Secretary Chertoff dedicates new NISAC facility
First DHS-funded building at Sandia marks evolving relationship

By Stephanie Holinka

Department of Homeland Security Secretary Michael Chertoff dedicated the National Infrastructure Simulation and Analysis Center (NISAC) at Sandia on Sept. 18. NISAC is a program that integrates the laboratories’ expertise in modeling and simulation of complex systems to examine both natural and manmade infrastructure national security issues.

The center is a partnership between Sandia and Los Alamos national labs and is managed by the Department of Homeland Security’s Preparedness Directorate.

Secretary Chertoff affirmed the need for NISAC, insisting that “people who have to make decisions need accessible and reliable information.” He praised the “willingness of the Labs to adapt to 21st-century challenges and step forward” to address the types of problems that may someday face our nation.

Chertoff was joined by Sen. Pete Domenici, R-N.M., Rep. Heather Wilson, R-N.M., and Rep. Steve Pearce, R-N.M., as they dedicated the first DHS-funded facility at Sandia. They received an

(Continued on page 5)

Phase diagram of water revised by Sandia researchers

By Neal Singer

Two Sandia researchers have significantly altered the theoretical diagram universally used by scientists to chart the phases of water. The new model also expands the known range of water’s electrical conductivity under extreme temperatures and pressures.

“We were trying to understand conditions at [Sandia’s] Z [accelerator] when its flash goes through water,” says Thomas Mattsson (1674), a theoretical physicist, “but the problems are so complex thought. Red spheres are hydrogen atoms, white spheres are oxygen atoms, and the electron density from a partially occupied electron state, responsible for the conductivity, is shown as gold.

By Michael Padilla

During each of the three space shuttle missions since the Columbia disaster, the Sandia Laser Dynamic Range Imagery (LDRI) sensor has been used to help ensure that the shuttle’s thermal protection system is intact before the spacecraft returns to earth.

During the latest, Atlantis mission nearly two dozen Sandians served as the ground station team at NASA’s Johnson Space Center near Houston, Texas.

On flight day two after liftoff, the LDRI sensor is used in a series of multiple pass scans of the leading edges of both wings of the shuttle beyond the nose cap. Approximately three hours of video is acquired. The operation is repeated just before the shuttle returns to earth, in case the shuttle was impacted by micrometeorites or space debris while on orbit. The sensor generates images of 720 by 480 pixels, at 30 Hz, which are transmitted to the Space Center.

The Sandia team staffed four workstations, which captured the downlinked data and provided various types of products for the NASA screening teams. The first product, called level 1, is the imagery corrected for transmission line artifacts incurred, and for fixed pattern noise, which is

(Continued on page 5)

Vol. 58, No. 20  September 29, 2006

Sandia National Laboratories

Managed by Lockheed Martin for the National Nuclear Security Administration

Sandia LDRI sensor continues to monitor space shuttle missions
Team helped bring Atlantis home safely after space debris mystery

ATLANTIS roars into orbit. (NASA photo)

NASA make the decision to return the shuttle to earth,” says team member Mark Heying (2624). On flight day two after liftoff, the LDRI sensor is used in a series of multiple pass scans of the leading edges of both wings of the shuttle beyond the nose cap. Approximately three hours of video is acquired. The operation is repeated just before the shuttle returns to earth, in case the shuttle was impacted by micrometeorites or space debris while on orbit. The sensor generates images of 720 by 480 pixels, at 30 Hz, which are transmitted to the Space Center.

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Sandia’s annual ECP campaign begins Oct. 9. Read about how your generosity can make a difference in our community and in peoples’ lives. Stories on pages 8-9.

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(Continued on page 5)
What's what

Fall arrived officially last Friday night, but you probably already knew it was on the way. Tip-offs vary. There are fairs, apple festivals, the smell of roasting chile (if you're in New Mexico), the gurgle of wine-festival pourings (if you're in California or New Mexico), the first whiff of wood smoke on a chilly morning, football games preempting news programs, and an animated talk about returning TV shows, idiotic political commercials.

Sandia tip-offs include reminders about the approach end of the fiscal year and its impact on timecards, invoices, project/task numbers, and vacation balances. And, of course, Open Enrollment.

... that time of year to think about the insurance coverage you already have and maybe get the donut and pick it off a bakery shelf two or three times. I can halt the stocking of that commodity, thus altering the buying pattern of a huge chain of stores. The ripple effect is, of course, awesome. Component suppliers all the way to the field feel it.

... Don't believe me? Well, I can say without reservation that I affected the equity markets last week. After pulling back a few months ago in an uncharacteristic exhibition of restraint and putting my 401(k) assets in a conservative fund, I decided two or three weeks of a pretty good run-up in the markets signaled that it was time to move back into areas of potentially higher yield. I figured that with approaching retirement, I could use the gains to buy a new dinghy and some whiz-bang electronics for my sailboat.

The day after I made the switch, as Ed Norton used to say: “Va-va-VOOM!” To borrow a phrase from the business writers: My losers outnumbered my gains. A weak rally the next day was followed by two more days of losers outnumbering gainers.

... Maybe the logic is specious, but I figure all I have to do to make the market go up like a rocket is to pull out entirely. The problem is that I can't figure out how that would help me.

— Howard Kercheval (984-7842, hckerch@sandia.gov)

Employee Death

Dan Roman of Engineering Services Dept. 8236 died Sept. 10. He was 39 years old. Dan had been a Sandian for four years. He is survived by his wife Sherry, son Blaine, father Donald, mother Angela, and brother Don.

Sympathy

To Karen Gillings (3550) on the loss of her mother, Myriam Grube, in Dallas, Texas, Sept. 5.

Upcoming conferences focus on terrorism, homeland security

Terrorism conference set for Oct. 4-6 at Sandia

A conference on “Terrorism: Threats, Training, Tactics, and Technology” will be held Oct. 4-6 at the Steve Schiltz Aquarium.

During the three days, participants will have the opportunity to examine some of the challenges and gain a comprehensive understanding of issues related to terrorism.

On Oct. 4, presentations will be given a demonstration of security protective forces armaments and technology at the live fire range, including new tactical vehicles and equipment, simulation technology, and weapons demonstrations.

Scheduled speakers include Rahon Gunaratna, author of Inside Al Qaeda; Mike Scheuer, author and former head of the CIA's Laden desk; Scott Shenk, chief operational psychologist for the Counter-Terrorism Center; Brian Michael Jenkins of the RAND Corporation; Sandia Principal Scientist and VP Gerry Yonas; and other Terrorism Research Center experts.

The conference is for military, law enforcement, security professionals, emergency managers, government leaders, and academic personnel.

The conference is hosted by Sandia's Security Systems & Technology Center and the Terrorism Research Center. For information, contact Betty O'Hearn-Hines at (727) 360-4302 or at betty@terrorism.com. Information can also be found at http://www.terrorism.com.

Fifth Annual Homeland Security Conference is Oct. 24-26

The Fifth Annual Homeland Security Conference will take place Oct. 24-26, at the Marriott Pyramid North, 5151 San Francisco Rd. NE in Albuquerque. Since 2002, more than 2,000 public safety personnel from 200 different agencies have taken advantage of this training.

This year’s conference will feature nationally and internationally recognized experts who will guide participants in optimizing limited homeland security resources, identify and discuss emerging threats, highlight cutting-edge homeland security technologies, and demonstrate resources, share expertise in conducting risk assessments, assist in the formulation of appropriate response strategies, and facilitate the development of interdisciplinary partnerships to ensure the safety and security of local communities.

