State of the Labs 2002: Counterterror efforts, budgets, workloads all rise (stress too), new opportunities loom

Sandia sees its planning paying off, weapons program rejuvenated, governance changes coming

Everything this year has been affected by September 11, especially so at Sandia. This year's Lab News *State of the Labs interview with Sandia President and Labs Director C. Paul Robinson and Executive VP and Deputy Director Joan Woodard reflected Sandia's previous preparations and new efforts in helping counter terrorism. But there was much else as well. In what follows they discuss the advantage of Sandia's systems view, some new Grand Challenge technology areas, their concerns about employees keeping their personal lives in balance with the increased workloads, hiring and teaming, the Labs' generally bright budget situation, the new MESA complex and other facilities, the pension plan changes, the governance initiative, making sure Sandia continues to be a great place to work, the collapse of the Wen Ho Lee case, the rejuvenation of the weapons program, the M&O contract, and the Integrated Enabling Services initiative. They were interviewed on Feb. 8 by* Lab News *staffers Ken Frazier, Bill Murphy, and Chris Burroughs.*

LABS PRESIDENT AND DIRECTOR C. Paul Robinson and Executive VP and Deputy Director Joan Woodard discuss the state of Sandia and the Labs' response to the nation's war against terrorism. (Photos by Randy Montoya)

Lab News: *It has been an extremely hectic time since Sept. 11. What has been the best part of it, and what is the worst?*

Paul: The vision that we all talked about of becoming the lab the nation turns to first was fulfilled pretty quickly, at least with respect to the war on terrorism and homeland defense. The people who have been Sandia's traditional customers over a great number of years have all called with urgent pleas for help, for ideas. The funding has followed. It seems that as the funding has grown in these areas, funding has grown in other areas. There is a synergism. Success does breed more success. The budget as of today can be rounded off to $1.7 billion, which is staggering to me.

LN: *To the extent that out of tragedy can come anything you might characterize as gratifying, do you see it as somewhat vindicating? We [Sandia] were talking about homeland defense-type issues and infrastructure surety issues before this rose to public consciousness. This may speak to some pretty profound insight on the part of our management?*

Joan: In the last weeks or months as I have talked about and tried to summarize for folks inside and outside the Labs what has transpired since Sept. 11 — the hundred-plus calls we have gotten or the specifics in terms of individual programs and technologies — I make a plug for our strategic planning. Often we think of that as just some document or

(Continued on page 5)

'Shoe bomb' untied by Sandia PAN Disrupter technology

An advanced bomb-disablement tool developed at Sandia was used at Logan International Airport last December to deactivate the shoe bomb smuggled aboard a trans-Atlantic flight by suspected terrorist Richard Reid. One of the Massachusetts State Police officers who deployed the PAN Disrupter received training in its use at a Sandia-hosted conference in 1999. See John German's **page 12** story for more details.

Sandia LabNews

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Sandia National Laboratories

Pension plan changes approved by DOE/NNSA

Long-awaited changes may boost many employees' pensions, increase current retirees' pensions 15 percent

After an intensive year-long negotiating effort, Sandia's pension plan changes and other benefit changes affecting employees' retirement years have won approval from DOE and the National Nuclear Security Administration. The changes apply only to participants in the Labs' Retirement Income Plan. Represented employees and formerly represented retirees covered by the Pension Security Plan are not affected by any of the changes at this time. Their pension benefits are negotiated as part of the collective bargaining process.

Based on current retirement patterns and with the caveat that every employee's circumstances are unique, the new formula should increase pensions by 25 percent on average — sometimes more, sometimes less — for employees who retired on or after Dec. 19, 2000. Employees and surviving spouses who retired before that will receive a 15 percent ad hoc increase on the fixed portion of their pensions, effective on Jan. 1, 2002.

According to Labs Deputy Chief Financial Officer Ralph Bonner (10300), the changes to the plan — combined with the value of the company match to the 401(k) plan — make Sandia's retirement benefit very competitive.

In a letter to Sandians Feb. 13 announcing the approval, Labs President C. Paul Robinson noted that as the give-and-take of the negotiation process moved forward, the proposed changes had strong support from Lockheed Martin, the Sandia Board of Directors, and the New Mexico congressional delegation.

Armed with a vigorous "go for it" nod from Paul and Executive VP Joan Woodard, Ralph, Mark Biggs, and Bruce Criel (both 10310) did the bulk of the nuts-and-bolts work of putting the new pension package together. Becky Statler (3341) and her team from the Benefits organization developed the changes to the medical plans.

Here's the new formula (effective Dec. 19, 2000): "High-three" average earnings (i.e., the average of the highest three years of an individual's eligible income) multiplied by credited pension service multiplied by a retirement age factor. The retirement age factors range from 2.0 percent at age 62 and above to 1.04 percent for ages 50 and below (See "Retirement age factors" chart on page 3 for the complete schedule of factors). Under the formula in place before Dec. 19, 2000, the maximum multiplier was 1.5 percent of High-5 average earnings.

The revised pension plan formula applies to Sandians whose retirement dates are on or after Dec. 19, 2000. The new formula will provide most Sandia employees with larger — sometimes substantially larger — pension checks when they retire. Because the new formula is designed to encourage employees to extend their Sandia careers into their early 60s and beyond, a small number of employees — especially those who

(Continued on page 3)

"Success [in negotiating a new pension plan formula is] due in no small part, not only to the hard work of Sandians and within NNSA organizations here in Albuquerque and in headquarters, but to some of our key political supporters. And unquestionably, the role of Sandians in writing to their congresswomen and senators has kept us in the fight for better pensions."

Excerpt from Paul Robinson's State of the Labs interview comments. For all of Paul's comments on the pension plan process, see page 7.

Inside:

'Still-no-name' column

Probably no one reading this is young enough to say he or she can't remember when there wasn't e-mail. For most of us, mail was just mail, as in the US Postal Service. There was the aristocracy of mail: first-class, second-class, and so forth, and — of course — junk mail. Then we got e-mail, so to differentiate it from the other stuff, we started referring to the other stuff as snail mail. But with my *Sandia Daily News* editor's hat on a few days ago, I heard another one: Someone sent me an e-mail about a news brief with the offer that if needed, she could get it delivered by sneaker mail.

Know what that is?

* * *

When DOE and the DOE labs presented an expo on the nation's energy infrastructure in Washington a couple of weeks ago, at least one visitor showed a flash of wry humor. As he complied with a request that visitors drop off a business card, if they had one, this fellow said to one of the hosts: "You should hold onto this; it may be a real collectible someday."

He worked for Enron.

* * *

The Media Relations and Communications crew went right to work to get the news to Labs employees that DOE and NNSA had approved pension and other benefits changes last week. Following a pre-arranged plan, they quickly turned Labs Director Paul Robinson's message to all hands into a *Sandia Daily News* extra and issued a news release to local media. Everything worked just as planned and the news was disseminated within a half hour of the time it arrived from Washington.

