

Pilot Sandia treatment system that removes arsenic from water demonstrated at Rio Rancho well site

Cost of cleanup statewide to meet new EPA standards expected to be \$500 million



IT WORKS LIKE THIS — Malynda Aragon (6118) shows Sen. Pete Domenici the pilot arsenic water treatment technology that has just been installed at a Rio Rancho well site. Domenici pushed for funds for affordable arsenic removal technology, and Sandia is helping communities around the state understand their best options. (Photo by Randy Montoya)

By Chris Burroughs

New Mexico will be one of several western states severely impacted next year by new Environmental Protection Agency regulations that call for a significant reduction in the amounts of arsenic allowed in water supplies.

Some 80 communities in the state will be affected, and costs for arsenic removal in New Mexico alone are estimated at \$500 million.

This is according to Peter Davies, director of Geoscience and Environment Center 6100, who was among the presenters at a news conference earlier this month at a Rio Rancho well site where a Sandia research project designed to study ways to economically resolve the arsenic problem was displayed.

On hand were Sen. Pete Domenici, R-N.M., who secured \$10 million for the research project in his role as chairman of the Senate Energy and Water Development Appropriations Subcommittee; Rio Rancho Mayor Jim Owen; and Sandia executives. The Rio Rancho pilot treatment system tests arsenic removal technologies supplied by a number of vendors.

The project is part of a research program designed to find simple, inexpensive ways water utilities can reduce arsenic levels from their water supplies to meet the new EPA regulations that go

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SANDIA TO HELP local communities tackle arsenic problems in water supplies. Page 5.

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UT System extends in-state tuition to Sandians, families

Would apply to LANL if bid goes to UT/Lockheed Martin team

By Bill Murphy

Thanks to an agreement between Sandia and The University of Texas System, Sandians, their spouses, and dependent children can now attend schools within the UT System at Texas



in-state tuition and fees. The agreement took effect Sept. 1. It required special legislation by the Texas Legislature.

The agreement with the UT System means that Sandians now have an education benefit similar to that enjoyed by Los Alamos National Laboratory employees for many years. Because LANL since its founding has been part of the University of California system, its employees and their spouses and dependents have been able to attend UC schools at California in-state resident rates.

The tuition agreement is the latest example of *(Continued on page 5)*

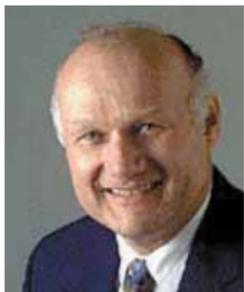
REIMBURSEMENT SPENDING ACCOUNTS

Sandia's Benefits organization tells you all about Reimbursement Spending Accounts, or RSAs, for health care and day care. The rules are a bit tricky, but if you use RSAs properly, you could save thousands on your taxes. The article on page 10 gives you the full scoop.

Sandia rolls out 'total-body,' corporate-wide self assessment

By Iris Aboytes

Sandia is rolling out a corporate-wide self assessment for all Sandians. According to Labs Deputy Director John Stichman, this assessment



JOHN STICHMAN

is not unlike going to a physician for a personal health assessment. "This assessment will help us understand what is or isn't working," says John. "What can we change? What can we improve? Most importantly it will help us build a sense of confidence

in the way the Laboratories are working to provide service in the national interest."

Corporate-wide self assessments will be conducted by line organizations to provide predictive information on the "state of health" for a particular policy area, like ES&H. Safeguards & Security and ES&H will be the first standardized line self-

assessment programs to roll out. They will be followed by other policy areas such as finance, facilities, and human resources. Data will be analyzed and trended by and for all levels in all organizations.

As part of its risk and issues management, Safeguards & Security has been evaluating various performance indicators over the past year to identify the most beneficial areas for the line to assess. "These assessments identify Sandia security's state of health," says Michael Hazen (4200).

Data collected through assessments will help Sandia understand performance trends, when extra attention is needed in a certain area, and whether controls put in place are effective. Assessment tools are being developed to provide Sandia with a steady stream of information during this next year.

According to last year's performance evaluation by NNSA/SSO, Sandia has made limited

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SAFETY MATTERS: Labs VP Frank Figueroa talks about a culture of safety. Story on page 12.



Tom Hunter talks budget, safety, future in his first CA site visit since becoming director. Story on page 3.

- Sandians continue to aid Katrina, Rita hurricane relief efforts page 7
- Mike Tachias recounts demanding, rewarding tour in Afghanistan . . page 8
- ACG ponders future of war . . . page 11



ECP donations help kids at Peanut Butter and Jelly Family Services and other United Way agencies. Story on page 16.

What's what

An office discussion about the increasing complexity of things more and more of us use more and more – digital cameras, watches, GPS navigation aids, etc. – reminded me of a couple of things I noted recently.

I opened a box of frozen toaster waffles and learned from reading the instructions (instructions? . . . for toasting waffles?!) that “toaster heating capabilities vary,” that I should “attend toaster while heating,” and that “an adult should supervise heating by children.”

Also recently, I replaced a plastic pitcher that filters water and found in the box an instruction manual. A manual for a plastic pitcher?!

When do you suppose you'll buy some new shoes and find in the box instructions to “insert foot into the large opening at the top of the shoe. . . .” or buy a comb and find instructions describing the proper way to pull it through your hair?

* * * * *

Retiree Mimi Brunacini, who worked at Sandia 23 years, called to suggest that since retiree picnics have been deep-sixed, the Labs might consider offering retirees computer training, setting up classrooms with equipment that would otherwise go to Reapplication.

She's now running Brunacini Appliances, she says, and would like to know about computers, and recycling hot dogs and potato salad into cyber classes seems like a good idea.

* * * * *

Recycling's also on Jason Zuffranieri's (6861) mind.

“I'm into recycling,” he wrote recently, “and it appears we have glass disposal receptacles near the white paper receptacles on my floor. But the containers specifically say ‘Broken Glass Disposal’ (in four different languages, no less).”

“I would imagine that breaking my intact empties and then depositing the remains would be an ES&H violation. My only other idea would be to hurl the empty bottle down into the receptacle with such force that it shatters upon impact, thereby fulfilling the requirements of the container. Or am I thinking too hard here?”

Well, I don't know about “too hard,” Jason. More like bizarre. But it'll pass. The urge to hurl anything with great force is probably just the result of stress over getting that critical LMC training finished before the end of the month.

* * * * *

We've read a lot in the last couple of *Lab News* issues about the upcoming open enrollment period and the changes in our health care insurance – more than we'd like to know, probably. And there's still more: the latest on Reimbursement Spending Accounts (both health care and dependent care) on page 10 of this issue.

RSAs are good things. They allow you to set aside pre-tax money for out-of-pocket medical expenses you anticipate or might incur throughout a plan year. But before you get too excited, there are a few things you might think are covered but aren't. The vacuum cleaner you bought because you have dust allergies? . . . forget it. No gym dues or exercise equipment, either. And don't even think about dancing lessons.

You'll find detailed information about Sandia's RSA plans at <http://www.sandia.gov/benefits/spd/pdfs/RSA2003.pdf>.

– Howard Kercheval (844-7842, MS 0165, hkerch@sandia.gov)

Ken Frazier elected AAAS Fellow

Lab News Editor Kendrick Frazier (3651), a science writer and editor for nearly 40 years, has been elected a fellow of the American Association for the Advancement of Science (AAAS).

Ken is being honored for “distinguished contributions to the public understanding of science



KEN FRAZIER

through writing for and editing popular science magazines that emphasize science news and scientific reasoning and methods.” He will be officially recognized in St. Louis in February at the AAAS annual meeting.

Ken has been *Lab News* Editor for the past 10 years. The paper has received numerous

national employee publication awards during this time. He first joined Sandia in April 1983 as a member of the public information staff.

Ken has also served as editor of *The Skeptical Inquirer: The Magazine for Science and Reason* since 1977. The bimonthly international journal promotes good science, critical thinking, critical inquiry, and science education. It also evaluates fringe science, pseudoscientific, and paranormal claims from a responsible, scientific point of view.

Throughout most of the 1970s, Ken was editor of *Science News* magazine in Washington, D.C. He covered the earth sciences and science policy issues and traveled to Antarctica and the South Pole. Before that he edited the National Academy of Sciences' newsletter. He's a member of the American Geophysical Union and a lifetime member of the National Association of Science Writers.

Ken is the author or editor of nine books, including *Solar System, Our Turbulent Sun, and The Violent Face of Nature*. His book *People of Chaco: A Canyon and its Culture*, about the pre-Puebloan culture of Chaco Canyon, was first published in 1986. Acclaimed by archaeologists, the popular book has had multiple printings and editions and was most recently expanded and published again this spring.

“Ken's other Sandia colleagues and I are thrilled that Ken is receiving this wonderful honor from the AAAS,” says former *Lab News* editor Larry Perrine (3651). “It is unusual for any nonscientist to be named a AAAS fellow, and Ken richly deserves it. I don't know of anyone who loves science and respects the scientific method as much as he does.”

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Retiree deaths

Paul E. Miller (age 79) August 23
A. E. McMurray (89) August 27
Dulin G. Westfall (89) September 2
Pierce L. Brown (80) September 2
Francis R. Martin (87) September 5
H.L. Macpherson (85) September 5
Charles H. Whitmer (91) September 8
Bennie D. Padilla (91) September 19
F. Max Morris (66) September 30

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Others: To receive the *Lab News* or to change the address (except retirees), contact Michelle Fleming, Media Relations and Communications Dept. 3651, 505-844-4902, e-mail meflemi@sandia.gov, or Mail Stop 0165, Sandia National Laboratories, Albuquerque, NM 87185-0165.

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ECP Campaign Oct. 24-Nov. 11

You can walk in Albuquerque Tricentennial Volksmarch Oct. 29

Sandians are invited to join the Albuquerque Tricentennial Volksmarch, a noncompetitive 10-kilometer (6.2 mile) walk through the picturesque, autumn foliage of the Rio Grande Bosque, Saturday, Oct. 29, 8 a.m.-5 p.m. The word “Volksmarch” comes from a German phrase meaning “people's walk” or “people's march.” Volksmarching is a form of noncompetitive fitness walking that developed in Europe.

The Volksmarch's path starts at the Rio Grande Botanic Gardens, 2601 Central NW, and will follow the Bosque from the Rio Grande Botanic Gardens to the Rio Grande Nature Center and back; free parking is available. Information, contact terry.mest@kirtland.af.mil.

Tom Hunter holds his first 'Town Hall' meeting in California, talks about budget, safety, and future

By Nancy Garcia

In his first visit to the California Laboratory since becoming president of Sandia, Tom Hunter talked about current concerns and the Labs' future in a "Town Hall" meeting titled "The Laboratory Today and Tomorrow."

One thing on his mind is the budget. In comparison to the nuclear weapons budget, which hovers around \$6 billion, the support and relief effort for Hurricane Katrina was pegged at \$60 billion and may run as high as \$200 billion, Tom said, which will increase deficit spending. He added that in terms of transitions of the country, Hurricane Katrina will go down as one of the key pivotal events at the beginning of this century.

The Laboratories had been operating under continuing resolution budget levels for seven weeks when Tom delivered his talk on Oct. 6, which means adhering to the lowest of any proposed funding levels (Senate, House, or FY05).

Not all bills have hit snags; in August, President Bush came to Sandia to

sign the energy bill in the first presidential visit in many years other than a campaign stop. "It was my great pleasure to represent the lab and spend some time with the president," Tom said, adding wryly, "If you get a chance to do a presidential visit, do it." He acknowledged the 400 people who worked virtually around the clock at short notice to make the event a success.