The conference costs $295 for Oct. 6, late registration is $395 and CEU credits are available through New Mexico Tech. For more information visit the conference website at www.nmhsconference.org.

Conference coordinator is Steve Rivera, sgriver@sandia.gov. (505) 845-0682.

Teaching the teachers

NORB TENCZA (3652) teaches a nanotechnology class for New Mexico teachers during the recent SEMI High Tech U Teacher Edition program. The two-day hands-on workshop is designed to help teachers in fielding math and science curriculum by providing teachers with classroom-ready activities and ready-made projects.

NORB TENCZA

Information on the semiconductor and nanotechnology industries and participate in activities focused on math, science, and technology.

Mindi Koudelka (5433) presented a class on electricity and science focused on math, science, and technology industries and participate in activities focused on math, science, and technology.

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Sandia's Rapidly Deployable Chemical Detection System offers fast, potentially lifesaving capability to event managers

Unobtrusive system of sensors designed as detect-to-warn measure

By Mike Janes

Baseball fans cheering on their beloved Oakland A's at a home stand earlier this summer may have been happy about the team's play, but the best news for those at McAfee Stadium in Oakland, Calif., didn't take place on the field.

Through late June and early July, a team of researchers from Sandia/California — roughly 30 minutes east of the A's home at McAfee Stadium — tested the Rapidly Deployable Chemical Detection System (RDCDS) during a series of games. The system can be packaged and deployed locally within 24 hours and is designed to provide swift, yet effective protection at high-profile events. It is funded by the Department of Homeland Security.

RDCDS is designed to provide broad, high-confidence coverage of more than 40 different chemical weapons using multiple, overlapping detection technologies and link video and video. By the beauty of this system is that it can be packed and set up at a venue within a day's notice, without having to sacrifice any of the robustness or features required by such a sophisticated system, "says Ben Wu (8124), a chemical engineer and project manager for RDCDS. "The bottom line is that it can help emergency responders save more lives in the event of a terrorist attack.

RDCDS can detect a variety of chemical waragents as well as the more common toxic industrial chemicals. The RDCDS platform also readily accepts other types of detectors, such as those that sense radiological material.

As a "detect-to-warn" system, says Ben, the aim of RDCDS is to alert emergency responders to a chemical release early on and enable evacuations or other timely response measures to minimize casualties.

Mix of detection, surveillance measures

A 2004 version of RDCDS (then known simply as the Sandia Management Architecture) used just one node — a box laden with electronic components, detectors, and communications equipment — and just two detectors. The RDCDS system has matured to the point that eight nodes, totaling 64 detectors, were networked in and around McAfee Stadium during the Oakland deployment.

The detectors, says Ben, use a variety of technologies and capabilities to counter any attempts to tamper with the system by terrorists or other outside forces, and simply to avoid having to rely too heavily on any one detector. Detectors are placed strategically and, depending on wind trajectory and other environmental variables, might even be placed outside a venue's physical boundaries.

The system incorporates video surveillance cameras, which serve both to confirm the findings of the detection equipment and to keep a lookout for illicit attempts to damage or alter any system components.

Primary challenge is background noise

In designing and testing the RDCDS system, says Ben, the main obstacle has been dealing with the plethora of background noise common in or near large venues — one reason why Sandia's team appreciated McAfee Stadium's management allowing a multi-game test deployment at its venue.

"You simply can't reproduce in a laboratory the kind of real-world environment where RDCDS is meant to be deployed," Ben says.

In a typical sports venue such as McAfee, he says, detectors must try to differentiate between authentic chemical releases and cigarette smoke, automobile emissions, perfumes, and odors from popcorn machines, hamburger stands, and hot dog vendors.

In addition to those challenges, Ben notes, McAfee Stadium, Sandia evaluated RDCDS's effectiveness during a 10-week stint at the Livermore, Calif., site and at a brief deployment in early 2005 at San Francisco International Airport.

The final and most important test, however, came in late August, when a test and evaluation — using an authentic chemical discharge — took place at the remote Nevada Test Site.

Ben says the system performed extremely well, meaning that RDCDS is ready for service for the Department of Homeland Security. DHS, says Ben, is weighing its options as to how the RDCDS capability will be folded in to the department's national security responsibilities.

Sandia News

Jim Miller receives Combustion Institute gold medal award at symposium in Germany

Jim Miller, a Distinguished Member of Technical Staff at the Combustion Research Facility's Combustion Chemistry Dept. 8353, last month was awarded the Bernard Lewis Gold Medal by the Combustion Institute at the Thirty-First International Combustion Symposium held in Heidelberg, Germany.

The inscription on the medal reads "for brilliant research in the field of combustion, particularly on the theory and modeling of combustion chemistry." An important motivation underlying Jim's research has been to understand how pollutants are formed in combustion and to devise chemical kinetic models that allow their emissions to be controlled.

Jim received his bachelor's degree from the University of Cincinnati and his PhD from Cornell University in 1974, where he did research with S. H. Bauer, P. C. T. de Boer, and E. L. Resler, Jr. He has been at Sandia since his degree. Miller was part of the founding staff of the Combustion Research Facility in 1980 and has had a office in Livermore since 1988. He has research interests in both combustion chemistry and theoretical chemical kinetics, and consequently he has published extensively in both the physical chemistry and combustion literature.

Early in his career, Jim teamed with Bob Kee, now at the Colorado School of Mines, to develop CHEMKIN, which with its derivative software, has become the standard in the field for chemical kinetic modeling in combustion. Chemical kinetic models are now exchanged simply by exchanging CHEMKIN files.

Jim's current research stems from his previous experience with nitrogen and soot chemistry and is a collaboration with Stephen Klippenstein at Argonne National Laboratory. It involves the theoretical description, using master equations, of reactions that take place over multiple, interconnected potential wells and of the thermal dissociation of weakly bound free radicals. Such reactions dominate our understanding of all of combustion chemistry, as well as that of atmospheric chemistry and chemical vapor deposition. A feature article on this topic, by Jim and Klippenstein, appeared Sept. 14 in The Journal of Physical Chemistry A.

Jim is a Fellow of the American Physical Society and a member of the American Chemical Society, the Management Association for the Advancement of Science, and The Combustion Institute. A special issue of The Journal of Physical Chemistry A, to appear in early 2007, will be devoted to a "James A. Miller Festchrift" in honor of his 60th birthday.

Distinguished Lecture Series will discuss information security trends

Security is fundamentally all about economics.

— Bruce Schneier

The Distinguished Lecture series returns in October with a talk by Bruce Schneier, an internationally renowned security technologist and author. His talk on "The Economics of Information Security — Ten Trends" takes place Oct. 5 from 3-4:30 p.m. in the Building 904 Auditorium. Described by The Economist as a "security guru," Schneier is known as a refreshingly candid and lucid security critic and commentator. Whether people want to know how security really works, they turn to Schneier, says The Economist.
Metallic water
(Continued from page 1)
lines, as well as through water switches placed along the machine's channels. This restrains and then transmits Z's electrical pulse.

The researchers first found the standard water-phase diagram out of whack when, on Sandia's Thunderbird supercomputer, they ran an advanced quantum molecular simulation program able to include "warm" electrons instead of unrealistic cold ones, says Mike. The work showed that phase boundaries for "metallic water" — water with its electrons able to migrate like a metal — should be lowered from 7,000 kelvin and 250 gigapascals to 4,000 K and 100 GPa.