The only hitch was that it got here late in the afternoon. And that prompted one tongue-in-cheek comment that maybe we shouldn't put out such important news so late in the day because it was obvious on the commute home that a number of Sandians were trying to drive and read the news at the same time. And they were either not stopping on yellow lights or not going on green — or both — causing more than a little anxiety.

Oh, and one other note about the benefits story. Sens. Pete Domenici and Jeff Bingaman both issued news releases expressing their pleasure with the changes, and both news releases were linked in the *Sandia Daily News* special edition announcing them. But through a glitch, the URL to Bingaman's release got re-used, somehow, and when you clicked on the link, up popped an agriculture bill story about. . . peanuts.

* * *

One final note on the benefits package: Kudos to all who worked to make it happen, but especially to Ralph Bonner (10300) and Mark Biggs (10310) who dogged the issue for many, many months — through revisions and lengthy periods when it languished incommunicado. A lot of people were involved, of course, but no one more so than those two. And in an under-statement typical of him, Ralph drawled simply that "we've been trying to achieve this for a long time." Read about the benefits improvements on pages 1 and 3.

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

Sandia LabNews

Sandia National Laboratories

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LOCKHEED MARTIN

Labs Accomplishments issue distributed this week

We hope you got your 2002 *Lab News* Labs Accomplishments issue yesterday. For the first time ever with this popular annual feature, we decided this time to have it printed and distributed (to all recipients of the *Labs News* in and outside the Labs) as a separate, special issue of the *Lab News* (dated February 2002). In all previous years it was an insert into a regular issue.

Doing it separately allowed our printer to use a different press out of state that could produce the best possible reproduction of the 12 pages of text and color graphics, artwork, and photos in this year's issue.

The Labs Accomplishments issue is an annual *Lab News* project carried out on behalf of the entire Labs in conjunction with the VPs' offices and technical and line management and administrators. We thank all those throughout the Labs who made this year's issue possible. If you need a few extra issues you can contact Michelle Fleming (12640) at 844-4902. *— Ken Frazier, Editor*

Where's the 'California' page?

If you look to the page at the right, you'll note that it is not our traditonal "California" page. Although we had plenty of California news, provided by Nancy Garcia, our stalwart reporter on the scene, we simply ran out of space. Two long stories — our annual State of the Labs interview with Paul Robinson and Joan Woodard, and the big news about changes to Sandia's pension plan — pretty much claimed all our discretionary column inches. We apologize, but rationalize the decision to forego the Califonia page this time by noting that both stories are of interest to Sandians at every site.

Jeff Brinker, Gordon Osbourn elected to National Academy of Engineering

Sandia Senior Scientists Gordon Osbourn (1118) and Jeff Brinker (1846) are among 74 US researchers and seven foreign associates elected to membership in the National Academy of Engineering, according to an announcement that characterized membership as "one of the highest professional distinctions that can be accorded an engineer."

NAE President William A. Wulf announced the new members Feb. 15. Membership honors those who have made "important contributions to engineering theory and practice" and those who have demonstrated "unusual accomplishment in the pioneering of new and developing fields of technology."

The elections bring the total US membership to 1,857 active members and 250 members emeriti, and the number of foreign associates to 158.

The announcement said Jeff was selected for "outstanding contributions to the science of sol-gel processing, and for the invention of porous materials with controlled structure."

Gordon was cited for "originating the field of strained-layer superlattices and related structures, which has led to revolutionary advances in electronics and optoelectronics."

Former Sandian Ruth David also was elected to the NAE. She left Sandia in 1995 to become deputy director of the CIA for science and technology and is now president and CEO of ANSER in Arlington, Va. Further information: http://www.nae.edu/nae/naehome.nsf/(weblinks)/MKEZ-57DJ3S?OpenDocument.

Shawn Lin, Ray Ng win 'engineer of year' awards

Two Sandia engineers — Raymond Ng (8224) and Shawn Lin (1743) — are among 17 researchers chosen nationwide to receive the first "Asian American Engineer of the Year" award by the Chinese Institute of Engineers/USA society (www.cie-usa.org). Other winners include Nobel laureate Leo Esaki and former University of California Berkeley Chancellor Chang-Lin Tien.

Winners will receive trophies at an awards banquet Feb. 23 in Dallas. Robert Drewes, President and CEO of Raytheon Aircraft Integration Systems, is expected to deliver the keynote speech.

Shawn was cited for contributing to a broad range of pioneering advances in the field of photonic crystals. "Once a theorist's dream, his realization of the intricate lattice-like structure at 1.55 microns opens the door for totally integrated optical systems, that might replace traditional electronic devices in communication and eventually, maybe in computers," the citation reads.

Ray is manager of engineering design services at Sandia/California. According to the citation, "His team is responsible for creating and maintaining complex 3D solid models and electrical definitions of the nuclear weapons owned jointly by Lawrence Livermore National Laboratory and Sandia. He is also responsible for managing electronic data interfaces with the production facilities in the National Nuclear Security Administration's nuclear weapon complex." Prior to his present role, Ray led major programs to develop new gas transfer systems to help ensure that the nation's nuclear stockpile remains safe and reliable.

The only other national defense laboratory researcher recognized was Paul Pan at Los Alamos National Laboratory, who was described as playing "a vital role in the US nuclear stockpile stewardship program." *— Neal Singer*

State of Labs presentation for employees is Monday, Feb. 25

Sandians in New Mexico and California are invited to the State of the Labs presentation for employees on Monday, Feb. 25, by President Paul Robinson and Executive VP Joan Woodard.

The presentation is from 9-10 a.m. in the Bldg. 962 Auditorium. It will be simulcast to the CNSAC (Bldg 810) auditorium, to Sandia's Carlsbad office, and to the Bldg. 904 auditorium at the California site, starting at 8 a.m. PST.

Paul and Joan will also make a State of the Labs presentation to Albuquerque-area community leaders on Tuesday, Feb. 26, at the Sheraton Old Town Inn, 5 p.m.-7:30 p.m.

Pension

(Continued from page 1)

plan to retiree before age 55 — may not fare as well under the new plan as under the old one. Those employees will have the option of retiring under the old formula through Dec. 19, 2005. At the end of that five-year period, a final calculation will be made under the old formula and employees will be guaranteed a pension of at least that amount in the future. (The Non-Qualified Pension Plan for directors and above will be discontinued for those who retire on or after Dec. 19, 2000, due to the increase in the Retirement Income Plan formula.)

