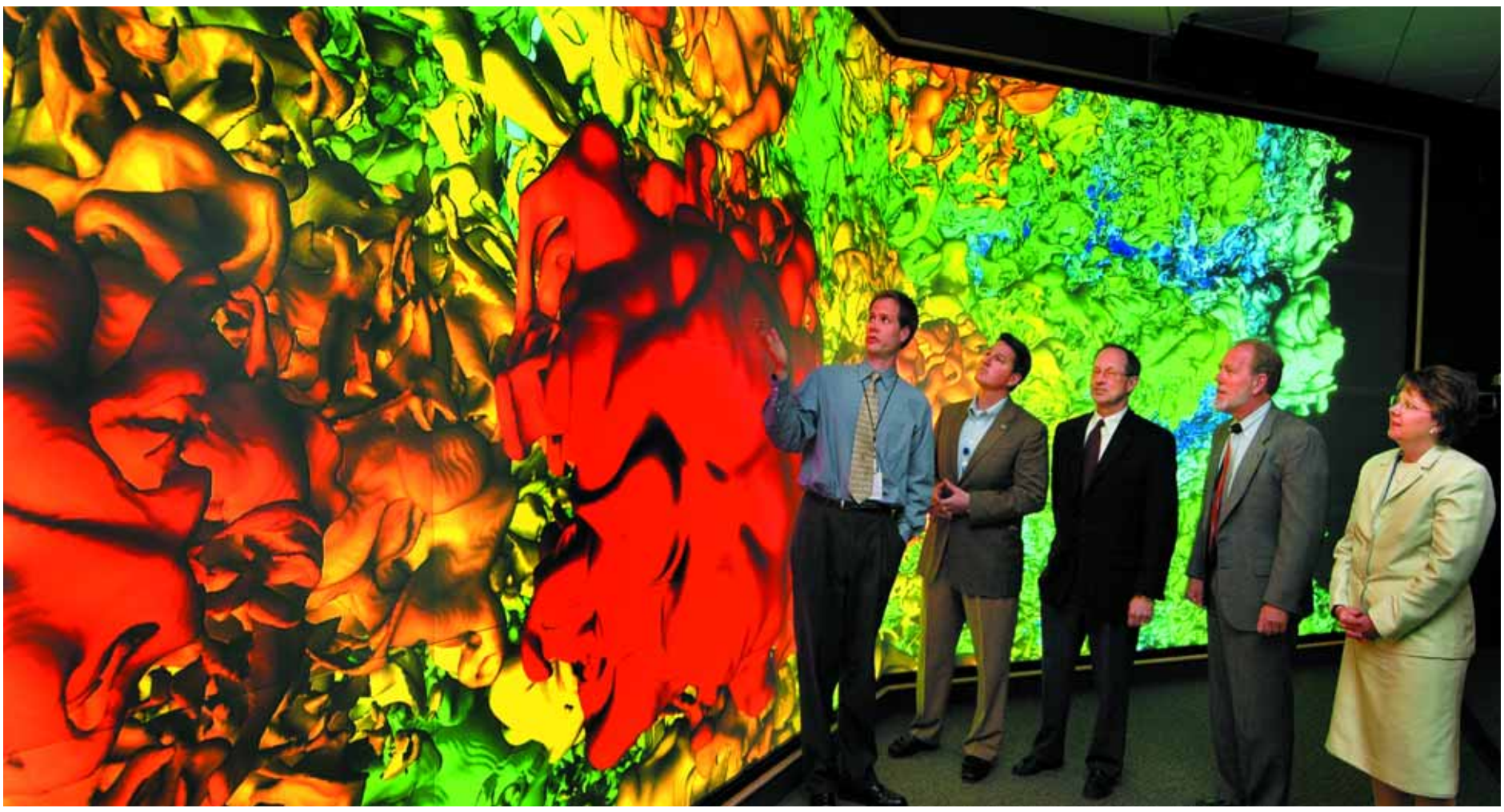

VISUALIZE THIS — NNSA Principal Deputy Administrator nominee Jerald Paul (second from left) looks on as Rob Leland (9220, left) explains how a complex material interaction computer simulation is displayed on the screen in Sandia's Visualization Corridor in Bldg. 880. Paul was at Sandia as part of a familiarization tour of NNSA facilities as he assumes his new responsibilties with NNSA. Joining the group are Sandia Senior VP Tom Hunter (center), Tom Bickel, and Sandia Site Office Manager Patty Wagner. During his visit, Paul also met with Labs President and Director C. Paul Robinson and Executive VP Joan Woodard. (Photo by Randy Montoya)

Sandia LabNews

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Sandia National Laboratories

Secretary Abraham helps launch new JCEL facility

Praises Labs, affirms DOE commitment to investment in cutting edge infrastructure

By Bill Murphy

DOE Secretary Spencer Abraham joined members of the Sandia Corp. Board of Directors, senior Labs management, and other Sandians on April 28 to officially mark the opening of the new Joint Computational Engineering Lab building (*Lab News*, April 30).

SPENCER ABRAHAM

JCEL, as it is called, will house some 175 researchers and support staff in its 60,000-plus square feet of space. The $30.8 million JCEL facility was funded by DOE/NNSA's Advanced Simulation and Computing program and represents an integral part of the Microsystems and Engineering Sciences Applications (MESA) project.

In prepared remarks before a standing-room-only audience of Sandians, Abraham said the new facility is emblematic of DOE's commitment to keep the nuclear weapons complex infrastructure at the cutting edge of technology.

(Continued on page 4)

Labs selected as virtual Center of Excellence for metal hydride-based hydrogen storage

By Mike Janes

The Department of Energy has selected Sandia to lead a virtual Center of Excellence for the development of reversible metal hydrides materials. A key objective will be to develop a class of materials capable of storing hydrogen safely and economically aboard a vehicle that can run for at least 300 miles before refueling.

The virtual center consists of eight universities, four other national laboratories, and three industrial companies, with Sandia serving as laboratory lead and coordinator of research and development. It will undertake $30 million of research and development over the next five years.

Sandia takes the lead

Sandia's winning proposal is in response to a "Grand Challenge" issued by the DOE last year. The center will be established at Sandia's California site in October. Jim Wang, Manager of Analytical Materials Science Dept. 8773, will serve as director.

The study of a promising class of hydrides, complex metal hydrides, is a key stepping stone in clearing the hydrogen storage riddle, says Jay Keller, Manager of Hydrogen and Combustion Technology Dept. 8367. Currently, no material exists that can be used to construct a fuel tank to safely and efficiently store hydrogen fuel.

See also:
Hydrogen storage — a critical issue on **page 3.**

Hydrides are metallic alloys that absorb and then release hydrogen. These operate at pressures and temperatures close to ambient conditions, making them highly promising for future on-board hydrogen storage systems.

The laboratory's 40 years of hydrogen science and engineering expertise leave the group well positioned to lead the research effort, says Jim.

"Achieving or exceeding"

"Our approach will be to focus on achieving or exceeding the DOE's hydrogen storage targets through novel materials development, supported by our strengths in fundamental and applied materials science," says Jim.

"Our plan is to coordinate, support, stimulate, and focus complementary expertise in chemistry,

(Continued on page 3)

What's what

An interesting bit of trivia turned up while VP Pace VanDevender (1000) was in Washington with former Sandia PR spokesman (now contractor) Nigel Hey recently for a series of get-acquainted meetings with editors and writers.

At the American Association for the Advancement of Science headquarters, Pace and Nigel sat down with a group from *Science* magazine, including news editor Robert Coontz. While they were talking about the fascinating work that goes on at Sandia, Coontz mentioned that he had learned from amazon.com that Sandians currently buy more copies of *The DaVinci Code* and the *C++ Manual* than any other titles.