DOE push on science

Tom said the main message of the energy bill — which focused considerably on renewables — was that DOE has an underlying push on science that is quite strong and getting more so, because it is important to the nation.

"We at Sandia are going to be looking at science as a strategy," he continued, noting that at the Combustion Research Facility science has

The Overskei report is "an early indication that the time to transform the complex is upon us. We want to be a heavy player in influencing that."

Labs Director Tom Hunter

always been a core mission. Boasting key competencies that don't exist elsewhere, the CRF has forged a strong relationship with DOE's Office of Science that is a model for the Center for Integrated Nanotechnologies and other Sandia facilities.

A final version of the Overskei report, "Recommendations for the Nuclear Weapons Complex of the Future," was issued just days before Tom's Town Hall meeting. Prepared for the Secretary of Energy Advisory Board by a panel headed by David Overskei of Decision Factors Inc., the report has four major recommendations. It calls for an immediate design of a reliable replacement warhead; consolidation of production in one location; consolidation of special nuclear material; and dismantlement as part of deterrence.

The report is "an early indication that the time to transform the complex is upon us," Tom said. "We want to be a heavy player in influencing that. Over time we will see many changes. We're going to play a role in helping design the

nuclear weapons complex of the future." He said science and technology have been a cornerstone of the country but it is a question whether it will remain at the forefront.

As the world changes, he continued, the leadership and missions in defense and intelligence are also changing. "It's a time of high excitement and a lot of transition," he observed, "characterized by the national budget debate." Saying he



ILLUSTRATING Tom's Town Hall meeting in California were slides that included this one highlighting technical achievements and activities from both sites. (Photo by Bud Pelletier)

doesn't recall ever seeing more disagreement between the House and Senate, he suggested "there's a lot of signal in there."

Tom added that the House's disfavor of Laboratory Directed Research and Development (LDRD) is causing spending to drop from 6 percent to 5 percent.

Hiring has scaled back from a projected 600 people in the summer to 400, which just matches attrition. "We've asked the Lab not to grow," Tom said.

About 58 percent of work at the Labs centers on nuclear weapons, with almost 70 percent of work at the California site directly involving nuclear weapons. Labs-wide it will come back down to the 1992 level of about 50 percent.

Safeguards and Security is booked as nuclear weapons work and accounts for about 350 people. Security costs are growing, with asset protection

running about \$100 million a year.

Work for others

Still, the laboratory has grown substantially in the last five years, mostly through work for other federal agencies. In conjunction, construction is at an all-time high, totaling \$188 million. "We are building a lot of laboratory for the future," Tom said. The Microsystems and Engineering Applications (MESA) project, at \$460 million, is the biggest project in Sandia's history, and has stayed right on cost.

Some costs that are creeping upward are the health care costs. The costs run about 10 percent of payroll, or \$100 million a year.

Retirement costs, however, are paying for themselves through a \$3 billion fund that Sandia manages. Individuals have not paid into the fund since 1974, and the laboratory last paid into retirement in 1986. "We pay zero," he said, "but the sense is that can't continue — we think we may have to pay near the end of the decade to augment the retirement fund."

Tom's talk came on the heels of restructuring, which increased the number of deputy laboratory directors from one to three and consolidated organizational vice presidencies from 12 to 10.

Operational excellence

He said the objective is to achieve operational excellence and mission success while ensuring the transformation of science and engineering. The intent is to stress the importance of the nuclear weapon mission and to enhance succession planning.

Following restructuring, the focus is now on senior managers, who are deemed both close to the work and to the future of the lab and its strategic direction. Planning over the short term will largely focus on Environmental Safety and Health.

The California site as a division has almost the least number of reportable Occupational Safety and Health Administration injuries, Tom said. Programmatically, the site "has a real strong role across the full spectrum of laboratory activities," he added. Corporately, Sandia/California has the responsibility to lead work in Homeland Security, and geographically, it is situated to engage strongly with industry and universities.

In all its locations, he concluded, the Laboratories "are full of great people. Anywhere you go, you touch a wonderful person."

Sandia California News

BioEDS leaders recognized for achievements

Holding plaques at a mid-September ceremony in Monterey, Calif., are, left center, Don

Rondeau, senior manager for Force Protection Systems 5101, and center right, John Didlake (8228), project manager for BioEDS (Environmental Destruction System). The pair received Notable Technology Development awards from the Federal Laboratory Consortium (FLC), a network chartered by Congress in 1986 to promote and strengthen transfer of lab technologies to the private sector.

Dan was recognized by the FLC Mid-Continent Region that includes Albuquerque, and John by the Far West Region that covers Livermore. Dan championed a Laboratory Directed Research and Development project in 2004 to undertake a bioagent-neutralizing technology demonstration.

EDS, a novel 8-ton apparatus developed by Sandia in 1998 for the US Army to dispose of

chemical munitions in an environmentally sound manner, was used to destroy anthrax simulants (*Bacillus thuringiensis* and *Bacillus stearothermophilus*).

The project extends the usefulness of EDS and demonstrated a potentially powerful new tool for Department of Homeland Security personnel to safely neutralize a dormant terrorist device in a crowded location. Standing to the left in the photo is J. Susan Sprake, FLC vice-chair from Los Alamos National Laboratory. To the right is Kurt Buehler, FLC Far West Regional Coordinator from the Naval Facilities Engineering Service Center in Port Hueneme, Calif.

— Nancy Garcia



Sam Varnado testifies before House subcommittee about threats facing SCADA systems in US

Sandia has been working to improve the security of SCADA systems for 10 years

By Chris Burroughs

Sam Varnado, director of Sandia's Information Operations Center 5600, told a subcommittee of the US House of Representatives Oct. 18 about threats facing Supervisory Control and Data Acquisition (SCADA) systems in the US and the Labs' efforts to mitigate them.

SCADA systems control computerized operations of the nation's critical infrastructures, including the electric power grid, oil and gas pipelines, and water treatment and distribution.

"SCADA systems have generally been designed and installed with little attention to security," Sam said in testimony before the House Committee on Homeland Security, Subcommittee on Economic Security, Infrastructure Protection, and Cyber Security. "Terrorist groups are aware of this. As noted in the June 27, 2002, *Washington Post*, these systems have been targeted by al-Qaida."

Sandia working problem for 10 years

Sam explained that Sandia has been working to improve the security of SCADA systems for more than 10 years. It has invested Laboratory Directed Research and Development (LDRD) money and other appropriate sponsor-provided funds into technologies that have direct application to homeland security and infrastructure protection. During this time, Sandia researchers have found many vulnerabilities, with the Labs "red team" assessments showing that security implementations are, in many cases, nonexistent or poorly implemented.

"Many of the older SCADA systems are operated in a stand-alone mode; that is, they are not connected to the Internet or to other corporate



SAM VARNADO

systems," Sam said. "Even so, these legacy systems have vulnerabilities. . . . In summary, it is easy for adversaries to take control of these legacy systems and cause disruptions with significant consequences," he said.

Today, he noted, the older, legacy systems are being replaced by new SCADA systems that use the Internet as the control backbone. This change is being implemented to reduce cost and increase efficiency of operation. However, this trend substantially increases the possibility of disruptions because of the growing number of people with access. Disruptions can be caused by hackers who have no training in control systems engineering, and the use of the Internet exposes SCADA systems to inherent vulnerabilities of interconnected computer networks.

Grid 'especially vulnerable'

Sam said that the electric power grid is especially vulnerable.

"Under restructuring, the grid is now being operated in a way for which it was never designed," he noted. "More access to control systems is being granted to more users, the demand for real-time control has increased system complexity, and business and control systems are interconnected. In many cases, these new systems are not designed with security in mind."

Other points Sam made about SCADA systems in the US included:

- Private industry owns about 85 percent of the US critical infrastructure assets. Industry, therefore, has a key role in implementing protection strategies. Currently, the business case (return on investment) for industry to invest in increasing the security of their information systems has not been convincingly made.
- Although it is known that many threats exist, specific details are elusive.
- Most of the current emphasis in the cyber security community is on responding to hacker incidents. This effort is necessary and useful; however, the work has a short-term focus. Think-

"It is easy for adversaries to take control of these legacy systems and cause disruptions with significant consequences."

ing must be matured in the area of enterprise-wide network defense strategies.

- Currently, there is no alternative to the use of commercial off-the-shelf products in all our information systems. Most of these hardware and software products are manufactured in countries whose interests do not always align with those of the US.

- Investment in cyber security technology development needs to be expanded to address the new threat and vulnerability environments.

- The people in this country must understand that we will be attacked and plan for living through the attack and responding to it.

- More public-private partnerships need to be encouraged to share threat, consequence, and vulnerability data to implement cost-effective security solutions.

- Industries need to be assisted to develop a business case for their investment in SCADA security.

Recommendations

Sam Varnado, Center 5600 director, also offered several recommendations during his testimony. Some included:

- Reaffirm the concept of public-private partnerships and encourage participants to share information on threats, vulnerabilities, consequences of outages, training, and technology.
- Increase funding for improvements in cyber security technology.
- Establish and fully fund additional work that provides defense against sophisticated threats.

Ethics Corner

Resolving conflicts: Why not just ask?

It seemed timely at the end of the-fiscal year to share some observations with you and to ask you what you think.

As most of you know, the Ethics office provides a wide variety of assistance to Sandians. In our day-to-day work, we have observed a distinct and recurring thread/theme. We observed that many of the concerns brought to us could have been resolved by the parties involved if someone had just asked a question. Some examples:

Interpersonal relationships. Is your coworker driving you nuts, perhaps usurping some aspects of your job? What do you do? Did you think to ask him or her to please stop the behavior?

Your manager asks you to transfer money to another program. And you don't understand the process or are concerned about the propriety of the transaction. So what do you do? Did you ask why or did you research the issue? Did you receive a satisfactory answer?

A manager has a concern about whether another manager has a conflict of interest in a matter that they are mutually trying to resolve. Shouldn't the manager ask the other manager about the potential conflict? Might not the manager find out there is no actual conflict or that there is a mitigation plan in place?

"... many of the concerns brought to us could have been resolved by the parties involved . . ."

Being a proponent of following our own advice, we are going to ask for your opinion about the ethical climate of our corporation. On Nov. 1, you will receive the biennial ethics survey, which is designed to assess the ethical climate. You have until the end of November to complete the 38-question survey, which will take less than 20 minutes of your time.

From this survey we learn how comfortable you feel reporting concerns and whether or not you feel that management will adequately address your concerns. This information can be used to facilitate discussions with management and employees to establish a common framework for continuous improvement and organizational effectiveness.

You may be interested to know that Sandia has found this information to be of some predictive value in the safety assurance arena as well. In addition, Lockheed Martin finds this type of feedback helpful to strengthen and focus the Ethics Program and develop future training modules.

This year Lockheed Martin has decided to recognize the business unit with the highest participation rate and will randomly select 50 employees of that unit to each designate a charity of their choice to which Lockheed Martin will donate \$1,000 per person (\$50,000 total). This may be an opportunity for you to assist your favorite charity, so speak up.

On Nov. 1 we're asking the question(s); please let us know what you think.

Feedback

Q: Corporate policy states that employees may carry a maximum of 240 hours of vacation time at any point in time. How does that fit with managers who try and set a significantly lower vacation maximum? Is this permissible?