Retirement age factors
Complete months since last birthday

Age in Years	0	1	2	3	4	5	6	7	8	9	10	11
Below 50	1.04											
50	1.04	1.05	1.05	1.06	1.07	1.07	1.08	1.09	1.09	1.10	1.11	1.11
51	1.12	1.13	1.13	1.14	1.15	1.15	1.16	1.17	1.17	1.18	1.19	1.19
52	1.20	1.21	1.21	1.22	1.23	1.23	1.24	1.25	1.25	1.26	1.27	1.27
53	1.28	1.29	1.29	1.30	1.31	1.31	1.32	1.33	1.33	1.34	1.35	1.35
54	1.36	1.37	1.37	1.38	1.39	1.39	1.40	1.41	1.41	1.42	1.43	1.43
55	1.44	1.45	1.45	1.46	1.47	1.47	1.48	1,49	1.49	1.50	1.51	1.51
56	1.52	1.53	1.53	1.54	1.55	1.55	1.56	1.57	1.57	1.58	1.59	1.59
57	1.60	1.61	1.61	1.62	1.63	1.63	1.64	1.65	1.65	1.66	1.67	1.67
58	1.68	1.69	1.69	1.70	1.71	1.71	1.72	1.73	1.73	1.74	1,75	1.75
59	1.76	1.77	1.77	1.78	1.79	1.79	1.80	1.81	1.81	1.82	1.83	1.83
60	1.84	1.85	1.85	1.86	1.87	1.87	1.88	1.89	1.89	1.90	1.91	1.91
61	1.92	1.93	1.93	1.94	1.95	1.95	1.96	1.97	1.97	1.98	1.99	1.99
62 & up	2.00											

THE ABOVE CHART details retirement age factors used in calculating pension benefits. The factors range from 2.0 percent at age 62 and above to 1.04 percent for ages 50 and below. Under the previous plan the highest factor was 1.5.

In an ad hoc adjustment for retirees and surviving spouses who left prior to Dec. 19, 2000, the fixed portion of pension benefits will be increased by 15 percent across the board. That increase takes effect Jan. 1, 2002, and will be reflected in the May 2002 pension checks from Prudential.

Here are other key benefit changes, as outlined in Paul's letter to employees: (These are highlights; see the benefits web site at www.sandia.gov/HR/benefits for details.)

• Effective immediately, charges for survivor annuity coverage will be reduced for future pensioners. For example, the charge applied to a 50 per cent surviving spouse annuity for a service pension will be reduced from 7 percent to 5 percent. Survivor annuity charges for current retirees who elected the coverage will be reduced effective Jan. 1, 2002.

• Medical care premium-sharing rates for employees who retire on or after Jan. 1, 2003, will vary based on their years of service at retirement as shown in the following table:

Years of service	Premium share
30 or more	10%
25-29	15%
20-24	25%
15-19	35%
10-14	45%

Individual premium cost sharing amounts will be determined by applying the applicable percentage from this table against the average costs of providing health care for a peer group of Sandia retirees and their families.

• Effective Jan. 1, 2003, Sandia's non-HMO medical care plans will change the way they coordinate benefit payments with Medicare so that Medicare- and non-Medicare-eligible retirees will receive comparable reimbursements for medical expenses from all sources. To limit out-of-pocket expenses that may result from this change, Sandia's Two Option Plan will implement an annual stop-loss equal to $250 per individual or $500 per family. The new Sandia Intermediate and Basic medical plan options will have larger stop-loss amounts.

• Effective Jan. 1, 2003, the premiums paid by the surviving spouse of a deceased retiree for continued medical care coverage will be reduced from 100 percent to 50 percent of the cost of coverage.

• Employees who retire on or after Jan. 1, 2009, will initially receive post-retirement life insurance equal to one times pay up to a maximum of $100,000. This amount will be reduced by 10 percent per year from ages 66-70 until it stabilizes at 50 percent of final pay up to a maximum of $50,000. — *Bill Murphy*

A series of town meetings addressing the pension formula changes and other retirement benefits will be held during the month of March. For details about times and places, watch the *Sandia Daily News*.

Robinson credits supporters who helped get Sandia pension, other benefits changes approved

The pension and other benefits changes announced by Sandia President Paul Robinson Feb. 13 didn't come easily or quickly. Sandia formally began work on this package about 14 months ago (Dec. 19, 2000) after an earlier attempt failed to generate sufficient support and was "pulled back" by Sandia.

The benefits changes were approved by Sandia's Board of Directors, Lockheed Martin, and DOE/NNSA.

"We had no idea how lengthy and detailed the approval process would prove to be when we first began talking about changes several years ago," says Paul, "and we absolutely couldn't have done this without tremendous support from a lot of people."

Those who made it happen

The "Sandia rumor mill" surrounding the benefits changes and their status was grinding pretty strongly for the past year, and didn't always turn out correct information, Paul says. "I'm concerned that some Sandians incorrectly branded those in the approval chain as 'opponents,' when many were actually supporters — trying to make sure the changes were properly justified and that proper business and legal procedures were followed. I want to set the record straight and make sure those folks who 'made it happen' get some well-deserved credit.

"We thank a long list of supporters," he continues, "and our New Mexico and California congressional delegations are at the top. The support we got on this from Sen. Pete Domenici was just extraordinary. He was indefatigable in his efforts to support our retirees and work force. Without his intervention at key stages, this would not have happened. Rep. Heather Wilson, who had heard from many retirees about the deficit position of Sandia's retirement benefits versus the University of California's, took a strong stand to close the gap in many letters and talks with NNSA Administrator Gen. John Gordon. Similarly, Sen. Jeff Bingaman and Rep. Ellen Tauscher gave strong support for these changes, with Jeff both writing and directly urging NNSA 'to establish parity' for Sandians. Rep. Ellen Tauscher stepped up to strongly support these actions as well. We should all say thanks to our Congressional delegations for their support (I have)."

"When the Executive Branch consideration of the issue began to get more complicated," Paul continues, "with multiple offices attempting to 'weigh in,' the clear voices of the legislators who care most about these issues became decisive factors."

Several people in DOE and NNSA were particularly helpful and supportive, Paul says. "There are others, but Albuquerque Operations Manager Rick Glass and Gen. Gordon worked particularly hard to make it happen. We give them a great big thank-you."

Lockheed Martin officials also were supportive of the package and worked

(Continued on next page)

Working the pension plan changes: A conversation with Ralph Bonner

By Bill Murphy

"This is really pretty significant; we've been trying to achieve this for a long time," says Labs Deputy Chief Financial Officer Ralph Bonner, speaking of the significant changes to the non-represented employees' pension plan and other retirement benefits.

Ralph, along with Mark Biggs and Bruce Criel (both 10310), have spent a good portion of their waking life over the past year putting together the new provisions of the Labs pension plan.

Ralph is no stranger to demanding tasks. Before taking on the Herculean labor of trying to improve the pension plan, Ralph spearheaded the profoundly non-trivial Oracle implementation project. Indeed, his recent career at Sandia calls to mind the old Army US Corps of Engineers motto: "The difficult we do immediately; the impossible takes a little longer."

When Labs President C. Paul Robinson gave Ralph, Mark, and Bruce the go-ahead to rework the pension plan, he laid down several guiding principles:

• Substantially improve the benefit formula while taking into consideration the company match to the 401k plan.

• Try to build in some Cost of Living Adjustment (COLA) provision.

• Devise a plan that encourages employees to stay in their Sandia careers longer.

• Assure the plan is financially stable and fiscally responsible.

"Fundamentally, we've achieved almost everything Paul asked for," Ralph says.

The Labs pension plan has been subject of frustration among imminent retirees for a long time. At employee dialogue sessions and other occasions where employees can ask questions of senior management, the issue of the pension always, always comes up. Over the years, several attempts have been made to upgrade the Labs' pension plan, each time ending in frustration. As recently as April of 2000 Paul published a letter in the *Lab News* announcing that the Labs was withdrawing its then-latest pension plan proposal from consideration by DOE.