This new range — far beyond that which Z routinely enters — is nevertheless useful because it is sure to reveal astronomers' calculations of the strength of the magnetic cores of gas-giant planets like Neptune. Because the characteristics of Neptune's interior water partly lie in this electrically conducting sector, the water probably contributes to a magnetic field formerly thought to be generated only by the planet's core.

Diagram confirmed experimentally
The new calculations agree with experimental measurements in research led by physicist Peter Celliers of Lawrence Livermore National Laboratory.

The computational work, paid for by Sandia's internal Laboratory Directed Research and Development program, is part of a broad front of research. Mike extended the work of a Sandia team led by Bill Hart (1415), has developed and off-the-shelf software are included with Lockheed Martin.

"Acro . . . makes it easier to solve large-scale engineering and scientific problems," Bill says.

"Acro puts together different optimization software applications into one large package, much like how a drug manufacturer distributes spare parts to maximize the life of its equipment," Bill explains. "Such questions require selecting a best alternative from an enormous set of possibilities.

"Acro integrates many optimization software applications, collating them with an integrated C++ program. This gives it the ability to solve large-scale engineering and scientific problems," Bill says.

Acro integrates many optimization software applications, such as the Department of Energy's ASC program, with commercial companies seeking to solve specific engineering and scientific problems such as engineering design, inventory management, and molecular prediction. Acro is currently part of DOE's Advanced Simulation and Computing (ASC) efforts and supports interactions with the Department of Homeland Security, computing activities in a water initiative with the Environmental Protection Agency, and military logistics operations with Lockheed Martin.

Bill says he and his team have been developing Acro for the past year-and-a-half. Both Sandia-developed and off-the-shelf software are included in Acro. In particular, Acro integrates Sandia's ARPSPACK, Coliny, OPT++, and PICO optimization software. Acro includes optimization techniques like linear programming, mixed-integer linear programming, derivative-free local search, and genetic algorithms.

Sandia is giving Acro away free to encourage external collaborators to use it and make suggestions for improvements. Acro Version 1.0 is available for download under the terms of the Lesser General Public License (LGPL). To access the web site: http://software.sandia.gov/Acro. For more information contact acro-help@sandia.gov.

ARCO PROJECT TEAM MEMBERS: Bill Hart (project lead), Erik Boman, Lee Ann Fisk, Robert Heephey, Cindy Phillips (all 1415), Tammy Kolda, Patty Hough (both 8962), Jonathan Eckstein (Rutgers University)

THE NEW DATA about the phase boundaries of water are sure to revise astronomers' calculations of the strength of the magnetic cores of gas-giant planets like Neptune, seen here in a photo from NASA's Voyager spacecraft. Because the characteristics of Neptune's interior water partly lie in this electrically conducting sector, the water probably contributes to a magnetic field formerly thought to be generated only by the planet's core.

(Continued from page 1)

Sandia releases the Acro 1.0 optimization software for free public download

By Chris Burroughs

Acro 1.0 optimization software, developed by a Sandia team led by Bill Hart (1415), has recently been released to the public and is available for free.

Optimization software can be used to answer questions like: "How will a new drug molecule bind to a target protein?" or "How should I configure this piece of its equipment?" Such questions require selecting a best alternative from an enormous set of possibilities.

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Sandia's ability to calculate electronic properties and phase diagrams "has rapidly progressed from simple metals like aluminum for Z's flyer plates — a critical step toward the need for which was driven by experimental-theoretical discrepancies," says Tom, "to alloys like stainless steel for Z's wire arrays and ZR's structural conductors (with Thomas' help), and now to water, with Thomas leading the way. This six-year history gives us a unique ability to model the extreme conditions of high-energy-density environments.

As it turns out, the newly discovered regime will not adversely affect Sandia's water switches on ZR. But water switches not yet designed for future upgrades may require the more accurate understanding of the phases of water discovered by the Sandia researchers, says Larry Warner (1152).

Because of Z's reliance in provoking fusion neutrons from deuterium pellets, it is thought of as a possible (if dark-horse) contender in the race for high-yield controlled nuclear fusion, which would provide essentially unlimited power to humanity.

Compression of Z's amperage in time is the cause of its huge power, equivalent to 50 times the electrical production of all the generating plants in Earth's fossil fuel industries.

The work on water phases was initially published July 7 in Physical Review Letters and most recently reported at the 12th International Workshop on the Physics of Non-Ideal Plasmas, held in Darmstadt, Germany, Sept. 4-8.
NISAC

(Continued from page 1)

overview of NISAC’s technical contributions to the nation’s homeland security efforts and demonstrations of several technologies.

Proposal predates 9/11, Katrina

Domenici proposed NISAC in 1999, before policymakers fully appreciated the need for such a facility. “I was a salesman setting NISAC to a country that didn’t want to accept NISAC,” Domenici said.

John Mitchiner, manager of System Engineering and Analysis Business Area Dept. 6320 says NISAC’s mission is “to help make US infrastructure more resilient to disruption.”

Before 9/11 and before Hurricane Katrina, the idea of having some of the nation’s best and brightest examine bad things that hadn’t happened yet seemed odd. Domenici found initial funding for the program. When it began to bear fruit, Homeland Security provided additional funding. In remarks at the ribbon-cutting, Sandia Senior VP and Deputy Labs Director for Integrated Technologies and Systems Al Romig took note of the increasing importance of Sandia’s relationship with DHS. He said the Labs is “energized” by the opportunity to continue the tradition of exceptional service to the nation as it confronts the security challenges of the 21st century.

Romig said the NISAC facility is evidence of an evolving partnership between NNSA and DHS, adding that “it is especially gratifying for the national laboratories to see the interagency cooperation blossom and bear fruit.

Building has collaborative workspaces

The $7 million, 24,000-square-foot building provides facilities for individuals, teams, and distributed collaboration for some 110 people, and includes a visualization space where modeling results and simulations can be displayed for cooperative analytical and technical development. The building was designed with significant input from its occupants and has incorporated collaborative workspaces to encourage groups to interact more frequently.

NISAC employs experts from a variety of disciplines; it includes computer modelers, economists, and civil engineers. They examine scenarios of disruption from a variety of viewpoints, offering their results to those who may respond to future real events.

NISAC at work: responding to hurricane threats

When a hurricane threatens, and sometimes long before it does, the NISAC team mobilizes to give planners reports, several days ahead of landfall, of where the vulnerable points are. Emergency resources can be concentrated in those areas.

During the current 2006 hurricane season, NISAC has analyzed regions vulnerable to hurricane damage so that data on key population issues, impacts of infrastructure disruptions, and economic consequences can be quickly available to impacted communities in the event of an actual storm.

Using current models of US transportation, telecommunications, and electrical systems, they have developed scenarios and sent the results to federal officials preparing for potential hurricane landfalls. They looked at issues such as where weaknesses in the electricity grid could lead to significant outages and where storm surges could disrupt telecommunications.

Space shuttle

(Continued from page 1)

called flat field correction.

When the level 1 images are delivered to NASA, the total number of frames is reduced by a factor of four, Mark says. This is to help the screeners avoid information overload, while ensuring that full inspection coverage is maintained.

Another ground station product is generated by registering multiple contiguous frames together into a single sharpened image. This high-quality, low-noise imagery is closely examined by NASA screeners for artifacts that did not exist on the shuttle before lift off. If any potential debris objects are found, an “area of interest” is declared and a request goes out to the Sandia team for a detailed report.

By using a set of in-house processing tools, workstation operators can quickly generate a report that details the length, width, and depth of the specified object, says Mark. The team can also generate a 3-D digital image which can be rotated and examined from numerous angles and zoom settings.