A: As stated in the Vacation CPR 300.6.16, under the section, Vacation Eligibility and Accrual, "A maximum of 240-hours can be accumulated in an employee's leave balance at any time during the fiscal year. If the accumulated balance equals 240 hours, no additional vacation will be accrued until the balance is reduced by vacation taken." This Corporate Process Requirement (CPR) applies to all regular employees, thus managers cannot change the maximum limit of 240 hours without going through the exception process. To the extent possible, vacations are scheduled to meet employee preferences; however, managers have the responsibility to ensure that their employees schedule vacation in accordance with Sandia's business needs. The manager, therefore, may have the discretion of implementing additional controls to manage the needs of the business. The manager may desire to avoid situations where business needs of the Labs must be invoked and employees are forced to lose vacation because they are at the 240-hour limit. The manager may also be attempting to avoid excessive stress situations by encouraging employees to take a reasonable amount of vacation. We suggest that you discuss this issue with your manager in order to understand his or her intent and to come to an accommodation that meets both parties' needs.

— Joe Polito (10700)

UT tuition

(Continued from page 1)

the growing relationship between Sandia and UT. Under terms of an MOU signed earlier this year, the UT System has been aligned with Sandia to provide peer review for the Labs' research programs, to participate with Sandia scientists on collaborative research projects, and to provide specialized courses taught by UT professors to increase educational opportunities at Sandia.

Rick Stulen, Sandia's VP for Science and Technology and Research Foundations Div. 1000, says, "At Sandia, we've long enjoyed a tremendous relation with the fine public universities in New Mexico and highly value the educational opportunities those institutions afford our staff and their families. Now, this new University of Texas System policy adds significantly to the benefits for our employees and underscores UT's and Sandia's shared commitment to the importance of higher education to America's future."

The UT System is one of the largest university systems in the nation. Its nine academic and six health campuses enroll some 185,000 students and employ more than 76,000 faculty and staff. It has an annual operating budget of \$9.6 billion.

Last year, the UT System institutions collectively received almost \$2 billion in externally

About UT

Tuition information for UT System institutions is kept up-to-date on the website at:
<http://www.utsystem.edu/news/tuition/homepage.htm>.



The UT System also maintains a financial aid calculator at www.TexasCollegeMoney.org. The website features tools that enable high school students to estimate the amount of financial aid for which they might qualify at UT System schools.



For more information about the UT System, see the website at: www.utsystem.edu/about.htm

Self-assessment

(Continued from page 1)

progress in the development of a robust and mature ES&H assurance system that has appropriate depth, breadth, and rigor. Assessments will be performed by all Sandians within specific topic areas. Standardized checklists will be electronically downloaded to tablets that will allow upload of data after the assessment. Checklists will allow for corporate analysis and reporting, tracking and trending, and lessons learned. A visual scorecard will also be available to the line that measures performance, process, and culture improvements with time.

These corporate-wide line ES&H self-assessments are scheduled to be performed in CY06:

- Januaryelectrical safety
- Marchwaste management
- Mayergonomics
- Julychemical
- Septemberwork control
- November . . .radiological operations

The schedule for other policy area self assessments will be released in December.

"The knowledge we acquire in these self-assessments will help all of us diagnose our problems and identify our strengths," says John. "The problems we will work to improve; the strengths we will build on. We will have facts and numbers not 'maybes' and 'probables.' Unknowns are hard to fix. With knowledge comes a clearer understanding and expectation with goals and deliverables for each one of us. The end result will be a 'total-body assessment' with specifics for all of us."

Cascaded training from management, starting after Thanksgiving, will provide more specific information on the new ES&H self-assessment process.

funded research. Areas of research include, among other fields: materials chemistry, nanoscience, nanostructure device fabrication, nuclear engineering, advanced polymer research, advanced computing, nonlinear dynamics, computational biology, plasma applications, quantum electronics, electromechanics, biotechnology, and biodefense.

"UT institutions offer a wide range of degree programs, both on campus and online, and we are pleased to make these programs available to Sandians at resident tuition rates," says Teresa Sullivan, executive vice chancellor for academic affairs for the UT System. "We would invite Sandians to explore our wide-ranging undergraduate, graduate, and professional programs in the UT System, beginning at www.utsystem.edu, to learn about our many degree programs and our campuses."

The UT System, a partner with Lockheed Martin in the bid for the LANL management contract, has announced that if it is successful in that bid, the same tuition benefit will be extended to LANL employees, according to Sullivan.

Sandia tuition benefit

Sandia employees, their spouses, and dependent children now qualify to pay the tuition and fees charged to residents of the State of Texas when enrolled in a UT System institution. A dependent child is a child eligible to be claimed as a dependent of a parent for purposes of determining the parent's tax liability under the Internal Revenue Code of 1986. A parent is a natural or adoptive parent, managing or possessory conservator, or legal guardian of a child. This waiver of out-of-state tuition does not make the employees, spouses, and dependent children Texas residents for classification purposes, and the waiver terminates upon the termination of employment with Sandia. Documentation of eligibility will be required of enrolled students at the beginning of each semester in which they are enrolled in a UT System institution.

Events celebrate Native American heritage

What began at the turn of the 20th century as an effort to gain a day of recognition for the contributions Native Americans have made to the United States has resulted in the entire month of November being designated as Native American Heritage Month.

Sandia's American Indian Outreach Committee (AIOC) and the 377th ABW at Kirtland Air Force Base (KAFB) have joined to promote this year's Native American Heritage Month, focusing on the theme Native Americans: Yesterday, Today — A culture with much more to explore. Related events include:

- 5K Fun Run/Relay and Health Fair, Friday, Nov. 4, 7 a.m., Hardin Field: Compete in the individual or team-relay 5K run, and get health information from Sandia Medical, which will also be conducting a "stretch and warm up" prior to the run.

- Powwow Social, Native Foods Cook-off, Arts and Craft Event, Friday, Nov. 4, Hardin Field: Enjoy the Powwow Social, 10 a.m. to 2 p.m., and a Native Foods Cook-off, 11 a.m. to 1 p.m., while visiting with vendors selling their Native arts and crafts, 7 a.m. to 2 p.m.

- Luncheon/Traditional Clothing Day, Thurs-

day, Nov. 10, 11 a.m. to 1 p.m., Mountain View Club: Keynote address by Gov. Everett Chavez, Santo Domingo Pueblo, and Native people dressed in traditional clothing at each table ready to share the significance of the attire. Purchase tickets from Marie Brown, 284-3171, or Lemuel Harvey, 284-6472.

- Jemez Feast Day, Saturday, Nov. 12, 8 a.m. to 5 p.m.: Buses will transport up to 80 participants from Sandia Labs to Jemez Pueblo and back. Enjoy traditional dancing, feasting, and socializing with the people of one of New Mexico's 19 tribal pueblos. Contact Marie Brown, 284-3171, to reserve your seat for this free event.

Posters listing these events are up around the base and on the web. If you have questions, contact AIOC Chair Marie Brown, 284-3171. Sandia's AIOC was established in 1979 to increase the number of American Indian employees at the Labs and to encourage American Indian students to continue their education and to pursue advanced degrees, with an emphasis in science and engineering, while maintaining their cultural values. AIOC also facilitates programs and activities that address the spiritual and cultural needs of American Indians.

NNSA chief Brooks visits Sandia



AMBASSADOR LINTON BROOKS, administrator of the National Nuclear Security Administration, is interviewed by *Albuquerque Journal* reporter John Fleck during Brooks' visit to Sandia last week. Fleck asked Brooks a range of questions about the nuclear weapons complex and the status of the Reliable Replacement Warhead initiative. While in Albuquerque, Brooks heard briefings on ES&H and other issues from Sandia senior management. He presented a special recognition award to Sandia's Technical Surveillance Countermeasures team for helping organize the NNSA TSCM workshop in Albuquerque last month. Team members included Paul Linke, Kevin Fahey, Sam Holmes, Rico Johnston, Don Scheuerman, and Nancy Aldridge.

(Photo by Randy Montoya)

Sandia to help New Mexico water systems lower arsenic levels in supplies

Labs receives nearly \$1 million for Arsenic Rural Outreach Program

By Chris Burroughs

New Mexico water systems don't have to deal with meeting new Environmental Protection Agency (EPA) arsenic standards on their own. Sandia is there to help.

The Labs received nearly \$1 million from DOE to reach out to the approximately 80 communities in the state being affected by the EPA regulations that require arsenic levels in water supplies to be reduced from the current limit of 50 micrograms per liter ($\mu\text{g/L}$) to 10 $\mu\text{g/L}$. Through the Sandia Arsenic Rural Outreach Program, over the next 16 months Labs personnel will help identify community water systems' needs, evaluate water chemistries, and help communities develop their own individualized solutions for reducing arsenic levels.

Eligible for the program are existing water systems regulated by the New Mexico Environment Department that serve less than 10,000 people and have arsenic levels in their water at or higher than 10 $\mu\text{g/L}$. Priority will be given to systems with the greatest immediate need.

"The water chemistry is different around the state," says Sue Collins (6118) who heads the program. "As a result, solutions will vary from community to community."

New Mexico, like many western states, has high levels of arsenic in ground water due largely to its mountainous geography. For example, the Rio Grande Basin, which includes the Albuquerque area, has large underground faults, young sediment, and geothermal heating. "All of these conspire to give you the potential for high arsenic levels in ground water," Sue adds.

For some communities arsenic removal could, in extreme cases, be very expensive. At the high end some studies show yearly costs ranging up to \$400-\$500 for a normal household — considerably more than most water systems can afford.

In August water systems in New Mexico were sent letters advising them that Sandia has started a program to help utilities figure out ways to meet the new standards. Sue and her team have already personally contacted five communities, and the number will increase weekly until most of the impacted communities have been addressed.

"We're starting with some of the communities near Albuquerque but will soon be reaching out statewide," Sue says.

Outreach team members

Sue Collins (6118), Jim Krumhansl (6118), Kathleen Holt (6874), Paul McConnell (6143), Heather Himmelberger, Susan Butler (both of New Mexico Tech), and Bruce Thomson (UNM)

The first water systems being studied are south of Albuquerque; systems north of the city will come next.

Among the initial steps is the sampling of water from each water system that seeks assistance to begin identifying the best technologies for that utility. As part of this process, Sandia will collect, free of charge, water samples using Labs equipment and test for any additional water chemistry information needed to complete the evaluation.

Then, Sandia personnel will meet with managers of each water system to evaluate the utility's potential solutions and report back to the water system on an individual basis.

A variety of solutions are available, depending on the needs of the community. In some locations well water with large concentrations of arsenic may be blended with water from wells with low concentrations. In others the potential for treatment involving adsorptive materials will be evaluated.

Another option for smaller communities is the installation of small "point of use systems" that can be placed under a sink. These systems must be owned and operated by the utility and monitored a couple of times a year by the New Mexico Environment Department. However, this seemingly attractive picture is clouded by the cost inherent in regularly servicing many widely separated systems, and by the fact that the state regulatory agency could, theoretically, require access to sample water from the kitchen tap at any time, without prior announcement.

Because of the complex interplay of technological, social, financial, and legal issues, Sue says the solutions for arsenic problems in New Mexico are inherently multidisciplinary.

"It's not a simple engineering problem, not a simple scientific problem, and not a simple economic problem," she says. "Success will be determined by taking into account all these disciplines."

With the costs of cleanup potentially expensive, Sandia arsenic outreach program staff are knowledgeable about what funding sources are available to help the communities. A few federal grants and loan programs exist. Working their way through the grant and loan process can be complicated, and the Sandia staff will help the communities contact appropriate resources in various potential funding agencies.