"There was a lot of disappointment," Ralph recalls, "but as we approached the fall of 2000, Mark [Biggs] and I talked about maybe going back to the drawing board and trying again."

Last Dec. 19, Ralph continues, he and Mark sat down with Executive VP Joan Woodard and went through an analysis of the issue, presenting several "straw approaches" they might take to advance the pension plan changes.

The question of the day was "Do we want to make another attempt?"

Joan and Paul, bruised but not broken by the previous pension attempts, said, Nike-style, "Just do it."

The pension team of Ralph, Mark, and Bruce ran countless computer models,

(Continued on next page)

Pension thanks

(Continued from preceding page)

closely with Sandia and DOE/NNSA people to secure approval, says Paul. "President and Chief Operating Officer Bob Stevens and Executive VP of Technology Services Mike Camardo both supported the package completely once it was in final form. Technology Services HR VP Steve Brinch worked closely with Sandia's benefits and financial systems folks, and was very helpful to us."

Special messages from supporters

Here's what some of these supporters had to say about the announcement either in news releases or in separate statements prepared especially for the *Lab News:*

"This step provides a more equitable retirement plan for Sandia lab employees and retirees," says **Sen. Pete Domenici** (R-N.M.). "It brings a new level of fairness for these workers, who will have more income to pour into the economy. The disparity between Sandia's program and the benefits offered by other DOE labs has kept Sandia at a distinct disadvantage in the chase to attract and retain the best scientists. The new plan will put the lab on more equal footing."

"I am very glad to see that this has finally come to fruition," says **Sen. Jeff Bingaman** (D-N.M.). "I commend the DOE and NNSA for making this decision, and I want to thank the Sandians who work hard every day to develop the innovative technologies that protect our nation and expand our energy sources."

"Albuquerque is home to some of the most brilliant people in the world, and many of them work at Sandia National Labs," says **Rep. Heather Wilson** (R-N.M.). "We have been fighting for fairness for Sandia employees for almost two years, and today's [Feb. 13] news is good news. We want the best and the brightest to stay in Albuquerque, and we want them to continue their contributions to New Mexico's and Albuquerque's economies."

"Lockheed Martin is delighted these long-anticipated benefits changes for Sandians have been approved."

"The world class scientists and other employees at Sandia deserve this long overdue increase," says **Rep. Ellen Tauscher** (D-Calif.). "These are the men and women who helped America win the Cold War and are at the forefront of today's cutting-edge science, and they deserve our respect and appreciation."

"Retaining employees with critical skills in the nuclear weapons complex is a top priority for NNSA," says **NNSA Administrator Gen. John Gordon.** "I'm pleased that we were able to support these changes in the pension plan. Senators Pete Domenici and Jeff Bingaman and Representative Heather Wilson were also strong advocates for Sandia. Sandia employs some of our best and brightest engineers, scientists, and other technical employees. I hope enhancing the retirement plan will help keep them on the job while we recruit and train a new generation."

Albuquerque Operations Manager Rick Glass says, "I would like to compliment the Sandia leadership on constructing a benefit change proposal that is both good for the employees, by improving overall benefits, and clearly in the best interest of the government, by creating a strong incentive for long-term employees with critical experience to continue contributing a few more years."

"Lockheed Martin is delighted these long-anticipated benefits changes for Sandians have been approved," says **Mike Camardo, Executive Vice President of Lockheed Martin Technology Services**. "Bob Stevens and I, along with other Lockheed Martin folks, have been working closely with Sandia, DOE officials, and your Congressional leaders on this package. Our goal is to ensure that Sandia employees and retirees have a total benefits package that is fair, fiscally responsible, and comparable to others in the industry."

Nobel laureate Alan Heeger launches Truman lecture series

UNIVERSITY OF CALIFORNIA-Santa Barbara Professor Alan Heeger, winner of the 2000 Nobel Prize in Chemistry for his work on conductive polymers, launched Sandia's prestigious new Truman Distinguished Lecture series on Feb. 14 before an audience of some 200 Sandians at the Kirtland Base Theater. Heeger, in a talk adapted from his Nobel Prize lecture, explained the characteristics of conductive polymers, a new class of materials with the conductivity of metals and the mechanical properties of plastics. The unique material, Heeger said, "offers a combination of properties you can't get any other way." Among its qualities: the material can be cast as a film, manufactured into flexible LED displays, or printed, ink-like, with an ink jet-type printer, sidestepping the need for costly fab facilities in a producing a wide variety of semiconductor applications. Although the new material won't replace conventional semiconductor electronics in high-speed, high-performance devices any time soon — "Don't sell your Intel stock," Heeger joked — it is ready for prime time in a number of applications. In the photo above right, for example, Heeger shows a PDA device using a display based on polymer LEDs. This new display technology will begin to appear in consumer devices soon, Heeger said. (Photos by Randy Montoya)

Sandia, other DOE labs, show their stuff in D.C.

SHOWING PHYSICAL SECURITY TECHNOLOGY that can be used by the energy industry is Sandian Ed Shoaf (5832 right foreground) at a Feb. 11-12 "Assuring Our Energy Infrastructure" exposition in Washington, D.C. The expo featured the latest technologies and programs developed by DOE and 12 of its laboratories that the nation can use to ensure that the nation's energy infrastructure remains safe, secure, and able to function even under adverse circumstances. Sandia's Sam Varnado (6500) led a large DOE and multilaboratory team that developed and conducted the expo, attended by several hundred leaders from the energy industry, utility regulators, state energy departments, and other institutions. Technologies and programs featured included cyber security, physical security, monitoring and information systems, and modeling/simulation and interdependencies.

Ralph Bonner

(Continued from preceding page)

what-if scenarios, simulations to arrive at the golden mean: a plan that met Paul's guidelines in every particular — save one.

"We weren't able to put in an automatic COLA," Ralph says. "We ran a number of scenarios around that, we looked at a multiplicity of options. We worked it as hard as it could be worked, but we couldn't make it work." An automatic COLA, he says, would place the plan under an unacceptable level of financial risk.

Despite the disappointment about the COLA issue, Ralph notes that Sandia has a long and good track record of making ad hoc increases to retirees' pension benefits, including the latest 15 percent ad hoc increase that takes effect at the beginning of the new year.

"This change would not have happened under our previous operating contractor," says Ralph. "After the plan change in 1975, the policy was to have the same benefit structure as AT&T. As a result, AT&T was very inflexible in accepting differences, both in the formula or in passing through additional changes of the type just made for retirees. Lockheed Martin, at a time when they are seeking to consolidate their operation, was willing to accept differences at Sandia. Mike Camardo deserves a lot of credit for taking the initial position to accept the proposal and strongly supported it within Lockheed Martin."

