

Sandia assists Navy in shaping future of aircraft carrier operations by gathering, analyzing data

Team visits USS Harry S. Truman to review systems

By Michael Padilla

Sandia is helping the US Navy create the next generation of aircraft carriers by reviewing and analyzing current Carrier Air Wing (CVW) flight operations, maintenance, and support functions.

The primary goal of Sandia's project is to assist the Navy in achieving manpower reductions of at least 10 to 30 percent while increasing the amount of technology on board an aircraft carrier to reduce the overall workload per sailor.

"We will be probing each of these areas to find ways to maintain or improve airwing performance while reducing personnel and making the remaining jobs more desirable," says Jeff Brewer (6861), principal investigator. "This will be done while simultaneously improving the airwing staffing decision-making process."

The first phase of the project is a four-month evaluation of current Navy air wing operations, structure, and improvement alternatives. The second is a six-month phase in which Sandia will conduct an in-depth analysis of the alternatives established during the evaluation.

Sandia is assisting with the Navy's CVN 21 program to develop the next-generation aircraft carrier. The actual carrier that will result in FY 2013 or 2014 will be designated as the CVN 78, the Navy's 78th aircraft carrier.

"The idea is not to simply have fewer people on board who work harder than previous crews," says Jeff, "but to enable organizational changes, technology improvements, and work practice changes to achieve the desired operational capability of the airwing and make jobs more desirable for the personnel in the system."

The Sandia team will be reviewing Navy documentation for aircraft currently in use and those anticipated to be in service in 2020.

The team will discuss how flight operations, maintenance, and other support operations are performed both in the Atlantic and Pacific fleets. Jeff says



LOCKHEED MARTIN S-3 VIKING on the catapult moments prior to takeoff from the USS *Harry S. Truman*.

there are differences between documented procedures and actual practice revealed by subject matter experts within the two fleets.

Sandia will work with various Navy teams that have developed computational models of how these operations are currently performed. The team will work with the designers of the new aircraft carrier to generate substantial changes that may improve flight operations and support functions.

Sandia will also be gathering raw data by observing flight operations, maintenance, and support tasks.

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Nonproliferation experts helping foreign governments lock up dirty-bomb ingredients

Projects under way in Lithuania, Greece, Russia, and Tanzania

By John German

Sandia nonproliferation experts are working with NNSA and other DOE laboratories and the governments of four foreign countries to help locate, repackage, move, and secure large quantities of medical and industrial radioactive materials that currently are stored in facilities that offer little protection.

The goal is to lock up radiation sources that could become the ingredients of a terrorist dirty bomb.

Efforts are under way in Lithuania, Greece, Russia, and Tanzania. Similar projects in other countries are expected to begin this year. The project is funded through NNSA's Radiological Threat Reduction Program.

"The safekeeping around some large radiation sources in some countries isn't up to the standards we are used to in the United States," says Bill Rhodes, Manager of International Physical Protection Program 6952. "The goal is to go to the source where a terrorist group might try to steal radioactive material and try to help secure that material."

Protocols for tracking shipments of radioac-

tive materials also can be less rigorous than they are in the US, he says. In Lithuania, for instance, where many government records have been misplaced or removed in the transition from the former Soviet government, large radiation sources that have been lost in the shuffle are being found and accounted for before being locked up.

"We give guidance; they implement their own rules and regulations," Bill says.

Recommendations include physical security devices, like video motion detection and sensors, he says, or they can focus on revision of administrative procedures and standards for the storage, transport, tracking, and inventory of materials.

A scoping team first traveled to Lithuania in June 2003 to meet with officials of the Lithuanian Radiation Protection Centre (RPC) and other agencies at the invitation of Lithuanian Prime Minister Algirdas Brazauskas, who asked for assistance in a letter to US Energy Secretary Spencer Abraham.

The visit team included Ioanna Illiopulos (NNSA), Tom Coulter (Coulter and Associates), Michael Hasse (Aquila Technologies Group, Inc.), and Rhodes.

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Paul Robinson speaks out on Global Nuclear Future



Sandia Labs President C. Paul Robinson offers his views of the use of nuclear power for world energy in the 21st century in stories by Will Keener and Bill Murphy on pages 6-7.

New landscaping endeavor saves Sandia money

By Chris Burroughs

Trees saved and relocated, gravel originally bound for the landfill cleaned and recycled, a state-of-the-art computerized irrigation system, and strategically placed picnic tables and canopies are all resulting in a new look for Sandia.

"We've changed the ways we landscape," says Robert Griego, Grounds and Roads Services (10843-3) Team Lead. "Not only does it look better, we're saving money."

The redesign of Sandia's landscaping started as an initiative to provide a campus-like atmosphere for all Sandians to enjoy.

In three years Robert and his team of 20 gardeners, laborers, and heavy equipment opera-

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Security awareness campaign kicks off in California with 9/11 recall

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Bright students, cutting-edge technology seen at symposium

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Sandian Wes Martin tells about his eight months in Iraq

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Retired Senior Mentor receives Korean War Service Medal

What's what

When I went on vacation last year, Larry Perrine dusted off his trusty old Underwood, snapped on his green eyeshade, and in a retro edition of "This & That" - ol' Larry's a retro kinda guy - alleged that I was in the Caribbean "with a boat load of gin and tonic, looking for that special lucky woman." What could I say?

Then he announced about year's end that he was retiring, and I figured he wouldn't have me to kick around any more. But then he changed his mind and decided to cut back to part-time (with apologies to Dorothy Parker, how can they tell?) and I had qualms.

Sure enough, he filled in again when I went away for a couple of weeks last month. And sure enough, he impugned me again, suggesting that my Kentucky trip was awash in "indigenous liquid goods" and that I was "visiting a new lady friend."

OK, OK. . . but I went back for a wedding, after all, and weddings have receptions, don't they? And the "lady friend?" Well, she'd like Larry, despite what he says about me. She's an antique dealer.

* * *

Before Ebay, about the only mass venue for selling stuff was the classified ad section of the newspaper. Your half-dozen lines or so in a narrow column of reeeeeally small type had to be masterful, and people who sold stuff there regularly were artists with description, short words, and abbreviations.

Sandians, being a ch. . . er, uh. . . frugal bunch, have adopted that art form in the *Lab News*, peddling all sorts of stuff, some of which raises giggles or downright guffaws from the people who put the classified ad page together for each issue and the people who copyread and proofread it.

Like, maybe: "COMPOST PILE, all vegetable scraps, \$6, will throw in slightly rusted chicken wire enclosure." Or: "FOUR TIRES, PDB34-97, used but still serviceable, \$2 each."

Some Sandian, the joking would go, would call about the first ad and ask how rusted is the chicken wire, or how big is the enclosure, or would the seller deliver it. The line of inquiry about the ad for tires might go something like: "Uhm, would you take \$7 for all four?" Or, "I know it's 9:30, but it's Saturday night, so we don't have to work tomorrow (hee-hee-hee); would you mind if I come by to have a look at 'em?"

And so the fun goes, fortnightly - the Sandian trying to sell the remaining half bottle of cough medicine; seven bricks for \$2.50, and only one has a chip off one corner; eight-track tape player with complete set of Slim Whitman campfire serenade tapes; and so forth.

So, how creative are you? Make up a fake ad or two and send them to the e-mail address below. We'll have a contest. . . with appropriate prizes.

* * *

The following arrived in the e-mailbox, from retiree John Kirkland: "Sandia's name in odd spots has always been interesting, but Sandia as a personal name? The birth lists of Gregg County, Texas, for 1942 lists a Sandia Jane Collier. A misprint in the official record? I wonder what Sandia translates to in this case? I don't think 'watermelon' is a normal girl's name."

Not even an abnormal or paranormal girl, John.

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

Lockheed Martin/Sandia Shared Vision program seeks R&D proposals

The Lockheed Martin/Sandia Shared Vision program, launched in 1999, is now seeking research and development proposals from Sandia and Lockheed Martin researchers for calendar year 2005. Proposals may be submitted through early September.

The Shared Vision program funds research in key technology areas important to both Lockheed Martin and Sandia.

When Lockheed Martin first launched the program, it allocated \$3 million in corporate-level resources for investment in R&D at Sandia. For Calendar year 2005, it will invest \$8 million in the program. (In this regard, Shared Vision is analogous to Sandia's own LDRD program, which uses corporate-level funding for research initiatives that are mission-related but not tied to an immediate program.) Projects are selected by the Lockheed Martin Corporate Review Technology Board, based on project proposals developed jointly by the researchers from Lockheed Martin operating companies and Sandia.

Sandians interested in pursuing Shared Vision research funding need to team with a Lockheed Martin research partner. (Sandia's Shared Vision office can help Sandia researchers find Lockheed Martin researchers with similar interests.)