Sue says Sandia also collaborates with other groups in the state that are helping the communities determine how they can best bring arsenic levels down. For example, a joint WERC (a consortium for environmental education and technology development) Sandia workshop held in Albuquerque Oct. 11 briefed representatives from 16 water utilities on strategies for dealing with the upcoming changes, and provided Senator Domenici with a forum for interacting directly with representatives from some of the most concerned communities.

Rio Rancho

(Continued from page 1)

into effect in January 2006. The regulations require the Maximum Contaminant Level (MCL) of arsenic in water be reduced from the current limit of 50 micrograms per liter ($\mu\text{g/L}$) to 10 $\mu\text{g/L}$.

High levels of arsenic in water are known to increase the incidence of bladder and lung cancers.

Research program sponsors are the Arsenic Water Technology Partnership — a group made up of Sandia, the Awwa Research Foundation (AwwaRF), and WERC, a consortium for environmental education and technology development.

"Removing arsenic from municipal water is a pressing problem for many New Mexico communities," says Domenici. "The costs of conventional removal methods are staggering, and that's why I worked to fund research to find more affordable ways to get arsenic out of drinking water."

Rio Rancho Mayor Jim Owen estimated that the cost for communities to meet the new EPA requirements will be about \$300-\$400 per household.

"When the new regulations were passed, many of us in the western states didn't realize what it was going to mean," Owen said at the conference. "It will hit us significantly in our pocketbooks if we are going to resolve this."

The Rio Rancho demonstration project is the third implemented by the partnership in less than a year in New Mexico. The others are in

Socorro and Anthony. More are expected to be established at other well sites around the state and outside of New Mexico in coming months by the project field team led by lead engineer Malynda Aragon and technologists Randy Everett and William Holub Jr. (both 6118).

"Types of arsenic cleanup used will vary from site to site because different communities have different water chemistries," says Sandia project lead Malcolm Siegel (6118). "The different experiments at the multiple locations reflect

those different needs."

The Rio Rancho pilot demonstration will obtain arsenic removal performance data for six different adsorptive materials and two reverse osmosis units for a period of three to nine months.

The performance data obtained in the test will be combined with data from a previous pilot test using conventional technologies at the same well site to provide information useful to a large number of communities.



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Sandia lends expertise, assistance during hurricane cleanup

Projects range from setting up computer networks to cleaning up buildings with decon foam

By Michael Padilla

After nearly two months following Hurricanes Katrina and Rita, Sandia continues to assist with the relief effort along the Gulf Coast.

A computer network to assist evacuees at the Houston Astrodome locate family members was set up by a Sandian, and a Sandia computer server was used to help map safe convoy routes during the evacuation. Sandians have also provided technical expertise in economic analyses, and Sandia continues to lead a multilab effort looking at water decontamination issues in New Orleans.

Mississippi assistance

Several Sandians spent eight days in Gulfport, Miss., in mid-October, assisting in the recovery efforts from Hurricane Katrina. The team resided at a volunteer village sponsored by Presbyterian Disaster Assistance, which was a "tent city" for as many as 150 volunteers.

The team went out to various work sites and assisted in "mucking out" flood damaged homes, placing temporary roofs on people's homes, removing tree damage, and doing some home repairs. Sandians on the team included Jeffery Porter (5719), Julie Bouchard (6225), Susan (Trudi) Martinez (5525), Patti Valles (4311), and Dennis Johnson (2550).

Tulane support

Sandia's Advanced Materials Laboratory and the University of New Mexico's Department of Chemical and Nuclear Engineering are hosting Dr. Yunfeng Lu, a professor of chemical and bio-



NISAC member Kevin Stamber (6226) describes NISAC's work analyzing the impact of natural and man-made crises on critical infrastructure. (Photo by Randy Montoya)

Astrodome network

John Larson (4330), assisted in setting up a computer network to help evacuees in Houston Astrodome locate family members.

John says he knew he could make more of a difference professionally and personally for the victims other than by donating money. He was frustrated at progress of the Hurricane Katrina response so he started searching the Internet and calling around the country looking for ways to help. He found an article in the *Houston Chronicle* requesting wireless communications expertise at the Astrodome, and that same night was on a plane to Houston.

Once the network was set up at the Astrodome, John began to assist evacuees and input requests for information about missing family and friends.

John says there will be plenty of evacuee stories to remember. He recalls a young lady and her daughter who walked to the Superdome through two miles of water that sometimes was up to their chest. The two had spent two days on an overpass with many other people with no food or water before making the decision to walk to the Superdome. "She said the two nights in the Superdome were much worse than the bridge, she felt fear for her daughter and herself," he says. She had left part of her family on that bridge, and John was helping her try to locate them.

"It's one thing to hear these stories on CNN and read them in the paper and another thing to hear them firsthand from a human being sitting across from you and still seeing the fear and anguish on their face," John says.

NISAC update

Analyses of infrastructure impacts due to Hurricanes Katrina and Rita, done by the National Infrastructure Simulation and Analysis Center (NISAC), were completed Sept. 23. The Department of Homeland Security's NISAC is a core partnership between Sandia and Los Alamos national laboratories.

Nancy Brodsky (6222) helped lead several Sandians in analyses of critical infrastructure, including energy, telecommunications, and other infrastructure sectors (*Lab News*, Sept. 16). NISAC completed 17 reports for the Department of Homeland Security (DHS) including two Katrina pre-event, one Ophelia pre-event, four Rita pre-event, and 10 Katrina post-event reports. NISAC also contributed to two DOE reports.

NISAC is currently looking at scenarios around the nation with the potential for severe consequences.

"We are looking at other types of natural disasters, as well as accidents, and deliberate interventions," Nancy said. "We focus on consequences to infrastructure for such events."

Search and rescue

New Mexico Task Force 1 (NMTF-1) members Bruce Berry (6445), Kenneth Gwinn (1526), and Jerry Wellman (1527) participated in search and rescue operations following Katrina.

Bruce says the team went "roof to roof" assisting people in houses, apartments, schools, and businesses. During the nine days the team was there they assisted anywhere from 60 to 150 people per day.

Kenneth and Jerry were deployed as structures specialists after Hurricane Katrina. Bruce was deployed as a search team manager. Arne Gullerud (1542) was unable to deploy due to work commitments but he spent many hours pre-deployment helping the team get out the door.

Kenneth spent the majority of his time helping decontaminate rescuers and victims as they came out of the water. He spent one day in a boat performing search and rescue operations. Jerry spent the majority of his time helping with securing supplies, unpacking and packing equipment. He also spent two days in

a boat performing search and rescue operations.

Bruce says the team is on call and can be deployed to assist with any emergency at any time. The team has one hour to respond with a yes or no.

"This is my commitment to my community and to the United States," says Bruce.

NMTF-1 is one of 28 FEMA urban search and rescue (USAR) teams in the country. USAR teams were originally formed to deal with large natural disasters that overwhelm local responses in the aftermath of the Mexico City earthquake.

Sandia's contribution to NMTF-1 is to allow its Sandia members to train and respond on their own time — typically vacation. This includes acceptance of the potential conflict-of-interest for those who perform engineering activities for both Sandia and FEMA.



WATER, WATER, EVERYWHERE greeted Sandia search and rescue volunteers deployed to the Gulf Coast region following Katrina. (Photo by Kenneth Gwinn)



TULANE STUDENTS continue their research in Albuquerque.

molecular engineering at Tulane, seven graduate students, and two postdocs. Lu, a former UNM graduate student and Sandia postdoc, has been collaborating with Jeff Brinker, a Sandia fellow, scientist, and UNM professor, on self-assembled supramole-

cular materials. Lu already was partially funded by a Sandia LDRD as a result of the award of a Presidential Early Career Award for Scientists and Engineers.

Carol Ashley, team leader in Ceramic Processing and Inorganic Materials, says Sandia and UNM are committed to assisting Lu and his students to ensure that their research continues.

Research has been conducted in three labs, including one in Sandia's Advanced Materials Labs, and two at UNM's Department of Chemical and Nuclear Engineering. Equipment has been loaned by various Sandia organizations and is being coordinated by Eric Branson (1815). Jeff Brinker (1002) authorized a line of credit at UNM using his UNM overhead funds to allow purchase of chemicals and supplies by the Tulane group while they awaited arrival of transferred funds from their funding agencies. The group now is receiving their funding from Tulane.

The researchers and the spouses of two graduate students now live in three separate apartments, which are supplied by a faculty member from UNM's Department of Chemical and Nuclear Engineering, the Albuquerque Red Cross Association, and FEMA.

Eric says the entire AML staff has donated large amounts of time in assisting with the set-up of the lab, training on equipment, and ensuring a smooth transition for the Tulane researchers.

"This could not have been done without the help of a lot of people," says Eric. "I would like to extend a thanks to all those who helped."

Other relief activities

- David Ellis (6435) assisted with a Sandia computer server that was sent to St. Louis to help map safe convoy routes and help survivors locate each other.

- Sandia led a multilab effort to develop a decision tree for water decontamination in New Orleans. The team developed an initial decision tree and identified technical advisory groups for the potential major issues. The efforts were led by Mark Tucker (6245) and Richard Griffith (1517).

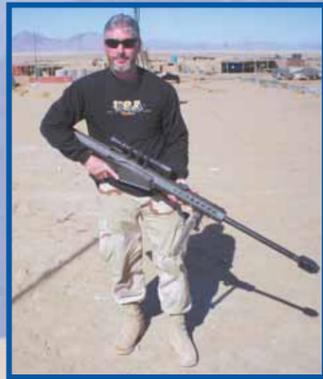
- The commercial version of the Sandia DF-200 decontamination foam is being used to clean up commercial buildings in Mississippi. It is being used both before and after water is removed from the facilities, primarily for disinfection of pathogenic microorganisms. DF-200 was also used to help clean and disinfect the New Orleans Sports Arena (the basketball and hockey arena next to the Superdome). This was where most medical cases were held while the hospitals were closed.

- DHS evaluated Sandia proposed portable video/audio equipment for deployment to New Orleans.

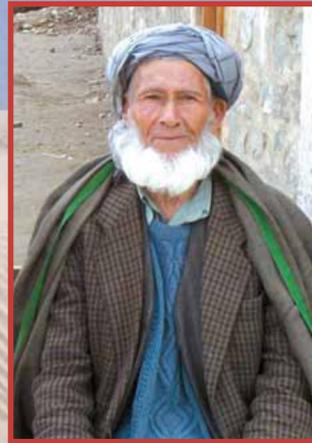
One man's Afghanistan: Maj. Mike Tachias, Sandian

Michael Tachias's (4211) dream was to become a soldier and see the world. "Who would have known that 9/11 was going to happen," he says. Michael recently returned to Sandia from Afghanistan after serving 12 months as a major with the 3rd and 7th Special Forces Groups (Airborne). This was his second tour of duty. He spent 12 months in Bosnia/Kosovo in 2003.

Michael's duty was to serve as the Combined Joint Special Operations Task Force Officer for both the 25th Infantry Division and the Special Operations Command. He also served under the command of the French Special Forces leading his team, ODA 773, 7th Special Forces Group, into combat along the Afghanistan, Iran, and Pakistan border. Most of their combat missions were in the Kandahar Province, Maruf Valley, Helmand, and Spin Buldak Province. "This was the last haven for the Taliban and the insurgents," says Michael. "Intelligence from the CIA identified this as Bin Ladin's home turf."