"As you can tell this has truly been a team effort," added Ralph. "Employees should appreciate how hard Paul and Joan worked on this change, the excellent work by Don Blanton and Frank Figueroa with Lockheed Martin, which strongly pushed for the change, the tremendous effort by Les Shepard and TJ Allard in the Executive Staff organization, the great support from Rick Glass and all the folks at DOE/AL, and the approval by Gen. John Gordon. This list would be incomplete without including the early and ongoing exceptional help from Senator Domenici, Senator Bingaman and Congresswoman Heather Wilson. This was a long journey, but well worth the time and effort."

State of the Labs

(Continued from page 1)

some process where people go off for a little while and talk about things and imagine the future. We did that in '95-'96. We identified the business unit areas, the strategic objectives.

Every one of them is contributing in a major way, whether it is nuclear weapons SBU [strategic business unit] and analysis of vulnerabilities and protection of the nuclear weapons complex facilities, nonproliferation and all the work associated with securing nuclear materials worldwide, or our work in support of the intelligence community. Critical infrastructure was identified in '96, and now our investment in understanding and technology gives the country a jump on solutions. The Emerging Threats SBU has been working on technology for what warfare might be like in the future, and in fact it is playing out before our eyes on CNN. It is not like we have all the answers, but I think it's because of the planning that we have some things that have been of value. Further, I think the reason why we are, in many cases, the lab the nation turns to first — it sounds arrogant, but I think it comes from the strength of our engineering base. We bring the answer in the form of a technology that has been designed with the users in mind from the beginning. So the field acceptance of it has been very quick.

Take the anthrax cleanup. We knew that we weren't going to be the ones who would clean up the battlefield or the Senate Hart office building; we transferred the technology to commercial vendors

"Success does breed success. . . . The budget as of today can be rounded off to $1.7 billion, which is staggering to me."

so that they could produce the volumes, the gallons of solutions, required. The best competitor couldn't come up with a fraction of the gallons needed.

There is some sense of real excitement in the Lab, even though I think people are really very stressed. Paul and I and the Mission Council have talked about this — folks are so stressed we worry that we are at an unsustainable level. We're trying to see what we can do to understand the problem and then take some actions. But in general folks' reaction is, "Yes, I am working hard but I am excited about being able to do something for the nation's biggest problems."

Value of Sandia's system view

Paul: I'm proud of two things, and I think they are important lessons for us to draw about ourselves from what has taken place over the past five months. The strategic planning was important, and we took it seriously because we proceeded from the strategic planning to invest our LDRD moneys in the very things that were readied to be delivered: items to the Afghanistan theater; the foam for cleaning up the office buildings, the mail trucks, the mail elevators; the sensors that we have deployed; and the robotics that we developed. Those were all created by LDRD [the Laboratory Directed Research & Development program], getting Sandians' ideas to respond to the directions we set in strategic planning.

The other one — and I believe this has been important already and it is going to be even more important moving forward — is the term we call "the system view." Yes, we build a lot of piece parts, individual technologies, sensors, computers, but most important, we put them together in a system view. This is what we mean by "science with the mission in mind." Our vision of what an integrated system should look like has been adopted by our sponsors. Certainly I won't be the first one to point out that in the homeland defense area the US spread the responsibilities over a great number of agencies. This approach didn't provide leadership over the previous four years, and so we at Sandia were doing that quiet work behind the scenes. We were asking how might all of this fit together and what we should do. When we put these individual technologies forward there was a roadmap for where you could go with it.

When NNSA has set up task forces they have invariably called on Sandians who have the engineering view, that "systems view," to come in and help organize things and get the work moving. We have been helpful to NNSA as well as to Gov. [Tom] Ridge [head of homeland security] and his office by what we have done. And recently we were also asked to take the lead for the organization of energy infrastructure security, protecting all of the nation's energy assets against possible attack and disruption.

SAR's big contribution

LN: *So we were obviously as well prepared as we could be. But have there been any surprises or serious problems that we couldn't have anticipated, that you can talk about?*

Paul: The problem is far from solved, so we are early in the war on terrorism. One technology that has roots that go back even farther was a heavily classified program that has moved more and more to where we can talk publicly about some of our work. That is synthetic aperture radar, the SAR technology, the day/night, all-weather imagery that we can achieve. I believe that if there is a most significant contribution, that everybody in the defense department points to, it's that. Our SAR technology has changed a lot of things. First, in planning, where many people don't want to undertake a mission plan unless they can get the Sandia-quality imagery; second, in systems that inherently rely on that technology to function, as the UAVs [unmanned aerial vehicles] that have now incorporated our technology and are using it 24 hours, 7 days a week. The key technologies had their origin 15 years ago at this laboratory and are just now coming to their realization. If there is a characteristic lesson we should draw of how to continue in a sustainable way to be "the lab the nation turns to first," it's to try to anticipate and even earlier invest and develop technology so it is ready for deployment when it is needed.

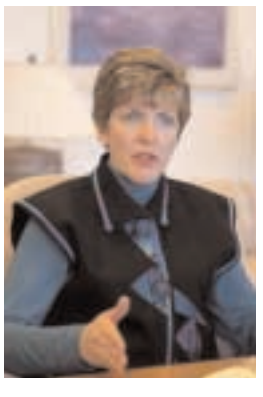
"Our SAR technology has changed a lot of things. . . [for example] in planning, where many people don't want to undertake a mission plan unless they can get the Sandia-quality imagery. . ."

Future threats, future technologies

LN: *Isn't Gerry Yonas's group [the Advanced Concepts Group] critical or pivotal in that sort of anticipatory function?*

Paul: That is their job, and they have been key to helping us think through how to organize our counterterrorism work and suggest where we ought to go. I believe one of the dangers when you are so successful in serving needs is that you can rapidly deplete the feedstock of ideas and new technologies. We've got to give some attention to replenishing that in the future.

Joan: Just this week we had a group called the National Security Advisory Panel here, a tremendous group of folks. Their experience base and their knowledge about national security are phenomenal. During their visit we talked with them about what we have been doing in the whole area of combating terrorism. The strong message to us in the end is, yes, you are so good that we have no question that on any particular part of this problem you could work very well and contribute enormously — but you can't do it all. And what it looked like to them was that we were in fact trying to do it all. We do have work that covers practically the full range of all of the dimensions of combating terrorism. But moving forward, anticipating two, three, or five years out, where should we focus, what should be our niches? They challenged us.



"[The NSAP panel said], 'You are so good that . . . on any particular part of this problem you could work very well and contribute enormously — but you can't do it all.'"

We did some quick studies over the past three months — [VP] Bob Eagan's study looking at infrastructure and the whole issue of where do you start, and then Gerry Yonas's study, which is looking across the whole range of where to make appropriate technology investments. Based on those two studies, which were just reported out, Mission Council met on Feb. 7 and decided to start a $3 million Grand Challenge this year, a mid-year start. It's in the area of sensor systems.

We have asked Dave Nokes, in his new role of supporting Mission Council in combating terrorism, to pull together the folks and get this activity organized and launched. We are thinking of sensor systems and the idea of small sensors that can be up close to what you are trying to sense, sensors as a multiplier of people. Having guards and folks watching for the indicators at all possible points of the world is of course the best. But you can't. So can you think about having sensors with enough intelligence and ability to decide and communicate that they can be out there as an amplifier of people? And have them with such high reliability that they are a first line, rather than just a piece of confirmatory information?