The Shared Vision Website on Sandia's internal Web (https://www-irm.sandia.gov/partnerships/business-development/lockheed-martin/shared-vision/LM_Shared_Vision.html) provides detailed information on the application process and deadlines. It provides a link to an "IP Toolkit" to help Sandians understand the intellectual property considerations of the Shared Vision collaborations. The Web site features links to summaries of projects that have received funding over the past several years.

Says Sandia Shared Vision Program Manager Dorothy Stermer, "I encourage Sandians to develop proposals with Lockheed Martin counterparts, whether new proposals or continuations of existing projects. The quality and magnitude of the proposal submissions in previous years has been strong evidence of the need and value of this program, and in some cases, they have led to projects funded directly by Lockheed Martin operating companies."

For information, contact Dorothy at 284-2498 or at dlsterm@sandia.gov.

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LOCKHEED MARTIN 

Retiree deaths

David L. Humphreys (age 63) June 9
Benjamin F. Lopez (93) June 11
Cecil S. Sonnier (73) June 19
Arthur W. Mullendore (75) June 19
L. S. Ostrander (79) June 20
David M. Pierce (68) June 20
Larry Bustard (53) July 2
Dennis L. Hackard (66) July 2
Elfego G. Sanchez (82) July 4
William L. Dye (78) July 6
Arlene B. McCarty (85) July 6
Thomas M. Bozone (80) July 16
Craig J. Melville (58) July 19
Richard L. Shaum (83) July 19

Recent Patents

Steven Goldsmith (5517): Adaptive Method with Intercosy Feedback Control for an Intelligent Agent.

Alfredo Morales (8762): Method for Providing an Arbitrary Three-Dimensional Microstructure in Silicon Using an Anisotropic Deep Etch.

Charles Sullivan (1742): Vertically Tapered Optical Waveguide and Optical Spot Transformer Formed Therefrom.

James Fleming (1749), Shawn-Yu Lin, and James Bur (L&M Technologies): Photonic Crystal Light Source.

Scott Habermehl (1746): Poole-Frenkel Piezoconductive Element and Sensor.

Sympathy

To Evelyn Moore (10852) and Jim Moore (10848) on the death of her father and his father-in-law, Marvin Romero, June 9.

To Melissa Barnett (10267) and Jim Barnett (1764) on the death of her brother and his brother-in-law, Ted Koenig, July 7.

To Ken Kuzio (9732) and Stephanie Kuzio (6852) on the death of his mother and her mother-in-law, Rose J. Kuzio, July 14.

Take Note

Retiring and not seen in *Lab News* pictures: Nat Youngblood (10258), 21 years.
Hugh Whitehurst (6861), 20 years.



Family Day delayed until 2005

Sandia Family Day/NM, originally scheduled for Sept. 18, and Family Day/CA, scheduled for Oct. 9, are being postponed until spring 2005. Family Day planning will continue, and a new date will be announced later this year. For additional information, call Family Day/NM co-chairs Mike Lanigan, 844-2297, or Debbie Johnson, 844-3570, and in Calif., Mike Janes, 294-2447.

Security awareness campaign kicks off in California

New York FBI special agent relates poignant 9/11 experiences at World Trade Center

By Nancy Garcia

Ron Detry, Sandia's chief security officer and VP of Integrated Security Division 4000, fielded some uncomfortable questions after the latest round of national laboratory security concerns.

"In this climate, there are no small security incidents," Ron cautioned in a videotape presentation that kicked off the security awareness campaign at the California site. "Any security incident erodes the nation's confidence in us. There are very few who can judge our technical work, but there are very, very many who can judge how we operate as a business."

The campaign (launched at the New Mexico site in May) was an outcome from feedback received in the security stand-down last year.

California Laboratory VP Mim John (8000) called attending to security and accepting restrictions a part of the privilege of being entrusted to contribute to national security.



ATTACK REMEMBERED — Wesley Wong began his presentation with a slideshow depicting events of the day the World Trade Center was leveled by 9/11 hijackers.

"We at Sandia are not working by ourselves," added Site Operations Center 8500 Director Pat Smith. "Security is a community issue." She introduced eight representatives of Livermore or Pleasanton law enforcement and water agencies who attended the kick-off presentation.

Pat said she would prefer the awareness campaign motto (see box at lower right) to read, "Anywhere, anytime, it's MY watch."

Emphasizing that theme, the program was intended to remind everyone that they should make security a higher priority, both at home and at work. It featured recollections of responding to the 9/11 incident by Wesley Wong of the FBI's New York office. An assistant special agent in charge, he currently heads the Special Support Branch, Counter-Intelligence Division.

Heading to work the morning of Sept. 11, 2001, Wong heard at his parking garage that a plane had hit the World Trade Center. He called the office to say he'd respond to see if any assistance were needed, thinking it was a small, private plane accident that would require evacuating people and extinguishing a fire.

A firefighter on the scene sent him to a temporary command post in the lobby of the north tower. As he left, the firefighter called out to watch out for the falling bodies. Wong looked up and saw a business-suited man in his 30s falling through the air.

"It was just unreal, what I was seeing, until I realized what was actually going on," Wong said. He turned away before the man hit, leaving "one less memory etched in my mind. . . . The most traumatic thing that morning was not watching the towers come down, it was watching those poor people leap to their death. You saw couples holding hands before they leapt, you saw people saying a prayer before they leapt."

Arriving in the lobby, he saw workers from the Port Authority, mayor's office, fire and police departments. Not being an expert in fire and rescue, he tried to stay out of the way.

"All of a sudden," Wong recalled, "we heard a boom. A fireman said the south tower's been hit. The moment I realized what he was saying, I felt we were at war, I felt we were under attack." His responsibilities shifted from being in the background to being on top. Headquarters soon reported that the Pentagon had been hit and two

more planes were believed unaccounted for.

John O'Neill, a retired FBI colleague who was on his second day as head of security for the World Trade Center, passed through the lobby on his way to check on the south tower. They parted agreeing to meet for lunch another day, and O'Neill offered to use his new expense account. That was the last Wong ever saw of him.

"None of us thought those towers were going to collapse," he said.

The group in the lobby heard a rumbling sound and assumed their tower was partially collapsing (actually it was the south tower, out of view). Wong made the first of two decisions that spared him that day, running with a small group to an alcove instead of leaving the building.

The building filled with debris and smoke so thick he couldn't see his arm when he put his hand out. Firefighters turned on thin light beams on their helmets. One told Wong to hold his coat since they might not find him if he walked away. Calls from firefighters trapped alive came repeatedly over the

with his priest after a shaky evening in which he found he couldn't pick up his utensils to eat dinner.

The priest advised Wong to assume he was spared because God had another mission for him. Wong responded he hoped it would be easier than bringing out Judge, the chaplain, and they both shared a good laugh.

Although he hadn't read the 9/11 Commission report, Wong said he agreed with the finding that the FBI had a failure of imagination in contemplating the possibility of this attack. "Did we have bits and pieces?" he asked. "Sure, we had. But I don't think it was enough."

Wong often gives his talk to members of the military, once staying in the same suite the president had just vacated, an occasion he found remarkable as the child of parents who took a boat from China to become dishwashers. "For all the wrongs we do and all the ills we have," he concluded, "I've always felt this is the greatest country in the world."

Sandia California News



COMMUNITY EFFORT — Members of local law enforcement and water agencies were invited to the security awareness kick-off.

fire chief's radio.

"All of a sudden," he said, "We heard a voice out of the darkness. 'Is anybody down there?' In unison, we yelled out, 'Yes!'" Their rescuer instructed them to keep talking and come to his voice. Wong tripped on what he assumed was debris, then recognized a fire department coat. The firefighters crouched down and saw that it was their department chaplain, Michael Judge, injured but still breathing. Wong helped carry him out, eventually to an ambulance waiting at the corner.

Radioed to not go back in, Wong began to walk toward his car, but then changed his mind, turning back to see the top of the north tower starting to implode on itself. That was the second decision that kept him from harm's way.

He ducked into a doorway just as a wave of smoke and debris came crashing by. "It was like day turned into night," he said.

After making his way back to the office and working all night, he returned to the site the next day. "I feel very grateful I didn't have a role that day because I didn't know if I could have handled it," he said. "I completely broke down." He surveyed a debris field 10 to 12 stories high where rescue workers were digging through the rubble with their hands.

Wong later learned that two-thirds of the people in the lobby that morning didn't make it. He spent the fall working seven days a week and eschewed counseling, finally consulting

Vigilance counts, and the 4 Rs

The security awareness campaign motto, "Anytime, anywhere, it's your watch," means, to Integrated Security Division Vice President Ron Detry (4000), "We are each a sentry assigned to guard the information entrusted to us by the nation. Like a sentry, we are never off-duty."