Story by Iris Aboytes • Photos courtesy of Mike Tachias



Reality of War

Michael had two best friends during his tour. Pedro 'Papi' Munoz was mortally wounded after a raid mission in Shindad. During the mission Papi entered one of the many compounds and was confronted by a Taliban insurgent who he then killed, while protecting himself and several team members. Papi later died of his wounds. "Papi was the inspiration of the 7th Special Forces Group," says Michael. "Papi was part of the entry team. I was part of the covering and blocking force."

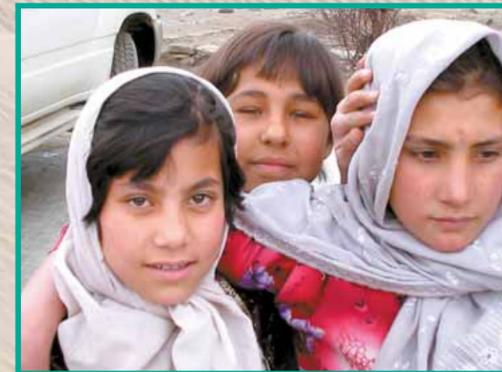
Dave Conner was Michael's other close friend. "Dave was tragically shot along with 17 members of his unit. His helicopter was hit by rocket-propelled grenade rounds and small arms. They were hit while on a supply mission to the Kandahar Province. "Dave was our magic man when it came to scrounging supplies," Michael says.

"Their deaths opened my eyes to the tragedy, the reality of war, and how precious life is," says Michael. "It hurt my heart and soul to see my friends and wonder how their families were doing, but at the same time I was proud of them. They were courageous individuals fighting for the rights and freedoms of a poor country. It is a great honor to have served with such great individuals.

"It was a long haul," he says. "Loneliness, missing my family, the weather, and the terrain were my constant enemies in addition to the obvious ones. Fear and death are always with you. It's your camaraderie and friendship that keep your head in the game. Your faith in God keeps you resolute and brave in the face of danger. After a mission your fear for your family escalates, praying they are safe back home."

Michael will be returning to Afghanistan early next year with the 3rd Special Forces Group. "I am ready to go back to finish the schools, water dams I proposed for irrigation, and all the projects I started," says Michael. "The war has changed my outlook on life and where I want to be today. My team would read scripture before all our combat missions. I feel we all got close to the Lord. He is the reason why I got home and back to my family."

Michael received the Joint Service Commendation Medal and the Defense Meritorious Service Medal during this tour of duty.



"The Combined Joint Special Operations Task Force, 3rd Special Forces Group, provided the unconventional warfare mission in Afghanistan" says Michael. "These guys are the war fighters, the real heroes making the ultimate sacrifices. The Afghan border guard unit was assigned to us. These were our proxy fighters. They accompanied us on dangerous patrols. They were former Mujahideen fighters from the Hazaras, Pashtuns, and Uzbeks tribes. The Russians called them the 'Doohee' which means the mountain ghost, the Spirit's Warriors."

"Afghans offer unbounded hospitality to guests, ruthless violence to enemies," he says.

"Thirteen members of my Afghan team died in an ambush in the Spin Buldak district on the Pakistan border. We were only able to save one."

Lifting the veil

"Afghanistan is a mysterious and ancient land," says Michael. "Afghan women wore the veil that covered their faces. My team considered it a quest to win the trust, hearts, and minds of the Afghan people. We called it lifting the veil."

Michael was given special funds to help improve the villages in the area. He hired locals to build water wells, dams, and schools.

"US dollars were used to enhance the market and the economy," he says. "We also distributed clothes and toys sent by US organizations. The expressions of gratitude from the children were unbelievable. It made us believers in the good we are doing for their country."

Desert becomes ocean

Temperatures in the winter were in the 30s to 30 below. The summer temperatures ranged up to 120 degrees. January through March, Afghanistan got hit with rains not seen in eight years. "I witnessed the desert flood into an ocean," says Michael. "The people believed that when the Russians, Taliban, and Al Qaeda foreign fighters arrived, the rain stopped. When the Americans arrived, the rains came back, and they were blessed again."

"Several villages in the mountains northwest of Balgram were trapped by the severe winter storms," says Michael. "We helped them by providing food and medical supplies. Many people died. Medevac flights were implemented to save winter casualties. They were mostly old people and children. It would break your hearts to see how these people endured the harshness of this country without the convenience of infrastructure, grocery stores, hospital, running water, or electricity."

"The Afghanistan people are beautiful and very respectful, even after decades of bloodshed and turmoil," he says.



Reimbursement Spending Accounts (RSA) for health care and day care mean savings on taxes

Editor's note: This is the next round of material on Sandia's medical plan changes for 2006 provided by Health, Benefits, and Employee Services Center 3300.

Would you like an easy way to save on your tax bill? If you will be paying for out-of-pocket medical or day care expenses of \$100 or more next year, then take advantage of Sandia's RSA benefit that allows you to set aside money on a pre-tax basis through payroll deductions. The RSA enables you to reduce your reportable income for the purpose of federal, Social Security (FICA), and, in most cases, state taxes.

All regular, limited term, postdoctoral, and full-time, year-round faculty sabbatical employees may participate in the RSA Plan in 2006 by enrolling during the Benefits Open Enrollment period, Oct. 26 through Nov. 16. Changes at other times during 2006 may be allowed for qualifying events if the change is consistent with and on account of the event (e.g., birth or marriage to increase the amount of contribution, and divorce or loss of eligible dependent to decrease amount).

Be conservative in determining your annual election amount because any amount remaining in your RSA at the end of the plan year must be forfeited per IRS rules.

Flex Facts

Your flexible reimbursement account plan can help reduce your taxes and increase your take-home pay.

On average, people save 23 percent in taxes (assuming federal, state, and social security taxes), by paying out-of-pocket health care and child care expenses on a pretax basis through a flex plan. Actual tax savings depend on several variables, including state and local tax rates and the tax bracket of the participant:

15% tax bracket can save up to 22.65%

27% tax bracket can save up to 34.65%

You may participate in the flex plan even if you do not enroll in Sandia's medical or dental plans.

You can pay your work-related day care expenses, and your out-of-pocket medical, dental and vision expenses on a pretax basis through a flex plan.

Estimating out-of-pocket medical expenses for the Plan Year

Be sure to include your deductibles and co-insurance amounts for your medical and dental services.

If you have predictable expenses for prescribed medications, eligible over-the-counter medications, contact lens solutions, chiropractic visits or other routine care, add the amount not covered by insurance to the total.

Review your prior year's medical history for health care expenses you have had.

Example of potential tax savings based on the 2004 tax rate for a Single Head of Household:

	Without RSA	With RSA
Annual salary	50,000	50,000
Less HCRSA	0	(500)
Less DCRSA	0	(4,000)
Annual taxable income	50,000	45,500
Less FICA tax (7.65%)	(3,825)	(3,481)
Less federal tax	(8,106)	(6,981)
Income after taxes	38,069	35,038
Potential tax savings		
Income after taxes	38,069	35,038
Less health care expenses	(500)	0
Less day care expenses	(4,000)	0
Spendable income	33,569	35,038

Note: This is an over-simplified example. It omits exemptions and deductions. It does not take into consideration the federal tax credit available for day care. Each participant will have a different savings result depending on that participant's tax bracket, filing status, etc. To be certain you use the method that gives you the most tax savings, you should consult a tax advisor.

Financial planners and tax advisors advocate participation in flexible spending accounts.

Health Care RSA

Your annual election amount in the Health Care RSA (HCRSA) can be any whole dollar amount from \$100 to a maximum of \$4,000 per employee. Your total HCRSA annual election amount is available for your use at the beginning of the 2006 plan year. The money in the account may be used to pay for eligible out-of-pocket health care expenses for you and your eligible dependents. Out-of-pocket health care expenses include over-the-counter medicines and drugs to alleviate or treat (current or imminent) sickness or injuries; doctor or prescription drug co-pays; medical or dental deductibles; amounts over the dental Type B Schedule coverage; or expenses for additional eye exams, extra pair of prescription glasses, or prescription contact lenses.

The IRS and the Treasury relaxed the "use it or lose it" rule. The "grace period" allows employees an additional two months and fifteen days following the end of the plan year in which eligible expenses may be incurred. The grace period allows active participants two-and-a-half months longer to incur eligible health care expenses before the account is closed. In other words, if you enroll as of Jan. 1, 2006, and are an active participant as of Dec. 31, 2006, you have until

March 15, 2007, to incur eligible health care expenses. The grace period will apply to the health care reimbursement account only.

Examples of eligible expenses include, but are not limited to, deductibles, coinsurance (your 15% or 20% share of claim costs), amounts over usual and customary, pharmacy copays, dental, and amounts over plan maximums, etc. You may also claim some over-the-counter medications, such as antacids, pain relief, cold remedies and allergy medications as eligible expenses for the HCRSA. A complete listing of eligible and ineligible expenses is located at: <http://www.payflex.com/mypayflex/default.asp?c=eligibleexpenses>

Dependent Care RSA

Your annual election in the Dependent Care RSA (DCRSA) can be any whole dollar amount from \$100 to a possible maximum of \$5,000 (per family per calendar year). The \$5,000 maximum is available to single employees or to married employees filing joint federal tax returns. Married employees who file separate federal tax returns are limited to an annual maximum of \$2,500 each. In either case, your election cannot exceed your or your spouse's earned income. If your spouse is attending school full time you can deem his or her income to be \$240 a month if you have one eligible dependent, or \$500 a month if you have two or more eligible dependents. You can be reimbursed for expenses incurred for services rendered only up to the current balance in your DCRSA. With the DCRSA, you are reimbursed for expenses incurred to have your child (under age 13), your spouse or other eligible dependent (who is physically or mentally incapable of self care and resides with you at least 8 hours each day) cared for while you are at work. The caregiver may be a licensed day care center, a relative whom you don't claim as an exemption on your federal income tax return, or your child who is at least age 19.

Open enrollment: Oct. 26-Nov. 16

Debit Card

New enrollees for the RSA 2006 Plan Year will be provided with a debit ("mbi Flex Convenience[®]") card. This debit card is an alternative reimbursement method. You may also file paper claim forms for reimbursement. Use whichever method is more convenient. You should retain all RSA claims documentation with your tax records as PayFlex may request substantiation for your claims according to IRS guidelines.

Please read carefully the agreement that accompanies your debit card. The agreement describes your responsibilities when using your debit card, the immediate notification requirement for lost or stolen cards, and the reporting of unauthorized usage or errors to PayFlex Systems.

More RSA Info

For more information on the HCRSA and DCRSA, refer to Sandia's RSA Summary Plan Description. It can be found at: <http://www.sandia.gov/benefits/spd/pdfs/RSA2003.pdf> or by calling the HBE Customer Service at 505-844-HBES (4237).

A PayFlex representative will be at Sandia's RSA Open Enrollment meeting on Oct. 27, in Albuquerque, which will be video-streamed. Instructions for enrolling in the RSA are available in your Benefits Choices 2006 Open Enrollment booklet.

Albuquerque:

LIVE
Oct. 27, 9:45-10:45 a.m.; Steve Schiff Auditorium.
VIDEO
Nov. 2, 3:15- 4:15 p.m.; CNSAC Auditorium

Livermore: ALL LIVE

Nov. 1, 5-6 p.m.; Doubletree Club Hotel
Nov. 1, 9-10 a.m.; Bldg. 904 Auditorium
Nov. 10, 10:30-11:30 a.m.; Bldg. 940 Auditorium
Nov. 14, 9-10 a.m.; Bldg. 915/W133

Tax credit wizard, savings calculator help decision-making process

The Tax Credit Wizard is a tool to help you determine:

- If you qualify for a Dependent Care Reimbursement Account
- If it is to your advantage to elect a Dependent Care Reimbursement Account

Here's the URL for the wizard:

<http://www.payflex.com/mypayflex/default.asp?c=taxcreditwizard>

To use it, click the "Next" button on each screen and answer the questions that follow.