Since the first return-to-flight mission the Sandia team has applied multiple lessons learned to improve the quality of the imagery products and the speed at which they are delivered.

“We have also created several tools to aid NASA that go above and beyond the original requirements,” says Mark. “These tools include real-time documentation of acquisition events, and web-based graphical representation of scan coverage.”

New next-generation software is in the works to improve the operator interface, and to speed the delivery of processed imagery even further.

“This mission was another example of the dedication and willingness of the Sandia team to do everything possible to help NASA complete the construction of the International Space Station in a timely and safe manner,” says Mark.

The Sandia ground station team includes: Tom Caus, Dennis Clingan, Mark Heying, Joel Jordan, Bob Nellums, Todd Pitts, Guis Rodriguez, Jose Rodriguez, John Sandusky, Richard Taplin (all 2624) Erik Fosshage (12343), Steve Gradoville (2661), Simon Hathaway (5919), Cristina Montoya (4341), Eric Ollila (5919), David Karelitz (4326), Steve Tempel (2622), Richard Taplin (all 2624), David Karelitz (4326), Steve Tempel (2622).

OPEN FOR BUSINESS — The National Infrastructure Simulation and Analysis Center is now open. It will be home to some 110 researchers and support staff dedicated to protecting the nation’s vital infrastructure. (Photo by Bill Doty)

Theresa Brown at Sandia and her LANL counterpart Jim Smith serve as program managers at their respective labs.

NISAC aids decision makers in preparedness, consequence and risk analysis, policy analysis, investment and mitigation planning, education and training, and provides near real-time assistance to crisis-response organizations.

Because the US supports one of the world’s highest standards of living, it relies heavily on interconnected systems for distribution of energy, transportation of food and other goods, and information. When this flow is disrupted in one area of the country, surprising consequences can result. NISAC provides multidisciplinary consequence analysis of infrastructure disruption, which allows decision makers to have more robust information before they make critical infrastructure decisions during natural disasters or after a terrorist event.

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Benefits Choices 2007

Open Enrollment is Oct. 20-Nov. 9

What’s new for employees in 2007

We want to point out a few items that are important for you to take note of during this Open Enrollment.

First, plan to save on costs and to take full advantage of web-based technology, employees will be sent, via internal mail, a newsletter containing an overview of their Open Enrollment options. Look for this newsletter at your mail stop mid-October. For detailed information about Open Enrollment options/plans, refer to the HR website at the URL listed in the box at bottom left of this page. Because all information is available via the web, employees will not receive an Open Enrollment booklet and Medical Plan Comparison Grid, as they have in the past.

Second, to make changes to your benefits during Open Enrollment this year, you must use the web-based Open Enrollment system. (Because the web system is in place, the Open Enrollment phone system is not required or available.) Also, changes to your Open Enrollment elections, including enrollment or disenrollment, must be made on the web through Human Resources (HR) Self-Service Open Enrollment Online. This year, you will not receive a hard-copy confirmation of your Open Enrollment elections in the mail. Instead, electronic, printable confirmations recapping your Open Enrollment elections for 2007 will be available online soon after the Open Enrollment period ends.

Third, due to previously announced changes to CIGNA’s Group Term Life insurance plan effective Jan. 1, 2007, Prudential is offering a special one-time opportunity to increase or initiate Voluntary Term Life insurance coverage during 2007 Benefits Choices Open Enrollment. Finally, for the current small number of participants, HBE can no longer support premium share processing on dental for 2007.

Steps to take during Open Enrollment:

1) Review your current benefits under “Benefits Summary” on the HR Self-Service web information page.
2) Review the Open Enrollment newsletter and view the Open Enrollment information on the website (http://www.sandia.gov/resources/emp-ret/emp-oa) at work or home, and evaluate how you want to coordinate benefits with your spouse’s benefits (received through his/her employer). Employees will find on the web a wealth of information and tools to assist in benefit selection before the May 21 deadline this year.
3) Attend a benefits fair to speak with the vendors and/or Sandia staff (the benefits fair/presentations schedule is on page 12).
4) Determine whether you need to use the web-based Open Enrollment application according to the table at right.

Helpful tip: Remember to print your employees page right after you make your changes.

Plan ahead: some questions to ask:

• Do I want to open up a Day Care Reimbursement Spending Account (DCRSA) for my child’s day care next year? Review the Payflex Tax Assistant (www.mypayflex.com) or RSA Summary Plan Description工作作风, whether an account or the tax credit is best for you. Remember that these accounts require an enrollment each year.
• Do I expect to have health plan expenses (medical, dental, and vision) that will exceed $100 during the next calendar year? Does my child need orthodontic treatment next year? Am I getting LASIK surgery next year? Am I interested in purchasing voluntary long-term care insurance next year? Are you planning to increase or initiate Voluntary Term Life insurance coverage next year? Does my child need orthodontic treatment next year? Am I getting LASIK surgery next year?

Make your choices early, so that you don’t forget to enroll if you need to:

• What are my medical expenses (medical, dental, and vision) that require an election each year.
• What is my child’s day care coverage during 2007?
• What’s new for employees in 2007

Important CIGNA HealthCare news for New Mexico:

We want to point out a few items that are important for you to take note of during this Open Enrollment.

First, plan to save on costs and to take full advantage of web-based technology, employees will be sent, via internal mail, a newsletter containing an overview of their Open Enrollment options. Look for this newsletter at your mail stop mid-October. For detailed information about Open Enrollment options/plans, refer to the HR website at the URL listed in the box at bottom left of this page. Because all information is available via the web, employees will not receive an Open Enrollment booklet and Medical Plan Comparison Grid, as they have in the past.

Second, to make changes to your benefits during Open Enrollment this year, you must use the web-based Open Enrollment system. (Because the web system is in place, the Open Enrollment phone system is not required or available.) Also, changes to your Open Enrollment elections, including enrollment or disenrollment, must be made on the web through Human Resources (HR) Self-Service Open Enrollment Online. This year, you will not receive a hard-copy confirmation of your Open Enrollment elections in the mail. Instead, electronic, printable confirmations recapping your Open Enrollment elections for 2007 will be available online soon after the Open Enrollment period ends.

Third, due to previously announced changes to CIGNA’s Group Term Life insurance plan effective Jan. 1, 2007, Prudential is offering a special one-time opportunity to increase or initiate Voluntary Term Life insurance coverage during 2007 Benefits Choices Open Enrollment. Finally, for the current small number of participants, HBE can no longer support premium share processing on dental for 2007.
Employee medical premium sharing — Effective Jan. 1, 2007

All employees pay a monthly premium for coverage in Sandia’s medical plans. Nonrepresented employees monthly premiums will depend on their employee’s base salary and plan choice. Sandia partners with the consulting firm Mercer Health and Benefits to develop the monthly premium share structure for nonrepresented Sandia employees.

Note: Represented employee premium shares are established according to the provisions in the applicable bargaining agreements. The plan design initially setting the monthly premium share rates based on both a review of historical and expected expense trends. Individual plan rates are then adjusted to reflect the relative richness (or “value”) of the plans (e.g., plan design, in/out of network benefits, etc.) Finally, they are adjusted to reflect the overall premium share amount required.

The analysis this year concluded that both the CIGNA In-Network Plan and the UnitedHealthcare (UHC) Standard PPO Plan required a rate adjustment, as the value of the benefits of each of these plans is actually closer to the Premier plans than past premiums have reflected. Therefore, the premium share rates for the CIGNA In-Network Plan were adjusted (away from 14.24 percent based on coverage tier and tier) and are now the same as the CIGNA and UHC Premier plans.