The campaign has four Rs:

- The right information
- The right people
- The right time
- The right mechanisms

Organizers envision presenting different topics monthly, focusing this month, for instance, on Classified Removable Electronic Media. California Laboratory VP Mim John (8000) said Sandia has some 11,000 pieces that will be placed into a more facile accountability tracking system over the next 18 months throughout the Labs, a broader and more up-to-date version of the Livermore Administrative Document System that has been used at the California site.

Carrier

(Continued from page 1)

Items of particular interest include the definitions and scope of the tasks and functions performed within individual jobs, and staffing levels for various types of jobs and tasks. This includes formal schooling, on-the-job training, self-study, testing of skills involved to prepare people for those jobs, and the tools and techniques used to execute these tasks.

In-depth analysis

Jeff says the actual execution methods for flight operations, support jobs, and the design of the spaces aboard current aircraft carriers where these tasks are performed will be analyzed. This knowledge will be combined with the designs envisioned for the next-generation aircraft carrier. The complexity of carrier flight operations and the associated support functions require an unusually high level of system understanding and computational modeling to achieve optimal combinations of personnel, equipment, and procedures.

"The concept of operations under which an aircraft carrier is asked to function can change rapidly," Jeff says. "There currently isn't a detailed, rapid, and robust analytical tool for



GLIMPSE OF THE "island," planes, mechanics, and ordnance personnel on the four-acre flight deck of USS *Harry S. Truman* during recent training operations.



SYSTEM REVIEW — Jeff Brewer (6861) uses a "system of systems" to help the US Navy create the next generation of aircraft carriers.

(Photo by Randy Montoya)

probing this particular complex system."

System of systems

Creating a "system of systems" analysis capability that enables greater quantitative understanding of the aircraft carrier environment is key to the project, says Jeff.

System of systems refers to a collection of systems that result in emergent behaviors that cannot be explained by individual system analysis.

This includes monitoring system performance at a sufficient level of detail and enabling rapid "what if" or tradeoff analyses to aid in decision making by Navy leaders.

In this project, building a comprehensive system of systems capability to monitor and analyze carrier air wing operations may involve linking a number of computer models that have been developed independently. In addition, new models may be built where necessary, and merged into a computational architecture that becomes a system-wide metric-based computational engine including a mix of discrete event simula-

tion and optimization algorithms, says Jeff.

"The hope is that we will be able to utilize a number of the modeling and simulation technologies developed for other major programs such as the Army's Future Combat System and Lockheed Martin's Joint Strike Fighter program," says Robert Cranwell (15242), project manager for the Navy Manpower Study program. "Use of these technologies has proven to be very successful in supporting these programs," says Robert.

The Army has incorporated a number of these technologies as part of its Test and Evaluation Center capabilities, Robert says.

USS *Harry S. Truman* tour

Three Sandians recently visited the USS *Harry S. Truman* and received a brief introduction to flight operations, aircraft maintenance operations, and flight operation planning techniques. An extended visit to the USS *Nimitz* was planned for mid-to-late- August.

Sandians involved in the project include Jeff Brewer (6861), Robert Cranwell (15242), Dwight Miller (15242), Paul Werner (6252), Kelly Lowder (15242), Craig Lawton (15242), and Dan Briand (15242).



FINAL PREPARATIONS for F-14 Tomcat prior to catapult takeoff from USS *Harry S. Truman*.

Dirty bombs

(Continued from page 1)

Never intended as secure sites

The Lithuanians identified 300 sites they thought contained large quantities of radioactive materials, then culled the list down to 25 high-priority sites where radiation sources needed to be located and secured first. Included in the list were several hospitals where 5,000- to 6,000-curie cobalt-60 sources had been used.

"As hospitals they were never intended to be high security areas," says Bill.

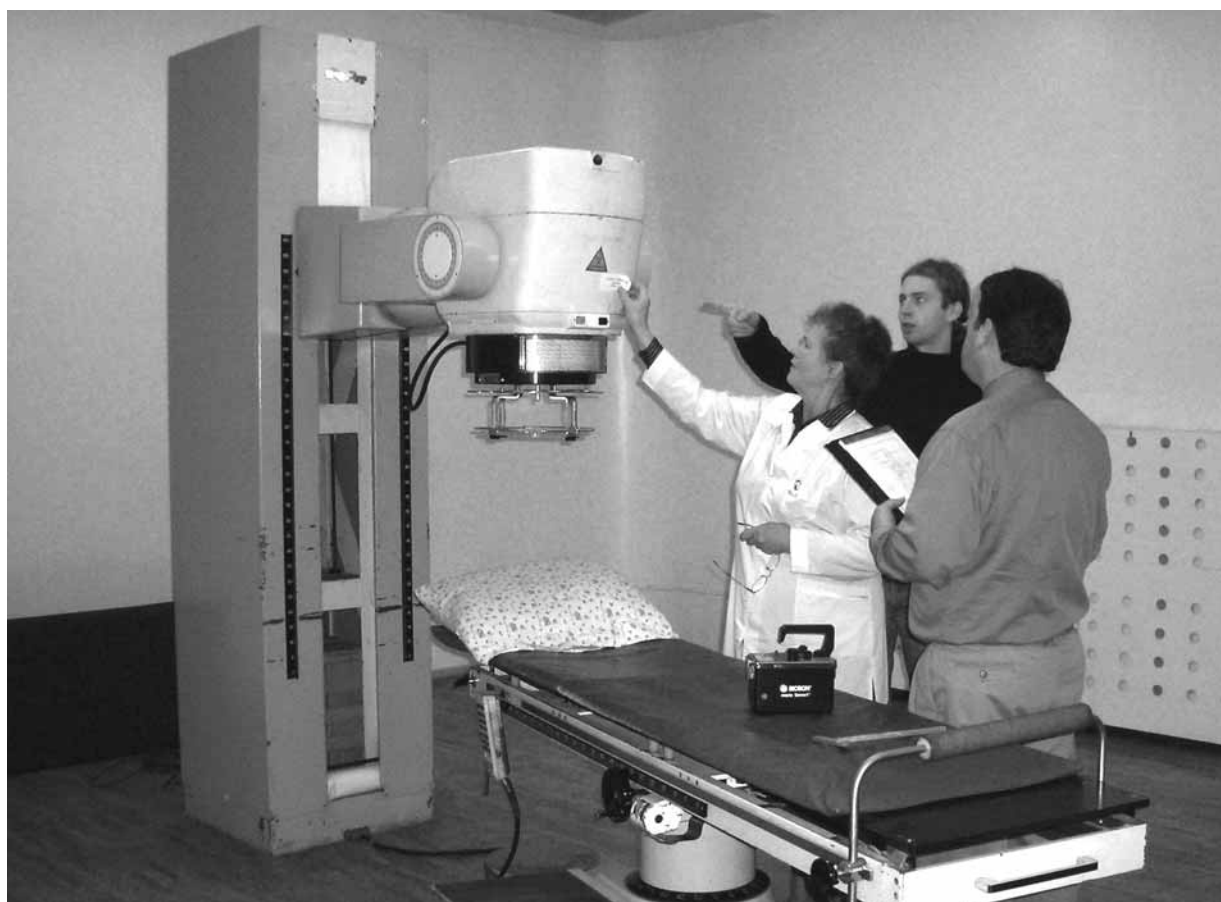
Former Soviet military bases, industrial processing sites, and one nuclear waste repository were also included.

Teams of Sandians, including Dan Lowe (6952), Keith Young (6952) and Scottie Walker (6952) have returned several times to advise the Lithuanian government and oversee security upgrades at some facilities, and to repackage and transport some sources to more secure locations. In addition, surplus Sandia radiation-measurement equipment has been donated to the Lithuanian government.

"Basically they needed modern diagnostic equipment to accomplish the objectives of the project," Bill says. "They did not have enough equipment for the RPC to monitor the whole country."

Lithuania was the first of four governments Sandia is now working with.

Sandia personnel also have participated in visits to Tanzania and Greece, where contracts for security upgrades were negotiated. Fred Harper



RAD SOURCE — Health physicist Scottie Walker (6952), right, and two Lithuanian health clinic staff members examine a teletherapy unit containing a radiation source at a Lithuanian clinic.

(4117) and Paul McConnell (6142) also provided training to Greek officials in preparation for the 2004 Summer Olympic Games.

Future projects include work in Russia, Egypt, and additional countries of the Former Soviet Union.

Landscaping

(Continued from page 1)

tors have redesigned the landscaping.

Computerized irrigation

For example, Facilities is in the final stages of installing a new computerized central irrigation control system that can detect when winds are high, when it's raining, or when a leak has developed in the system. In times of high winds, the system will stop irrigation until the wind reduces to three mph. When it senses rain, it will reduce irrigation time. It can detect a leak within the first two minutes and, within three seconds, will shut the system down.

