

Z refurbishment to advance machine's capabilities

By Neal Singer

Sandia's Z machine has received approval from NNSA to proceed with a \$61.7 million refurbishment. The project is called ZR, for Z-Refurbished.

"The advance will support the weapons program and materials work not only at Sandia but at Livermore and Los Alamos," says Nuclear Weapons Senior VP Tom Hunter (9000), who managed the funding that made the new installation possible.

"I give credit to the Sandia project team and NNSA for making this a reality."

Tom describes "a sense of excitement in the discoveries we will make in X-ray production, using these increased [electrical] current flows, for the nuclear weapons program, material science studies, and in our inertial confinement fusion program that plays a strong and complementary role to other NNSA investments like NIF [the National Ignition Facility in Livermore, Calif.]. This

Story continues for world's greatest provider of laboratory-generated X-rays

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Russians, Sandians study extreme environments



THE INSIDE STORY — Richard Smith (6927, left) and Anatoly Abakumov, part of a Russian delegation attending a Hazardous Environments workshop hosted by International Security Programs Center 6900, examine a weapon shipping cask. The glowing light in the photo is a coil of rope lights placed inside the cask to illuminate it. The five-day workshop addressed a wide range of issues around weapon safety in extreme environments. Presentations were made by both Russian and US attendees. (Photo by Randy Montoya)

Sandia's Annual ECP/LEAP campaign begins



Discover the joy of giving. ECP New Mexico begins Oct. 25; LEAP California now underway. See stories on pages 6-7.

Officials mark opening of WETL building at Pantex

Will house \$90 million worth of weapons-testing equipment

By Chris Burroughs

Officials from Sandia, BWXT Pantex, and NNSA snipped a ribbon last week, marking the completion of the new Weapons Evaluation Test Laboratory (WETL) located at the Pantex Plant near Amarillo, Texas.

The new \$22 million state-of-the-art facility replaces the current 39-year-old laboratory, constructed when some of the early nuclear weapons were first built. It will house more than \$90 million worth of testing equipment that will conduct systems-level, non-nuclear tests on nuclear weapons and components. WETL is the only US facility that performs these types of tests.

"This is such an important facility," said VP 2000 John Stichman, one of the "snippers" at the ribbon cutting ceremony. "It will have the capability to support data acquisition technology so that we can not only tell whether a system works, but tell



RIBBON-CUTTING — Sandia VP John Stichman, middle, snips the ribbon at the ribbon-cutting ceremony marking the opening of WETL last week. With him are, to the left, Martin Schoenbauer, acting assistant deputy administrator for Military Application and Stockpile Operations, and Mike Mallory, general manager of BWXT Pantex.

(Continued on page 4)

Open Enrollment is Oct. 20-Nov. 9

Changes this year to Health Care and Day Care Reimbursement Spending Account deadlines. See story on page 10 for details.

CHEMKIN at 25: Chemical kinetics software is one of Sandia's all-time major products

By Julie Hall

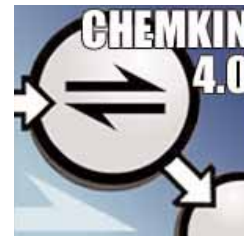
If they could turn back time, Bob Kee and Jim Miller (8353) would publish a paper on CHEMKIN in a scientific journal. Both were so caught up in refining and using the new software as a tool to study flame chemistry that once the SAND report on it was published in 1980, they focused on publishing research results using CHEMKIN.

Had a journal article been published, "it would have been one of the most cited papers in the combustion literature," says Bob, now a chaired professor at the Colorado School of Mines.

This is the 25th anniversary year for CHEMKIN, viewed by many as one of the most successful and enduring products to come out of Sandia. The *Lab News* (June 29, 1979) and the *Combustion Research Facility News* reported on its development in 1979.

CHEMKIN's usefulness as a tool for incorporating complex chemical kinetics into simulations of reacting flow is known the world over in the scientific and engineering community. It is the de facto standard for modeling gas- and surface-phase chemistry and is used in the microelectronics, combustion, and

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Sandia signs LIGA pact with Argonne and Kansas City Plant **3**



8 New rules for non-exempt-to-exempt movement described

12 Sandians are key members of ARG team in big Montana drill

What's what

Even though I'm a relative newcomer compared to the Sandians who've given 40-50 years to Sandia's national security work, the deserted Coronado Club parking lot is a sad sight. The club was a refuge for decades – lunches, dinners, brunches, dances, swimming, tennis, after-work gatherings.

For some time, one of those after-work gatherings was the karaoke bunch who got together in the north end of the dining room every Thursday evening – with easy access to the bar, it should be pointed out – and entertained each other with everything from Hank Williams to Pink Floyd tunes. It was a goodtime bunch and they gathered for one last party Sept. 30, the last night before the club closed for good.

They had a lot of fun and so did four of us scribblers who showed up to enjoy their fun and contribute to the club closure by helping drain the remaining beer keg and finish off the very chewy taquitos and whatever those other little things were. Our little table didn't stay for the whole night, but before we left, one of the singers (with a fine voice, by the way) sang Ol' Blue Eyes' *My Way*. He ad libbed the final line of the song and got a hoot from the group with a pointed zinger that made it clear the club's closing was not their way.

When all is said and done, maybe it wasn't anybody's way, but things change, whether you want them to or not. And whether we wanted it that way or not, the C Club closed. We hope the karaoke group will reconvene somewhere else, though. They're a fun bunch.

* * *

One other C Club note: When and where can we get Chef Hank Perez back to work? At least long enough to teach somebody else how to make green chile stew?

Winter's just around the corner, friends. Even if you're not all that crazy about green chile stew, there's its indisputable therapeutic value to consider. And there's a shortage of flu vaccine. Making the connection?

* * *

Regarding work-connected names, this from Frank Bacon (2564) is a laugh:

"In the early 1970s, I had a project to develop an intense neutron source for use in cancer therapy. The neutron source was based on accelerating a deuterium ion beam into a target containing tritium. For the project, I used an ion source to produce the ion beam which had been developed at Oak Ridge National Lab, dubbed the 'duoPIGatron.' This ion source was a combination of duoplasmatron and Philips Ion Gage (PIG) ion sources. I subsequently published a couple of papers on the modifications and improvements I made to the design of ion source.

"Robert Hamm at LANL heard about the work I had done, and he and I collaborated to adopt my design for an accelerator project at LANL that he was working on. Unfortunately Robert left LANL to start his own business before he and I could collaborate on a duoPIGatron ion source paper by Bacon and Hamm."

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

Bill Knauf receives New Mexico Distinguished Public Service Award

Sandia's Bill Knauf (5001) has been awarded the 2004 New Mexico Distinguished Public Service Award.

Bill, deputy director and chief of staff for Nonproliferation and Assessments, received the honor recently at the Governor's award banquet. The award recognizes Bill not only for his work in national security at Sandia and his representation of the Laboratories in a number of community activities but also for his years of public sector and military service.



BILL KNAUF receives his New Mexico Distinguished Public Service Award, joined by, from left, Dan Lopez, President of New Mexico Tech, and former governors Toney Anaya, David Cargo, Jerry Apodaca and Garrey Carruthers.