While the UHC Standard PPO Plan contributions increased significantly (in some cases, almost doubling), you will notice that are still considerably lower than the other plans, reflecting the higher deductibles, etc., of that plan. Although our underlying trend for health care costs is anticipated to be in the low double digits for 2007, due to the moderation of recent claims experience and the adjustment of the CIGNA In-Network and UHC Standard PPO Plan premiums, the UHC and CIGNA Premier PPO Plan premiums are rising slightly.

Note: Kaiser insured rates increased by the percentage increase in the full premium rates received from Kaiser.

For more information about monthly premium share amounts for represented and nonrepresented employees, visit the HR Self-Service Open Enrollment website at http://www.sandia.gov/resources/emp-ret/emp-oe.

Retiree Open Enrollment information for 2007

What’s new for retirees for 2007?

Retirees will continue to receive an Open Enrollment booklet fromMercer Health and Benefits. However, new this year, retirees will also receive a Benefit Verification Letter, which will outline current benefit selections, as well as any premium-share amounts (if required), for 2007.

Important note: If you make a change during Open Enrollment, you will receive a confirmation mailed to your home; otherwise, you will not receive a confirmation after Open Enrollment.

Since the Open Enrollment Phone System is no longer available, to make changes for 2007, you will need to complete the Open Enrollment Change Form included in your Open Enrollment packet, and mail it to the Sandia Benefits Department (postmarked by midnight Nov. 9). Look for your Benefits Choices Open Enrollment packet to arrive at your home address (for retirees and survivors) the week of Oct. 23.

Steps for retirees to take during Open Enrollment

1) Review your Benefici e Verification Letter to verify your coverage(s) for 2007.
2) Review the Open Enrollment booklet carefully to learn of any changes in benefits and/or to identify any changes in benefits you want to make.
3) Attend an Open Enrollment presentation to learn more about the plans and/or to talk to a medical plan representative (where available; there is a benefits fair/presentation schedule on page 12).
4) Determine whether you need to complete the Open Enrollment Benef it Change Form located in your Open Enrollment booklet according to the provisions in the applicable bargaining agreement.

Plan ahead — some questions to ask

• Am I satisfied with my medical plan? Is my physician still in the network? If you are thinking of changing medical plans, you should review the vendor’s website to review the list of network providers.
• How many people, cost is one of the key factors in choosing a medical plan. The Medical Plan Estimator Tool is specifically designed to help you estimate that cost and is available to non-Medicare retirees. The tool can assist you in looking at both:

- check in two equal installments each month.
- The impact of premium costs on take-home pay for all levels is decreased by the tax savings received through the pretax premium plan.

Important: Employees are required to determine if their dependent qualifies as a qualified dependent under Internal Revenue Code Section 152 guidelines for purposes of health care coverage (seek advice from your tax advisor). If your dependent is not a qualified dependent under the tax code, you are required to contact the Benefits Department to determine whether any imputed income may apply for that non-qualified dependent. This applies to any premium share you may pay for dental coverage.

Represented employees

The table below provides the monthly premium-share amounts for represented employees for each of the plans.

For more information about monthly premium share amounts for represented and nonrepresented employees, visit the HR Self-Service Open Enrollment website at http://www.sandia.gov/resources/emp-ret/emp-oe.

Nonrepresented employees

The table below provides the monthly premium-share amounts for nonrepresented employees for each of the plans.

<table>
<thead>
<tr>
<th>Medical plan and coverage</th>
<th>Tier 1*</th>
<th>Tier 2*</th>
<th>Tier 3*</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIGNA In-Network plan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employee only</td>
<td>$65</td>
<td>$81</td>
<td>$97</td>
</tr>
<tr>
<td>Employee and child(ren)</td>
<td>$112</td>
<td>$146</td>
<td>$175</td>
</tr>
<tr>
<td>Employee and spouse</td>
<td>$133</td>
<td>$166</td>
<td>$199</td>
</tr>
<tr>
<td>Employee, spouse, and child(ren)</td>
<td>$189</td>
<td>$235</td>
<td>$281</td>
</tr>
</tbody>
</table>

| UnitedHealthcare Standard PPO plan |         |         |         |
| Employee only               | $7      | $23     | $39     |
| Employee and child(ren)     | $12     | $41     | $70     |
| Employee and spouse         | $14     | $47     | $80     |
| Employee, spouse, and child(ren) | $21  | $67     | $113    |

| Kaiser Permanente HMO plan |         |         |         |
| Employee only               | $65     | $81     | $97     |
| Employee and child(ren)     | $112    | $146    | $175    |
| Employee and spouse         | $133    | $166    | $199    |
| Employee, spouse, and child(ren) | $189  | $235    | $281    |

| Kaiser Permanente HMO plan (CA) |         |         |         |
| Employee only               | $38     | $54     | $70     |
| Employee and child(ren)     | $79     | $108    | $137    |
| Employee and spouse         | $85     | $118    | $151    |
| Employee, spouse, and child(ren) | $119  | $165    | $211    |

Make your choices early, so that you don’t forget to enroll if you need to!

Make your choices early, so that you don’t forget to enroll if you need to!

<table>
<thead>
<tr>
<th>Medical Coverage</th>
<th>To enroll if not currently enrolled</th>
<th>To add or dismiss a dependent</th>
<th>To waive coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dental Coverage</td>
<td>To enroll if not currently enrolled</td>
<td>To add or dismiss a dependent</td>
<td>To waive coverage</td>
</tr>
</tbody>
</table>

Important note: If you make a change during Open Enrollment, you will receive a confirmation mailed to your home; otherwise, you will not receive a confirmation after Open Enrollment.

For medical plan information changes, refer to ‘2007 retiree medical plan options’ on page 10. Also, refer to “Retiree medical premium sharing” on pages 10 and 11 for information on 2007 monthly premiums.


A tour of St. Martin’s Hospitality Center

It’s a beautiful New Mexico morning as I drive into St. Martin’s Hospitality Center parking lot downtown Albuquerque. Tall, prominent buildings surround the heart of Albuquerque’s homeless population.

I’m here to get a firsthand view — and gain a better understanding of — New Mexico’s largest service provider for the homeless. I want Sandies to see through my eyes the reality of a United Way agency at work and the service it provides. My hope is that my insight into St. Martin’s will prompt Sandies to be generous — as they always are — and see what their generosity through the annual Employee Care Program campaign does for our community’s homeless.

As I park the car, people are streaming into the center for breakfast. (I learn later that about 300 people eat weekday mornings and Sundays. Breakfast is not served on Saturday. Volunteers from different community churches are involved on Sunday.)

I’m led into the parking lot by shelter director Linda Fuller, a woman full of energy, enthusiasm, and a huge contagious smile. In a matter of fact, tone, she calls to some of the clients, “Did you have enough to eat? How are you doing today?” Many call her by their first name. It is clear that they are her priorities, and she works at letting them know.

After a few minutes, the lady who tells me how proud she is to clean up — and gain the confidence of the clients — says, “If you buy shampoo or soap and don’t like it, don’t throw it away,” she says. “Linda, little bottles are great, but we will take whatever you don’t want. Half filled bottles, full bottles, we will take them all. We will take all your toilet paper, too. Recently I asked my staff if they had any towels at home that they didn’t want. Most (time) budget doesn’t allow for new towels.” Tucked away in the corner are diapers. “Babies?” I ask. “Oh no, we have homeless families with babies,” Linda says, “A local church furnishes the diapers.”