And that is not all. We are meeting again on the 19th to queue up another area. We are looking at the whole area of offense. Think about the challenge of what if there was another aircraft situation and as a result we had the fighters launched. What do we do? That's a difficult situation to think through. What are the tools in the terms of the weapons. What do we have? We are thinking along those lines and others, and seeing what we might try to queue up as another Grand Challenge to launch this year.

Sustainable workloads, personal lives

LN: *We want to ask about something Joan has already alluded to: the heavy workloads, stress levels, and pressing demands of all this work. I know you are worried about the sustainability of it and the effect on people. What message do you have for employees about that?*

Paul: I will put it in most simple terms. Some advice I was once given: Life is not a dress rehearsal. We will likely only go through this once. You have to pursue happiness. One of the fundamental reasons for creating our form of government was to allow that. Our people are working so hard for great causes — and it's important that we do respond — but we've got to step back and make that effort sustainable. You can't sustain your lives, your marriages, your relations with your kids — your kids are going to keep aging and growing up. We want to make sure that every Sandian can balance work and life in the process. I believe it's clear that everybody has been throwing themselves into the effort to try to help the country when the need was so great. We have to taper that back and get in a sustainable condition again.

LN: *What about yourselves? Everyone is concerned about leadership sustainability. How do you manage personally to have a life of your own and to find that happiness? Are you able to do that yourselves?*

Paul: We're probably not the best examples of "doing as we say." My wife allows me to be devoted to this job. And I've got the greatest support network along the way to help that out. But I know if I

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State of the Labs

LABS DIRECTOR and President C. Paul Robinson and Executive VP Joan Woodard share a light moment during the annual *Lab News* State of the Labs interview.

(Continued from preceding page)

don't find some additional time to occasionally take some time off, my ideas just aren't as good. You turn stale. Almost everyone has their best ideas when their mind is fresh. Quite often those ideas come when you are on a vacation or while you are at home at night rather than when you are sitting at your desk. I had planned my vacation, two weeks and two days in Europe, to begin on the 13th of September. Obviously, we didn't get to go. I have rescheduled it for this spring.

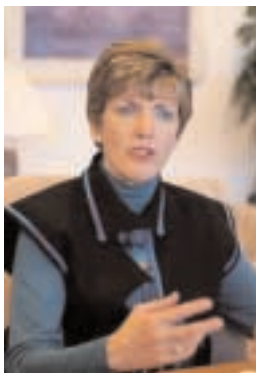
LN: *Good. Joan, what about you? How do you handle this?*

Joan: When you brought that up, I couldn't help but laugh. A week or so ago my husband Jim said someone had asked him if I was in town this week, and he said, "Gee, beats me, I haven't seen her in days." In fact, we were only "seeing each other" asleep. But Paul is right about the need for everyone to pay attention to themselves. It's very easy to not even realize how stressed you are. People deal with it, and their bodies take it on, in different ways. Sometimes you don't even realize how tense and stressed you really are. But for me, my family too is a great help. We have one son at home, and he is very insistent that we do things, and he's got a lot of interests, and so he drags us, and we go off and enjoy time together.

Leveraging our strengths

LN: *Our hiring program has been very successful. We've added more than the 500 new hires that was the target. But if that's not enough people to do the work that we have to do, what can we do?*

Paul: I think we've got to find ways to team with a lot more organizations. That's been a theme for how we could leverage our strengths. As Joan said, we can't do it all. We shouldn't do it all. But if we have the right system view, we can depend on those partnerships to extend our contributions. In responding to the war on terrorism, the relationships with Los Alamos and Lawrence Livermore, our sister labs in the traditional teaming of the weapons labs, have been terrific. We and Los Alamos have developed NISAC, the National Infrastructure Simulation and Analysis Center. We have teamed our individual strengths and have put together this joint program. We actually hired a key individual to lead it. We put together the candidates, decided which was the right one, and said, "Live wherever you want to live, you are representing both labs and your goal is to make this program a success." Quite an innovation. Also, Los Alamos and Lawrence Livermore have been teaming well together along with Sandia in establishing sensor networks in various parts of the country. I was pleased that the government decided to allow us to discuss more an activity that had been going on under the name PROTECT, involving a number of laboratories. It focused first on getting sensors against chemical attack in the Washington Metro [subway] system. We also have deployed the technology in some airports. We will keep that moving forward in other node points that might be possible targets of attack in the future. Those are being done cooperatively. We have other sensor systems for special programs that we have deployed, with all three labs working on them. You cannot tell which individuals are from which labs, which is the way it should be.



" I always try to avoid lightning strikes. MESA is well-begun, and that bodes well for its future."

Paul Robinson

. . . the big issue with MESA is really the timing of the funding. There are different scenarios of funding. Ideally, we would like to do it in a fairly compressed schedule."

Joan Woodard

LN: *Is this a new mission, counterterrorism? I know we have had it before, but is this the new Cold War, do you think? Would you characterize it that way?*

Paul: I wouldn't say that. I think it is still more than likely to be on the margins of conflict. I hope that at least will be the case. Imagine where you were, 25 years ago, at the height of the Cold War. The potential that your life could be disrupted by conflict and that you might in fact die was enormously higher at that time than it is today. Even though we have all witnessed the recent attacks. One of our participants suggested that the goal of the terrorists is to "kill people but to make sure you have the maximum number of people looking on." So it does strike terror, and we can all see ourselves as being in the building when it was hit or being in the aircraft that was used as a missile against the building. But the probability that such might happen to any one of us is so much lower than the probability for personal harm was before that this is still on the margins. If we do our work well we will keep it on the margins. We still must not lose sight of our principal goal and our central mission, which is to prevent war, to prevent conflict. Our nuclear weapons program will continue as the central deterrent for that.

Budgets up, MESA under way

LN: *About the budget, it looks good, but how do you see the situation?*

Paul: We are actually in the fifth month of the [2002] fiscal year, and so we have been getting money in from nontraditional sponsors as well as getting the major appropriations settled out. The current year budget already rounds off to $1.7 billion! One key item, besides beginning to renew our infrastructure and the work we just discussed, is MESA. MESA was given a huge amount of capital spending in this year that will allow us to substantially begin construction on the major facilities.

LN: *That's committed pretty fully then? MESA will happen?*

Paul: I always try to avoid lightning strikes. MESA is well-begun, and that bodes well for its future.

LN: *Because the overall project is something like $400-plus million, right?*

Joan: Yes, and the big issue with MESA is really the timing of the funding. There are different scenarios of funding. Ideally, we would like to do it in a fairly compressed schedule. That is most efficient in terms of construction as well as use of the dollar, but it could be that appropriations will end up drawing that out. As Paul says, there is always the possibility of some axe that could change the course.

Facilities blazing new trail

Paul: There is another area that people may not have noticed, and I think all of us as Sandians should take pride in it. We have innovative people in all parts of the laboratory. Our people who provide facilities are blazing a new trail in once again building major buildings with General Plant Project funds. The first building is under construction right down the street here. The second one was just approved. We are blazing a trail for all the other labs and plants in being the first to try this process. Folks worked very hard for a long time to get us to this point, and it's nice to see it come to fruition.