This is interesting. *The DaVinci Code* has been on *The New York Times* best-seller list for a very long time and its popularity among us just shows that we're like everybody else. But the *C++ Manual* is not exactly flying off the shelves anywhere, and that shows we're not like everybody else.

Wonder if that'll show up in *Science?*

And a caution here. Remember that incidental use of Sandia computers — such as ordering non-work-related books and other things — should be exactly that: Incidental. And appropriate, of course.

* * *

Last issue's mention of former Sandians who've made marks in the art world brought word from Jim Rea (6927) that Fred Lucas has come back to New Mexico after being away for many years. He worked at Sandia in the late 1960s and early '70s, Jim wrote, "finally leaving when the price of each of his paintings exceeded his annual income from Sandia." During his Sandia tenure, Fred worked in the underground test program at the Nevada Test Site producing artist's renderings of highly technical subjects.

From Sandia, he went to the Prescott, Ariz., area, where he concentrated on paintings of western scenes and the Grand Canyon. The late Sen. Barry Goldwater praised his work as the best ever done of the Grand Canyon. His paintings hang (or have hung) in the White House (Barbara Bush was the collector), Windsor Castle, Kokyo (the Japanese Imperial Palace), and, in Jim's words, "countless homes of the rich and famous and a few homes of current and former Sandians."

Fred is currently painting in the Chama area, having returned to New Mexico for a "winter scene refresher course." Among the paintings produced there so far is "After the Storm," showing the Brazos Cliffs in the background.

* * *

Got any interesting spam subject lines lately? I got one asking, "Would you like to meet someone REAL?" I wasn't in the market for that, although I thought that if I was, someone "REAL" would be better than someone VIRTUAL, probably.

If you get some that are funny, bizarre, inexplicable, or otherwise interesting, please share 'em.

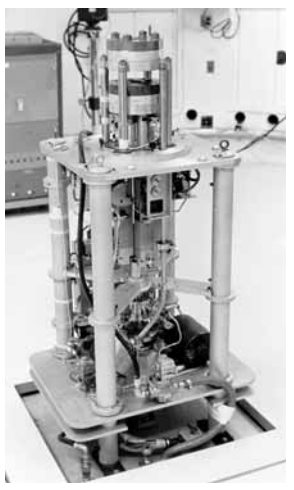
— Howard Kercheval (844-7842, MS 0165, hckerch@sandia.gov)

Labs' SPR III reactor to close, DOE Secretary Abraham announces

One of a series of changes in security in the nuclear weapons complex announced last week by Secretary of Energy Spencer Abraham includes the future shutdown of the Sandia Pulsed Reactor (SPR III) in Area 5.

"After operations of three years or perhaps less, the Sandia Pulsed Reactor will no longer be needed, since computer simulations will be able to assume its mission," Abraham said. "This represents an intelligent substitution of advanced technology for brute force, and I applaud it."

Abraham said when its mission is complete SPR's reactor fuel will be removed from the Labs, "allowing us to reduce security costs at Sandia and further consolidate our nuclear materials."



SPR II, circa 1967; this reactor was subsequently replaced by SPR III.

SPR III is a small research reactor mounted on a table-like stand measuring two feet by three feet. It can operate in a low-power-steady-state mode or emit short pulses of radiation (0.0001 second) for radiation effects studies and simulations.

"After the Department requested all sites to examine their continuing needs for Special Nuclear Materials storage," Sandia President C. Paul Robinson said following Abraham's May 7 address, "we offered to them a plan by which we could phase out the Sandia Pulsed Reactor's use by carrying out radiation effects qualifications analytically rather than through experiments as has been done in the past."

Paul says the key to making the change has been the investment in and rapid awareness of supercomputing capabilities that allow calculation of radiation doses with sufficient accuracies. "We will carry out a limited set of experiments to validate the use of calculational models and then cease operations of the reactor and store the nuclear materials at a consolidated DOE site," Paul says.

The SPR shutdown was the only one of a number of Abraham recommendations that mentioned Sandia specifically, but others involving cyber security and the protective forces could also have effects on Sandia. Sandia management will work closely with DOE and NNSA on these matters over the coming months. *— Ken Frazier*

Sandia LabNews

Sandia National Laboratories

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LOCKHEED MARTIN

Tim O'Hern elected ASME Fellow

Timothy O'Hern of Thermal/Fluid Experimental Sciences Dept. 9112 has been named a Fellow of the American Society of Mechanical Engineers, the highest grade of membership within ASME.

TIM O'HERN

The honor recognizes exceptional engineering achievements and contributions to the engineering profession.

Tim's research career at Sandia has been in experimental fluid and thermal sciences, mostly involving development and implementation of advanced laser or radiation-based diagnostics. Applications have included the areas of industrial-scale multiphase flow systems (gas-solid circulating fluidized beds and gas-liquid bubble columns), droplet generation by sprays, cavitation inception in turbulent shear flows, turbulent buoyant plumes and fires, aerosol measurement, and flow through heated screens.

The ASME citation also says his research "has provided important fundamental insights into multiphase flow behavior and means to measure it." He has been an active member of ASME's Fluids Engineering Division, which he chaired 2001-2002. He also volunteers time in public elementary schools bringing hands-on science to classrooms.

Tim received his PhD in mechanical engineering from the California Institute of Technology in 1987 and has been at Sandia since then.

Employee death

Ann Marie Griego of Safeguards and Security Training and Reporting Dept. 4222 died April 29 from an aneurysm.

She was 61 years old.

Ann Marie was a senior member of the laboratory staff and had been at Sandia since January 1981.

She is survived by her husband, Alex Griego.

ANN MARIE GRIEGO

Hydride

(Continued from page 1)

materials sciences, modeling, and synthesis and characterization with other national lab partners, universities, and industries to achieve the DOE's hydrogen storage goals."

"Our research . . . has been on the leading edge of hydride development."

The FreedomCAR initiative, announced by Energy Secretary Spencer Abraham in 2001, seeks to promote the use of hydrogen as a primary fuel. The effort targets initial hydrogen storage in a vehicle to accommodate roughly a 300-mile driving range per fill-up.

"No material provides that yet," says Jim. "Our research for the past few years has been on the leading edge of hydride development," however, and has identified the class of material that appears to come the closest to that goal.

Hydrogen's advantages over fossil fuels include its lack of polluting emissions and the fact that it can be produced anywhere from renewable energy resources, such as solar electricity or biomass. Proponents of an energy economy that emphasizes hydrogen point to the potential to improve urban air quality, decrease greenhouse gases (released by burning fossil fuels), and gain independence from foreign oil.

Meanwhile, Sandia researchers in the Labs' Combustion Research Facility (CRF) in California have also been building on Sandia's long-standing strengths in the study of metal-hydrogen interactions and engine studies to explore hydrogen use for electrical production by stationary power sources — turbines in particular.

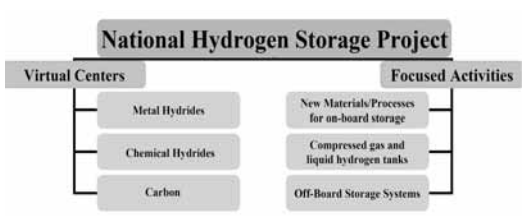
CRF researchers are also involved in the International Energy Agency's efforts to create next-generation models for turbines that can burn hydrogen. The CRF is also seeking funding to demonstrate use of hydrogen fuel, with its near-zero emissions of smog-producing oxides of nitrogen, in an internal combustion engine.