"Under the old system if a leak developed it would run at the rate of 200 gallons a minute and would not shut down until someone manually turned it off. That was a lot of wasted water," Robert says.

In addition, the old system had 80 irrigation controlling devices in all the tech areas. Under the new system, that number has been reduced to 27. Instead of several people servicing the system, only one is needed now.

Robert says before installing the new computerized irrigation system, he looked for ideas and systems at the University of New Mexico, Kirtland Air Force Base, in Denver, and in Phoenix. Now, places like those are studying Sandia's modern system.

Saving trees

Saving trees has been one of the gardening team's favorite activities for the new landscaping efforts. As new construction gets underway (MESA, Weapons Integration Facility, ECIM), it means that some mature and beautiful trees have to be moved. To pull them up and destroy them would be a shame, Robert says.

This started the endeavor to save trees scheduled for the chainsaw, including some 30 trees from the area surrounding Bldgs. 858, 897, and the Exterior Communications Infrastructure Modernization (ECIM) project that were moved to Bldgs. 825, 960, and 962. Each tree was valued at about \$2,000 — resulting in a cost saving of \$60,000.

Another 25 trees — valued at between \$600 to \$1,200 each — would have been destroyed as part of communication cable upgrade, but Robert and his crew found new homes for them.

"A lot of planning goes into moving trees," Robert says. "The time frame for moving them is very short — December, January, February, and the first two weeks of March."

In addition while moving trees, the crew has



ROBERT GRIEGO, Grounds and Roads Services (10843-3) Team Lead, stands next to a "forest" of trees at the TTC. The trees were saved from the chainsaw from areas surrounding buildings that were torn down.

(Photo by Randy Montoya)

"Landscaping is a good field; I have a passion for landscaping. The only things we have to worry about are prairie dogs, bee stings, and rattlesnakes."

to be aware of birds that make the trees their habitats, even migrating birds. Last year they came upon a hummingbird nest, which had to be relocated.

Xeriscaping

Much of their work involves xeriscaping. At Bldg. 825 grass was removed and replaced with drought-tolerant plants and trees, rocks, and a patio area.

The team has found another way to be inventive with xeriscaping. They have saved thousands of dollars by recycling old rocks. When they got a bid of \$14,000 to put gravel down in the west parking lot in Area 4, Robert knew he could do better. Robert was contacted by Danny Baca (10848-2), roofing inspector, and was able to obtain 120 yards of used roofing gravel that was headed for the dump. Robert had it cleaned and laid out, for a cost of about \$2,000.

It used to be that construction material like

fences and poles were automatically sent to the landfill. Not anymore. Today fence poles are cleaned up with a Bobcat jackhammer. The concrete is removed from the base of the pole. The pole is then reused for fencing, and the concrete goes to the landfill for recycling credit. The cost of a new line pole is \$10. The recycling effort costs is \$2 per pole, resulting in a cost savings of \$8 per pole.

In another change, the Grounds and Roads Services crew have gone from a "reactive mode to a proactive mode" through implementation of preventive maintenance programs and skid and trash routes. Robert plans what needs to be done each season.

Master gardeners

To be part of the Grounds and Roads Services Team, Sandians have to be "master gardeners." They take 64 hours of master gardening classes at TV-I or Rowland's Nurseries where they learn lawn planting and care, xeriscape planning, tree planting, and irrigation. They also attend an annual tree conference to learn what types of trees work in various regions; Albuquerque falls in region 7 and 7A.

Having this knowledge will assist the master gardeners in making recommendations to the Sandia Engineering Department as to what type of vegetation should be planted around new buildings.

"In the past, trees and other vegetation around the new buildings were selected by the building contractors," says Robert. "Drought-tolerant trees and plants were typically not a consideration. Today, teaming with Facilities' architectural engineers, gardeners assist in the selection process."

Robert started out at Sandia as a mechanical technician apprentice. After participating in a five-year apprenticeship program and working as a mechanical craftsman for eight years, he joined the Roads and Grounds Section as a Team Lead. He works for Ernie Nevada, Manager of Structural and Ground Services Dept. 10843, who remembers his own days as a Team Lead on grounds in 1981 when the water hose was the only means to water plants. Today, Robert and his crew have put the word professional in gardening and have taken Sandia's landscape to a new level for all Sandians to enjoy.

"Landscaping is a good field; I have a passion for landscaping," he says. "The only things we have to worry about are prairie dogs, bee stings, and rattlesnakes."

Sandia Peak Challenge set for Saturday



THE FOURTH ANNUAL Sandia Peak Challenge will take place Saturday, Aug. 21, at the Sandia Peak Ski Area. Proceeds from the event support the Cystic Fibrosis Foundation. Competitive events include a 4.1- and a 7.2-mile trail run and an 8.2-mile mountain bike race. Noncompetitive events include a 4.2-mile mountain bike ride and a 2-mile fun run/hike. The event will also feature a live band, a kid's jumper, and a rock climbing wall. Sandian Lori Dotson (6874), seen here, won the women's 7.2-mile run at in the event's first year (2001). Register at REI on Thursday or Friday or at Sandia Peak Ski Area on Saturday, Aug. 21, at 7:30 a.m.

Global Nuclear Future offers comprehensive energy vision

Paul Robinson: Sandia can help provide systems solution for 21st century energy challenges



GREAT HALL — Paul Robinson opened the Vienna conference with a presentation. Lab directors from PNL, ORNL, PNNL, LLNL, and Sandia representatives, including Les Shephard, Tom Sanders, and Dori Ellis were arrayed along one side of the room. Leaders from Russian labs were along the other side. (Photos courtesy of Al Trivelpiece)

By Will Keener

The US needs a systems approach to the problems of providing energy for the world in the 21st century, says Sandia President C. Paul Robinson, and Sandia can help. Nuclear energy is a key part of

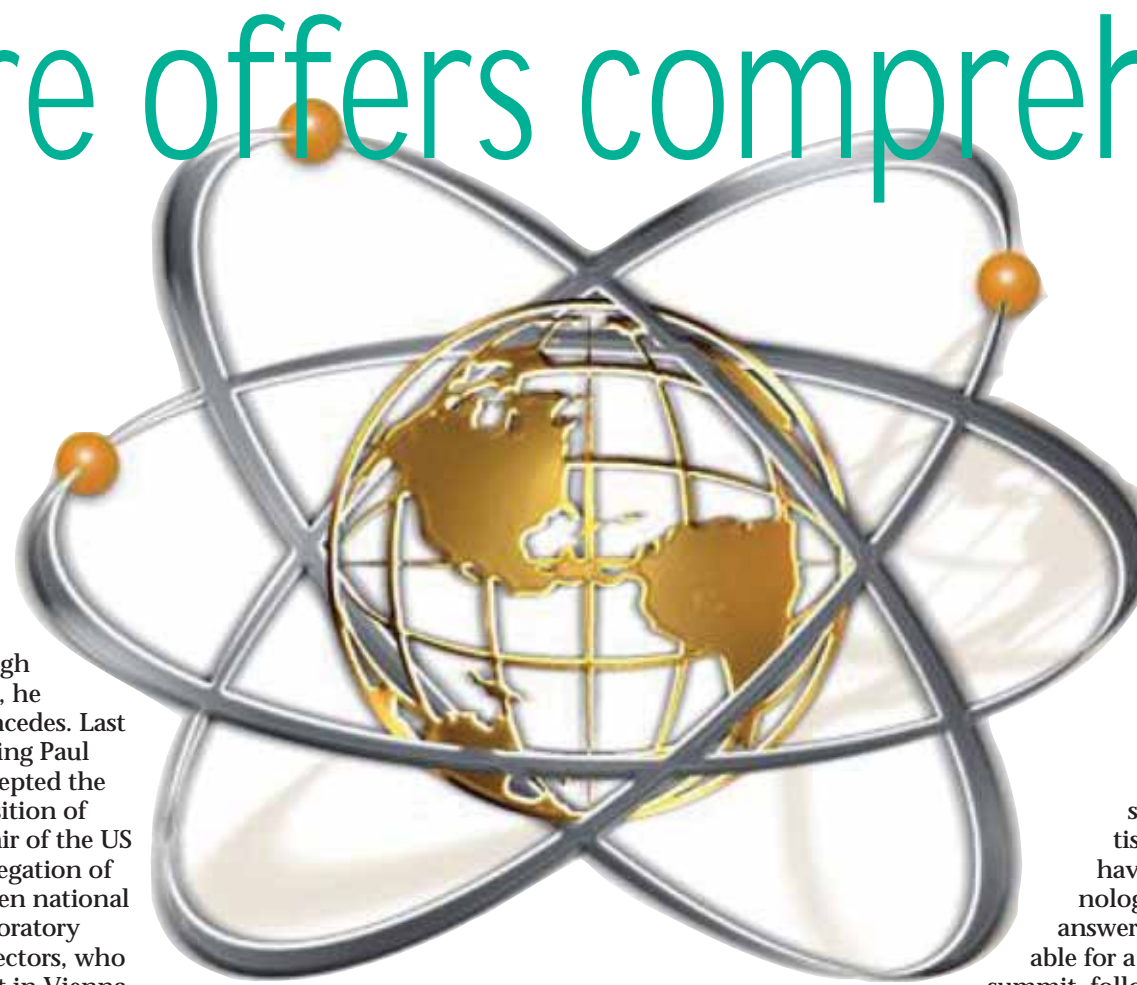
that solution: It can offer economic growth for developing nations, reduce environmental threats from greenhouse gases and water scarcity, and provide political stability by removing the dangers of nuclear proliferation.