Banana shipping boxes fill the shelves of a storage room. “They contain clients’ most treasured possessions: IDs, Walkmans, important papers, and in some instances food. Linda points to a box belonging to an 80-year-old man. He has not been seen in about a year, and the food he may have had. No one has come for his food.”

About 75 percent of our clients are mentally ill,” Linda says. “Some are physically disabled. Around 90 percent are substance abusers. Some have just come hard times. Not one was born homeless. We have disabled clients, doctors, teachers, etc. Homelessness has no boundaries. Some are diagnosed as AIDS clients yet set down when in comes a young man will call. He is clean, neat, and very polite. Often looks to me in his late 20s. He could be your son or mine.”

Joe’s story

Joe started using drugs at age five. He was raised by a single mother who worked two to three jobs so she was at home to supervise. He was the youngest of six children. His siblings introduced him to drugs. They wanted to see how the drugs would affect the little boy.

In his early 20s, he met a girl and they had two boys. Joe stopped going to school and got a part-time job. He worked nights, and his wife quit her job. They moved to a different city. Joe started using heavily. He worked nights on a banana box ship. When his sons were born, his girlfriend did not see them. They spent a lot of time away from their family. Joe started getting into trouble.

Joe realized he was losing everything. He went to his wife with his problem. For a while, he switched until her start of friends. He had lost everything, especially his son, as he had to turn them away. He stayed at his mom’s for a while, but was moved to the hospital then. He is back working.

Linda tells me how proud she is to have a staff member that is a recovering, and clients that are recovering.

Thank heavens there’s one more. I have seen many others. I have a client that wanted to commit suicide. She came to St. Martin’s and saw the other women who were pregnant. She was able to get help and is returning to St. Martin’s. She is doing well.

The invisible side of homelessness (From the Treatment Advocacy Center, Arlington, Va.)

“Now vision haunts America’s conscience more than the sight of the street people. The irrationality and anguish that grip so many of these individuals leap out during any encounter.” — Senator Pete Domenici

Many homeless people hide from the eyes of most citizens. They quell their visibility when they think nobody is looking, and they live in shelters or abandoned buildings. They travel constantly, frequently pulling out of school and away from friends.

Most children become homeless because their mothers and fathers are unable to find affordable housing. Traumatic events such as unemployment, illness, accidents, or violence often limit their ability to secure decent housing.

The average homeless family is composed of a young single or mother and two children under age 6. Nearly half of all children who are homeless have an anxious, depressed, or withdrawn temperament, compared to less than one in five other school-age children who are not homeless.

Nearly one in three homeless children who are homeless have at least one major mental disorder, compared to nearly one in five school-age children who are not homeless.

Homeless children are hungry more than two out of every three. About two-thirds worry that they won’t have enough to eat.

Children who grow up on the streets are likely to repeat the lifestyle with their own children.
2007 retiree medical plan options: Medicare and non-Medicare

This section outlines the medical plan choices for 2007 for retirees; they are the same choices that were offered for 2006. To view detailed plan information see the Medical Plan Comparison Grid, the Retiree Open Enrollment booklet, and/or applicable Summary Plan Description at the OE website outlining specific plan designs/features of the various options.

Retiree premiums vary based on when you retired, your years of service at the time you retired, as well as the plan and the level of coverage you choose. Premiums for non-Medicare retirees are increasing 13-14 percent, on average, for 2007. Premiums for Medicare retirees are staying the same for the Presbyterian MediCare PPO Plan, increasing 11 percent, on average, for the UHC and CIGNA Senior Premier PPOs, increasing 32 percent for the Kaiser Senior Advantage HMO, and increasing 50 percent for the Lovelace Senior Plan.

Important CIGNA HealthCare news for New Mexico:
Hospital operations will move in early 2007 to the Lovelace Medical Center–Gibson to the Lovelace Medical Center–Downtown. The Lovelace Medical Center–Gibson will operate an urgent-care center, and approximately 100 outpatient specialists and 400 support staff will continue to reside at this Center, along with diagnostics, radiology, laboratory services, and a pharmacy.

Retiree medical plan premium sharing — effective Jan. 1, 2007

Employees who retired prior to Jan. 1, 1995

Employees who retired prior to Jan. 1, 1995 will not be required to pay a premium share for themselves or any eligible Class I dependents at this time.


Employees who retired after Dec. 31, 1994, pay a monthly premium for coverage in Sandia’s medical plans. The monthly premium share amount will be deducted from your pension check. Use Table A to find your rate for your selected plans.

Employees who retired after Dec. 31, 2002

Employees who retired after Dec. 31, 2002, pay a percentage of the full premium based on their term of employment. The monthly premium share amount will be deducted from your pension check.

The tables:
- Use Table A if you retired with 30+ years of service
- Use Table B if you retired with 25-29 years of service
- Use Table C if you retired with 20-24 years of service
- Use Table D if you retired with 15-19 years of service
- Use Table E if you retired with 10-14 years of service

Retiree medical plan premium sharing tables for 2007

Retirees should use the tables here (Tables B-E are on the next page) to calculate their monthly premium sharing cost for medical insurance in calendar year 2007. The applicable monthly premium share amount will be deducted from your pension check.

Table A

<table>
<thead>
<tr>
<th>Number of Medicare</th>
<th>UHC Senior PPO</th>
<th>CIGNA Senior PPO</th>
<th>Presbyterian PPO</th>
<th>Lovelace Senior Plan</th>
<th>Kaiser Permanente Advantage HMO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$20</td>
<td>$20</td>
<td>$11</td>
<td>$21</td>
<td>$22</td>
</tr>
<tr>
<td>2</td>
<td>$40</td>
<td>$40</td>
<td>$23</td>
<td>$31</td>
<td>$35</td>
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</table>

Important:
- Required to determine if their dependent qualifies as a qualified dependent under Internal Revenue Code Section 152 guidelines for purposes of health care coverage (seek advice from your tax adviser).
- If your dependent is not a qualified dependent under the tax code, you may be required to contact the Benefits Department to determine whether any imputed income may apply for that nonqualified dependent.

Table A (includes the 3 tables below)

Table B

<table>
<thead>
<tr>
<th>Number of Medicare</th>
<th>UHC Senior PPO</th>
<th>CIGNA Senior PPO</th>
<th>Presbyterian PPO</th>
<th>Lovelace Senior Plan</th>
<th>Kaiser Renal Advantage HMO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$71</td>
<td>$61</td>
<td>$32</td>
<td>$33</td>
<td>$34</td>
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<td>2</td>
<td>$145</td>
<td>$122</td>
<td>$144</td>
<td>$112</td>
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</table>

Mixed Medicare and Non-Medicare Family
(your family has both Medicare-primary and non-Medicare-primary members)

Table C

<table>
<thead>
<tr>
<th>Number of Medicare</th>
<th>UHC Senior PPO</th>
<th>CIGNA Senior PPO</th>
<th>Presbyterian PPO</th>
<th>Lovelace Senior Plan</th>
<th>Kaiser Permanente Advantage HMO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$93</td>
<td>$81</td>
<td>$82</td>
<td>$84</td>
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<tr>
<td>2</td>
<td>$133</td>
<td>$101</td>
<td>$112</td>
<td>$95</td>
<td>$84</td>
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</tbody>
</table>


Employees who retired after Dec. 31, 1994, pay a monthly premium for coverage in Sandia’s medical plans. The monthly premium share amount will be deducted from your pension check. Use Table A to find your rate for your selected plans.

Also . . .