Although one of the biggest impacts of switching to hydrogen from fossil fuel will be seen in transportation, its use in stationary power generation will also help to develop an infrastructure for its distribution and use.

The virtual center, says Jim, will bring together scientists and institutions with strong and focused capabilities in several research areas.

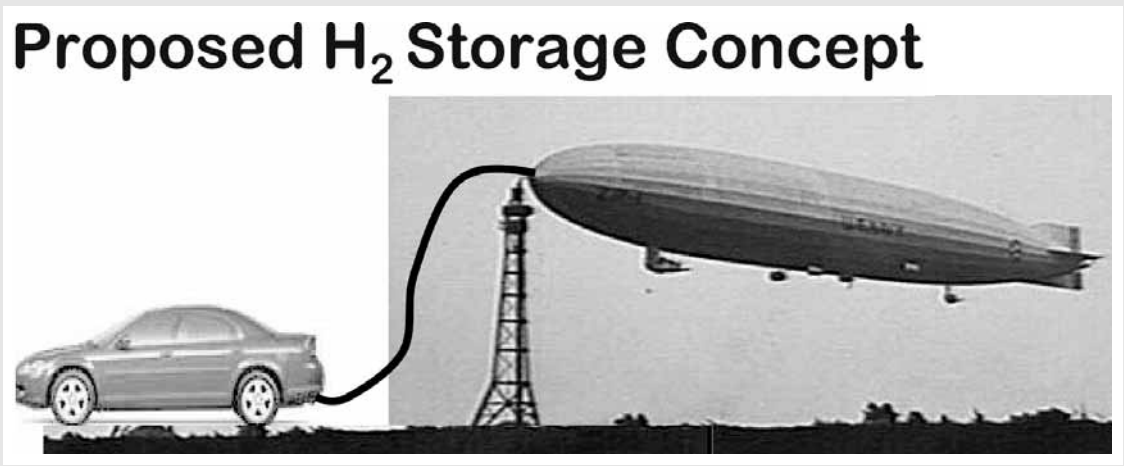
Partnering with Sandia are: Brookhaven National Laboratory, Jet Propulsion Laboratory, and the National Institute of Standards and Technology; the University of Hawaii, University of Pittsburgh, Carnegie Mellon University, University of Nevada-Reno, University of Illinois-Urbana-Champaign, University of Utah, California Institute of Technology, and Stanford University; and General Electric Company-Global Research, HRL Laboratories, and Intematix.

Sandia CaliforniaNews



Each "Center of Excellence" will include a DOE national laboratory lead and several university and industry partners. Responding to DOE's "Grand Challenge" solicitation, these centers will address the major technical barrier to on-board hydrogen storage — storing enough hydrogen to enable greater than 300-mile driving range without impacting cargo or passenger space. In addition, individual universities, research institutes, and small businesses will explore new materials for hydrogen storage.

Hydrogen storage — a critical issue



CLASSICAL GAS — In announcing its Hydrogen Storage Grand Challenge last year, DOE used the image above as a light-hearted way to suggest the scale of the task that faces researchers.

Storage is widely considered one of the most important hurdles for the commercial success of hydrogen as a clean fuel, especially for use in vehicles because of weight, volume, and cost constraints. Sandia's storage work with the DOE's hydrogen program dates back 10 years and has included storage system design and fabrication, fundamental modeling, and fuel cell and storage integration.

Reversible metal hydrides have long been a strong suit of Sandia's materials research. Researchers have studied complex hydrides with high capacities. Sandia consultant Karl Gross tested the hydrogen absorption properties of a new sodium alanate material last year and termed its performance "astonishing." Sandia scientists continue to study it as a model system for developing future hydrogen storage systems.

Recently, Sandia researchers improved the operating conditions of lithium imides for hydrogen storage by partial substitution of lithium with magnesium. This new class of materials absorbs hydrogen reversibly in two steps, providing a total theoretical capacity of 10.8 percent storage by weight. Current test results demonstrated 4.7 percent reversible hydrogen storage at about 30 atmospheres and 200 degrees Celsius from the first step reaction alone.

A patent application has been filed on the synthesis of the materials. Jim Wang says his team is exploring further improvements on lithium amide/imide or other similar materials for hydrogen storage capacity and operation conditions towards the DOE FreedomCAR goal.

In 1997, Sandia initiated a collaborative alanate development DOE program with the University of Hawaii. Other current partnerships include those with the University of Geneva, University of Alaska-Fairbanks, and others. Jim says that collaborative efforts will expand substantially with the virtual Center of Excellence.

Emeriti program execs make return visit to site

CALIFORNIA LABORATORY VP Mim John (8000) recently hosted retired vice presidents and directors who are participating in the newly formed Emeriti program. They spent several hours with the directors and program managers discussing recent accomplishments and technical research in California, then toured the nearly completed Distributed Information Systems Laboratory. Seated are Tom Cook and Dick Claassen, vice presidents emeriti of the 8000 Division. Standing, from left, are Paul Brewer, Jim Wright, Rick Wayne, and Len Hiles, directors emeriti. The program is open to all retired directors and above to make their knowledge and experience available to the Laboratories and the government. In addition to periodic briefings and tours, they receive opportunities from management to represent Sandia externally on panels, committees, studies, or other outreach activities. For more information about the Emeriti program, see http://www-irn.sandia.gov/organization/spec_proj/.

JCEL

(Continued from page 1)

JCEL, Abraham said, represents a significant upgrade, consolidation, and enlargement of Sandia's computational capabilities, which is extremely important in DOE/NNSA's stockpile stewardship mission.

Abraham said that when the current administration assumed office in 2001, "The President and I agreed that modernizing [the nuclear weapons complex infrastructure] was urgent. . . . Three years and $1.8 billion worth of investment later, we are rapidly achieving that."

"New Mexico may have been the 47th state to join the union, but in many ways you are first in helping secure the nation's freedom. . . ."

In another area, Abraham took a moment to acknowledge Sandia Board member James Schlesinger, who was in the audience, noting that Schlesinger served as the first secretary of DOE in the 1970s.

Abraham also congratulated Sandia on its selection as a research "Center of Excellence" in the administration's national hydrogen initiative (see "Labs selected as virtual Center of Excellence" on page 1), the goal of which is to begin the transformation to a hydrogen-based economy (as opposed to the current fossil-fuel based economy).

Sandia, he noted, will work "on probably the most challenging issue in hydrogen vehicle viability," the ability to store enough hydrogen to be able to provide a vehicle with a 300-mile range that American drivers demand.

Abraham expressed his confidence that Sandia and its research partners will "use their tremendous creative skills to solve this problem."

Labs Director C. Paul Robinson, preceding Abraham at the speaker's podium, said, "My key word for the day is 'connections.'"

JCEL, he said, will facilitate and enable connections among the best minds in the nuclear weapons SMU, across the Labs, and at other sites within the weapons complex. The facility also will provide new levels of connection with industrial and university research partners.

DOE SECRETARY SPENCER ABRAHAM (left), Labs Director C. Paul Robinson, and Lockheed Martin Executive VP Michael Camardo, head of the corporation's Technology Services business unit, admire the new Joint Computational Engineering Laboratory (JCEL) facility at Sandia. (Photo by Randy Montoya)

Paul also lauded the new JCEL facility — both in its construction process and in its subsequent use as a laboratory — for its "green" qualities, taking special note of the building's designed-in indoor environmental air quality.