But nuclear power has to be done right — and gaining acceptance for global nuclear power is a

tough sell, he concedes. Last spring Paul accepted the position of chair of the US delegation of seven national laboratory directors, who met in Vienna, Austria, with nine Russian laboratory directors to discuss issues around nuclear power (*Lab News*, Aug. 4). The directors issued a joint statement on sustainable nuclear energy for the new century and agreed to pursue the cause with their respective governments.

Paul and the US laboratory directors are working closely with DOE, where Kyle McSlarrow, deputy energy secretary, has been a major supporter of the concept. With elections coming up, policy is now taking a back seat to politicking in Washington and elsewhere, but Paul recognizes the importance of working with either party. "Our aim is to provide the right technical answers to whichever party is in power," he says. "We are setting goals and moving ahead."

The global nuclear future concept got a big boost from an earlier Bush-Putin summit in Moscow, Paul notes. It makes sense for US and



Russian scientists to have technological answers available for a future summit, following

the elections.

US laboratory directors are also working with industry, says Paul. At a Decision-Makers Forum before the Vienna conference, held in Crystal City, Va., industry executives weighed in on the issues.

Eventually, using advanced techniques, "we can extend the electricity available from our initial fuel estimates of 100 to 500 years up to 1,000 years."

"It was very well attended by key manufacturing and energy supply companies," says Paul. The large nuclear plant vendors of the 20th century are now largely gone, he notes. Many have moved into other energy generating areas. "A key question now is where will the manufacturing be done?" says Paul.

Recognizing that only nuclear power is capable of meeting the growing world demands for safe, clean, plentiful electricity, fresh water, and hydrogen for the critical transportation segment, the directors have outlined a plan to provide 30 to 40 percent of world electricity by 2050.

Using advanced reactor designs and fuel cycle concepts capable of also burning "surplus nuclear materials" from weapons work "we can extend the electricity available from our initial fuel estimates of

The Vision: 1,000 years of stability

(This description of a future with global nuclear power is adapted from a joint statement issued by Russian and US lab directors in Vienna, Austria, last month and from other sources.)

The US and Russia, as founders of the nuclear era, have accumulated experience in solving scientific and technical problems around nuclear energy. The two countries are now reaching out to other major nuclear power nations with a vision of plentiful electricity, transportation fuel, and potable water for the world in the 21st century.

In fact, of all the current or imminently developable energy technologies, nuclear power is the most able to meet world demands of energy, water, and hydrogen (for transportation).

To achieve the vision, scientists have called for adoption of a new more "holistic" fuel cycle, with more complete use of uranium and materials generated in weapons development. After uranium, there are also abundant supplies of thorium.

This generating capacity could be shared with developing countries through reactor lease agreements and contracts that would not require these developing nations to "own" nuclear materials. (Russian scientists have designed safe, smaller reactors that could be brought by boat to suitable near-shore locations to produce power to fuel economic growth in nations now hungry for fossil fuels in order to develop.)

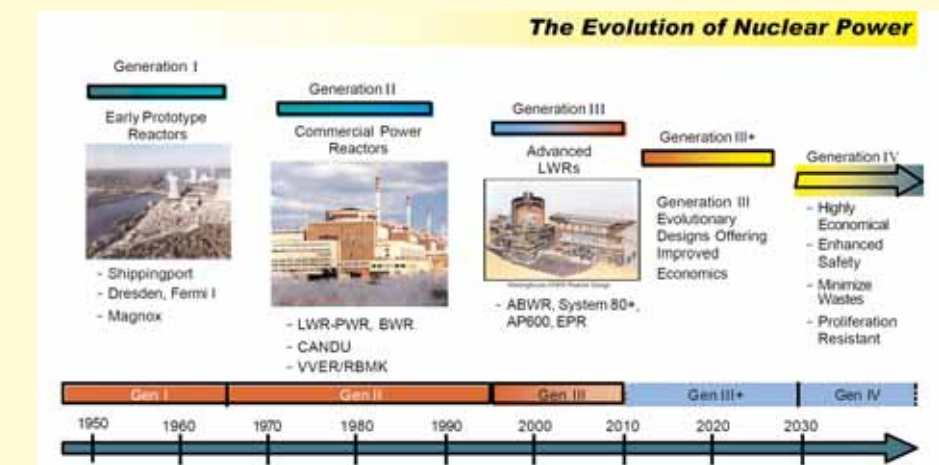
An advantage of this approach would be reduction of global competition for finite gas and oil resources and less dependence on unstable energy-exporting regions of the world. Non-nuclear nations would get needed energy while helping to reduce nuclear materials from warheads or from other by-product materials left over from the Cold War.

Medical, industrial, space, and other applications would benefit from the ability of engineers to recycle fuel rods, to squeeze even more useful life from them.

An efficient new generation of high-temperature reactors would fuel the creation of hydrogen — a key intersection of nuclear and transportation fuels for the future — and power desalination plants to make saline waters useful for a variety of purposes.



SUNDAY MORNING MEETING — Tom Sanders (6020) and two counterparts from Russia's Kurchatov Institute, Andrew Gargaranski and Vyaslava Kuznetsov, finish up the draft of a joint declaration to be discussed at the three-day session at the IAEA in Vienna. Two interpreters are also present in the photo.



100 to 500 years up to 1,000 years," says Paul. This approach would require a change in US policy to use certain materials, particularly plutonium, as fuel.

Russian scientists have been doing a surprising amount of research on reactor designs and fuel cycles, with a variety of cooling systems, says Paul. "Their nuclear engineering capability is very highly developed." The role for US labs in supporting new policy involves their experiences in improving plant reliability, reactor control systems, and efficiencies to get the most electricity for the investor's dollar.

"In this country we have improved our reactors to the point where they are now operating so much better in producing electricity that we have created the equivalent of 27 additional plants to the grid," Paul told the *Lab News*. And that's important because no new nuclear plants have actually been built in the US

since the Palo Verde nuclear plant in Arizona in the 1970s (although a number of plants started earlier and work stopped in the 1970s have now been completed).

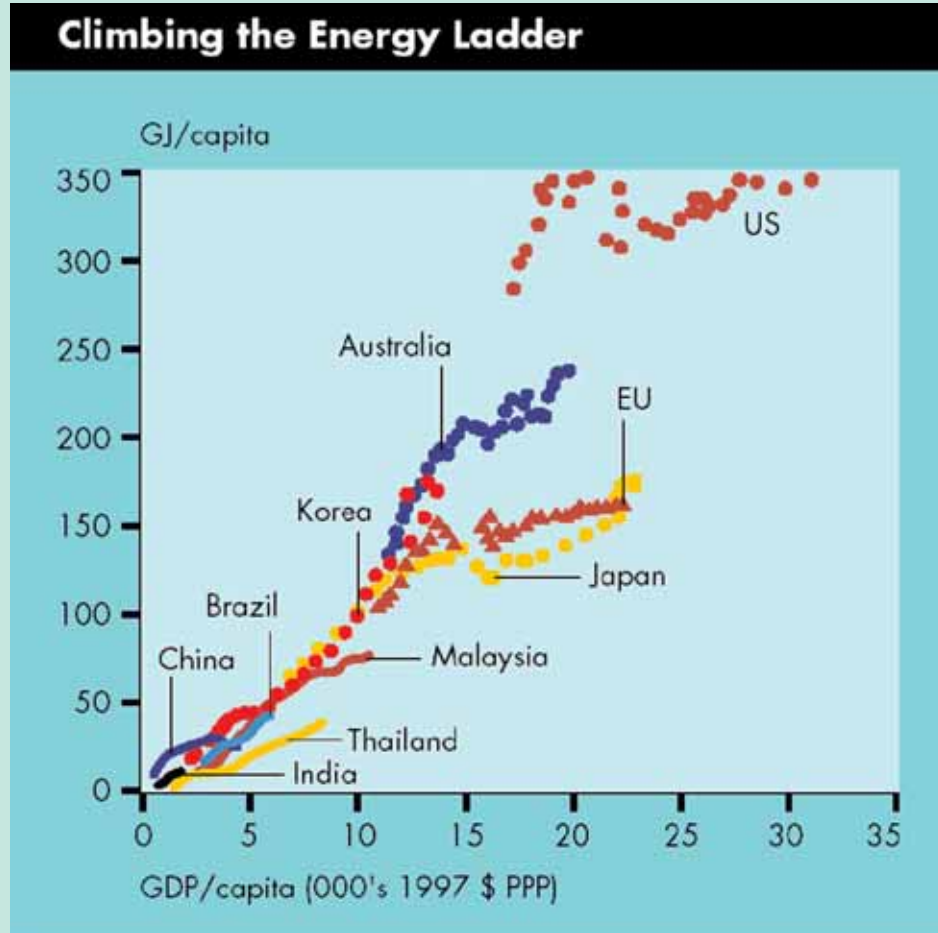
Sandia's modeling and simulation capabilities can be valuable in predicting reliability of new plant designs. "We can build them and test them in cyberspace, and when we're sure a design has the required reliability we can build it. The Russians are keenly interested in this capability."