On Sandia's behalf, Bill has chaired the boards of the Albuquerque Business and Education Compact and Junior Achievement. He has been instrumental in bringing the diverse interests of the business and education communities together and as a statewide leader in developing the legislative agendas for these organizations.

He was also the founding chairman of the Middle Rio Grande Business and Education Collaborative (MRGBEC). Under his leadership, the organization was presented with the National Alliance of Business Distinguished Performance Award as "Business Coalition of the Year." President Bush presented this award to MRGBEC in 2003.

Bill continues to represent Sandia as a member of the Economic Forum. He has chaired the Forum's Education Committee, and is chair of the board of New Mexico First – a bipartisan public policy organization that works directly with New Mexico's US senators and congressional delegation and Governor Richardson on numerous matters impacting the state.

Before coming to Sandia in 1994, Bill was vice president for Defense Programs and Albuquerque Operations of the Battelle Memorial Institute. Before that he served in a number of senior-level appointed positions within the State and Energy departments in Washington.

Sympathy

To Steve Hurd (8941) on the death of his father, George Hurd, in Paris, France, Sept. 5.

Feedback

Q: A recent Feedback response indicated that Albuquerque Police Department would ticket drivers using the streets in the Willow Wood subdivision as a thoroughfare. If a driver is obeying the speed limit, observing stop signs, and otherwise driving safely, under what ordinance can a citation be issued? Is it reasonable that I could get APD to ticket drivers who cut through my neighborhood to avoid traffic backups on major streets?

A: Sorry, it does seem following the speed limit and driving safely would allow people to travel any street. However, one must obey all traffic postings or risk getting a ticket. The Willow Wood subdivision is clearly posted and marked for no through-traffic. You may be ticketed under the city traffic code for not obeying the posting.

— Ed Williams (10864)

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Sandia, Argonne, Kansas City Plant establish LIGA agreement for synchrotron beam

By Nancy Garcia

The long-term production of LIGA microsystems for the stockpile moved a step closer to realization recently with establishment of a synchrotron beamline for the X-ray exposure step at Argonne National Laboratory.

Sandia and the Kansas City Plant collaborate on LIGA for defense program use, and they have been working to establish an exposure capability and associated institutional agreement for production purposes.

Such an agreement has been reached with Argonne, and was celebrated in July with a formal signing ceremony. Participating were Argonne Director Hermann Grunder; Argonne Associate Director J. Murray Gibson of the Advanced Photon Source; Bruce Bunker, who directs the Materials Research Collaborative Access Team; Kevin Greenaugh, director of the National Nuclear Security Administration's Office of Stockpile Assessments and Certification; Jacque Hoisington, director of program management at the Kansas City Plant; and Jill Hruby, director of Sandia's Materials and Engineering Sciences Center 8700.

"This agreement," Jill said, "signifies both a new stockpile manufacturing option for the nation's defense programs and support for Sandia's LIGA research and development expertise."

LIGA, from the German acronym for lithography, electrodeposition, and molding, is a microfabrication technique being perfected through research and development at Sandia.



EXPLANATION — Dennis Mills of Argonne (left) and Carlo Segre of the Illinois Institute of Technology/Materials Research Collaborative Access Team (center) look on as Sandia's Stan Mrowka describes a LIGA mold of contact-spring patterns.

(Photo by George Joch, Argonne National Laboratory)

"LIGA has garnered interest from industry and the Department of Energy for applications of metal, plastic, and ceramic microsystems ranging from defense needs to communications," said Microsystems Science and Technology Section 8750 Deputy Director Glenn Kubiak.

These LIGA parts are plated in molds that are created by exposing polymethylmethacrylate (a plastic similar to plexiglass) to X-ray beams created by a synchrotron light source. Synchrotrons accelerate electrons in a path to yield streams of photons wherever the path bends. The light streams are highly parallel and deeply penetrating,

permitting deep, parallel sidewalls in the mold.

The agreement struck with Argonne on July 15 "provides a manufacturing capability for War Reserve components," said Dawn Skala, team leader in Dept. 8751. After a month of hard work to get the capability under way, the first samples from unattended operation were produced the day before the ceremony.

Participants were able to see samples that had been exposed on the new beamline in June, said Stan Mrowka (8751). Exposed wafers have a subsequent month-long processing cycle; the first exposure at the Advanced Photon Source took place June 19.

"It was a marathon lasting 27 hours," Stan said. With unattended operation, wafers can be loaded, scanned, and unloaded 10 to 20 hours later. Establishing this capability involved modifying the beamline to change the spectral characteristics

of the X-ray beam. This was carried out by a team led by the Illinois Institute of Technology that included Sandia and the Kansas City Plant.

"Everybody worked 24/7," Stan recalled. "When people are enthusiastic and have a common goal, it's very nice." He was selected to receive an individual Employee Recognition Award for earlier work done developing the LIGA capability and ended up not being able to attend the awards banquet in Albuquerque, which incidentally was the night of June 19. "Instead," he remarked, "I was dining a la carte from the Argonne lab vending machine."

CHEMKIN

(Continued from page 1)

chemical processing industries. CHEMKIN enables researchers to investigate thousands of reaction combinations to develop a comprehensive understanding of a particular process involving multiple chemical species, concentration ranges, and gas temperatures.

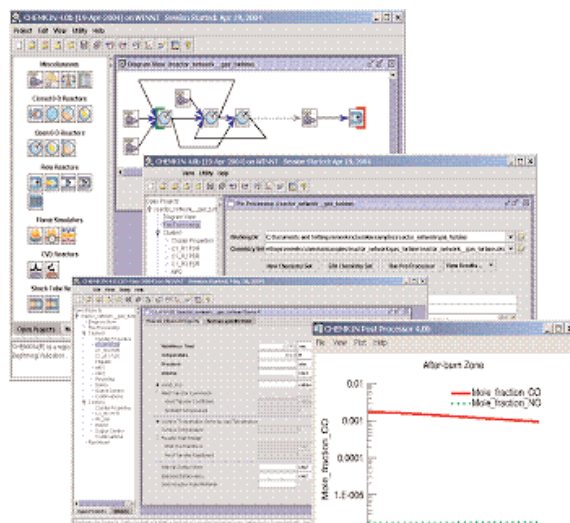
It is likely the Combustion Research Facility's most visible and far-reaching accomplishment, according to University of Utah professor and former CRF Advisory Board member Adel Sarofim. "CHEMKIN has been the product of the CRF that has found the greatest application among the combustion community, providing the CRF with high visibility and good will."

Now managed and distributed exclusively by San Diego-based Reaction Design, CHEMKIN is licensed to about 350 institutions worldwide. However, ascertaining the total number of users is difficult because organizations may have multiple sites and users, and the company offers other CHEMKIN-based products, according to John Garrison, Reaction Design vice president of sales and marketing. Some scientists also still use older versions of CHEMKIN obtained when Sandia was handling distribution.

Reaction Design recently released CHEMKIN 4.0, equipped with a new user interface that is a far cry from CHEMKIN's early days as a collection of Fortran source code distributed on magnetic tapes.

Born out of necessity

In the mid-1970s, about the same time the CRF was in the proposal stages, Bob began working with Jim on combustion modeling. They were interested in how elementary chemical kinetics affected the structure of hydrogen-air diffusion flames. Bob, whose job was to implement these models in software, was frustrated by inefficiencies he attributed to the inability of chemists to "make



SNAPSHOT of user interface panels on CHEMKIN 4.0

their minds up about reaction mechanisms."