Senior VP Tom Hunter, master of ceremonies for the JCEL dedication, thanked DOE, the NNSA, and the Sandia Site Office for their on-going support of the JCEL project and for the larger MESA project to which it is integrally linked. He thanked Congress, and especially the New Mexico congressional delegation, for their commitment to MESA and JCEL.

"This [facility] is one more tangible piece of a vision" of how the Labs will move into the future, Tom said. In JCEL, he said, "the engineer of today will get a glimpse of the engineer of the future."

Abraham extended his "heartfelt thanks and good luck" to the Sandians who brought JCEL to fruition and extended that appreciation to all Sandians — and colleagues in Los Alamos — when he said, "New Mexico may have been the 47th state to join the union, but in many ways you are first in helping secure the nation's freedom. . . . The research you do has a direct and dramatic impact . . . providing hands-on benefits in the real world."

Abraham, who noted at the beginning of his remarks that the sound of aircraft overhead during the dedication ceremony always reminded him of the adage "the sound of freedom," concluded on a similar theme: "That freedom is well-protected because of what you do every day."

Groundbreaking ceremony for CINT May 25 at Schiff Auditorium

Early attendees to get nanometer tape measures

By Neal Singer

Tape measures using nanometer units will be given away to the first 200 attendees at a groundbreaking ceremony for yet another important research building — the main facility for the joint Sandia/Los Alamos Center for Integrated Nanotechnologies (CINT) — Tuesday, May 25, at 10:30 a.m. at the Steve Schiff Auditorium.

"Y'all stop by and get a cookie," jokes CINT director Terry Michalske (1040). Tasty punch and special CINT-stamped cookies should indeed be available for Sandians and guests.

The half-hour ceremony for the unusual Sandia project — to be built outside Kirtland Air Force Base with DOE Office of Science funds to emphasize the nanolab's accessibility to nonmilitary research — will be followed by a poster session describing CINT's facilities and already ongoing research.

Expected to be present are Sen. Pete Domenici, R-N.M.; Ray Orbach, director of DOE's Office of Science; and Nobel laureate chemist Richard Smalley. Sandia Executive VP Joan Woodard and LANL President Pete Nanos are expected to host, says Terry. Other invitees include Albuquerque Mayor Martin Chavez and the presidents of UNM, New Mexico State, and New Mexico Tech.

An earlier ceremony will be held at Los Alamos at 3 p.m. Monday, May 24, to celebrate the groundbreaking of the LANL CINT gateway site. Sandia's gateway is located in Bldg. 897.

ARCHITECTURAL RENDERING of Center for Integrated Nanotechnologies, or CINT.

Welch: Scope, depth, focus, and productivity of our national laboratories unparalleled in the world

Editor's Note: Gen. Larry Welch, US Air Force (Ret.), is a member of the Sandia Board of Directors. He presented the keynote speech at the annual Spring Managers Conference. Held in early April, the conference's theme was the "Road to Success." Gen. Welch was president and CEO of The Institute for Defense Analyses (www.ida.org) from 1991 to 2003. Currently he is the institute's senior fellow. From 1986-1990, Welch was Chief of Staff of the US Air Force. What follows is an abridged version of his comments.

By Gen. Larry Welch

I will begin with a reminder of the role and the nature of national laboratories — the obligation, the opportunities, and the expectations. We all understand the obligation — to bring world-class talents, experience, and commitment to bear for the good of the nation. The opportunity is more complicated simply because there are so many ways to serve and I know of no national laboratory where the opportunities are as rich and varied as at Sandia. The expectation also is straightforward though challenging — to put an unparalleled collection of minds and talents to work providing solutions to very hard problems.

GEN. LARRY WELCH

There is yet another characteristic of the best national laboratories, which certainly includes Sandia. The management and leadership at all levels must manage, nurture, and integrate three enterprise models and do so simultaneously. One model is directed work, the most orderly, and the core reason for each of the national laboratories. The second model is business or client development, which educates and expands the vision of sponsors and provides for the continuous evolution of core work to ensure that the laboratory remains relevant in a changing world. The third model is characterized by controlled chaos — the entrepreneurial enterprise — the source of breakthrough work producing solutions that haven't yet been asked for or discovering answers where there was no known path. In the right balance and with the right integration, these three enterprise models provide the paths to solutions to the hard problems. They are

- Understanding the changing world
- Sustaining a viable nuclear deterrent
- Dealing with other weapons of mass destruction/effect
- Improving intelligence capabilities
- Supporting homeland security
- Continued transformation of joint operations military capabilities

"My point is that fear is not appropriate nor is it a solution. So we need to get on with solutions instead of hand wringing or political rhetoric."

The fact of a changing world is particularly evident in the national security environment. In the past decade or so we have moved from:

- A world of stable relationships, a predictable adversary, and incremental change to a world of unstable relationships, unpredictable adversaries, and dramatic change — sometimes overnight.
- A world of a single adversary capable of severe damage to the US to a range of adversaries with the capability and motive to inflict unlimited damage.
- A world of collective security, shared perspectives and commitment to divergent perspectives among long-time allies, and the need for rapidly formed and flexible alliances.

Even so, I see no cause for despair. We are a lot tougher than many political leaders seem to realize. While losing a block of buildings and 3,000 people on Sept. 11 was a terrible thing, I remind you that we lost 3,000 men and boys in every week of the 200 weeks of the US Civil War in a population about 10 percent of what it was at the time of the 9/11 atrocity and we recovered and prospered. My point is not to minimize the danger. My point is that fear is not appropriate nor is it a solution. So we need to get on with solutions instead of hand wringing or political rhetoric. I would also remind that a nuclear attack with a single weapon could kill 50,000 and destroy a major part of a city.

Hence, a priority particularly germane to Sandia is sustaining an effective nuclear deterrent. While the current threat of a massive nuclear attack against the US is very low, it is increasingly likely that someone will use nuclear weapons against someone else — far more likely than during the Cold War.

It is more likely because of the reduced constraining power of opposing superpowers, more likely because of the continuing spread of relevant technology, more likely because centuries of conflict and animosity, frozen for half a century by the Cold War, have thawed in a lethal soup of ethnic, religious, and economic conflict.

So, while the nuclear deterrent doesn't get the national attention of the Cold War, it is at least as important as it has ever been and it is much more difficult for a number of reasons:

- Nuclear weapons must play a broader role than just deterring a massive attack by a superpower adversary.
- We have to meet that challenge with an aging stockpile and a near antique production complex, with a few exceptions such as much of the production complex at Sandia, and without underground nuclear testing.
- There is a clear need for transformation of our nuclear capabilities. The set of capabilities fielded before 1985 cannot be the right set for 2040 yet that is where the current plans will take us.

At least as difficult is dealing with the threat of other weapons of mass effect — particularly biological weapons. I often equate defense against biological weapons to antisubmarine warfare — that is, there is no silver bullet. Instead, if we bring enough talent to bear on as many aspects as possible, we may be able to just barely deal with it. I believe there are 10 layers in the defense against biological weapons. I won't go through all here today but will mention some in which Sandians are making key contributions.

- The most obvious first layer relevant to Sandia is physical protection — personal, facilities, and operational capabilities.
- The rate of casualties from biological attacks is strongly driven by the promptness and effectiveness of treatment. That requires detection systems, information systems, and decision processes — all now largely in the conceptual or rudimentary stage.
- A third area highly relevant to Sandia's work is consequence management. Whether an attack produces despair or resolve will depend strongly on how authorities and services can respond.
- A fourth national need where Sandia is making important contributions is bringing science, technology, and engineering to bear in support for the intelligence community and that need — providing needed intelligence anywhere, anytime, for any purpose — will multiply.