Spreading the cause beyond the US and Russia is another goal of the consortium of laboratory directors. France, a major nuclear power player, has expressed an interest and will discuss the concepts with US representatives, says Paul. Russia has committed to approaching Japan, another key player.

To make this nuclear dream a reality, the US government may have to intercede, as it did in the first nuclear era, to build some pilot plants to demonstrate the effectiveness of the new designs, says Paul. "Sandia's job will be system integration. We need to keep the consortium of talent we have together to provide leadership and move forward."

"We are doing our homework as a system of national laboratories to predict reliability and address safety concerns. We are addressing proliferation concerns as a centerpiece of the effort. This is a huge research task, but as a system of labs we can accomplish it."

Curve points straight to need for nuclear power, says Paul Robinson



For Labs President C. Paul Robinson, it's all there in what he calls "the energy facts of life curve," a graph that plots the relationship between per capita gross domestic product (GDP) and energy usage for several countries from around the world.

"You find the darnedest thing as you plot this," Paul says, moving his finger along the points on the chart, toward the upper right corner, locus of the highest per capita GDP and highest per capita energy usage in gigajoules. "There's the US over the past 25 years, way above anybody else. When I show this [chart] to folks, I always say, 'You can't say that money can buy you happiness, but it *does* appear that energy can buy you prosperity.'"

"Developing nations all want to go up and to the right on this curve," he says. "Goodness is up and to the right."

There are some problems in getting them there, however. Assuming that it is desirable for all nations to move toward higher GDP (and the implicitly higher standard of living) — and Paul says that it is intrinsically desirable to close the gap between the have and have-not nations — the question the curve demands that we ask is, "Where is the energy to drive that progress going to come from?"

Oil? Gas?

"We have already peaked worldwide in oil and it's actually on the decline now . . . and the projection is that probably by 2015 or so natural gas will reach the same turning point." Emerging economies like those of China and India are placing increasing demands on already stretched fossil fuel resources. (China, which Paul calls "a poster child" for 21st century economic development, recently moved into the slot as the world's number two oil importer, after the US.)

"So," Paul says, "I use this curve to say there is a train wreck coming. . . . The growing global demand for energy as nations seek to move up and to the right on the curve will drive prices up — we're already seeing that with oil and gas. And when energy prices go up, you lock economies down and kill economic growth."

But there is another way, Paul says. "You find a way to develop new sources of energies."

That's where the Global Nuclear Futures vision comes in. — Bill Murphy



CHAIRS CONFER — Co-chairs Evgeny Velikhov (left), of the Kurchatov Institute, Yuri Sokolov (grey jacket), IAEA Deputy Director General, C. Paul Robinson of Sandia, and Tom Sanders (right) confer on some last-minute adjustments to the conference agenda.

Bright students and cutting-edge technology displayed at Annual Student Intern Symposium

By Matthew Stackpole

If it is true that an organization is best evaluated by first examining the opportunities afforded to its youngest members, then Sandia is well represented at the Annual Student Intern Symposium.

The all-day event brings together interns, technical staff, mentors, management, and representatives from industry and academia to present the technical work done by the interns.

Roberta Rivera (3555), who runs the symposium, says that the current set-up is a beneficial endeavor for all parties involved.

"Students get the opportunity to see what other interns are doing at Sandia and get the exposure to the recruiters, managers are able to get a finished product from the student, and Sandia gets the opportunity to show why our internship program is the best in the nation."

Indeed, the students who participate would agree. In fact, though managers can require their student to enter, participants seemed honored to have been part of the symposium.

Intern Leila Starr (9514) of Information Systems Development and Integration says the occasion to present her work gave her a proverbial wide-angle lens of the Labs. "I think the symposium is very beneficial," she says, "because it gives me an opportunity to understand the context in which my work fits." Leila's presentation was on her effort to "Improve Access to Business Information" by eliminating superfluous database applications.

The symposium does not focus solely on any one area of science and technology. The students present on topics representing all the fields of study at the Labs. Some presentations were on projects that were near completion, such as Justin DuBois's (9512) presentation "Effectively Creating Automated Scripts to Perform Regression Testing." Others focused on ideas that were yet to materialize, such as Leslie Fuerschbach's (5500) "Solving



SANDIA INTERN Bayo Falase (6115) uses his posterboard titled "Laboratory Investigation of the Performance of Trace-Explosives Detectors" to explain his research to fellow intern Brian Stinar (5516). The two were among 230 presenters and 800 attendees at the Annual Student Intern Symposium. (Photo by Bill Doty)

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the Healthcare Crisis by Redefining Traditional Roles with Modern Technology."

Akinbayowa (Bayo) Falase (6115) says the symposium "gives you a chance to present and display your talent to the world and get exposure to graduate schools you may not have even thought of," as he references the Purdue and Lockheed Martin

brochures in his hand. He then adds jokingly, "Plus, the popcorn was really good."

Bayo's research investigated the performance of trace-explosive detectors. He says his Sandia experience allows him to apply what he has learned in class to real-world situations. "For example, I learned transport phenomena last spring at UNM and then I had to use mass transfer equations in my research," he says.

The college recruiters who attend say that they are equally impressed with the amount of work and the level of research that each student puts into their presentation. Jerry Peterson of the University of Colorado in Boulder says, "They [the students] take it very, very, seriously. None of these are done half-heartedly." Does anything surprise him as a college recruiter? "I always learn some-

thing new from them [the students]," he says.

Lockheed Martin also sends recruiters.

"A talent pool of qualified candidates that have had both a high level of education and some experience plus, in some instances, a security clearance" is what brings Philip Milstein, a Lockheed Martin recruiter, to the symposium, he says. The symposium is a catalyst to students being able to recognize those above mentioned company-coveted attributes in themselves, he says, "which is key to being able to directly transition into the workforce."

While the symposium directs the student to hone their communication skills, meet deadlines, see their place in the big picture of Sandia — all while being exposed to graduate schools and companies they may not have otherwise even considered — it meets a loftier purpose: instilling self-confidence. As session moderator Gregory Wyss (4145) says, "The symposium forces the students to think about what they did."

(Matthew Stackpole is an intern in Media Relations and Communications Dept. 12640)

Feedback

Reader asks: Why are we not entitled to a viable C-Club?

Q: The imminent closing of the Coronado Club creates concerns about the continuing degradation of benefits or "rewards" that have been historically very high at the labs. I began working here in 1979 and was told that any change to our benefit package has always been positive for the employee and for many years that seemed to be true. But the last 10 years or so has seen a continuing decline in the "quality of life" for the lab employees with ever increasing premium sharing for medical care, increased life insurance premiums, reduced vacation plans for newer employees, and now the permanent closing of the C Club. Understanding the enrollment has been in decline, the building is old and expensive to maintain, and there are increased security concerns after 9/11. Even so, all these issues could be remedied by a newer building outside the gate and different activities that might be more popular to current employees and retirees. If the 1950s lab employees were good enough to earn a wonderful facility like the Coronado Club back then, why are we no longer entitled to the same consideration and rewards today?

A: The multiple issues associated with the Coronado Club are of great concern to many of us at the Laboratory. Let me try to separate out the issues associated with the Coronado Club from concern implicit in your inquiry form the value of our benefits plans.

The Coronado Club, as you are aware, dates back to the early history of Sandia National Laboratories

and was a facility developed primarily for the recreational support of employees and their families during a time frame in which there were few options in the Albuquerque community. It has provided many social and recreational opportunities for employees and families since the 1950s. As the Albuquerque community has developed, many new options have steadily surfaced, and many are in close geographical proximity to where Sandians live. Accordingly, the utilization of the Coronado Club has changed dramatically since its initiation nearly 50 years ago.