Both recognized the need to handle increasingly complex chemistry and transport phenomena in a general way, independent of the type of flame, and to be more efficient in developing new models for different combustion situations.

Bob's idea was to compartmentalize the code into hundreds of task-specific subroutines, only a few of which are needed for any particular program.

CHEMKIN evolves

In 1980, the year the CRF welcomed its first visiting researchers, Sandia published the CHEMKIN manual. The software was shared with visitors and collaborators interested in using it in their research.

"By the mid-1980s, we were clearly in the software distribution business, and the software was having noticeable impact on combustion research," he wrote in notes for a 1998 presentation.

The original CHEMKIN team expanded, as the team recognized the need to increase the sophistication of numerical solution techniques and as

Sandia California News

support and distribution needs grew. Its developers incorporated interactions between fluid mechanics and chemical kinetics to make it useful in modeling a flame.

In the late 1980s, as the interests of the group were moving increasingly to materials processing using chemical vapor deposition techniques, Mike Coltrin (1123) spearheaded the development of Surface CHEMKIN to deal with elementary heterogeneous chemistry at deposition surfaces. Mike had done pioneering research in the development of detailed models of chemical vapor deposition. Later, Sandian Ellen Meeks, now a Reaction Design vice president, began working on plasma processes, which were incorporated into CHEMKIN.

By the mid-1990s, more than 1,000 copies of CHEMKIN had been distributed internationally. The software was a mix of old and new code, often customized by researchers for their own purposes. Sandia's support costs were growing steadily. In 1995, Sandia decided to license CHEMKIN for a fee in accordance with DOE policies at the time. Two years later, Sandia licensed CHEMKIN to Reaction Design, a company founded to focus on the application of chemical kinetics and reaction simulation to a range of industrial chemistry problems.

CHEMKIN's future

Working with Sandia, Reaction Design continues to enhance the capabilities and usability of CHEMKIN while also providing technical support. Reaction Design and Sandia sponsor biennial workshops for existing and potential users. The workshops provide opportunities for exchanging ideas and exploring new directions in the application and advancement of CHEMKIN. The fourth workshop was held in July in Chicago, prior to the International Symposium on Combustion.

WETL

(Continued from page 1)

how well it's working."

Others participating in the ceremony included Mike Mallory, general manager of BWXT Pantex, and Martin Schoenbauer, acting assistant deputy administrator for NNSA Military Applications and Stockpile Operations.

Money for the new facility came from a congressional project approval four years ago and follow-on appropriations.

WETL is part of Sandia's Stockpile Evaluation Program that monitors the reliability and safety

"There will be no leaky roofs, open areas for birds to come in [yes, that has happened], or snakes to creep in [that happened too]. It will be a good place to work that will be flexible and allow for changes as technologies change."

Bill Norris

of the nuclear weapons in the stockpile as required by DOE and the DoD. This assessment program, called "surveillance," relies heavily on testing and evaluation of samples from the stockpile and contributes to the required Annual



WETL EMPLOYEES STAND PROUD — All the employees of the WETL plant are joined by some executives outside the new facility. It's going to take at least a year for them to move into the facility. (Photos courtesy of BWXT Pantex)

Assessment Report to the President.

Sandia has 80 people in its surveillance-related departments. Eighteen work at WETL where they test nuclear weapons components, without nuclear materials, using equipment designed and built at Sandia/New Mexico.

Annually the WETL crew conducts hundreds of tests on the different weapon systems in the stockpile, looking for anomalies. Some of these tests are conducted at the coldest and hottest temperatures for which the system is designed to verify proper operation in those conditions.

The new facility will not only allow for this testing to be done in an environment better suited to modern technologies but also provides expanded capability. It has modern office and lab facilities, a state-of-the-art video conference and training room, and new work areas. These work areas will allow the future integration of shock/

vibration testing as well as chemistry and explosives test laboratories.

WETL Manager Ted Frederiksen (2953), who will be retiring at the end of the month, says the move from the old building will take about a year and will begin sometime in the next few months. WETL, he says, has nine testers (testing equipment), and it will take six to eight weeks to move each one.

"The challenge will be continuing test capabilities between the two locations as we move the testers to the new WETL," he says. "We have committed to NNSA that we will maintain our test schedules during the move."

He adds that "most of the equipment has been designed to be flexible and will move easily. It's all on rollers. We don't anticipate much of a problem since the equipment was built in Albuquerque and shipped here."

The most difficult pieces of equipment to move will be the 50,000-pound underground centrifuge that simulates portions of a weapon's flight environment. The first centrifuge was moved to the new building in April. The roof panels had to be removed, and the centrifuge was lifted out in pieces. The new facility has two large skylights that allow for the centrifuges to be lowered into the building with a crane. The second centrifuge will be moved in the same manner.

Bill Norris (2950), Level II Manager of Sandia's Surveillance group, calls the new facility "a real step forward" for the program.

"There will be no leaky roofs, open areas for birds to come in [yes, that has happened], or snakes to creep in [that happened too]," he says. "It will be a good place to work that will be flexible and allow for changes as technologies change."



CONSTRUCTION WORKERS put finishing touches on the new WETL building.

Food, fun, facts at IES Mercado



THE IES MERCADO, held Oct. 6, was a terrific success, says Integrated Enabling Services team member Jane Tardiff, citing the overwhelmingly positive feedback offered in a post-event survey. As one gauge of the event's success, Jane cites the fact that Gary Shepherd signed up some 300 new subscribers for a voice-activated e-mail system that enables traveling Sandians to check their e-mail even when they're not near a computer. In the photo above, Nydia Schmidt of Facilities talks to Security Police Officer Dwight Newell while Facilities colleague John Zavadiil looks on. At right, Sandians crowd the Mercado tent. (Photos by Bill Doty)



Z refurbished

(Continued from page 1)

significant upgrade and investment will allow us to move to a new level of insight of z-pinches and their relationship to fusion."

Eight years ago, the Z machine startled the scientific world when a technical advance produced an increase in output that made a graph of X-ray power (Y-axis) over time (X-axis) rise the way investors want their stocks to move: straight up. Output for Sandia's pulsed power projects, which had increased only slowly for more than a decade, rose dramatically. For the Saturn machine, a smaller prototype similar to Z, output rose from 20 to 75 terawatts. For Z itself, just coming on line, an expected output of 50 terawatts rose to 150 terawatts. Over the next two years, Z's usable output rose to 230 terawatts. This made the machine more valuable as a data provider for nuclear weapons simulations and showed that z-pinches were a candidate for peacetime fusion that would provide electricity from, essentially, sea water.

Articles noting this change appeared in the popular press ranging from the *New York Times* to *Esquire Magazine*, and from the *Washington Post* to *Scientific American*. The photo of Z firing became the most widely published picture in Sandia's history, appearing (among myriad newspapers, magazines, TVs, and textbooks) as the centerfold of a *National Geographic* issue celebrating "Machines of the Future" and even in a recent issue of the "men's" magazine *Maxim*.