The newly aggregated set of responsibilities in the Department of Homeland Security will be highly dependent on national laboratories for science, technology, and engineering support across a wide range of areas. The relationship will need to be direct and close and Sandia will need to inform, educate, and respond to meet homeland security needs.

Turning to continuing support for transformation of joint operations military capabilities, we have seen a major transformation and it must continue. My definition of transformation is intentionally simple. Transformation is creating new ways to operate that are more effective in the relevant environments. The driver can be concepts, doctrine, training, materiel, etc. Further, transformation is a journey, not a destination. It comes from continuous improvement far more often than from revolutionary breakthroughs.

I will close by re-emphasizing my central point. Sandia is a national laboratory that is needed to address hard national problems. I have had the privilege of more than a half century of continuous service to the nation's national security organizations, in the course of which, I have visited national security complexes and organizations in some 65 nations and so have some basis for judging that there is no other set of institutions anywhere in the world that can approach the scope, the depth, the focus, and the productivity of our national laboratories. Sandia is a crown jewel in the family of national laboratories and I congratulate all Sandians for that.

I am pleased and privileged to be associated with Sandia and Sandians and am pleased to be a committed and vocal supporter of national laboratories.

Sandians suffer 14 cases of electrical shock last year; four have already been reported in 2004

This is National Electrical Safety Month; here are some tips

May is National Electrical Safety Month and Sandians are reminded to take care around electricity both at work and at home.

"It's so easy to take electricity for granted and forget how harmful it can be if not handled in a proper ES&H manner," says Jeff Downs of Industrial Hygiene and Safety Programs Dept. 3122. "That's why we encourage everyone to be careful."

In 2003 Sandia reported 14 shock cases. These cases were associated with workers handling energized wire conductors, working near energized conductors, using faulty equipment (equipment with loose ground conductors or shorts to chassis), and failure to follow complete lockout/tag-out procedures (forgetting to de-energize or to verify de-energized state).

Already in 2004 there have been four shock cases at the Labs. Two involved handling facilities electrical distribution and lighting equipment and two handling research and development equipment.

Nationally, 400 people (at least one person a day) die from electrocution each year. In addition 4,000 non-disabling (injuries that require more than first aid) and 3,600 disabling electrical contact injuries occur in the workplace each year. Also, more than 2,000 people go to burn centers with electrical burns each year.

Jeff says the most important thing a person can do to prevent shock when working on electrical fixtures is to make sure that it is completely de-energized — verify zero electrical energy.

Savannah River is designated a DOE national lab

On May 7 Secretary of Energy Spencer Abraham designated the former Savannah River Technology Center in South Carolina as a Department of Energy National Laboratory. It will henceforth be known as the Savannah River National Laboratory.

Thunderbird Award winners set the bar for overcoming obstacles in their young lives

By Iris Aboytes

Your mother is in a car accident when you are one year old. She struggles through pain, from back surgery and drug abuse. When you are seven years old your father dies of a drug-induced heart attack. Many times you are left unattended for hours at a time. This is the true-life story of Josh Asplen, one of this year's Thunderbird Award winners.

Thunderbird Awards are awarded yearly to graduating seniors from 11 Albuquerque public high schools, five alternative schools, and five outlying schools (Bernalillo, Rio Rancho, Los Lunas, Belen, and Moriarity) who have overcome obstacles with ability and determination and desire to turn their lives around. Created in 1994 by Sandia and Lockheed Martin, the awards provide a $1,500 check through the Albuquerque Public Schools Foundation. The awards were presented to the recipients on April 26.

Josh and his mother lived on welfare many years. His mother attempted suicide multiple times, and finally fell into a coma and died of a heart attack. He went to live with his grandmother who did not take good care of him. He considered dropping out of school. Finally Josh took charge of his life. He asked his grandmother to send him away or place him in a foster home. The next day he was on a plane bound for New Mexico to live with his great-aunt and uncle.

At Los Lunas High School, Josh is president of the Chess Club, a member of student council Principal's Advisory Committee, the National Honor Society, and the Science Olympiad. His current GPA is 4.0. Josh's plan is to attend New Mexico Tech and possibly pursue a career in engineering. Whatever he ends up doing, Josh wants to be involved in bettering the lives of others.

Michael Sandoval, Sandia High School, was born with pulmonary artresia, a heart condition. "He has had five open heart surgeries over the years which have curtailed his physical activities, but not his spirit," says Sandia High School activities director Judith Whitwell.

JOSH ASPLEN

"Michael has filled in the vacuum by studying and keeping his grades up."

Michael will be attending Sam Houston State University in Texas studying forensic science. His doctor has recommended a lower altitude to relieve stress in his heart. "Most of us who know Michael are inspired by his energy and love of life," says Ms. Whitwell. "His struggle with his illness has made him much wiser than his years."

Iris Garcia, Highland High School, is described by Steve Seth, one of her teachers, as "being in a category by herself." Iris was born in Mexico and with her parents immigrated to the United States seeking a better life. Her father passed away and her mother has been raising Iris and her three sisters on a minimum-wage income. Since turning 15 Iris has worked part time to contribute financial support to her family.

"While her family remains in survival mode," says Seth, "Iris is an amazing beacon for her family and her fellow students. This year Iris has been a leader in Highland's We the People Team. The team won the district and state championship, and will participate in the national competition in May. She had the judges pausing in amazement." The competition measures students' knowledge in the US Constitution.

Iris is also involved in Highland's Amnesty International. "She has an unerring sense of social justice," says Seth. "She is not strident or harsh, but instead is able to see both sides and communicate in a way that demonstrates her high degree of social caring."

Iris plans to attend a four-year college and ultimately work with an organization that focuses on human rights. She will be the first in her family to earn a high school diploma and go on to college.

Iris and Alyse Guy, a Thunderbird award winner from New Futures School, were recently awarded Daniels scholarships, which provide tuition, room and board, health insurance, and transportation to and from college. Daniels scholars also get a laptop computer. Recipients may choose any college or university and are selected on the basis of financial need and merit.

"I am continually amazed by the inner strength and enduring spirit of these high school students," says Mike DeWitte, Deputy Director of Corporate Outreach and Manager of Community Involvement Dept. 12650. "Their actions and accomplishments speak much louder than any accolades we could ever give them."

"The Thunderbird Awards remain one of the highlights of my calendar every year," says Sandia President C. Paul Robinson. "They are, as well, one of the greatest contributions that Sandia National Laboratories and Lockheed Martin make to the community. Our experience is that those individuals who overcome huge difficulties to achieve their objectives are now well prepared to continue to succeed. Our investment in them pays huge rewards to us all."

"I am continually amazed by the inner strength and enduring spirit of these high school students. Their actions and accomplishments speak much louder than any accolades we could ever give them."

18 children of Sandians win Lockheed Martin Merit Scholarships

Eighteen of the 57 recipients of this year's Lockheed Martin Merit Scholarships are the sons and daughters of Sandians. The Lockheed Martin Corporation Foundation announced the 2004 awards.

The scholarship program awards $3,000 per year for up to four years of undergraduate study to National Merit Finalists who are the children of Lockheed Martin employees. The National Merit Scholarship Corporation makes the selections. The program is funded by the Lockheed Martin Foundation.

By earning the designation of National Merit Scholars, the 57 winners have placed themselves academically within the top one-half of 1 percent of all US high school graduates.

In 2003, a dozen recipients were the children of Sandians (*Lab News*, Oct. 3).

Here are the names of this year's 18 students and their Sandia parent.