The Coronado Club continues to provide valuable services to families, particularly with the summer program, and periodically throughout the year with special programs. The facility housing the Coronado Club additionally supports conference facilities for a variety of Sandia organizations, food service to complement the cafeteria and other local facilities, and finally space to support a variety of club and retiree activities. The building is really quite old; a recent review has indicated that to bring this building to contemporary standards, it would require at least \$5,000,000. Also, in its current form, an annual subsidy is additionally required to maintain current services. The activities of the Coronado Club have been carefully reviewed in context of the multiple other programs needed by the Laboratory, particularly for the technical business of the Laboratory. In the end, a deci-

sion was made to invest the \$5,000,000 in other endeavors that were directly related to Sandia mission needs, and to look for other alternatives to support the myriad of activities currently supported by the Coronado Club. I too acknowledge a sense of loss with this change, but there is a very strong intent to try and meet the diverse needs currently supported by the facility.

Your commentary about Sandia Benefits merits an additional comment because Sandia's benefits have continued to evolve and change with the stated intent of trying to meet the needs of our current employees, their families, and retirees. On a periodic basis, the collection of benefits is compared to other technical companies, along with DOE facilities, and Sandia's benefits, in aggregate, continue to rank in the top three across this community. It is certainly true that in the case of health care, there has been the addition of premium sharing and cost sharing attributes of the plan; however, this is primarily a reflection of the rapidly escalating health care costs and the need to use multiple avenues of funding for these expenses. Sandia's cost share with participants is significantly lower than most other companies against whom we compare. In any case, our intent is to continue providing services both from a benefits design perspective, as well as support services for our employees. — Larry Clevenger (3500)

Iraq

Through one man's eyes

Col. (and Sandian) Wes Martin has agreed to share his experiences and photos from Iraq with Sandians during a talk at the Steve Schiff Auditorium on Tuesday, Aug. 24, at 12 noon.

"I love you," says an Iraqi little girl just big enough to talk, as she and other young children were given some Tootsie Rolls by Wes Martin (4135). For Wes, who recently returned to Sandia after eight months in Iraq, they are words he won't readily forget.

"The children are what this war is all about," says Wes. "Iraqi parents want to raise their families in peace, with sufficient food, clothing, and shelter. They want their children to grow up in an environment free from horror. In this respect, they are no different from American parents.

"The fighting makes orphans of little children. On one of my trips I spotted some young children going to school. As they were passing around a Bradley Fighting Vehicle, they were laughing and playing. Meanwhile, the vehicle was manned by a team of soldiers ready to deal with anyone who tried to harm them."

Wes, an Army Reserve Colonel, served as Anti-Terrorism/Force Protection Officer for Combined Joint Task Force 7. His job included security enhancement of all bases, implementation of technical solutions, creation of

a nationwide badging program, and the assessment of vulnerabilities. He was instrumental in creating a Team Chief Working Group composed of all coalition chiefs. When he returned home he was supervising assessments of Coalition bases, police stations, embassies, government buildings, dignitaries, and shrines throughout the country. Wes served under Lt. Gen. Ricardo

Sanchez, a man he calls a "great leader."

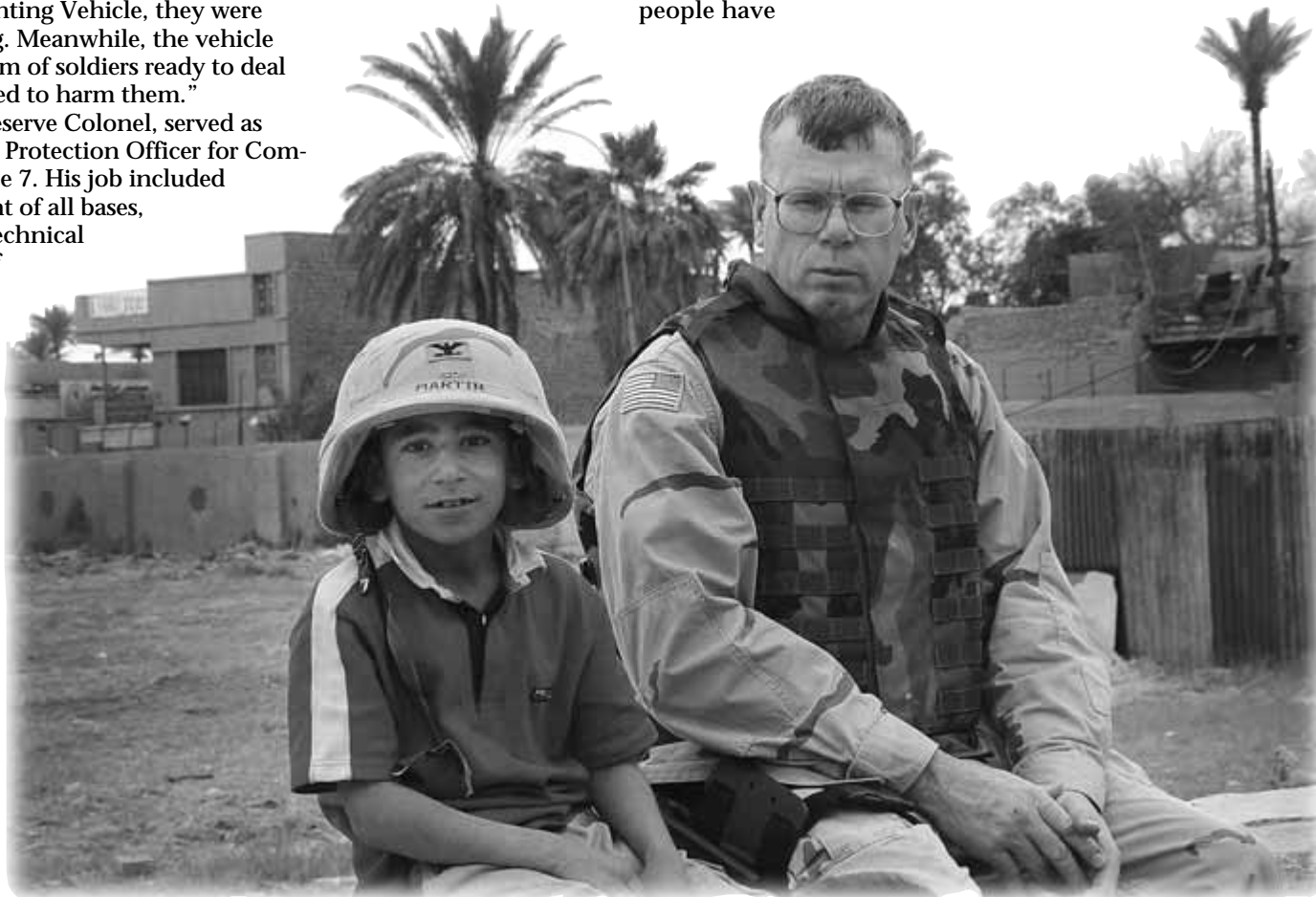
"Iraq is a country about the size of the state of California," says Wes. "It is varied, with its tree-covered mountains, desert, and rich soil. Riding in a helicopter, you can see the forest of palm trees stretching as far as you can see in all directions. Toward Al Kut, the wheat fields remind you of Kansas."

"When I got there, Saddam was still at large. My main concern was attacks coming from his followers. By the time I left," says Wes, "the threats shifted to external terrorists and religious insurgents.

"Because I was on the move, I got to see a lot of the country," he says. "The destruction of structures created by war is nothing compared to

"When the men tried to push through the writing of the new constitution per Islamic law, the women pushed back. When that happened, I knew we were making major progress."

the destruction of humanity created by Saddam." Iraq is a very depressed country, but changes continue to occur. Satellite dishes, once forbidden by Saddam, are all over the place. The people have



communication with the outside world.

"When I first arrived in Iraq, women were still wearing *burkas*; by spring that changed. I saw Iraqi women studying American women doing the same work as their men counterparts," says Wes. "When the men tried to push through the writing of the new constitution per Islamic law, the women pushed back. When that happened, I knew we were making major progress.

"Mortars and rocket propelled grenades (RPGs) are frequent," says Wes. "One night following a day's mission in the field, I returned to the safety of my office and was talking on the phone. Two RPGs flew directly overhead and landed about 100 yards to the south. I grabbed

my helmet and vest and went to the crater site to see if anyone was injured. A lieutenant colonel was standing by when I arrived. He was lucky. He had been sitting in a portable toilet 30 feet off to the left of the impact. The top of the toilet was well peppered, but the lower part was protected by a concrete barrier.

"One time while I was in a helicopter, the helicopter got shot at. Our helicopter pilots are good," says Wes. "Roller coasters have nothing on Blackhawks."

In Wes's close-out evaluation he was

cited for successfully outmaneuvering Al Qaeda operatives in An Najaf, preventing massive attacks during the holiday period, and for averting the bombing of a doctor's convention in Baghdad. In averting the attack in An Najaf, Wes had 36 hours to develop and execute a defensive plan. He was awarded the Bronze Star for his service.