Theory and fact

Last year, Z researchers announced at the March meeting of the American Physical Society that Z had generated thermonuclear neutrons by imploding a small capsule filled with deuterium. This emission signaled that the machine had joined a select group of machines capable of executing high-quality inertial confinement fusion implosion experiments.

The coming upgrade can only increase neutron emission, say Z researchers.

In the next two years, 36 new Marx generators (read, large capacitors) will be installed. Exactly the size of their 20-year-old predecessors, the devices' newer technology will store twice the energy as the original installation.

Thirty-six very rapid switches, formerly bathed in water and operated *en masse* by a single signal, will be upgraded to a system — oil-bathed for greater insulation — which alerts each switch individually when to turn on. Each switch controls the electrical current proceeding down one of 36 transmission lines, thus enabling researchers to

Joining art and science

Eric Liu, who writes that he is an employee in California's institutions of higher education, sent us this poem after watching a half-hour science show on the Discovery Channel. He describes himself as one who, like many others, "has often been inspired to dance along the blurry lines joining art and science." (The "dark horse" reference originated in a Sandia Lab News story that described the Z machine as the "dark horse" in the race to fusion.)

sandia z machine

i am the dark horse accelerator.

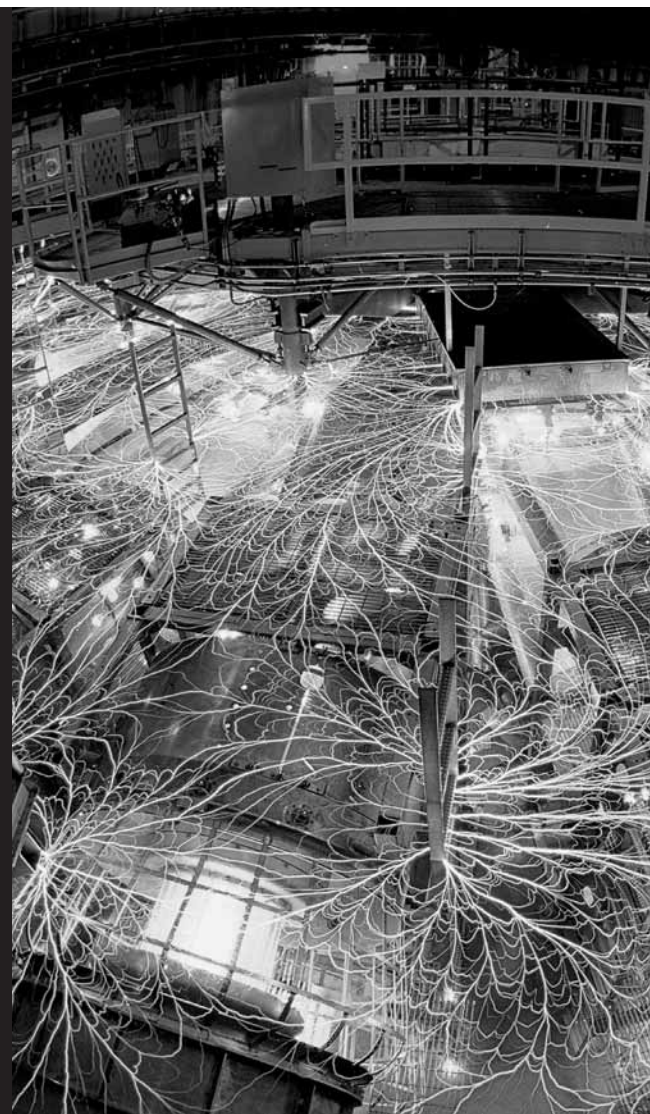
i am the lightning wheel,
counting three thrice times four.

i am the spool of thread imploding
in the vacuum chamber of my heart.

i am the charge,
i am the spark,
i am the plasma pinch.

and for one trillionth of a second,
i am a new born star.

—Eric Liu



(Photo by Randy Montoya)

shape the machine's electrical pulse. The trigger upgrade and expected improvement in pulse shaping should make the already-overbooked machine even more valuable to researchers from Sandia, LANL and LLNL, whose calculations depend upon shape-controlled electrical current flows and X-ray outputs.

"This is a pretty significant engineering-and-logistics tailoring job," says Ed Weinbrecht (1635), manager of the ZR project. "We have about a year and a half to complete the design and fabricate the parts we need." Plans then are to dismantle the accelerator, move the oil-water separation wall to meet the insulation needs of the very fast switches, and install new pulse power systems "in what will be a hectic six-month period," says Ed.

The overall Z architecture, looked at from the roof, resembles a wagon wheel. Marx generators form the outer rim of the wheel, power transmis-

sion lines imitate spokes, and a central vacuum chamber holding the target functions as a kind of hub.

ZR's form will be unchanged, but the working numbers will be significantly different.

Instead of 18 million baseline amps bathing the target, 26 million amps will make the journey. The X-ray usable peak emissions will rise from 230 to 350 terawatts — more than 100 times the entire world's output of electricity for a few nanoseconds. The [X-ray] energy output will rise from 1.6 to 2.7 megajoules.

Says Doug Bloomquist (1630), "There will be more data produced for classified experiments. The more energy-rich environment will bring higher fidelity to nuclear test simulations."

Jeff Quintenz, Director of Pulsed Power Sciences Center 1600, says the project has already increased the facility's precision. "We've been able to produce only the same pulse shape each time, when operating with a particular experimental configuration," he says. "Without investment, experimentalists got what we had. Now we can dial a pulse; we have 36 switches that can be timed separately instead of 36 under one control."

Less downtime

The machine also is expected to be lower-maintenance, with less downtime between shots. Current capacity is 200 shots/year, says Jeff; the refurbished machine will be capable of 400 shots/year, if funding is available.

Finally, in terms of capability, Jeff says, "Z was originally optimized to produce a 50-nanosecond short pulse, with high voltage to accelerate [lithium] ion beams. When we converted to Z, we had to live with a machine designed to drive ion beams. The refurbishment is optimized for high current to suit a z-pinch."

Z-pinches employ high amperages to vaporize tungsten wires thinner than human hairs, creating particles imploding at a million miles an hour (500km/s). These, when colliding, give up their energy in the form of X-rays. Researchers also use the intense magnetic field created by the current either to accelerate particles outward or test the strength of materials.

A less obvious but no less important reason for the new upgrade, says Jeff, is "to exercise our pulsed-power engineering capability so we don't lose it." The last big pulsed-power upgrade was for Sandia's Hermes III facility in 1988, he says.

Nuclear weapons 101 (and more): New Hire Orientation Program session begins Nov. 1

The fall session of the nuclear weapons New Hire Orientation Program (NHOP) will begin Monday, Nov. 1. This acclaimed program consists of presentations by Sandia managers and technical experts, tours of the major facilities on Kirtland AFB, and educational films, books, and discussion groups.

A 14-topic subset of the program called "Nuclear Weapons 101" (NW101) is featured and has been designated as a requirement for all permanent technical new hires (technical staff and technologists but not limited-term employees or postdocs) in these organizations: Divisions 2000, 4000, and 14000 plus Centers 1600, 1700, 1800, 9100, 9200, 9300, 9500, 9600, 9700, and 12300. New hires in other Sandia organizations and staff augmentation personnel are welcome to participate on a space-available basis.