Even if you qualify for a Dependent Care Reimbursement Account, it may not be to your advantage to make an election. There are several factors to consider, and detailed knowledge of the federal tax laws is required in order to make an accurate determination. In an effort to simplify this issue, we have

developed this tool to help you make a decision.

Due to the complexity and local variation of tax laws, the result of this process cannot be considered absolute and may not address your individual circumstances. Only a qualified financial or tax consultant can make an absolute determination with regard to any advantage or disadvantage to your participation in a Dependent Care Reimbursement Account.

The Savings Calculator will help you:

- Itemize unreimbursed health and dependent care expenses
- Estimate your annual increase in spendable income if you should choose to participate in the Flexible Spending Account plan.

Here's the URL —

<http://www.payflex.com/mypayflex/default.asp?c=savingscalculator>.

ACG 'Future of War' Think-Fest produces many sparks, no fires

'Disconcerting' results call for fewer 'big strikes' and broader understanding

By Neal Singer

Will women's rights groups fall in the battle against religious extremism? Will "geezer" monitor battlefields remotely, freeing younger people for other tasks? Will blogs fragment the opinions of conventional media? International consortiums form their own armies to protect their properties? And will online banking become a primary source of virtual money laundering?

These and other informal questions and insights about the world's future were scrawled on whiteboards or spoken aloud in a two-day gathering of 49 visionaries with exceptionally varied outlooks, gathered from across the country into the marginally spartan, windowless quarters of Sandia's Advanced Concept Group (ACG) in mid-September. The ACG periodically invites outside experts to "think-fests" that investigate long-range problems that could impact national or global security.

The creative thinkers, with their distinguished resumes, were there to brainstorm the future of war and peace. There were people from Special Forces and from conciliation groups, social and political and educational theorists, and people who know how to blow things up. There were people on third careers after spending decades in the military, and people just starting out with degrees from Harvard. Eighteen were Sandians.

'The collective brain'

"I want you to operate as a collective brain," said ACG leader and Sandia VP and Principal Scientist Gerry Yonas (7000), as he introduced the "Future of War" Think-Fest at a dinner at the National Atomic Museum Sept. 19. "What we'd like to take out of this is one great idea."

Wendell Jones (7000), who led the ACG exercise, preferred the concept of a farming exercise: "We want to plant as many seeds as possible. Some won't germinate, others will grow."

Karl Braithwaite (7000), whose background includes helping write many environmental laws (Clean Air Act, Clean Water Act, Superfund, and others), and serving as Dean of the Edmund S. Muskie School of Public Service at the University of Southern Maine, told the *Lab News*, "My colleagues [elsewhere] found it unusual that a nuclear weapons lab in New Mexico would have such far-reaching discussions."

Look widely, Grasshopper

Wendell opened the meeting by showing two pictures of the same tiger, one with perception points recorded by Chinese students and the other as seen by Americans (images at top right). The Americans looked directly at the tiger — teeth, head, shoulders, haunches. The Chinese looked first at the tiger, and then at the rocks and trees surrounding it. They wanted context.

To gain new viewpoints, therefore, said Wendell, "The first few sessions will consist of putting the future of war in context, rather than doing what American engineers are most comfortable at: brainstorming a particular problem and coming up with an immediate solution."

The approach involved creating four versions of the world as it might exist in 2025: inclusive globalization, pernicious globalization, regional competition, and a post-polar world where everyone works together. While no one conclusion emerged, there were many flashes of light that might merit further thought.

Among them:

- While in the past the US had resisted becoming dependent on a single supplier for strategic goods, it is now strategically dependent on China for consumer goods and credit.

- The military will increasingly be concerned with peacekeeping and peacemaking; it will need a negotiating capacity and a capacity to rebuild.

- There will be "a rise in American humility, an acceptance that we can't do everything and be everywhere."

- Get in, get out, with no boots on the ground.
- "We want the world to love us more, while getting all the things we got by being mean."

- Chinese military R&D funding is smaller than the US but its researchers are paid only 1/50 as much, so the research achieved may not be as disproportionate as it may seem.

- Worldwide business consortiums may build their own armies to protect their investments.

- Headline: "OPEC crashes; Muslims, anti-green terrorists blame US, China, EU [because of fast rise of 'green' energy]."

- A continental state will be formed of Canada, the US, and Mexico, ending our border problems.

- Adding anthropologists and sociologists to the mix of lawyers and military people who currently make most military decisions will provide more insight into what the US will face in places like Iraq.

Criticisms of session

Participant Alan Williams objected, "[Most of] these assumptions are that the US won't be the dominant military power in 2025. It's my job to see that it remains so, and I believe that it will." Williams, an engineer, leads the Georgia Tech Research Institute's Future Threat Initiative.

Gerry Yonas expressed disappointment that he "came out with what I went in with," and "did not get that big idea."

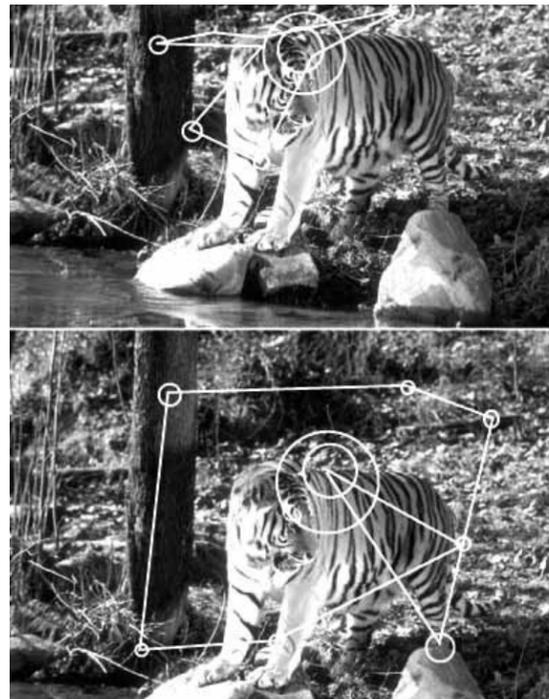
"We already knew that the military will not provide the solution to the ideological wars of the future," he told the *Lab News*. "The meeting agreed. Little came out that said war does anything for you in these fundamentally ideological wars. If there is no superpower to confront, and Islam is having a war of ideas within itself, trying to find its way, then we

have to rethink the role of the military and the tools it needs. Instead of the 'Big Army' solution, what we may need is the small forces approach we used in Afghanistan. Preventing conflict in advance of future disputes may be the most effective approach.

"Rather than 'walk softly and carry a big stick,' the meeting concluded it's better to listen to your enemies carefully and carry a small stick, or maybe lots of small very precise sticks," Gerry continued. "If the future is Special Forces and low-intensity conflict, the technology that is critical is predictive awareness: a persistent, ubiquitous network of smart sensors. This may need to be coupled to precision strike and precision understanding of the strike."

The program also took criticism from some participants who disagreed with the choice of context.

Stewart Brand, compiler of the *Whole Earth Catalog* and a former infantry lieutenant, e-mailed after the meeting's conclusion, "Most of our recommendations seemed appropriate [only] for an audience of the Joint Chiefs and a bipartisan Congressional commission, since they had to do mostly with reorganizing the nation's military intelligence apparatus."



IN A TEST on modes of thinking, Chinese students plot more contextual "perception points" (bottom image) than do American subjects, whose perception points are shown in top image.

(*"Cultural variation in eye movements during scene perception," Richard Nisbett, et al, University of Michigan, Copyright 2005, National Academy of Sciences, USA*)

Former Naval Special Warfare Officer Kevin Baugh, now associate director of the Office of Government and industry liaison for the Biodesign Institute at Arizona State University, e-mailed that he "was very pleased with what I got out of the [conference but] . . . I was especially disheartened by the fact that we did not exercise a truly difficult scenario (perhaps something like a 'post nuclear war in the Mideast world') where much of the world's oil supply becomes contaminated unexpectedly and the US must suddenly cope with real shortages in petroleum products in a highly competitive world."

'Way out of comfort zone'

Of the alternative scenarios posed, Wendell said, "That's the point of the diversity of the group. Some participants were way out of their comfort zone and others thought we weren't way out there enough."

"We wanted plenty of people in this crowd — like the Grummans and the Boeings and the military services — prejudiced to want some potent technology that could prevail in the future. Then we wanted social science people who would contend for more artful, sophisticated influence. Interestingly, we didn't have knockdown fights between social scientists and military folks. Everybody came out and said we have to get much smarter in understanding cultures and influencing ideas, and gain technology to influence people's motives and intentions.

"It was a disconcerting conclusion," Wendell continued. "Many of the folk there would have been happy to have a mission come rolling out [to take the technology and make it overwhelming for the US], but that's not what came out from any group, despite the military/DOE presence.

The Fest seemed to say, wow, maybe the future of national security is all around these other features.

"We're still discussing [in the ACG] what that means for Sandia's future."

Wendell concluded, "One of our aims was to bring people together who would otherwise never run into each other in their daily lives. I think we did that. Three genuinely diverse collaborations seem already to have sprung up. We're looking forward to seeing how many more idea-seeds sprout."



FUTURE OF WAR Think-Fest participants chart talking points during a break in the action.



ACG CHIEF (and Sandia principal scientist) Gerry Yonas, left, gets passionate during "Future of War" think-fest.

Family comes first as safety struggles to become a way of life at Sandia

By Iris Aboytes

Sandia was involved in a beautiful and successful space mission. Sandia continuously earns praise from its customers. Sandia's generosity is second to none. In August Sandians made another mark in its history by hosting President George Bush.

Why is it, then, that Sandia is near the bottom when it comes to safety?

Already through the second quarter of the 2005 fiscal year, Sandia has continued to be near the top of the DOE national laboratories in accidents requiring medical attention. This is not an area where Sandia would like to be number one. Of all the

DOE national labs, Sandia had 138 total recordable cases as compared to Los Alamos's 143, Lawrence Livermore's 91, Savannah River's 69, Y-12's 57, Oak Ridge's 50, Hanford's 45, Lawrence Berkeley Lab's 35, Argonne-East's 24, and Brookhaven's 22.

"Our employees are our most important asset, and we don't want them hurt," says VP Frank Figueroa, head of the division in charge of Environment, Safety, and Health (ES&H). "The Labs Leadership Team (LLT) has taken a hard, close look at safety and made it a priority."

Why the high rates?

Frank is quick to dismiss a myth that all of these injuries and accidents are due to the great amount of construction work going on at Sandia. "Actually, our contractors' injury rates are better than ours — by a factor of 25 percent," Frank says.

The reasons for the injury rates are varied,



FRANK FIGUEROA

from people being preoccupied to dismissal of safety as a whole. "Whatever the problems are," says Frank. "We all need to find them, and we all need to fix them. LLT is committed to sending our employees home safely at the end of the day.

"As we are all committed to maintain excellence and do the best job for our country, we need to be committed to safety," says Frank. "We can't have one without the other; we need them both. We need to recognize that safety is a way of life — a good life."

What will it take?