- James Adolf. Parent: Douglas Brian Adolf
- Thomas Ames. Parent: Arlo Ames
- Sylvan Baca. Parent: Thomas J. Baca
- Elisabeth Bacon. Parent: Larry Bacon
- Thomas Baldwin. Parent: George Baldwin
- Devin Burns. Parent: John Burns
- Jacob DeWitte. Parent: Michael DeWitte
- Jonathan Gardner. Parent: David R. Gardner
- Sylvia Gonzales. Parent: Alexander Gonzales
- Katherine Gruetzner. Parent: James Gruetzner
- Amber Harper-Slaboszewicz. Parent: Victor Harper-Slaboszewicz
- Mikala Johnson. Parent: Victor James Johnson
- Elizabeth Malone. Parent: Kevin Malone
- Erica Neiser. Parent: Richard Neiser
- Laura Nellums. Parent: Robert Nellums
- Scott Ray. Parent: Lawrence Ray
- Peter Torczynski. Parent: John Torczynski
- Ashley Wise. Parent: Jack Wise

Additional information about the scholarship program is at http://www.lockheed-martin.com/scholarships.html.

Security awareness campaign kickoff features Batmobile

ONE OF THE EXHIBITS at the May 5 Security Awareness Campaign kickoff was a reproduction of the Batmobile from the 1960s television series. Here Roxane Mares (6221) uses the Batphone. The day's events were designed to make Sandians more aware of how important security is at Sandia. In addition to exhibits, three speakers talked about security threats today, identity theft, and 9/11 Pentagon Rescue. The event started at 10 a.m. and included a memorial to Ann Marie Griego, who died April 29. Ann Marie was instrumental in putting together the kickoff event. (Photo by Randy Montoya)

Sandians mentor local high school students in robotic competition

'Thor' receives All-Star-Rookie Award; team expects to place in the top 75 in international competition

By Michael Padilla

"Thor," the all-star-rookie award winning robot, can do many tasks at a twist of a joystick.

Thor can pull, lift, deliver items, and play a game of ball.

With the help of several Sandians, the semi-autonomous/remote-controlled robot was built during the past few months by students in Albuquerque Public School's (APS) Career Enrichment Center (CEC).

The team recently won a Rookie All-Star Award at the Arizona regional competition in Phoenix, and placed 12th out of 43 in the Colorado regional competition in Denver. The team also placed 21st out of 73 in the southwest division at the international championships in Atlanta. The team expects to place in the top 75 out of 400 teams that entered in the international championship event held in Atlanta's Georgia Dome. The team's student-led website development team just found out they won the Website Excellence Award.

Paul Klarer (2332) led the Sandia effort and worked closely with Mike Nord, instructor of the "Electronics Engineering" class at CEC.

The goal of the competition was to get students interested in science, technology, engineering, and mathematics, says Paul.

As part of the international competition for robotics, the students had to conceive, design, fabricate, and deploy a 130-pound robot that could play a game. The team had to complete the task in six weeks from start to finish.

ROOKIE OF THE YEAR — Sandia-mentored team from the APS Career Enrichment Center checks out Thor, the semi-autonomous robot. (Photo by Randy Montoya)

"We succeeded beyond our wildest dreams," says Paul. "We wanted to get students fired up in a way that is comparable to how they get over a high school sport such as basketball or football."

Eric Isler, a recent Del Norte High School graduate, says he is grateful for the advice and guidance from the Sandia mentors.

"Everything I learned about software development I learned from Sandians," Isler says. "I learned how to do things correctly."

Wendy Amai (15252) mentored the controls group, which was responsible for both the operator control unit including joysticks, buttons and switches, and the control code that ran on the robot itself.

"The students were so good that my job was very easy," Wendy says. "The students are fully responsible for the success they enjoyed at the two regional competitions and the nationals."

Kaley McGowen, La Cueva High School junior, says she learned how to weld and use power tools. "I was able to work with some of the smartest people in the world," says McGowen.

Patrick O'Malley (2665) mentored the electrical team. This included everything from the control interface to the actual motors to the sensors.

"From a mentor's point of view, the most important part of the project was simply how it got the students involved in a very complicated, multidisciplinary, team-oriented project," Patrick says. "It provided them a fun way to learn about hands-on engineering. I think that they learned a lot of skills that normally you don't find in a high school setting."

CEC is an APS district-wide high school that is designed to augment technical/vocational academics. CEC includes students from throughout the district as well as home schoolers from as far away as Los Lunas.

Lockheed Martin and Technology Ventures Corporation (TVC) each provided $5,000 in direct donations, as did NASA. Other major sponsors included the *Albuquerque Journal*, APS, PNM, Solidworks, Home Depot, the City of Albuquerque, and several small local technology companies including Gekko Engineering, SunwestCAD, Continental Machining, Motion Industries, Kaman Bearing, and others.

Sandia Mentors

Wendy Amai (15252), Clint Hobart (15252), Paul Klarer (2338), Tom Mayer (15252, ret.), Patrick O'Malley (2665), Wendy Siemens (2997), and Dave Shirey (15252, ret.)

Patent attorney George 'Elwood' Libman retires from Sandia but not from music

Photos by Bill Doty
Story by Iris Aboytes

"Retiring to me basically means not having to be working for somebody else," says newly retired patent attorney George Libman. "I look forward to having no boss other than my wife."

George retired after working with Sandia for 25 years, 10 at DOE/AL and 15 at Sandia. His first degree was in electrical engineering from Columbia, but a few years working as an engineer convinced him to follow his father's footsteps as a patent attorney. George worked as a patent examiner and patent attorney for 36 years. "That is enough," he says. "I will do my part to stimulate the Albuquerque economy by giving someone else an opportunity to work at Sandia."

"The only thing unusual about my retirement is that I took it as soon as I became eligible. After working on more than 225 Sandia patents, I believe 99 percent of the credit for a patent belongs to the inventors. The patent agent or attorney merely takes their work product and puts it into an esoteric format called a patent application, and then argues with the government as necessary to get it issued into a patent. Was there a particular patent that stuck out? "Not really," George says. "It is the people who thought up the inventions that impressed me."

Instead of talking about his retirement, George prefers to talk about the Albuquerque Concert Band, a local group with about 85 volunteer members that performs about 15 free concerts a year. For the younger generation who may associate "band" with a smaller group, George says a concert band is like a symphony without string instruments. "We play a wide variety of music," says George, "usually with a melody and without a booming bass line."

About a third of the band members are or were professional musicians or music teachers. The remaining members include about 10 Sandians, retired Sandians, and DOE employees. The band's longest playing member is Chuck Guthrie (trumpet), a retired Sandia draftsman who has been a member since 1968. Among current Sandians, retired but consulting Sandia engineer Dave Skogmo (percussion) and active Sandia engineer Paul McKay (trumpet) have been members since the 1970s. George (sax and clarinet) joined in 1980, after not playing for 15 years.

Anyone who may be interested in joining the band can contact Paul McKay (1639) for more information. George reports there is a continuing need for oboe and horn players. Members are expected to be comfortable playing the type of music a college concert band would play.

The band has a contract with the City of Albuquerque to play five park concerts this summer, beginning June 16 at Ridgecrest Park. If you want to be notified about other concerts, contact Charlie Warren (2300) by e-mail. "Check out the band at any of this summer's concerts. If you believe music encompasses more than a heavy bass and distortion, you should enjoy it," says George.

Retiring for George means that he will no longer be a part of this band, as he and his wife are moving to Tucson. "I expect my new boss will motivate me to get out of the house," says George. He plans to join a concert band in Tucson.