The calendar for this six-week session along with other related information is available on the NHOP website, <http://www-irrn.sandia.gov/organization/div2000/ctr2900/nhop/>.

Managers or new hires interested in further information should contact Jeneane Taylor (2911) at sjtaylo@sandia.gov or by phone at 845-9646.

Sandia established NHOP to bolster early career development for new hires and maximize

their retention rate. New hires typically have little understanding of Sandia or nuclear weapons programs. Most spend from six to 12 months after their arrival without a security clearance, which prevents them from engaging fully in the work of their home departments. This waiting period seemed an opportunity to orient them and help prepare them for duties in their home departments.

NHOP gives new hires unclassified basics on Sandia's capabilities and mission, engineering processes, emerging technologies, the DoD/DOE relationship, the nuclear weapons complex, and national security strategy.

The program offers two 13-week sessions interspersed with one six-week minisession each year. It includes presentations by senior management and tours of all the major capabilities at Sandia (including California) and other sites such as Los Alamos National Laboratory, the Trinity Site, the Kansas City Plant, Nevada Test Site, Yucca Mountain, and the Waste Isolation Pilot Plant.

Managers can determine the level of participation by their new hires.

Office space in Sandia Science and Technology Park Bldg. 10500 is provided for uncleared new hires enrolled in the program.

Be the shelter in the storm



BEULAH HAYNES, a *Cuidando Los Niños* volunteer "granny," comforts a child with warmth and love. *Cuidando Los Niños* offers child care for homeless children. *Cuidando* has three main programs: the Children's Program, Family Support Program, and the Family Health Clinic. *Cuidando Los Niños* has a 52-child capacity and a huge waiting list. All services are free.

When it comes to little ones, we are all responsible for *Cuidando Los Niños*

When a child is born, parents are filled with joy and excitement. Maybe this child will grow up to be a doctor, a great athlete, or perhaps president. The health and well-being of this child are in the parents' hands. What happens when parents cannot provide for themselves or their children, and they are homeless?

Cuidando Los Niños (Caring for the Children), a United Way Agency, many times comes to the aid of parents and their children. It acts as a place of refuge and hope for the children and offers parents a new beginning. Its mission is to provide licensed, therapeutic childcare that meets the special needs of homeless children and support services that enable homeless families to find a home and become self sufficient.

According to Kevin Gick, *Cuidando Los Niños*, the causes of homelessness may be financial difficulty, substance abuse, or illness. In most cases, it is domestic violence. Being homeless isn't just a matter of losing possessions or the roof over one's head. It is the demoralizing loss of self-esteem and dignity for the victims, and the emotional trauma suffered by their children — trauma that is likely to result in a new cycle of poverty, violence, and despair for the next generation.

Homeless children ages six weeks to five years old attend the center from 8 a.m. to 5 p.m. They can learn and play in a safe, nurturing environment. They enjoy multigenerational influences through volunteer grandmas who come and rock the babies and tell stories to the older children. During the day, they lead normal lives. After 5 p.m., they return with their parents to shelters, motels, or doubling situations (where more than one family resides) where the families spend their evenings in transitional circumstances until achieving more permanent housing.

Cuidando Los Niños has three main programs: the Children's Program, Family Support Program, and the Family Health Clinic. **Children's Program.** Has responded to the special needs of homeless children since 1989. The program includes developmental assessments, play therapy, developmentally appropriate activities, cooking, and gardening. All areas of the curriculum focus on the children's school-readiness skills to properly prepare them to enter kindergarten at age five.

Family Health Clinic. Offers free immunizations, screenings, and routine examination to enrolled children. The clinic also provides general health assessments and services to the adult members of the family. In addition, the clinic provides information, education, and referral services to enrolled parents.

Family Support Program. Assists parents in attaining their goals, including housing, education, and employment. The program provides comprehensive individualized case management, supportive counseling, life-skills workshops, and referrals to other resources to assist the families in their quest for stability and self-sufficiency.

Cuidando Los Niños enjoys an outstanding 75 percent success rate in assisting families in becoming rehoused and employed. To achieve this success rate, the agency provides transportation to and from the facility to parents for parenting classes and to the children for the children's program. Their van has more than 250,000 miles and is on its second transmission and third air conditioner, but they keep on trucking.

Cuidando Los Niños has a 52-child capacity and a huge waiting list. All services are free. They must focus on those with the greatest need. For more information on *Cuidando Los Niños*, go to www.cuidandolosninos.org or call (505) 843-6899 in Albuquerque.

Homeless AND one booster safety seat and one regular car seat AND canes for two individuals trying to walk on their own.

\$500 or \$21 per pay period — job mentoring and training for eight women transitioning from welfare to the work force AND an enriching summer experience for four physically or mentally disabled children AND counseling for three sheltered survivors of domestic violence.

Impact of your contributions to the Community Fund

- \$24 or \$1 per pay period** — three books for children learning to read AND 26 meals for those who are homeless.
- \$48 or \$2 per pay period** — one night of shelter for four homeless people, including food, showers, clothing, and access to other program services AND four books for children learning to read.
- \$100 or \$4.25 per pay period** — 52 meals for those who are

homeless AND one booster safety seat and one regular car seat AND canes for two individuals trying to walk on their own.

ECP campaign this year is Oct. 25-Nov. 12



Stories by Iris Aboytes

Photo by Randy Montoya

Experience the joy of giving

"Most, if not all, of us have been blessed in life," says Al Romig (5000). We have benefited from good families, good education, and being born with the abilities needed to succeed in today's world. Not all people have been so fortunate, and United Way offers perhaps the most convenient way to help our fellow citizens who have in fact not been so fortunate."

This year's Employee Contribution Plan (ECP) campaign motto is: Experience the Joy of Giving. (Contributions are tax deductible.)

The focus of this year's United Way campaign is on the donor. Become the voice of hope, the dignity of a proud man, or the shelter in the storm. Choose to hear the laughter or the hum of a happy child. Become a United Way Giver.

"One never knows when one will need help," says Lenny Martinez (14000). "I give hoping never to need it. But our family's time came, not directly but indirectly. Through an agency called Healing the Children, a four-year-old little girl name Lucy came into our home while she healed. She had a heart no bigger than a big walnut with a hole the size of a nickel. Thanks to Sandia's ECP, United Way of Central New Mexico, and many donated healing hands (physicians, etc.), Lucy has returned to her biological parents with a lifetime of love, mischief, and McDonald's chicken nuggets."

This year's ECP campaign is dedicated to the late Sandian Bill Hanson, who contributed to United Way because he believed that by contributing to United Way he helped the most people. He did so even in the end when his family suggested that his friends' and coworkers' memory contributions go to United Way.

"I have given to United Way through the (ECP) since the day I started Sandia 25 years ago and along with Lenny Martinez have been a VP co-champion of the program for the past several years," says Al. "The ability to help the community in this way is an aspect of Sandia life I sincerely appreciate. I hope you, too, will be generous with ECP."

"Giving without expecting payback," says Lenny, "is perhaps one of the most meaningful expressions of humanity that I have the privilege of sharing with Sandians."

Three new initiatives at United Way of Central NM

Initiatives at United Way of Central New Mexico are relatively new. They differ from traditional program funding in that they use corporate donations to create systemic change, through collaboration and partnership, in selected issues having serious impact on our community. Here are three new initiatives.