Secretary of Energy Samuel Bodman, Under Secretary of Energy Clay Sell, and NNSA Administrator Linton Brooks have indicated they expect their contractors to work in a safe, secure environment. Frank says they are no different from our families, who deserve the same expectation.

"Right now our safety record, and therefore our record of excellence, is not something to be proud of," Frank says. "At our current recordable case rates, 215 people will be injured this year. What does it really mean? In simple terms it means 215 people too many. It just isn't right that 215 of our families should be impacted. Will your family be next? We all need to make sure it isn't."

What will it take for us to become best? Frank says we are all process owners when it comes to safety. We all have the power. We all have the knowledge. We just need the desire. Ask questions, then ask more questions, then even more questions, but take action. Follow LLT's lead or make it your own mission to become a "safety soldier."

"When a military commander sends his troops into battle, his thoughts always include the families that ache for their loved ones to return safely," says Frank. "On a smaller scale, our families feel the same about our leaving to go to work. They want us back safely as well. We owe them our best efforts to achieve that goal. They deserve no less."

Sandia enters into agreement with Aerospace Corporation

By Michael Padilla

With an agreement to identify opportunities for interactive research and development in a broad range of scientific areas, Sandia and the Aerospace Corporation recently signed a memorandum of understanding (MOU).

The MOU calls for interaction in space microelectronics and component technologies, sensor and instrument systems, spacecraft technologies, systems technologies, information technologies, and space simulation and modeling tools.

"We see great prospects for this relationship to bloom, as we have already identified a number of areas of mutual interest . . ."

"Sandia and Aerospace share significant interest in developing advanced technologies for end applications and capabilities that ultimately benefit the nation," says Al Romig, Labs Deputy Director for Integrated Technologies. "This agreement establishes a strong relationship between Sandia and Aerospace."

The MOU calls for Sandia to identify uses of its hypervelocity impact modeling capability and its possible use for intercept debris characterization. In addition, Aerospace will provide space architecture systems engineering support to Sandia demonstration activities.



LABORATORIES PRESIDENT Tom Hunter and Aerospace Corporation CEO Bill Balhaus congratulate each other at the conclusion of the signing of the Memorandum of Understanding.

Mike Drennan, Aerospace Corporation's vice president for Space Operations, Requirements, and Technology, says he is pleased to be able to have a more formal relationship with Sandia.

"We see great prospects for this relationship to bloom as we have already identified a number of areas of mutual interest where each organization brings a very special expertise to help with national security space activities and challenges," he says. "Aerospace looks forward to a long and productive relationship."

Sandia and Aerospace will exchange personnel and share new expertise and seasoned experience on research and development efforts of the two parties.

Al Romig receives National Materials Advancement Award

By Chris Burroughs

Al Romig, Deputy Director for Integrated Programs, will receive the National Materials Advancement Award from the Federation of Materials Societies at a reception at the National Press Club in Washington, D.C., on Dec. 7.

The award recognizes individuals who have demonstrated outstanding capabilities in advancing the effective and economic use of materials and the multidisciplinary field of materials science and engineering generally, and who contribute to the application of the materials profession to national problems and policy.

The Federation of Materials Societies is a consortium of technical and professional societies consisting of scientists, engineers, and other professionals active in the areas of materials policy as well as research and development, processing, recovery, and resource availability.

At Sandia, Al's responsibilities include the leadership and management of development and engineering activities that provide science, technology, systems, and expertise in support of US programs in military technology; proliferation prevention; technology assessments; counterintelligence; energy science, resources, conservation, and infrastructure assurance; and homeland security.

In governmental, national, and international policy settings, Al is a leader in advisory boards and task forces. He is a member of the National Academy of Engineering and is active on a number of National Academy of Engineering/National Research Council committees and boards. He also serves on the boards of Atomic Weapons Establishment Management Limited, a Lockheed Martin joint venture in the UK and Technology Ventures Corporation, a Lockheed Martin subsidiary dedicated to technology commercialization. In service to his profession, he has been honored as a fellow and former president of the ASM International; fellow of the Metals, Minerals and Materials Society; and fellow of the American Association for the Advancement of Science.

For his pioneering work in analytical electron microscopy and solid state diffusion, Al has received several awards, including the Burton Medal in 1988, awarded by the Electron Microscopy Society of America to an Outstanding Young Scientist; the K.F.J. Heinrich Award in 1991 given by the Microbeam Analysis Society to an Outstanding Young Scientist; the ASM Silver Medal for Outstanding Materials Research in 1992; and the Acta Metallurgica International Leadership Lectureship for 1993-1994. He has also been named the 2003 ASM-TMS Distinguished Lecturer in Materials and Society.

Al received his BS, MS, and PhD degrees in materials science and engineering from Lehigh University in 1975, 1977, and 1979. He joined Sandia in 1979 as a member of the technical staff, Physical Metallurgy Division. After a variety of management assignments, he was named director of Materials and Process Sciences in 1992. From 1995 to 1999 he was director of Microsystems Science, Technology, and Components. From 1999 to 2003 he was chief technology officer and VP for science and technology. In 2003 he was named VP for Nonproliferation and Assessments. He served in this capacity until attaining his present position in 2005.



AL ROMIG

There's something for everyone at science event

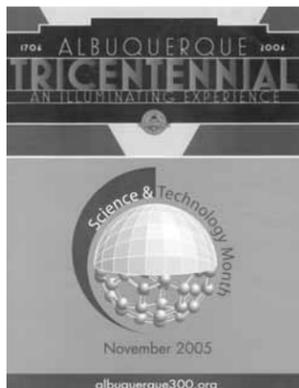
Sandia, Lockheed Martin sponsor Tricentennial Science & Technology Month

By Julie Hall

For the month of November, Albuquerque will become "Science City."

Residents and visitors alike will have the opportunity to participate in 23 science and technology events scheduled for the Albuquerque Tricentennial Science and Technology Month, sponsored by Sandia and Lockheed Martin.

"Sandia is involved in the Tricentennial because Albuquerque is our community and we have been an integral part of its growth and development over the past 50 years," says Mike DeWitte, senior manager, Public Relations & Communications (3650). "Science and Technology Month is particularly relevant and important to us because of our role as a science and engineering lab and our desire to foster and encourage interest among students and the



public in science and technology."

The month's events, which range from demonstrations of fractals at the LodeStar Planetarium to the International Science and Engineering Fair at the National Atomic Museum, are designed to showcase Albuquerque's science and technology diversity. Some events are geared toward children while others target an adult audience. Many events are free, and the New Mexico Museum of Natural History will offer free admission Nov. 11.

"We tried to make sure there's something for everyone," says Phyllis Padilla Owens, Science and Technology Month chair. A Sandia employee, Phyllis is on loan to the Tricentennial.

The celebration kicks off Nov. 1 with "X is for X-Ray," an interactive exhibit at the Cherry Hills Library exploring the history and technology of medical imaging. It ends Nov. 30 with "Mission Engineering Night," a program designed to introduce Washington Middle School students and parents to the wonder of engineering. Mission Engineering is sponsored by Sandia and can be scheduled for other schools.

Other events put on by Sandia include:

- Sandia Student Science Symposium, Nov. 2, 6-9 p.m., National Atomic Museum. Open to all high school students, who are invited to discuss

selected world problems with Sandia's scientists and engineers to better understand how science is used to find solutions. To register contact Norb Tencza, 284-5450, nftencz@sandia.gov.

- "Welcome to the Nanotechnology Future," Nov. 7, 7 p.m., National Atomic Museum. Sandian Neal Shinn will discuss how nano-engineered materials have improved numerous items we use in everyday life and the promise they hold for future developments in medicine, energy, and communications. Open to the public; targeted to a high school and general adult audience.

- Family Science Night, Nov. 8, 6-7:30 p.m., National Atomic Museum. Families from Duranes and Reginald Chavez elementary schools are invited to participate in hands-on science activities at 16 science stations, with instructions in English and Spanish.

- "209 N. High Street Albuquerque and the Rosenberg Espionage Case," Nov. 12, 10:30 a.m.-12 p.m., National Atomic Museum. Speaker is Sandian Bruce Held, a 27-year veteran of the Central Intelligence Agency. Presentation appropriate for ages 15 and above.

For a complete schedule of Science and Technology Month events, visit www.albuquerque300.org, click on Tricentennial Events, and then select November.

Feedback: Sandian raises concern about 'vigilance awareness'

Response: Point well-taken, but vigilance just part of larger safety effort

Q: I'm increasingly concerned by the tone of our (Sandia's) safety initiative to avoid trips, slips and falls. The consistent message is a warning to Sandians to be ever vigilant about routine tasks. While we should be safety conscious, for humans to be in a constant state of alertness to danger is a form of chronic stress that has its own set of long-term consequences. Vigilance alone is not the answer, and I'm concerned the message is tending towards "blaming the victim," as in the new mandatory trips, slips and falls training video. I applaud the part of Sandia's safety initiative that encourages Sandians to report hazards to Telecon. That makes sense for acute hazards, but I would like to point out a number of systematic, institutional-wide fixes that would help assure me of upper-management's (VP-level) sincerity in their stated goal of helping Sandians go home injury free.

I'm fond of reminding my son and others in our Boy Scout troop that a safe environment means not having to do something special in order to avoid injury, and that safe procedures mean that when routine and anticipated missteps do happen, they have limited consequences. In that spirit, I suggest a systematic redesign of Tech Area 1 around pedestrian traffic. The current design is automobile traffic centric, and appears to be designed for the convenience of construction and delivery trucks, not the people who walk to their office buildings every day. Such an initiative would surely be more expensive than the current focus on putting up signs and "reminding" Sandians to be cautious, but it would be both more effective and more respectful of the individual.

Construction is everywhere. From observing construction sites, the consistent message I get is that the convenience of construction comes first, and the safety and convenience of "ordinary" Sandians come second. Here are a few anecdotes to support this systematic problem. Consider the MESA construction project. Commuter traffic is re-routed around the site in an inconvenient way with sharp turns, and is mixed with construction traffic, including abrupt construction entrances and exits. Why wasn't a commuter bypass around the construction site designed into the project? A second anecdote: In recognition of our unsafe Tech Area 1, Sandia's Family Day was cancelled. I find it telling of Sandia's priorities that we chose this "solution" over controlling and isolating the construction hazards themselves. A third anecdote: Residents of Bldg. 880 have to guess how to leave their building each day, as the maze of construction to the northwest shifts constantly, and an exit corridor is sometimes open and sometimes closed at the end of the work day. A fourth anecdote: Bicycle commuters have had no safe path between the Wyoming gate and Tech Area 1 for over a year, due to the base housing construction. There

are now safety watchers around some construction areas to tell people how to wind through them. That is an improvement. Even better would be to cleanly separate construction equipment and activities away from non-involved Sandians. This is a systematic problem. I am unmoved by excuses for the few anecdotes I listed above. To be blunt, Sandia has done a systematically poor job of isolating construction activities from "ordinary" Sandians.

Turnstiles: About a year ago it was reported that some people had experienced injuries entering the turnstiles, even to the extent of broken front teeth. The turnstiles abruptly stop, and rebound into people's faces. Why not install softer stops and dampen the turnstiles so they don't rebound? Instead, Sandia chose to "remind" people to be careful when exiting and entering. It's been a very long time since I heard about the plan to give people EM tags to put on their cell phones and other contraband, and detectors placed at turnstiles. Instead, we just see more reminders, and threats of greater consequences when we forget.

Sandia's motto is "securing a peaceful and free world through technology"; let's live up to our own motto, and not rely solely on "personal vigilance" for a safe and secure work site.

