irregular border, meaning it is difficult to tell where the border stops. Sometimes it appears as one lesion superimposed over another.
- moles indicating melanoma are typically dark brown or black in color with a mixture of colors including pink, gray and blue-gray hues
- usually one centimeter or the size of a dime
- oozing or bleeding from a mole
- a mole that feels itchy, hard, lumpy, swollen or tender to the touch
- it can appear as a new mole

It is important to know the color, size, shape and location of existing moles so you can take note of any changes in these moles and the appearance of any new moles.

How to check your skin for early signs of melanoma:

- Face a wall mirror and examine your face, lips, ears and eyes. Use a flashlight to

check the inside of your mouth, nostrils and ears. Check your neck, shoulders, upper chest, and if you are a woman, under your breast.

- Using two mirrors check behind your ears, neck and upper back. Part your hair with a brush or comb and check your scalp. Have a family member help. **The back is the most common site of melanoma in men.**
- Check your abdomen (front and sides). Use two mirrors to check your lower back, buttocks and genitals (including anus, vaginal areas, penis and testes).
- Raise both arms and check underneath. Check both sides of arms and hands. Check between fingers and under nails. Check both sides of upper body.
- Check all sides of your legs, including your feet (tops, heels, soles, between toes and under toenails). **Legs are the most common site of melanoma in women.**

You need to do this check monthly and look for any new moles (even if they look normal), a freckle that looks darker than the others, pigmented areas that are new, a new spot that is black (even if it is very small) and any unusual moles. It is always a good idea to have a skin check every 12 months by a dermatologist.

Be aware that a tan is not a sign of health; it is a sign that the skin is damaged by ultraviolet radiation. Ultraviolet radiation is made up of UVA and UVB rays.

The tanning industry has promoted tanning beds as a safe alternative to tanning. This industry claims that tanning beds only produce UVA rays, without producing UVB rays, which are responsible for most sunburns. Researchers have discovered that tanning beds do produce UVB rays, but the amount of UVB rays produced depend on the type of tanning bed. Researchers have learned that UVA rays are not as safe as previously thought. They have many biologic effects that can cause long term damage. Tanning beds will age the skin and lead to wrinkling, something the tanning salons do not advertise. Also, using a tanning bed followed by natural sun exposure causes a cumulative effect on the skin and can cause burning.

Excessive exposure to the ultraviolet radiation of the sun is the most important preventable cause of skin cancer.

If you have any questions regarding skin cancer, please contact **Robin Ireland**, BN occupational health nurse, at (702) 295-4736 or **Karen Sondrol-Maxwell**, BN occupational health nurse, at (702) 295-1474.

If you would like additional information on skin cancer, please visit the following Web sites:

<http://www.skincancer.org/artificial/index.php>

<http://melanomafoundation.org/>

<http://www.skincancer.org/children/index.php>

Sun protection tips:

- Stay out of the sun between 10:00 a.m. and 3:00 p.m. (some dermatologists suggest 4:00 p.m.)
- Check your local paper, radio station or weather station for the daily ultraviolet (UV) index. Remember the higher the number the greater the need for skin protection. The UV index is based on a scale of one (low) to 15 (high).
- Wear a sunscreen with a minimum of 15 SPF, even on cloudy days. If you sun burn easily or are fair skinned you may want to select a sunscreen with a higher SPF. Using a cream, oil or lotion is a matter of personal choice but remember that most oils do not contain sufficient amounts of sunscreen and usually have an SPF of two. Make sure you apply sunscreen to lips and ears. Always shake your bottle of sunscreen well before using to mix particles that might be clumped in the container.
- Apply sunscreen heavily 30 minutes before exposure (about one ounce for teens and adults). Do not apply sunscreen to infants under six months of age. Keep infants out of the sun.
- Reapply sunscreen every two hours or after swimming or perspiring. Water resistant sunscreen maintains its SPF level after 40 minutes of water exposure. Waterproof sunscreen maintains its SPF level after 80 minutes of water exposure.
- Wear clothing that covers your body and shades your face (wide brimmed hats can provide protection for the face and back of the neck).
- Avoid exposure to UV radiation from sunlamps or tanning parlors.
- Have sunglasses with UVA and UVB protection; they should filter at least 80 percent of the sun's rays.
- Throw away last year's sunscreen as the properties can change with time.
- If you cannot face being pale, there is a wide selection of fake tanning products.
- UV light is reflected by all types of surfaces, especially water, sand and snow.

In the Next Issue of *SiteLines* ...

- Emergency Communications Network demonstration
- Take Our Daughters and Sons to Work Day
- Christmas comes early

CALENDAR OF EVENTS

May 7

Susan G. Komen Breast Cancer Foundation's Las Vegas Race for the Cure. For additional information, visit www.lvracefortheure.com.

May 14

Family Fair. Contact **BN Workforce Enhancement (702) 295-0930**.

May 20

Proposals for NTS Directed Research, Development and Demonstration (SDRD) are due. Contact **Wil Lewis, BN (805) 681-2278**.

May 22 – July 17

Harold "Doc" Edgerton's *Seeing the Unseen* photographic exhibit. Atomic Testing Museum, 755 East Flamingo Road, Las Vegas. For more information, call **(702) 794-5151**.

May 26

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

May 30

NNSA/NSO and contractor offices closed in observance of Memorial Day.

June 2

EG&G Reunion. 6 p.m. to 9 p.m. Atomic Testing Museum, 755 East Flamingo Road, Las Vegas. \$30 per person. For more information, call **Joyce Rogers (702) 794-5151**.

June 29

NTS Public Tour, open to interested members of the public. Sedan Crater, Frenchman Flat, Non-Proliferation Test and Evaluation Complex, 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 Independence Day.

Declassified Film Showings

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

Upcoming Conferences, Meetings, and Trade Shows

May 21-26

AIHce 2005 Annual Conference. Anaheim Convention Center, Anaheim, Calif. For additional information, visit www.aiha.org/aihce05/aihce.htm.

June 5-9

American Nuclear Society Annual Meeting. Town and Country Resort & Convention Center, San Diego, Calif. For additional information, visit www.ans.org/meetings/annual/.

June 12-15

The American Society of Safety Engineers presents SAFETY 2005. New Orleans, La. For additional information, visit www.asse.org/safety2005.htm.

June 12-15

6th Annual DOE Small Business Conference. Gaylord Opryland Resort, Nashville, Tenn. For additional information, visit www.smallbizconference.com/.

June 21-24

Air & Waste Management Association's 98th Annual Conference and Exhibition. Minneapolis Convention Center, Minneapolis, Minn. For additional information, visit www.awma.org/ACE2005/default.asp.

July 10-14

Health Physics Society's 50th Annual Meeting. Spokane Convention Center, Spokane, Wash. For additional information, visit www.hps.org/newsandevents/meetings/meeting4.html.



June is:
National
Safety Month



July is:
Fireworks
Safety Month

Face-to-Face



Name: Adele Young

Company: Stoller-Navarro Joint Venture

Title: Receptionist

Hometown: Corpus Christi, Texas

Hobbies/
Interests: My hobbies are my interests which are watching major league baseball, especially the Angels, golf, and tennis. I also love to play ping-pong – that's my game.

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