United Way Initiative Against Family Violence — Its mission is to change the culture to eliminate tolerance for family violence. United Way has invited all facets of our community who touch the lives of victims of family violence to begin to look at ways to build a better system of care relative to this issue. Specifically, UWCNM will focus its own efforts on community education as well as the business and faith communities.

Family violence has accounted for 30 percent of all female and 5 percent of all male homicides in the US since 1976. This initiative hopes to eliminate tolerance for family violence in our community.

- Fact — 40-60 percent of all men who abuse their wives also abuse their children
- Fact — 27 percent of all family violence homicides are children

- Fact — 75-80 percent of all prison inmates come from violent homes
- Fact — 25 percent of all women who are abused are pregnant
- Fact — 50 percent of all homeless women are running from violent homes
- Fact — 1/3 of all police time on the streets is spent on family violence incidents
- Fact — Girls and women ages 16-24 are at the greatest risk for family violence
- Fact — In 2003, 15,000 police calls in the Albuquerque area dealt with family violence (1,800 kids were present when those calls were made.)

New Mexico Health Information Collaborative — A new grant initiative from the Agency for Healthcare Services Research and Quality (AHRQ), a division of National Institutes of Health, is now available to foster the development of community-based medical information sharing. Under the auspices of the Lovelace Clinic Foundation, a not-for-profit health services research organization (no legal or structural relationship to Lovelace Sandia Health) has

been approved for a "Connecting Communities Health Information Exchange" grant for \$3 million over three years (\$1.5 million from AHRQ and \$1.5 million matching and in-kind locally). The funding will establish the "New Mexico Health Information Collaborative," which will build a disease management data warehouse focusing on diabetes, pediatric asthma, low back pain, and depression.

Social Entrepreneurship Initiative Leadership — The National Center for Social Entrepreneurs works with hundreds of nonprofit organizations across the country to help them better accomplish their missions by increasing their capacity to understand their markets and become more financially self-sufficient.

The National Center, in collaboration with local sponsors, will be conducting an intensive six-month project to guide a selected group of nonprofits in the metro area through an entrepreneurial process.

United Way Web site:
<http://www.uwcnm.org/>



In California LEAP campaign in gear

This year's Sandia/CA annual employee contribution drive will be held Oct. 12-21. LEAP is a great opportunity for employees to give back to the communities. Through the employee contribution plan, you will be able to select the agency closest to your heart and home.

Each center will be given their own informational activity event where you can mingle and meet with representatives from local agencies.

— Lindsey Sancrant (8528)

Sandia Has Record Contribution to United Way of Central New Mexico:

\$2,257,232.41 Pledged in 2003 Campaign

Average ECP Contributions per Participating Employee

Participation is Dropping
ECP/LEAP Participation Rate

New Hire Participation

Those That Give, Give More Each Year

Tech Staff Participation is Less Than Administrative Staff (62.6% vs. 70.1%)

The number 1 reason people cite for not giving is that nobody has asked them. (UWCNM poll data)

We Are Missing The New Hires

The total includes \$167,354 pledged by Sandia retirees, who are referred to as "Sandia's secret weapon" in the annual ECP campaign by VP Frank Figueroa (10000).

Sandia's new *Morning Media Report* supplies daily work-related news coverage

It's all there — 'the good, the bad, and the ugly,' says Janet Carpenter

If your job requires you to know what's being said in the news about Sandia, the national labs, or federal agencies that oversee the labs, then pour yourself a cup of Joe and log on to a relatively new online publication available daily on the internal web or by e-mail.

The *Morning Media Report* (MMR), published by Media Relations and Communications Dept. 12640, was begun early this year to provide Sandia decision makers with a morning survey of news relevant to the Labs.



MORNING MEDIA MAVEN Janet Carpenter scours the information universe every day seeking Sandia-related stories. (Photo by Randy Montoya)

It's all there — the good, the bad, and the ugly — says Janet Carpenter, the MMR's editor, who arrives at her office sometimes as early as 5 a.m. to run online searches and scan some 30 online publications for articles that mention the national labs or their oversight agencies.

"We search the Internet for breaking local and national news relevant to Sandia's mission," she says. "The news we publish is unsanitized so Sandia's upper management will know what's being said, who's saying it, and how they're saying it."

News about Sandia every day

Believe it or not, there's news out there about Sandia nearly every day. A recent MMR contained articles mentioning Sandia in publications ranging from *USA Today*, the highest circulation newspaper in the country, to the *Daily Lobo*, the University of New Mexico's student newspaper. The Report also includes transcripts from local and national TV news reports.

The MMR typically comes out by 10 a.m. daily, sometimes later when the news is particularly heavy. It is not published every other Friday, Janet's 9/80 day off.

The MMR online site doesn't include a lot of bells and whistles. It is designed and organized to save readers time. But it does include links to past reports and it is searchable.

"It's become increasingly important for employees to be aware of how Sandia is being perceived throughout the country, including Washington, and what the issues are throughout the nuclear weapons complex that potentially can have an impact on our work," says Dept. 12640 manager Chris Miller. "The *Morning Media Report* web site also serves as an archive that Sandians can draw on to help understand particular issues or events."

To log on to the *Morning Media Report*, go to <http://www-irn.sandia.gov/corpdata/media-reports/media-daily/index.html> or select the "News Center" link from the Internal Web Homepage, then select "*Morning Media Report*" from the menu at right.

To receive daily e-mail notification when the MMR becomes available, or to report an article sighting that isn't caught by the MMR staff, send an e-mail to Janet Carpenter (jacarbe@sandia.gov).

To electronically search past issues of the MMR by keyword, visit <http://sandiasearch.sandia.gov/k2search/SearchOnly.html>.

— John German

Sandia establishes new process for promotion to exempt staff

Effective Nov. 1 a new process for Sandia employees to move from nonexempt to exempt positions will be in place.

"The new process looks and feels different from the previous process but shares the same end objective — finding the best person for the job," says Charles Maheras, Manager of Compensation Dept. 3552. "It affirms the goal of promoting fully qualified employees into exempt staff positions, streamlines and strengthens the process, and returns the

2004 Make a Difference Day(s)

Make a Difference Day is the nation's largest day of volunteering with two million volunteers participating annually — a celebration of neighbors helping neighbors. Created by *USA Weekend Magazine*, Make a Difference Day takes place on the fourth weekend in October. In New Mexico, we volunteer two days — Friday, Oct. 22 and Saturday, Oct. 23. A variety of projects have been chosen for Sandia volunteers, contractors, family members, and friends to complete.

Encourage coworkers to join you and work together in a different setting giving back to our community. Sign up to help with one of the projects and join your colleagues to "make a difference" on Oct. 22 or 23.

Sandia volunteer sign-up forms are available at the Make a Difference Day Web site on the internal Web at www-irn.sandia.gov/hp-elements/announcement/2004-makeadifference.html

If you have questions or comments, call Darlene Leonard at 844-8024 or e-mail her at daleona@sandia.gov.

decision to the line organization."

The new Promotion to Exempt Staff (PES) process emerged in June from a Kaizen Event — a Six Sigma process for process improvement — composed of a team of people from across the Labs. The team evaluated the current process for effectiveness, efficiency, and cost. It sought to improve the process by which Sandia evaluates and promotes nonexempt employees to exempt staff and ensure that the process complies with federal regulations.