A: Slips, trips and falls have been the leading causes of injury at Sandia for several years. In April and September 2005, we completed two Kaizan events as a corporate approach for addressing these types of injuries. The Kaizans were sponsored by Joan Woodard and Kathleen McCaughey and included field observations/walkthroughs and analyzing injury data. Team members included TA-1 residents, facilities and maintenance, safety, medical, construction representatives, building managers, senior/level one managers, and ES&H coordinators. Both Kaizan events resulted in two common conclusions: we need to improve our pathways including those impacted by construction activities and we need to improve our employee awareness. As you have pointed out, we have initiated a very robust awareness campaign. This is only half the solution. We clearly understand the need for an engineering solution and an infrastructure team of project managers, building managers; safety, traffic and construction leads are working together to make surface, traffic, and pedestrian improvements. You will start to see some of these immediate improvements soon and completion of larger campus projects in the spring 2006. We also recognized the importance of integrating the impact of all construction and maintenance activities to pedestrian traffic and will be working on solutions to address this issue.

Specifically addressing some of your comments:

- The MESA loop is an engineered bypass that meets appropriate turn and design standards, and the design for the road, entrances, and exits was fully reviewed by the traffic safety committee prior to the construction.

- Family Day was cancelled not because of construction priority, but a management decision that risks of keeping construction and pedestrian traffic from interacting (including visitors, kids, and those not familiar with our culture of obeying signs) were not acceptable. We are in the largest building "boom" Sandia has ever had; approximately 1,000 construction workers are on site daily. The decision was made because of safety.

- We agree the pedestrian traffic and construction around 880 needs improvement, and this is one of our target areas for improvement.

- As an outcome of the slips, trips, and falls Kaizan mentioned above, bicycle traffic and parking is one of these areas we are evaluating for improvement.

- Working with the Technical Security Countermeasures Program, Sandia's executive management has considered several technology-based solutions to the cell phone problem. At this time, none of the technology-based solutions appear to be viable due to the cost of implementing those solutions and certain limitations that each of the technologies present. We are continuing to pursue non-technology-based solutions (the new signage appearing at the majority of the entrances to Tech Area 1) that are cost-effective. We recognize the cell phone issue continues to be a source of frustration for all of us, and we are continuing to look for solutions to the problem.

- We recognize your concern with the turnstiles. Our short-term fix is that we have extended the entrance time to cut down on the turnstiles stopping suddenly and bouncing back. We have also been replacing the shock absorbers and making adjustments to the turnstile arm stops that control the bounce-back. The long-term fix is to replace the header unit on the turnstiles to a newer improved unit, which controls all functions of the turnstile. This is a project that is in the works and will be completed when resources and funding become available.

I want to thank you for your feedback. Making Sandia a safe place to work is everyone's responsibility. Please let me know if you would like additional information on planned infrastructure improvements.

— Darrell Fong, Safety Engineering

Mileposts

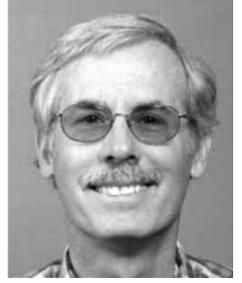
New Mexico photos by Michelle Fleming
California photos by Bud Pellitier



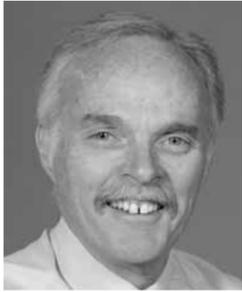
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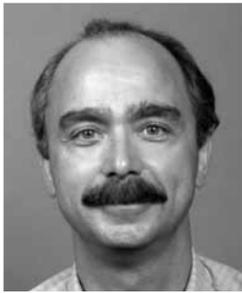
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Kit Colman
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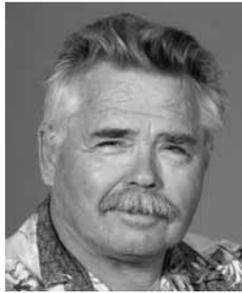
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James Klarkowski
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Denise Koker
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Stephen Leach
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Janet Padilla
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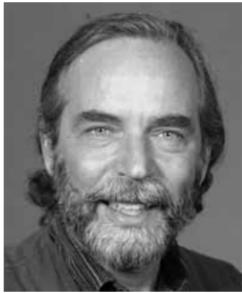
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Kathleen Hatch
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Jim Lauffer
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John Ledwith
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Sandra Lormand
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Ronald Pedersen
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Douglas Ruby
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Kristy Sibert
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Richard Simpson
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Becky Wilcox
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Janet Williams
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Connie Adams
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Karen Armstrong
15 10262



Melissa Barnett
15 10267



Marta Leon
15 8522



Lonnie Martin
15 1381



Pamela Tyler
15 10508



Matthew Umstead
15 4232



Leroy Whinnery
15 8762

Recent Retirees

Feedback

Why can't I have my old employee ID number?

Q: I have been at Sandia a long time and I was here when we had ID numbers before. When they decided to change back to using the ID numbers instead of using the Social Security numbers, why didn't we get to go back to our old numbers? I received a different number completely and now wonder if someone at the Labs has my old number. Will this cause any problems because they have my number?

A: We appreciate and understand the concerns that have been raised in regard to the new Sandia ID. The move to a new Sandia ID was part of the larger initiative of the Enterprise Person project, which is to support integrated access control at Sandia, <https://hrprod.sandia.gov/cfdocs/prod/hris/EP/ProjectSite/index.cfm>. The new Sandia ID is being used, rather than a return to the old scheme of employee numbers, for a few reasons:

1. We needed to assign numbers to a broader group of individuals working with Sandia than the old numbering scheme (limited to employees only).
2. Less than 50 percent of current on-roll employees can be identified by an old e-number since the final elimination of any e-numbers in October of 1997.
3. We can cost-effectively leverage off a current numbering/ID scheme that identifies more than 90 percent of active contractors, employees and visitors.

Our decisions are consistent with your concern to be cost-effective in rolling out this change. The rollout communication will continue to address this issue for those of us who had (or remember) the old e-numbers.

It is very likely that someone already has your old number. This should cause no problems in that we have not used the e-numbers here for any of the corporate systems for years nor do they exist in the corporate people or HR systems. It is very unlikely that any small local systems are still using them because there would be no e-number for at least half of the people. Bottom line is that there should be no problem. — BJ Jones (3500)

Silent kids living in dark homes

By Iris Aboytes

A baby cries. Why does the mother not hold him? The baby is only six months old, but the mother does not come. Shocking as it may be, it is because the mother believes the baby is being disrespectful. There are some unfortunate mothers in our community who have disabilities such as mental illnesses that prevent them from fully understanding a baby's needs. That is what Peanut Butter & Jelly (PB&J) Family Services, a United Way agency, is helping to address.

PB&J Family Services' mission is to help at-risk children grow and develop to their full potential in nurturing families within a supportive community. Parents are taught the skills needed to provide safe and loving homes for their children. PB&J works with families with multiple challenges, striving for family preservation.

PB&J was started in 1972 by two women, Angie Vachio and Christine Ruiz Boyd, who worked for the Bernalillo County Satellite Mental

Health Office. Women with mental problems would come by and pick up their medication. Angie and Christine wondered who they had at home. Who else was impacted? Their deep caring began when they started giving these women rides home. There they often found silent kids living in dark homes.

Angie and Christine began their care in a storage room at the Mental Health Center. They picked up the children at their homes. More and more children came. PB&J turned no one away. The children became active and robust. It was the children who named the school Peanut Butter and Jelly. They were receiving developmental stimulation.

Coming to school with bruises

Then some children started coming to school with bruises. The depressed mothers did not know how to deal with active children. Virtually all PB&J families have incomes below the poverty line and are often challenged by mental illness, developmental disabilities, substance abuse, domestic violence, or incarceration. Through art therapy, play therapy, and counseling, therapists focus on working with children traumatized by abuse or burdened with behavioral or emotional problems.

A two-hour well-baby check-up and developmental assessment welcomes each child in the Peanut Butter and Jelly Therapeutic Preschools. PB&J refers 38 percent of these babies to other agencies for outside help with developmental, health, or growth problems. Most of the families have multiple needs.

With intensive therapeutic counseling, support, parenting education, and case management services, many seriously challenged families can learn the skills they need to survive and even thrive, providing safe and nurturing homes for their children. Mothers are taught to treat the



children like children, not adults. It is the toddler who bit his mom innocently while she was holding him who they worry about. Instead of using appropriate discipline, the mother began to slap the child across the face. PB&J works with mothers so they learn nonviolent ways to teach their children appropriate behavior.

PB&J also has programs for children whose parent or parents are incarcerated. For some children, incarceration is unfortunately a family tradition. PB&J is working so that these children are not the forgotten ones. Many children have been traumatized by seeing a parent taken away in handcuffs by police. PB&J works at breaking the cycle of crime.

PB&J treats about 1,500 individuals yearly. Therapeutic preschool classes are offered for children from birth to five in both the Albuquerque and Bernalillo facilities. Children are required to be accompanied by at least one parent and are in a supervised environment with trained personnel at all times. Parents are taught how to care, nurture, and love their children. PB&J provides in-home services for parents who are unable to go to them.

"Children who grow up in troubled families face challenges, but if they are nurtured, loved, and supported by at least one adult in their lives, they can grow into healthy adults," says Angie. "Kids are very resilient. We should never give up on them."



PB&J Receives 2005 Samaritan Counseling Center award

The New Mexico Ethics in Business Award began in 1999 when the Samaritan Counseling Center and several business leaders decided to underscore the importance and value of good ethical conduct

by honoring businesses and individuals who successfully integrate ethical business conduct and social responsibility into their daily decision making.

The award was presented to PB&J on April 20.

Feedback

Why do I need LMC 'insider trading' training?

Q: I just got a notice that I am out of compliance with LMC100, "Insider Trading." The notice says clearly, "This training is intended for All Vice Presidents, Counsel, Company President, EVP, Partnerships Director and Licensing/IP management executives (contractors are not required to take this training)." Trust me, I do not fall into any of those categories. So, why are all Sandia employees required to take training that is intended for such lofty persons?

A: The Corporate Education, Development and Training (CEDT) Department apologizes for accidentally sending out the old version of the notice on May 9. It should have stated, "Hourly and salaried (nonexempt and exempt) nonrepresented employees are required to take this training as defined in the Lockheed Martin Compliance Plan. This includes all full-time regular employees and all post-docs, as well as

student interns and LTEs, who are not represented by the Union." Based on considerable feedback from Sandians, Becky Krauss, the Sandia process owner expanded the training requirement to include all employees, effective immediately. Employees were notified of the change on May 13.

Becky states that "Because Sandia Corporation is a wholly owned subsidiary of Lockheed Martin Corporation, thus part of the Lockheed Martin corporate business entity, Sandia employees can be at risk for insider trading." In addressing the target audience issue, she states, "We here at Sandia are going to take the approach that while the likelihood of risk is lower in the case of represented employees, all employees will benefit from this training and require it of all."

— BJ Jones (3500)

Sandia Student Science Symposium

Brainstorming & Solving World Problems with Science

For high school science students.

Nov. 2, 2005, 6–9 pm

NATIONAL ATOMIC MUSEUM.

Call 284-0988 if you're interested in attending.

Brainstorm topics will include:

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Duct Tape 101 – What is "Homeland Security" all about?

Archaeology of garbage

Do you want to live to be 120?

Technology for emergencies

Avian flu and other potential epidemics