Albuquerque Concert Band Summer Schedule

June 16 . . . . . .Ridgecrest Park
July 14 . . . . . .Montaño West Park
June 30 . . . . . .Taylor Park
July 28 . . . . . .Sister Cities Park
August 11 . . . . . .El Oso Grande Park
(All concerts begin at 7 p.m.)

Sandia LabNews

Lab News Reader Service information

The *Sandia Lab News* is distributed in-house to all Sandia employees and on-site contractors and mailed on the date of publication to Sandia retirees. It is also mailed to individuals in industry, government, academia, nonprofit organizations, media, and private life who request it.

Retirees (only):

To notify the Labs of changes in address, call or write Carol Wade, Benefits Dept. 3341, at 505-845-9705, Mail Stop 1021, SNL, Albuquerque, NM 87185-1021, or e-mail her at cawade@sandia.gov.

Others:

To receive the *Lab News* or to change the address (except retirees), contact Michelle Fleming, Media Relations and Communications Dept. 12640, at telephone 505-844-4902, e-mail mefleme@sandia.gov, or Mail Stop 0165, SNL, Albuquerque, NM 87185-0165.

Employees:

If your Mail Stop is not receiving enough copies of the *Lab News* for everyone, please call Honario Anaya, Mail Services Team 10268-4, at 844-3796. (At Sandia/California contact the Mail Room at 294-2427.)

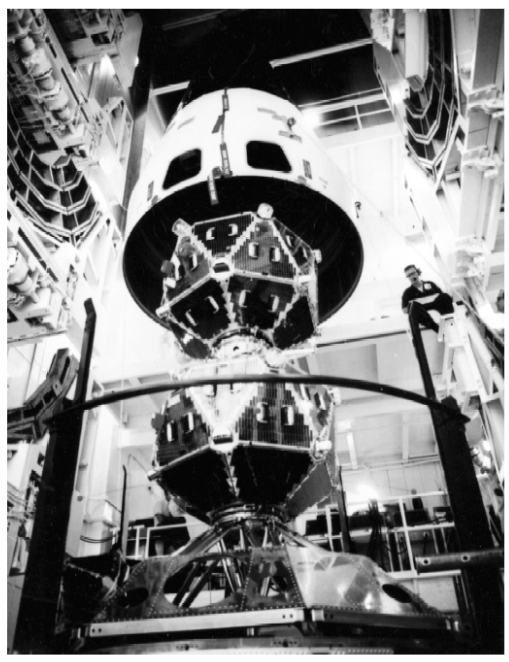
Favorite Old Photo

MR. SMITH AND JOHN WAYNE — John Wayne visited Vietnam in the late spring of 1966. His trip took place only a few months after he had an operation to remove one of his lungs because of cancer. The photograph was taken at Marine Aircraft Group 11 (MAG-11) at Danang AFB, just after Mr. Wayne had entered the Headquarters Office of the Group Commander. As the Group Special Services Officer, my father (above, with the Duke) had a small stage constructed with a cloth shelter overhead to keep off the sun. During his one-man show Mr. Wayne received much applause and thanks. — *Talbot Smith (15333)*

1960s

By 1960, Sandia was a mature institution with over 7,000 employees and a strong research program. Expanding its traditional nuclear weapons work, Sandia applied its technological abilities to other areas of national security. Sandia participated in blast effect and cratering studies in support of Operation Plowshare, which explored peaceful uses for nuclear detonations. The Soviet Union's 1961 nuclear tests ended the moratorium on nuclear weapons testing and launched a new period of U.S. testing and a federal imperative to remain ready to test. During the Vietnam War, Sandia applied its ability to detect underground nuclear tests and developed sensors to detect enemy personnel and vehicle movement; sensors remain an advanced capability for the lab. These programs were spin-offs of Sandia's nuclear weapons engineering work, and began the lab's move into a multiprogram, national laboratory role of science in service to the nation.

Laminar-flow Clean Room: Willis Whitfield stands in the doorway of his prototype of the Ultra-Clean or Laminar-flow Clean Room, which he developed to enable the manufacture of close-tolerance parts. The new design significantly improved existing clean room technology and transformed manufacturing of microelectronics and pharmaceuticals, surgical environments, and food production hygiene.

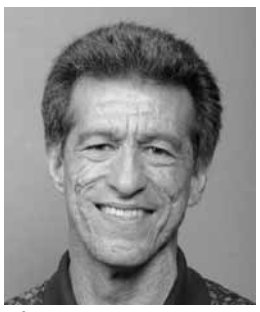


Satellites: Two Vela satellites loaded into a Titan III-C launch vehicle in 1969. The first Vela satellites were launched in 1963; they were launched in pairs and separated in orbit. Sandia provided detectors and data electronics for these satellites designed to detect nuclear tests as part of treaty verification activities. While the last Vela satellite was turned off in 1984, satellite work continues at Sandia as a core program area.

This page is a reproduction of the third in a series of new posters highlighting Sandia's decade-by-decade history since its origins in the mid-1940s. The posters are mounted on heavy glass for permanent display in the hallway outside the Labs' executive suite in Bldg. 802.

Mileposts

New Mexico photos by Michelle Fleming



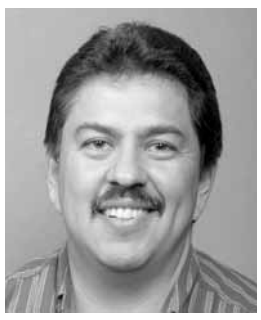
Alonzo Lopez
30 15419

Douglas Nicholls
20 5945

Glenn Rackley
20 5714

John Heald
15 6245

Randy Peterson
15 4131



Steven Silva
15 2665

Patty Smith
15 17351

Amy Tapia
15 12650

Recent Retirees

M. Lynn Jones
34 7000

Jerry Bollig
27 9317

George Libman
15 11500

Management promotions

Joe Sanders, from PMTS, Technical Assessments Dept. 5923, to Manager, Systems Analysis Dept. 5924.

Since joining Sandia in 1998, Joe has worked on a number of projects in the nuclear weapons program and has published numerous reports and served as engineering lead for two large hardware development efforts involving nuclear debris collection and analysis.

JOE SANDERS

Before coming to Sandia, Joe worked seven years for the Defense Nuclear Facilities Safety Board (DNFSB) performing nuclear safety assessments of both facilities and nuclear weapons. In his last assignment, he served as the DNFSB Site Technical Representative for the Savannah River Site.

Joe has a BS in mechanical engineering from Carnegie Mellon University, an MS in nuclear engineering from the Massachusetts Institute of Technology, and a PhD in mechanical engineering from the University of South Carolina.

Feedback

You could look it up: No posting of political material in workplace

Q: *What is the Labs' policy regarding the posting of material for political purposes? With the approach of what is sure to be a bitter presidential campaign, materials having blatantly partisan political messages are showing up in commons areas. They are being posted anonymously; the content ranges from inane to vicious and it is often grotesque (mutilated bodies, body bags, etc.). Being bombarded with it at home, in our cars, and as we travel around town is bad enough. Is it too much to ask that our workplace offer some respite from it?*

A: It is easy to understand your frustration with someone posting campaign literature in the workplace, particularly one supported by taxpayer dollars. Simply put, doing so is inappropriate and violates corporate regulations. Actually, several rules indicate that such activity is out of bounds.

1) Sandia's CPR001.2.1, "Setting the Standard — Code of Ethics and Business Conduct," says employees are encouraged to:

" . . . become involved in civic affairs and to participate in the political process. Employees must understand, however, that their involvement and participation must be . . . on their own time, and at their own expense. In the United States, federal law prohibits corporations from donating corporate funds, goods, or services, directly or indirectly, to candidates for federal offices — this includes employees' work time." See the entire CPR at http://www irn.sandia.gov/policy/independent/setstand.htm#part9

2) The Ethics Office booklet "You and Sandia," (http://www-irn.sandia.gov/organization/div12000/ctr12800/12800/Design/12810/12810.htm) offers similar language.