That is very important because there are still many people in the laboratory who are in poor space. Some of the best work is still being done in poor space and this gives us a bigger chance to try and control that against the long planning horizon for other capital facilities, like MESA, which we've been planning for many years. This allows us to trade off some of the funds we have, and indeed it's been control over our indirect costs that has been freeing up the money. We now get to apply these funds to ease the space crunch.

More on increased budgets

LN: *On the budget, does this $1.7 billion for this year reflect growth — beyond the infrastructure investment — in weapons program spending this year, or does it reflect a lot of new dollars coming in to other areas?*

Paul: I believe the weapons program is up about 13 percent.

Joan: That's the total, including construction — a chunk of that [in the weapons program] is for construction for this year in the weapons program. But the other business units, both emerging threats and nonproliferation, are also up. In the current-year budget, the emerging threats area is up 7 percent, nonproliferation is up 9 percent.

LN: *What about the '03 budget proposal, just released?*

Paul: It's up again, as well.

Joan: The problem is we don't have a real good handle on where that is. It's up again. Both emerging threats and nonproliferation — $20-50 million. Nuclear weapons up about $100 million. Mission Council is getting together on the 19th [February] to look at projections.

Paul: In addition to the budget going up, one other thing I noted in preparing for the recent senators' briefing is that 28 percent of our current budget is coming from agencies other than DOE. I think that's a record.

Joan: Non-DOE funding for this fiscal year is estimated to be $475 million — up 15 percent.

LN: *Is it fair to say — because of things like the efficiencies the Labs has gained through the effort to comply with Curtis Commission requirements — that the bang for the buck for that money is even more than the raw numbers would suggest?*

Paul: We tried to ask that question — what is most important to customers? Some people do look at the rates that we charge. But the most important thing is the quality of the work we perform. Nevertheless, we must work very, very hard to ensure that when we achieve lower costs, we maintain the same or higher quality.

Joan: As a national lab we should not be focused on or drive ourselves to be the "lowest-cost provider." That's not the answer.

LN: *What about energy?*

Joan: Energy is actually down a little bit, but you have to look deeper and see the detail. We have some energy as well as environment work that is

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down, but also, our critical infrastructure work has come up, so there are some pluses and minuses inside of the detail. And as we look forward to [FY]03 the directed stockpile work in nuclear weapons is up again, a significant increase on the same order, 12-13 percent, and we're projecting perhaps similar growth again in ET as well as nonproliferation.

Hiring the best, expanding slowly

LN: *We talked earlier about the hiring program. A year or so ago you formally launched our commitment to hire 500 people a year for the next five years. But that was pre- 9/11. In the post-9/11 environment — granted that we can't do it all — do you think we're going to have to up the hiring intensity beyond that original goal of 500 per year?*

Joan: I just sent out a letter to management giving them the hiring status and encouraging managers across the labs — who have been doing an extraordinary job of hiring folks — good folks! What I encouraged in that letter is that first and foremost, keep our eye on quality — we want to make sure we really get top people — but that we shouldn't limit ourselves by any sort of arbitrary number. We set out for 500, but as long as we keep the focus on quality, if we have a hiring program this year similar to last year or even a little higher that that is exactly what we need to do.

Generally we are looking to expand the size of the Lab by maybe 100 to 200 people. That's reasonable. If we start going much beyond that, we compromise some of the core things, like the quality. That brings up other strategies — we are in fact in Mission Council going to queue up a look to see

"What I encouraged in that letter is that first and foremost, keep our eye on quality — we want to make sure we really get top people."

where we are in terms of use of subcontractors and contract employees. We have a lot of good tools and mechanisms by which to add folks to the team. We know how to do that, we can do that very well. We need to get the word out: how to do it, who are the companies, how should managers proceed? We'll get that information into the hands of the program managers and project managers so that they can use that as part of their tool set.

Pension changes

LN: *Let me switch gears and ask about something that every employee and every retiree is interested in, and that's the pension plan proposed changes that everyone — including you — has been waiting to hear some word on for more than a year. What's the status and what do you have to say about that process? [As reported in this issue, the changes were subsequently approved and announced on Feb. 13]*

Paul: Let me give you some background of what an immense effort has gone into this request. I think it has been the hardest single fight we've ever fought as laboratory management. Joan and I, Frank Figueroa, Ralph Bonner, and Mark Biggs — the total of hours has been enormous. It's been the best of times and the worst of times. The first people with whom we worked on the proposal were Lockheed Martin folks, who had enormous courage and gave us strong support to achieve an equitable proposal, and for that we are grateful. People have also stepped up in Albuquerque Operations to really work the issues, work with us, look at the purposes of what we were proposing, and they've been our strong supporters.

In DOE headquarters, it's been a similar story, but for every supporter there, you could also find someone pushing back. It is an issue that has displayed, as much as any we've seen, the problem

"I think it [the effort to revise the pension formula] has been the hardest single fight we've ever fought as laboratory management."

that folks in the Congress and external reviews have cited about the department: too many cooks getting into the act.

Time has flown. I certainly felt a lot younger when we started. We have had some wonderful supporters. I am still optimistic that we will get the proposal we developed, and soon.

Success will be due in no small part, not only to the hard work of Sandians and within NNSA organizations here in Albuquerque and in headquarters, but to some of our key political supporters. And unquestionably, the role of Sandians in writing to their congresswomen and senators has kept us in the fight for better pensions. And Pete Domenici's efforts have been key in all of this. It's just been an extraordinary effort. Jeff Bingaman has been there pushing on various corners. Heather Wilson and Ellen Tauscher both have made direct calls. Heather has seen and talked to John Gordon many times about the issue. And in our success, we had better find a way to thank those folks, because the successful outcome indeed has had many fathers and mothers.

Governance changes

LN: *What about the governance issue, or what was for a brief time called self-governance, that's under way. Many people are involved. What does the governance pilot, the NNSA efficiency initiative really mean for Sandians? Is it going to result in greater efficiencies — less red tape and paperwork?*

Paul: Let's start with how we got into it. NNSA, knowing they must rejuvenate and prove themselves as a department to get away from the bureaucracy that was associated with past ways of doing business, asked for suggestions. We came forward with a proposal that Joan presented first to [NNSA Administrator] Gen. [John] Gordon at a luncheon meeting. We said the right way to move ahead and to have our people not be so encumbered with red tape would be to change the governance from a compliance-based mentality, with so many orders and guidelines, to a system that could start to get more thoughtfulness, more best-industry practices into being. This is one of those things that won't come for free. To have less oversight exerted by the bureaucracy, with fewer inspections, will require us to do a better job of managing ourselves, of looking hard at our safety, taking proactive steps ourselves so we don't have to have others come in afterwards and look over our shoulders. The governance pilot is designed to put more of the management for all of these activities into the line organization's responsibilities.