Employees who retired after Dec. 31, 2002, and retired with 30+ years of service
Retirees should use the tables here (Table A is on the preceding page) to calculate their monthly premium sharing cost for medical insurance in calendar year 2007. The applicable monthly premium share amount will be deducted from your pension check.

### Table B: Employees who retired after Dec. 31, 2002, and retired with 25-29 years of service

<table>
<thead>
<tr>
<th>Number of Medicare</th>
<th>UHC Senior PPO</th>
<th>OIGA Senior PPO</th>
<th>PremierCare PPO</th>
<th>Lovelace Senior Plan</th>
<th>Kaiser Permanent Senior Advantage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>$50</td>
<td>$29</td>
<td>$14</td>
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<td>2</td>
<td>$600</td>
<td>$80</td>
<td>$54</td>
<td>$27</td>
<td>$75</td>
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</table>

### Table C: Employees who retired after Dec. 31, 2002, and retired with 20-24 years of service

<table>
<thead>
<tr>
<th>Number of Medicare</th>
<th>UHC Senior PPO</th>
<th>OIGA Senior PPO</th>
<th>PremierCare PPO</th>
<th>Lovelace Senior Plan</th>
<th>Kaiser Permanent Senior Advantage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>$157</td>
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<td>$363</td>
<td>$305</td>
<td>$261</td>
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</table>

### Table D: Employees who retired after Dec. 31, 2002, and retired with 15-19 years of service

<table>
<thead>
<tr>
<th>Number of Medicare</th>
<th>UHC Senior PPO</th>
<th>OIGA Senior PPO</th>
<th>PremierCare PPO</th>
<th>Lovelace Senior Plan</th>
<th>Kaiser Permanent Senior Advantage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>$282</td>
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<td>$220</td>
<td>$209</td>
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</table>

### Table E: Employees who retired after Dec. 31, 2002, and retired with 10-14 years of service

<table>
<thead>
<tr>
<th>Number of Medicare</th>
<th>UHC Senior PPO</th>
<th>OIGA Senior PPO</th>
<th>PremierCare PPO</th>
<th>Lovelace Senior Plan</th>
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### Mixed Medicare and Non-Medicare Family

<table>
<thead>
<tr>
<th>(your family has both Medicare and non-Medicare members)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Number of Medicare</th>
<th>UHC Senior PPO</th>
<th>OIGA Senior PPO</th>
<th>PremierCare PPO</th>
<th>Lovelace Senior Plan</th>
<th>Kaiser Permanent Senior Advantage</th>
</tr>
</thead>
<tbody>
<tr>
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<td>$79</td>
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<table>
<thead>
<tr>
<th>Number of Medicare</th>
<th>UHC Senior PPO</th>
<th>OIGA Senior PPO</th>
<th>PremierCare PPO</th>
<th>Lovelace Senior Plan</th>
<th>Kaiser Permanent Senior Advantage</th>
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<th>Number of Medicare</th>
<th>UHC Senior PPO</th>
<th>OIGA Senior PPO</th>
<th>PremierCare PPO</th>
<th>Lovelace Senior Plan</th>
<th>Kaiser Permanent Senior Advantage</th>
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</thead>
<tbody>
<tr>
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<td>$197</td>
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### Mixed Medicare and Non-Medicare Family

<table>
<thead>
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</thead>
</table>

<table>
<thead>
<tr>
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<th>UHC Senior PPO</th>
<th>OIGA Senior PPO</th>
<th>PremierCare PPO</th>
<th>Lovelace Senior Plan</th>
<th>Kaiser Permanent Senior Advantage</th>
</tr>
</thead>
<tbody>
<tr>
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<td>$116</td>
<td>$106</td>
<td>$96</td>
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<tr>
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<td>$207</td>
<td>$194</td>
<td>$184</td>
<td>$174</td>
<td>$164</td>
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</table>

<table>
<thead>
<tr>
<th>Number of Medicare</th>
<th>UHC Senior PPO</th>
<th>OIGA Senior PPO</th>
<th>PremierCare PPO</th>
<th>Lovelace Senior Plan</th>
<th>Kaiser Permanent Senior Advantage</th>
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<tr>
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<thead>
<tr>
<th>Number of Medicare</th>
<th>UHC Senior PPO</th>
<th>OIGA Senior PPO</th>
<th>PremierCare PPO</th>
<th>Lovelace Senior Plan</th>
<th>Kaiser Permanent Senior Advantage</th>
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</thead>
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<td>$207</td>
<td>$194</td>
<td>$184</td>
<td>$174</td>
<td>$164</td>
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</table>

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### Table B: Employees who retired after Dec. 31, 2002, and retired with 25-29 years of service

<table>
<thead>
<tr>
<th>Number of Medicare</th>
<th>UHC Senior PPO</th>
<th>OIGA Senior PPO</th>
<th>PremierCare PPO</th>
<th>Lovelace Senior Plan</th>
<th>Kaiser Permanent Senior Advantage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$127</td>
<td>$116</td>
<td>$106</td>
<td>$96</td>
<td>$86</td>
</tr>
<tr>
<td>2</td>
<td>$207</td>
<td>$194</td>
<td>$184</td>
<td>$174</td>
<td>$164</td>
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</tbody>
</table>

### Table C: Employees who retired after Dec. 31, 2002, and retired with 20-24 years of service

<table>
<thead>
<tr>
<th>Number of Medicare</th>
<th>UHC Senior PPO</th>
<th>OIGA Senior PPO</th>
<th>PremierCare PPO</th>
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</thead>
<tbody>
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<td>1</td>
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<td>$207</td>
<td>$194</td>
<td>$184</td>
<td>$174</td>
<td>$164</td>
</tr>
</tbody>
</table>

### Table D: Employees who retired after Dec. 31, 2002, and retired with 15-19 years of service

<table>
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<th>Number of Medicare</th>
<th>UHC Senior PPO</th>
<th>OIGA Senior PPO</th>
<th>PremierCare PPO</th>
<th>Lovelace Senior Plan</th>
<th>Kaiser Permanent Senior Advantage</th>
</tr>
</thead>
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<td>$86</td>
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<tr>
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<td>$207</td>
<td>$194</td>
<td>$184</td>
<td>$174</td>
<td>$164</td>
</tr>
</tbody>
</table>

### Table E: Employees who retired after Dec. 31, 2002, and retired with 10-14 years of service

<table>
<thead>
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<th>Number of Medicare</th>
<th>UHC Senior PPO</th>
<th>OIGA Senior PPO</th>
<th>PremierCare PPO</th>
<th>Lovelace Senior Plan</th>
<th>Kaiser Permanent Senior Advantage</th>
</tr>
</thead>
<tbody>
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<tr>
<td>2</td>
<td>$207</td>
<td>$194</td>
<td>$184</td>
<td>$174</td>
<td>$164</td>
</tr>
</tbody>
</table>

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### Mixed Medicare and Non-Medicare Family

<table>
<thead>
<tr>
<th>(your family has both Medicare and non-Medicare members)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Number of Medicare</th>
<th>UHC Senior PPO</th>
<th>OIGA Senior PPO</th>
<th>PremierCare PPO</th>
<th>Lovelace Senior Plan</th>
<th>Kaiser Permanent Senior Advantage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>$184</td>
<td>$174</td>
<td>$164</td>
</tr>
</tbody>
</table>
Life insurance benefits changes effective Jan. 1, 2007

As previously announced, Sandia’s Board of Directors and DOE recently approved changes to the life insurance benefits available to Sandia employees and future retirees, effective Jan. 1, 2007. These changes are necessary in order for Sandia to manage growing benefits costs and align life insurance benefits with those offered by other employers. This article will cover the basics of the life insurance changes, the impact on employees and future retirees, and actions that may be taken to mitigate some of the impact of these changes.