3) CPR 200.2.3, "Employee Interactions with Federal, State and Tribal Governments," has a section titled "Prohibitions," which reads in part:

Prohibition against influencing elections. Employees, when acting within the scope of their employment, shall not attempt to influence the outcome of any federal, state, or local election, referendum, initiative, or similar procedures through in-kind or cash contributions, endorsements, publicity, or similar activities.

Prohibition against campaign activities. Employees, when acting within the scope of their employment, shall not establish, administer, contribute to, or pay the expenses of a political party, campaign, political action group, or other organization established for the purpose of influencing the outcome of elections.

Again, stated directly, taking the time — even if it is a small amount of time out of a complete workday — to post these sorts of prohibited materials on Labs message boards violates corporate policies.

Also please recall that Sandia has long adhered to a policy of neutrality and equal opportunity when it comes to site visits by candidates for office during election years. (Some will remember the situation that occurred in the fall of 1992 when both then-President Bush and then-Governor Clinton visited Sandia within a span of several days. Each toured some Labs facilities; each offered comments to employees.)

So, you are correct that it is not too much to ask for respite from such activity in the workplace. Your concerns have been forwarded to appropriate organizations — for example the Ethics and Business Conduct Office and the folks in charge of business rules — and reminders about this prohibited activity will be offered through various means such as the *Sandia Daily News*.

Finally, if you or any one else sees such items posted on Labs space the action should be to inform your manager, who then must remove the inappropriate material. The manager could replace those materials, the Ethics Office has suggested to others with similar concerns, with a polite, yet direct, reminder that political messages are not to appear on Sandia premises.

— Rod Geer, Public Relations & Communications Center 12600

Space Day fun at the Atomic Museum

SPACE TO DREAM — Albuquerque Public Schools elementary students use NASA-supplied kits to make their own solar system models during the National Atomic Museum's annual celebration of Space Day in early May. Lockheed Martin founded Space Day several years ago. There are Space Day observances in all 50 states, across Canada, and around the world. This year's theme, Blazing Galactic Trails, was intended to compare space exploration with the journeys of discovery of the Lewis and Clark expedition of 200 years ago. (Photo by Randy Montoya)

¡SALUD! helps Betty Boop find therapeutic oil

By Iris Aboytes

Tell me if this sounds familiar. When I was younger, I had a built-in sensor that went off when I had eaten enough. Well, that sensor no longer works. I have tried to get another one but it was a model that is no longer made.

What to do? I have made many attempts to compensate for the malfunction. Eat less. Eat more. My body is not unlike a car. If I feed it low-grade fuel (junk/comfort food), it will go a couple of miles, then stall. When I feed it premium (a well-balanced meal) it purrs. But, I still need that elusive sensor.

The purring worked for a while but then I began to notice I was a little sluggish. I was eating my fruits and vegetables, so what was wrong? I also noticed that many times when I moved, my skeleton talked to me, and I did not like what it had to say. You know those creaking noises. I tried to be sensible and not panic. When a piece of equipment is not used frequently it dries up and has to be oiled to get back in working condition. It made sense to me. Maybe my bones just needed oil. But where would I get that oil and what kind should it be?

There is baby oil, tanning oil, olive oil, vegetable oil, and WD-40. So many choices — which one to use? I decided I needed professional help. ¡SALUD!, Sandia's wellness organization, has people trained to help us find our way, or in my case find the oil I need.

INSTRUCTOR MARGIE TATRO (6200) begins step aerobics class by having students warm up and stretch.

A list of classes and services ¡SALUD! offers can be found at http://www.sandia.gov/health/update/index.html. There are classes for toning, classes for stretching, and classes for step aerobics/toning, plus many others, but no classes that have anything to do with oil.

I decided to take step aerobics. How in the world would burning calories, building muscles, and being toned possibly help my bones and my sluggishness, and what about my oil? Help me figure this out. Doesn't it make sense that if you are tired before going to class, you will be more tired after class? I don't know why or how, but I actually have more energy after class.

In the beginning I wondered if the people attending that class were also looking for oil. I did not dare ask.

As I start to exercise, the music sets the tone. I go up and down the step. I lift weights and do sit-ups. Did you know that if you do sit-ups and strengthen your "flat" stomach, you are also strengthening your back? How about this: Blood pressure is lowered and your daily stress is minimized through exercise and laughter. What laughter? you ask. All the laughter when you realize — Oh! Oh! — wrong foot or wrong step. My bones don't talk to me much anymore. I do get tired, but I am not on slow speed sluggish.

You know what the best part is? When I leave class I am on such a high. There is no caffeine involved, no awards, just "you" doing something for "you."

I still have not found the sensor, but if it is out there, I will find it. The oil I have found. Lots of people call it sweat. I call it oil. I work at keeping my bones oiled. After all, they carry my dreams; they carry my life.

Join ¡SALUD! at the yearly Employee Health and Fitness Day on May 19. For more information go to http://www.sandia.gov/health/update/fitday04.html

ONCE WARMED UP, you begin the real high impact exercise. Margie illustrates the various steps. (Photos by Randy Montoya)

Feedback

Q: *What is Sandia's policy on who has access to other employees' salary information? A Sandian brought to my attention how much I get paid and they have access to some database containing employees' salary information. I was quite disturbed by this, and would think that nobody except managers should have access to employees' salary information.*

A: Sandia has always considered salary information to be UCI and access to an employee's salary or other UCI information is limited. Access is limited to an individual's line management and a limited number of job functions that require salary data (e.g., Payroll and Benefits).

However, labor is charged to projects in the financial system using a Standard Labor Rate (SLR). Each SLR has a range of base salaries that define the band or salary limits for that SLR. The SLR bands cover all employee salaries at Sandia and are constructed so that the mid-point plus 5 percent equals the upper limit of the band and the mid-point less 5 percent equals the lower limit of the band. (The top and bottom bands have limits greater than 5 percent from the mid-point to help ensure the mid point is closer to the average for that band.) The midpoints of the bands are then increased by a factor to account for all non-base compensation and then increased by another factor to account for fringe, thus generating the annual SLR. Budgeting project costs is the primary business purpose for the annual SLR rate.

The SLR system does not identify an individual's salary, but a salary range can be identified from knowing an individual's SLR. The business need to be able to budget costs coupled with the lack of specificity, is what allows us to make SLR information available. However, as with all other assets/information, availability and access are only to be used for legitimate business purposes. Personal curiosity is not a legitimate business purpose. People misusing the SLR or any other corporate asset/information for personal or non-business purposes, or in a fashion to cast Sandia National Laboratories in a negative light, are engaging in inappropriate and unethical behavior and should be reported to management or Sandia's Ethics and Business Conduct Office, Dept. 12810, MS-0353, or the Ethics Hotline at 844-1744. Appropriate disciplinary action will be taken.

— B.J. Jones (3500)

live well work well

¡SALUD! Health Promotion

Employee Health and Fitness Day 2004

www.sandia.gov/health/update

MAY 13th

- ☐ Dr. Joel Yager on Depression in Primary Health Care Settings

MAY 19th

- ☐ Bike to Work Day
- ☐ Balance Assessment
- ☐ Core Training
- ☐ Golf Fitness
- ☐ Pilates
- ☐ ¡SALSA!
- ☐ Walking

Complete three to earn incentive