Of his family's concern during his absence, Wes says, "They know I have duties and responsibilities. They know I am an American soldier." He and his stepson were in Iraq at the same time,

but they did not see

each other. His stepson is still there.

"Being in Iraq gave me an even greater appreciation for our country," says Wes. "I have long admired George Washington. He gave of himself to build a nation centered on the people. Saddam instead took from the people to build an empire centered on himself. In my opinion, today Washington is remembered with the greatest of honor; Saddam was pulled out of a hole."

Story by Iris Aboytes

Sandians on, or returned from, active duty

According to Ann Murphy (3332), 21 Sandians have returned from active duty (several have served more than one tour). There are currently 12 employees on military duty and an additional eight who anticipate receiving orders. Because of privacy issues, a list of Sandians involved cannot be furnished.

'Rollercoasters have nothing on Blackhawks,' says Sandian Wes Martin after tour of duty in liberated Iraq

Mileposts

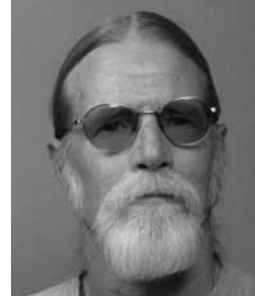
New Mexico photos by Michelle Fleming
California photos by Bud Pellittier



Ray Baldonado
35 8146



Mark McAllaster
35 4132



Ronald Sorley
35 14131



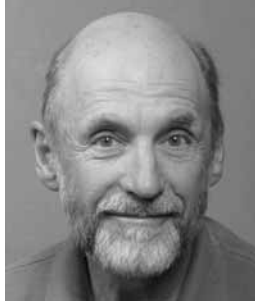
Richard Anderson
30 1739



Jim Armijo
30 10842



Les Brown
30 8949



Peter Feibelman
30 1114



Leroy Garcia
30 10843



Joseph Woodworth
30 1645



Bernard Zak
30 6233



Ed Dutra
25 8224



Manuel Garcia
25 1822



Philip Georg
25 5942



Howard Johnsen
25 8353



Karen Marlman
25 9724



J. Anthony Roybal
25 4135



David Sinton
25 6323



Jim Spoonemore
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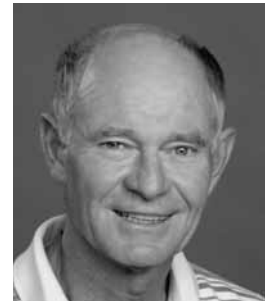
Buddy Anderson
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Henry Apodaca
20 5714



Terrence Aselage
20 2525



Rion Causey
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Jeffery Cherry
20 9134



J. Douglas Clark
20 2337



Thomas Davis
20 5512



Terry Ernest
20 1733



Curtis Gibson
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Anthony Griego
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Margaret Harvey
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Susan Jensen
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James Snell
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Mike Tootle
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Keith Vollmer
20 2561



Robert Washington
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David Barber
15 6952



Leland Clise
15 10762



Loula Killian
15 6218



Yvonne Oglesby
15 15309

Retired Senior Mentor Tom Schultheis receives Korean War Service Medal 50 years in the making

By Matthew Stackpole

In the winter of 1994 Tom Schultheis retired from Sandia after completing 37 years of service, including three years at Los Alamos. In 1997 he became a Senior Mentor to the Weapons Intern Program at Sandia where he works to train a generation of scientists whose sole experience with nuclear weapons is books and simulators.

"Most of them [the students] had experience with weapon systems but had no experience with the weapons themselves," he says regarding the trainees. He says it was gratifying "to be able to pass on our experience to these students." Was the actual process of acquiring real-world experience with nuclear weapons ever a trepidatious endeavor? He conceded that at times testing nuclear weapons in the Pacific could be "a little scary," but says his experience in the Air Force prepared him well.

"I flew with SAC [Strategic Air Command] and flew the B-36 as a crewman." The B-36 could carry two of the Mark-17 bombs, each weighing 42,000 pounds (those of you who are familiar with the Atomic Museum will recognize the Mark-17 displayed in front of the building).

"We practiced arming them in the air, and that could be a little scary," he says. However, those days have long since passed, giving way to, perhaps, more relaxing days of retirement. So it may have come as a surprise when in June of this year Tom received an application from Congresswoman Heather Wilson's office stating that he was once again eligible for a medal for his service in Korea.

As it turns out, the medal he was being awarded had a story almost 50 years in the making:

On June 25, 1950, Communist North Korea invaded its southern brother, non-Communist South Korea, in what the United Nations termed an act of aggression. Two days later President

Truman formally authorized the use of American land, sea, and air forces to defend South Korea in the "police action" that became known as the Korean War. More than 36,000 US servicemen died and 103,000 were wounded. An armistice was signed on July 27, 1953, and more than 1.5 million American servicemen returned home. Approximately 50 years later the Republic of

Korea sought to honor those servicemen who helped liberate their country.

As a show of their gratitude, the Republic of Korea Korean Service Medal was offered to American veterans who served within the territorial limits, adjacent waters, or airspace of Korea. Ironically, the medal itself had already been offered in 1951 to all United Nations servicemen who participated in the conflict, but US law prohibited military personnel from wearing medals issued by foreign countries. In 1998 the Republic of Korea "renewed its original offer" and on August 20, 1999, the Department of Defense approved the "acceptance

and wear" of the medal. It was this medal, the Korean War Service Medal, that Tom, along with countless other heroes of the "forgotten war," was now eligible to receive.

This medal holds special meaning for Tom. "It was recognition for what we've done, what we put forth to help the people in Korea understand what freedom is all about," he says. The front of the medal has two artillery shells crossed in the shape of an "X" over the state of Korea, while the back of the medal says it the best: "For the defense of Korea."

Anyone who wishes to apply for the Korean War Service Medal is asked to contact Rep. Heather Wilson's office at (505) 346-6781 or write her at:

Congresswoman Heather Wilson
20 First Plaza NW, #603
Albuquerque, NM 87102

Next of kin are eligible to apply.



TOM SCHULTHEIS displays his Korean War Service Medal. (Photo by Randy Montoya)

Feedback

Labs considering online W-2 forms

Q: Like many Sandians, I use a commercial software package (TurboTax) to prepare my Federal and State income tax returns. In recent years, they have introduced a feature that allows users to download financial information from participating banks, mutual funds, etc. (1099-INT, 1099-DIV, 1099-B forms) and employers (W-2 forms) from the Web, and import that information directly into their return. Individual passwords and secure encryption are used to assure privacy.

This not only saves time, it also reduces the chance for errors, as the data is automatically entered in the appropriate place on every form where it is needed. Of course, the user may still edit any data he/she feels is in error. Unfortunately, Sandia Corporation is not one of the participating employers. Can you tell me if Sandia has any plans to participate, and if so, how soon it might materialize?

A: Payroll is currently looking at the feasibility of implementing "Web-based" W-2s for Sandia employees. Employees would be able to download their W-2s directly from the Web rather than waiting for the Postal Service to deliver them. In addition, the project would include the availability of Sandia employee W-2 information downloads to tax preparation software. We are evaluating this project but would like to implement it for the 2004 tax reporting calendar year. Please feel free to check with me for an update.

— Jesus D. Ontiveros (10502)

Q: How exactly is the Extended Travel Allowance payment calculated? According to the "Request for Payment of Extended Travel Allowance" form, the rate is supposed to be 15 percent of my base pay. I have submitted a few of these forms lately, however no matter how I calculate it, what shows up on my paycheck (before tax) does not even come close to being 15 percent of my base pay for the affected period.

A: The calculation for the Extended Travel Allowance is as follows: 15 percent of the base pay up to a maximum base of \$50,000 with a total maximum allowance of \$7,500 annually. After this amount is calculated, it is divided by the number of days in a year and then multiplied by the number of days of the extended travel.

Thus if an employee makes \$75,000 annually and is on extended travel for 20 days, the calculation would be as follows: $(.15 \times \$50,000) / 365 \times 20 = \410.96 .

If you have specific concerns regarding your calculations, please contact the Payroll Department.

— Jesus D. Ontiveros (10502)

Construction calls for people to be careful



ONGOING CONSTRUCTION around Sandia promises an attractive worksite in the future. But for now it means safety hazards. Sandians are urged to be careful and watch their steps as they park and move around — never through — construction areas to avoid injuries. This picture, taken just southwest of the Microelectronics Development Laboratory, is one of the busiest construction sites at Sandia. Also seeing heavy construction traffic is the new Weapons Integration Facility (WIF) — the next phase of MESA — located just north of Hardin Avenue and just east of T-City.

(Photo by Randy Montoya)

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