What are the changes?
As of Jan. 1, 2007, the Primary Group Term Life Insurance Plan will replace the Basic and Basic Supplemental Group Term Life Insurance plans. In addition, the Voluntary Term Life (VTL) benefit will be enhanced. The changes apply to current employees and those retiring after Dec. 31, 2006.

What coverage does the new plan provide?
Employees will be provided with less life insurance coverage by Sandia under the new plan. The Basic and Basic Supplemental Group Term Life Insurance plans provide employees with combined life insurance coverage equal to roughly two times annual pay, plus an accidental death and dismemberment benefit of up to one times annual pay. The new Primary Group Term Life Insurance Plan will provide eligible employees with a single level of coverage equal to one times annual pay. This coverage will be paid for by Sandia.

What are the VTL enhancements for employees?
• Employees have a one-time opportunity to increase or initiate VTL coverage during this year’s Open Enrollment, without proof of good health.
• Employees not previously enrolled in the VTL program can buy coverage of one time annual base pay.
• Employees currently participating in this plan will also have a chance to purchase an additional amount of insurance equal to one times annual base pay.
• The maximum coverage will increase from five to six times annual base pay.
• This benefit is paid for by the employee through pay, including payroll deduction.

How can Voluntary Group Accident (VGA) coverage help?
The VGA plan provides an alternative way to acquire accident insurance. VGA is insurance that you may purchase for a monthly premium rate. Coverage is available in amounts ranging from $10,000 to $300,000, in units of $5,000 (maximum $300,000) combined total among three plan options. The three plan options are Employee Only, Family Plan, and employee-only Common Carrier coverage. The VGA plan is paid for by the employee through payroll deductions.

What will life insurance benefits look like for future retirees?
Life insurance benefits for those retiring with a service or disability pension:
• Employees retiring after Dec. 31, 2006, and before Jan. 1, 2009, will receive a Primary Group Term Life Insurance benefit equal to one times annual base pay. This benefit is reduced by 10% of the original amount for five years beginning at age 66. At age 70 and thereafter, the benefit equals 50% of the original amount.
• Employees retiring after Dec. 31, 2008, who were on roll prior to Jan. 1, 2007, will receive a Primary Group Term Life Insurance benefit equal to the lesser of: 1) annual base pay, or 2) $50,000. This benefit is reduced by 10% of the original amount for five years beginning at age 66, not to exceed $25,000 at age 70 and thereafter.

Employee Dental Plan Options
The Dental Expense Plan (DEP) is the company-paid dental plan for employees and their eligible dependents. DEP covers certain preventive and diagnostic services in full and offers basic reimbursement of covered restorative services with annual and lifetime maximums. The Dental Deluxe Plan is a voluntary, employee-paid option that covers certain preventive and diagnostic services in full and offers an increased (approximately 25%) reimbursement of covered restorative services, as well as increased annual and lifetime maximums.

Regarding those life insurance benefits changes

What actions can you take?
There is a chance to mitigate some of the impact of this change by taking advantage of the existing VGA coverage and the one-time opportunity to initiate or increase VTL coverage.

What coverage does the new plan provide?
Comparison of current life insurance benefits and new Primary Group Term Life Insurance for future retirees:

Regarding those life insurance benefits changes

What actions can you take?
There is a chance to mitigate some of the impact of this change by taking advantage of the existing VGA coverage and the one-time opportunity to initiate or increase VTL coverage.

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What coverage does the new plan provide?
Comparison of current life insurance benefits and new Primary Group Term Life Insurance for future retirees:
THERE HAVE BEEN A NUMBER OF CHANGES in the Labs' senior management team since the Lab News last published an organization chart in the Aug. 5, 2005, issue. Notably, long-time California VP Mike John has retired and his job assumed by Paul Hoffmann. Also, the chart reflects a new position for Lenny Martinez, who served as VP for Division 14000 for many years. Lenny has been named the VP for the new Division 9000, Enterprise Transformation. There have also been a number of changes at the director level, and the Executive Staff Director’s office has been moved from Division 3000 to Division 12000, which reports to Executive VP and Deputy Labs Director John Stichman.
Emergency operations exercise preps teams for the real thing

The truck “accident” wasn’t real, but Sandia’s emergency management (EM) team treated it like it was. The “accident” — which involved a simulated release of a toxic chemical, a “fatality,” and two other injuries, triggered a day-long emergency management exercise designed to test the emergency response of more than a dozen Labs EM functions including incident commanders, consequence assessment teams, rescue-recon teams, security, public information, coordination with other agencies, and the like. The graded annual exercise involved hundreds of players and scores of evaluators, controllers, and observers. Residents of buildings affected by the drill scenario were required to follow protective action orders, just as if the situation were real.

Michael Knaovich, manager of Emergency Planning, Training, and Support Dept. 10337, told players in a post-exercise debriefing that he felt the exercise met all the identified high-level objectives. The final grade for the exercise is determined by DOE; the results were not immediately available.

Sandia News Briefs

Magazine finds Sandia a top place to work

Aviation Week and Space Technology magazine, in its annual workforce survey of the aerospace and defense (A&D) industry, has found that Sandia is considered the first choice among A&D professionals as a desirable place to work in the area of technological challenge. The study, published in the Sept. 4 issue of the magazine, was called “Where A&D professionals want to work.” It drew responses from a wide range of companies employing a total of more than 517,000 people. The survey asked what A&D professionals value most. It found that while pay and benefits are important, other, even more valued factors were cited by professionals, including: technological challenge (the area in which Sandia scored highest), credible leaders, career growth opportunities, and a culture that values and respects the individual.

The Aviation Week article cited Sandia’s unique factors as: “Sandia’s entire mission and budget is committed to research, development, and transition to industry/agency product; all top leaders have technical backgrounds.”

Lockheed Martin scored high in the survey, too, in the area of valuing people.

Trinity Site tour is Oct. 7

The National Atomic Museum will host its semiannual Trinity Site National Historic Landmark tour Oct. 7. The tour will include docent lectures, walking Ground Zero, viewing of Jumbo, and visiting the McDonald Ranch House. Seats are limited. Tour buses will leave the museum at 6 a.m. and return around 4 p.m. Participants will be treated to lunch at New Mexico Tech, along with a blasting demonstration. Cost of the tour is $55 per person. Also, at 7 p.m. Friday before the tour, the museum will host a lecture about the first atomic bomb test. The lecture will be presented by Ben Benjamin, who was at Trinity during the first test. The lecture is free to tour participants; others are welcome to attend for $3. Reservations can be made by calling 242-6083 or emailing the museum at store@atomicmuseum.com.

New Mexico Small Business Assistance Program calls for 2007 proposals

The New Mexico Small Business Assistance Program (NMSBA) has issued a call for ideas for leveraged projects for the 2007 proposal cycle. Leveraged projects are a group of businesses that pool resources to create a larger project, focused on solving a technical challenge, usually benefiting an industry or community. The group of five or more (limited to 25) small businesses request that a national laboratory investigate a single technical issue relating to all the small businesses involved. NMSBA can provide $50,000 to $100,000 worth of labor costs annually for up to three years to solve the critical challenge. Proposals can be submitted to work jointly with both labs (LANL is part of the program this year) or one or the other. To discuss your proposal idea and request a copy of the proposal request, contact Jennifer Kamm-Sinsabaugh (10222) at 844-9623 or jlkamm@sandia.gov.