Larry Clevenger, acting Human Resources VP, says the new process, which incorporates feedback from key stakeholders and lessons learned from the existing process, "returns the promotion decision to the line organizations and incorporates the appropriate checks and balances."

While the selecting (hiring) manager — with feedback from a group of independent evaluators — makes the selection decision, the final promotion decision is made by the management team, including the group manager (level II manager) and director and, in some cases, the vice president.

Under the new process, all exempt positions will be filled through the post-and-bid process. In a joint evaluation by line management and the Human Resources Consultant and/or Compensation, positions will be reviewed for compliance with the Fair Labor Standards Act exemption criteria prior to posting the job.

The new process also requires the candidate to prepare a Candidate Information Package, which has been streamlined from what was required under the previous promotion-in-place process. It places the responsibility for preparing the package with the candidate. Nonexempt candidates who bid on exempt positions are encouraged to prepare this package in advance in order to be prepared in case they are among the finalists

for a posting.

The candidate's package is then given to two or three evaluators who will provide feedback from the perspectives of a subject matter expert, a PES Committee member and cross-division representative. These evaluators will review the package and provide the selecting manager with their assessments of the candidate's ability to compete with peers at an exempt level.

The requirement for a panel interview no longer exists under the new process. However, should evaluators need additional information or clarification, they can talk with the candidate, either by phone or in person.

The new process has several other benefits.

It is more similar to the process used to hire an external applicant. It also gives the candidate increased responsibility to identify the steps taken to prepare to work at the staff level and provides an opportunity to demonstrate this knowledge through the candidate statement.

In addition, the new process gives the selecting management team the decision responsibility and authority, and posting these jobs ensures a company perspective to select the best person to meet the current and future needs of Sandia.

Sandians can get answers to questions and guidance or process support from division human resource consultants, the division business managers, or compensation staff. The Compensation Department will be responsible for monitoring the process, record keeping, and reporting.

More information will be available during PES information sessions in October and through the PES Web site which will be linked from the Compensation Homepage at: <http://www-irn.sandia.gov/HR/Compensation/comphome.htm>.

— Chris Burroughs

'Forms guy' Dave Barton retiring after 41 years and 92,000 miles

By Iris Aboytas

"I graduated from high school in Phoenix, Ariz.," says Dave Barton (96121), "but did not learn a thing." Today that same Dave Barton is contemplating his retirement from Sandia on Oct. 29 after 41 years at the Labs where he is referred to as the "forms guy." He is the man who designs and updates ubiquitous documents for inserting information without which the Lab's administrative gears would grind to a halt.

Dave's inability to take tests was recognized by his commander when he joined the Air Force after high school.

"He knew I had an I-can-do attitude and that I could do it," says Dave. His commander sent Dave to the Army Corps of Engineers drafting school in Washington, D.C. "He had compassion on me," says Dave.

Dave did not disappoint him. He did well.

His Air Force career brought him to Kirtland, where he fell in love with Albuquerque and decided to make it his home. After four years in the Air Force, he came to work at Sandia. While in the Air Force, Dave had prepared himself to come to Sandia by taking classes at UNM.

His first job at Sandia was in the mailroom where he worked for 28 days. He was then assigned to the Electrical Drafting Section for 14 months. After that Dave charted weapons development activities for 10 years in the Electrical Drafting Section.

In 1974, Dave became the corporate forms designer, using a drafting board, India ink pens, and an old IBM Selectric composer. In 1981 he began using a text-editing system with a phototypesetter to design forms using code. For the first time in his Sandia career, he was able to keep up with his workload. Using the drafting board had

been very slow, and changing forms was difficult.

In the early 1990s, Dave began using PCs to create forms for printing. Over the next four years he used various forms-design software, but the forms were still paper to be completed by hand or typewriter. "Dave has seen the change in forms," says his replacement Carolyn Lucero (96121), "but his desire to give the customer good service has not changed."



DAVE BARTON adding to his 92,000-mile journey to work at Sandia. (Photo by Randy Montoya)

Today there are more than 600 corporate forms on the Internal Web. The counter registers 900,000 hits, the number of times the page has been accessed by Sandians since 1996. Dave does not claim to be Brad Pitt, but he is confident that he is a popular guy on the Web, or rather his forms page is.

According to Dave, some of the most popular forms throughout the years have been the employee/non-employee expense voucher, the business card request form, the purchase requisition, and the dental/medical expense form. The forms that have received the most negative feedback are the PMF and the expense vouchers.

"Dave is always upbeat, cheerful, and nice to be around," says Myra O'Conna (9612). He has wonderful rapport with his customers which include all levels of Sandians." Dave was awarded Certified Form Systems Professional status in June 1999 (*Lab News*, Oct. 6, 2000).

"Whenever someone is in need, Dave does not hesitate to help," says Laura Martinez (9612). "His astounding faith and belief in the power of kindness is truly inspiring. With each new acquaintance, Dave has a new friend."

He has always ridden his bike to work, now about 92,000 total miles. He is on his fifth bike. "Some of them did not work so well," he says. The bike I am riding now is the best bike I have had. My friend found it in a dumpster right here on Kirtland and gave it to me." He worked on it a little and says it is a great bike. Upkeep on his bikes has traditionally cost about \$10 to \$20 a year.

"I have felt very gratified working at Sandia. People at Sandia are wonderful to work with — better than I deserve," says Dave. "I feel that I am part of a big family. Besides computers, the biggest change I have seen at Sandia is the age of new employees. They are so young — they used to be so old."

In retirement, Dave plans to keep on doing some of same things he does now. He will be picking up kids for Sunday school in the church bus, just like he has the last 35 years.

Dave is contemplating familiarity with automobiles — fixing them that is. He used to do it when younger. "I took my truck to get repaired, and it was expensive," he says. "I just might take classes to become a mechanic."

"Dave is an others-first kind of person," says his friend Mark Forster (14131). "He puts himself last and others first. He is also that kind of person in his personal life. Dave is hard-working, soft-spoken, artistic, will try anything, and can scoop a mean bowl of ice cream."

With a sparkle in his eyes, Dave says one of the things he looks forward to doing when he retires is visiting his new grandson, Anthony, in South Dakota. "He lives on a farm," says Dave. "I look forward to having Anthony show me how to drive a tractor. Kids grow up fast these days."

Feedback

Q: Given that it is compensation time again, I am curious about a certain practice and its purpose. Our VP takes a certain percentage off the top of the raise package each year (last year it was over one percent I think) and I am curious as to what it is used for and if this is a standard Sandia practice? In the years of small raise packages this often means many people get a less-than-rate-of-inflation raise. When you get a higher than average PMF review but a small raise, this can have a discouraging effect on many people. Since PMF is not related to the raise one gets and it is lowered by one percent or so right from the start, I'd like to think that we are all benefiting in some way by this practice.

A: On an annual basis, approximately 90 to 98 percent of the base fund is spent during the compensation review. On a 3.5-percent compensation review fund, these holdback estimates are less than half of one percent. The purpose of creating a division holdback varies by division, but uses include: using some during compensation review to meet lower organization needs, addressing salary inequities, or holding funds for future adjustments that are requested by the line. In years when the compensation increase fund is small, the amount of holdback may be less, but it is still dependent upon division needs.

— BJ Jones (3500)

Q: The Sandia Daily News is great but it would be more useful if it had a search engine. Any chance you will be adding this feature?

A: The Sandia Daily News is currently exploring with the Search Engine Team the possibility of having a corporate news search option. Meanwhile, try your search in SearchPoint, Sandia's Corporate Search, which debuted Aug. 31 2004. It searches eight Sandia information resources.

— Howard Kercheval,
Editor, Sandia Daily News (12640)

★ Congratulations

To Rhoda (8224) and Kevin Whipple, fraternal twin sons, Waylon Edward and William Everett, Sept. 10.

SERVICES *Did you know?*

THE MOUNTAIN VIEW CLUB OFFERS:

Lunch Specials Monday through Friday
from 11 a.m. to 1 p.m.
and Full-Service Catering for Private Functions.
The Club is Open to both
Members and Non-Members.
Call the Mountain View Club at 846-5165.

Rainy Days



(Photo by Randy Montoya)

Mileposts

California photos by Bud Pellitier

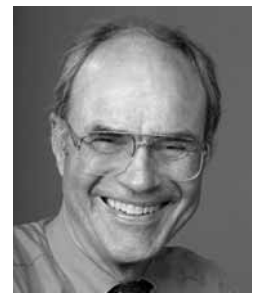


Al Du Charme
35 8512



Ed Diemer
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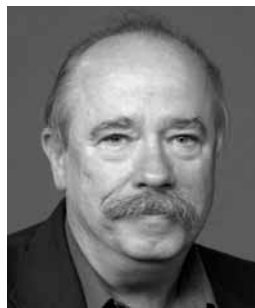
Recent Retiree



Chuck Hartwig
34 8940



John Wheeler
30 8231



Kenneth Wilson
30 8770



Arthur Ortega
25 8242



Robert Armstrong
20 8961



Paula Painter
20 8514



Douglas Vrieling
15 8512

Reimbursement Spending Accounts (RSA) for Health Care and/or Day Care

Editor's note: The information presented here about reimbursement spending accounts was provided by Sandia's Benefits organization.

Would you like an easy way to save on your tax bill? Will you be paying for medical or day care expenses of \$100 or more next year? Then why not take advantage of Sandia's RSA benefit that allows you to set aside money on a pre-tax basis through payroll deductions? The RSA allows you to reduce your reportable income for the purpose of federal, Social Security (FICA), and, in most cases, state taxes.



All regular, limited term, post-doctoral, and full-time, year-round faculty sabbatical employees may participate in the RSA Plan in 2005 by enrolling during the Benefits Choices 2005 Open Enrollment period (Oct. 20 through Nov. 9). **This year you no longer have until Dec. 31 to make your final RSA annual election. You must make this decision by Nov. 9.** Changes at other times during 2005 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 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.

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 2005 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 copays;

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.

Day Care RSA

Your annual election in the Day 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 \$250 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.

Debit Card

New enrollees for the RSA 2005 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 (SPD). The RSA SPD can be found at <http://www.sandia.gov/benefits/spd> or by calling the Benefits Customer Service Center (845-2363).

A PayFlex representative will be at Sandia's RSA Open Enrollment meeting on Oct. 20 in Albuquerque and videotapes will be available at your Benefits Customer Service Office. Instructions for enrolling in the RSA are available in your Benefits Choices 2005 Open Enrollment booklet available at <http://www.sandia.gov/benefits/oe>.

Example of potential tax savings based on the 2003 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	\$(8,201)	\$(7,076)
Income after taxes	\$37,974	\$34,943
Potential tax savings		\$1,469
Income after taxes	\$37,974	\$34,943
Less health care expenses	\$ (500)	\$ (0)
Less day care expenses	\$(4,000)	\$ (0)
Spensible income	\$33,474	\$34,943

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.

Sandians play role in nuclear weapon exercise

Weapon experts analyze burnt debris, gather data

By Michael Padilla

John Hoffman (12345) gave good news following an explosion involving a fuel tanker and a military transporter carrying a nuclear weapon.

"The weapon has burned itself out," he told members of the media and others during an afternoon mock news briefing. "Without the explosive, the weapon is effectively nonfunctional."

John, serving as a senior scientific advisor, was one of 650 participants in a nuclear weapon accident response full-scale exercise titled Diligent Warrior 04. The three-day exercise was sponsored by the Defense Threat Reduction Agency (DTRA), and held at the 341st Space Wing, Malmstrom Air Force Base in Great Falls, Mont.



JOHN HOFFMAN

John, serving as part of DOE's Accident Response Group, said the high explosive that encapsulated the warhead's plutonium pit likely was consumed in the fire.

His next step in the exercise was to assist the Air Force and the National Command Authority on a transportation plan to remove the remains of the nuclear weapon.

The exercise was designed to test and validate nuclear weapon accident response procedures and to test the contingency plans and procedures if a similar situation ever occurs. Federal, state and local agencies participated in the exercise, including DTRA, Air Force Space Command, FBI, DOE/NNSA, DOD, National Transportation Safety Board, Environmental Protection Agency, and the Federal Emergency Management Agency.

Scenario

The exercise began early Monday, Sept. 13, when a simulated fuel tanker collided with a military transporter carrying a nuclear weapon. The weapon involved was simulated as part of a re-entry system for a Minuteman III Intercontinental Ballistic Missile.

In the scenario, the drivers of both trucks were killed instantly and eight individuals were taken to the local hospital for radiation and medical evaluation. A passenger in the military vehicle was treated for a broken arm.

The next couple of days focused on the recovery of the weapon, clean-up of the accident site, public reaction, and other issues.



STAYING CALM — An airman tends to a victim during Diligent Warrior 04, sponsored by the Defense Threat Reduction Agency. (Photos by Marcus Wilson, DTRA)

The site of the accident was cordoned off during the investigation and a detour was created for traffic.

About 25 anti-nuclear protesters demanded answers about the wreckage and were met by hundreds of military police to ensure that they did not get close to the wreckage site. Three protesters crossed the line and were taken down by force.

A temporary claims office was opened for anyone who felt they were entitled to a claim.

In addition, Air Force chaplains were available to provide moral support to those affected by the accident.

Several news conferences and briefings were held throughout the exercise, in which all players were able to interact with mock media. A newspaper documented the media and joint information center interactions.

The exercise does not reflect an increased likelihood that a real accident might occur.

Organizers maintain the highest nuclear safety standards, and continue to apply stringent precautions to prevent an accident.

Sandia's role

Several Sandians participated in the exercise as part of the Accident Response Group. They included Ramon Pacheco (2112) as well as Hans Oldewage, Erica Sanchez, Ralph Carr, Al Horvath, and Richard Stump (all from 12345).

They worked closely with other officials in determining the condition of

the weapon, and helped render the device safe.

John says the exercise helps validate that effective plans, policies, and technical procedures are in place to respond to real-world events involving nuclear ordnance.

(Michael Padilla, a member of the Lab News staff, participated in the exercise playing a news reporter.)



ANALYZE THIS — Players analyze the mock crash site.



SMOKE OUT — Emergency responders extinguish the fire at the mock accident.



FIELD TESTS — Players conduct various tests at the exercise site.