Joan: From the beginning, I've been trying to caution people against using the words "self-governance." That's really not an accurate term. Even a small business owned by those who run the company has someone they must provide some assurance to — whether it is the bank that they've borrowed money from or whatever. From the very beginning, we put forward the notion that this model will have to have in it not only the business rules and the policies and processes, but it also has

"To have less oversight exerted by the bureaucracy, with fewer inspections, will require us to do a better job of managing ourselves."

to have in it an assurance model. There has to be a mechanism by which the combination of self-assessments and assessments by true peers provide valuable insight and guidance and critiques. That needs to be a key part of the model.

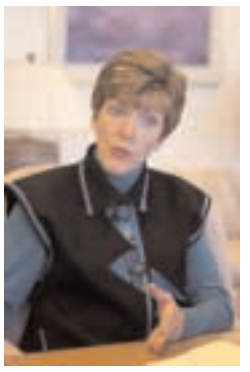
It's very exciting to see the work that is going on. We have functional area teams in 17 different areas, folks from the Albuquerque office of NNSA as well as Sandia working together.

They are looking at governance from the standpoint of a "clean piece of paper," asking what should a research lab's governance look like. And then sitting down with the NNSA folks and seeing where we have agreements, where we have gaps, and then moving forward in each of those areas with the goal of having the basic design in place for a decision and modifications to what orders apply to us. And all that by the end of April.

You asked about an example of governance affecting folks individually. Right now the way the orders and rules are set up, if I as an individual want to get my dosimetry record, the approval has to come from DOE. This is driven by the application of the Privacy Act to Sandia. Are we a federal institution or are we a private institution? Folks who have been working in the information systems functional area have identified some similar issues where the way the rules are being applied to Sandia affects our ability to get those individual records. That was a very specific example, but let me emphasize that the real effect is in productivity. Everywhere in the lab we will see increased productivity that is measurable!

Paul: There's a fundamental principle that the governance initiative rests on. It is one of the most important lessons we've learned in the past dozen years — the lesson of Total Quality. The way to improve the quality of any operation is by building the quality in by the people performing the work, not inspecting out the defects and problems later.

"You have the danger of people just following those rules somewhat mindlessly — checking it off: I've done 1; I've done 2. . ."



The whole governance proposal is based on that approach. Every Sandian will eventually be brought into it or it can't succeed. The people who can best improve the quality are the people who do the work, and the farther you move away from that, the less likely you are to add substantially to it. It really is a different way for us to operate.

Joan: One of our advisers, a very wise individual who has worked in a lot of different parts of the federal system, made a point to us recently that he's tried to convey to folks in Washington. It is the idea that if you have an organization made up of smart, very capable people, but you give them very prescriptive direction on how to do things, then you actually increase rather than decrease the risk. Those rules are given to us not because people want to make our lives difficult but because, in fact, folks in NNSA feel like there's a real need to manage with a lot of rigor the risks that are inherent in the operation of this organization.

But if you do that, then you have the danger of people just following those rules somewhat mindlessly — checking it off: I've done 1; I've done 2; and not really thinking about what it is they are doing, what are the risks, what do they need to be looking out for. If, instead, you give them more of a framework about how one should be thinking about risks — what should be the goals, what are the measures? get folks engaged in thinking about "How do I manage the risks in my job day to day?" — then you really, in fact, reduce the risk substantially.

Governance pilot must succeed

Paul: I would like to emphasize to everyone how crucial it is that we succeed in this. We've been placed in a very special position. We are *the* pilot,

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not just for three labs, the NNSA labs, but for all of NNSA. And separately, [DOE Under Secretary] Bob Card, who is in a parallel position for other parts of DOE as John Gordon is for us, is also following closely what we're doing and has suggested he would like to consider that as a model for all of DOE.

We have had a great opportunity given to us by the creation of NNSA, a semi-autonomous agency within DOE. They have placed the governance method as the must-succeed reformation activity for this agency. So we think that while it's crucial to streamline our own work, more importantly, so many others are watching to see whether it can succeed and subsequently be picked up for their operations, labs, and plants.

In that respect, this is the best chance we've had for something we've all talked about for at least 10 years: the rejuvenation of the GOCO model. The "government-owned, contractor-operated" model surely fell on bad times over the 58 or 59 years that it's been in operation. It needed to be taken out, looked at, dusted off, and streamlined. This is the first and maybe the best chance we'll have to do that, to be sure that this model of bringing the best of private-sector methods to the government can continue to succeed.

Concerns and accountabilities

LN: *Is there any possible downside at the individual level? Some people have expressed a concern whether it's going to result in a tougher, meaner kind of management style at the individual employee level. Is that a consequence or not?*

Joan: I suspect that is coming from the idea that in this model we're really going to have to take seriously responsibility and accountabilities throughout the organization. I actually view that in a very energizing way. I can see people thinking what you described, given what we've seen in past years. When something went wrong there were a lot of punitive measures from the department onto organizations and operations. But on the other hand, if we're able to set this up in a way so that by taking full responsibility and accountability you have the ability to make the decisions — make them from the perspective of optimizing the system rather than having the decisions go all the way through a process of checkers and reviewers — that will be tremendously energizing.

In the last 10 years we have gone down a road — and this is a collective "we," that is, DOE and the contractors in the M&O positions — where the use of fee as a motivator has been espoused as a key element of the whole system. This view perceives that if you hold the contractor's fee at risk in some way, then you motivate the laboratory. We have been trying to get people, especially in Washington, to understand — I think many have listened —that is not a motivator for the laboratory. The laboratory is motivated by the pride and excellence of operation and excellence of being able to deliver to the mission. And the bottom line of the governance model is being able to deliver to the mission in a better way.

Paul: The only people who should fear operations under the new governance approach are those who fear taking responsibility for what they do, as opposed to having someone direct them at every step what to do. I can't imagine any Sandian would fall into that category.

LN: *Politically, though, isn't there some point at which the public, or the public through their elected proxies, wants to have somebody's head on the block that they can hold accountable? Doesn't that [demand for accountability] eventually evolve back into some huge structure that makes sure you cover everybody?*

Paul: I think you're looking at two of the heads that are on the block. It's unfortunate but true that the more bureaucracy grew within DOE and the more people felt they should give directions and tasking to us, the harder it became to find the line of accountability and responsibility. When everybody is accountable, no one is accountable. We said we're willing to step up for the right to be able to determine what our work methods are, what procedures we'll use, what oversight functions we believe will be the most effective. We have just completed a very interesting meeting of the Sandia Board of Directors, which is a very powerful body of individuals. We let them reflect on the full horizons of what the accountability would mean to them as an operating Board, and they certainly stepped up to say they're ready to take it on and assure the performance.

A great place to work?

LN: *Joan, you've championed for years now the effort to make sure that this is a great place to work. We have many new employees in the past year or so. Where do you think that effort stands and where do you think we stack up on this as a great place to work?*

Joan: I was just on the phone this morning with representatives from a group of other laboratories. One of the labs had just completed an employee survey, a broad survey. And they were preparing to go off for a two-day retreat to take a look at the feedback. The things they were queuing up were the 9/80 workweek and communication of a compensation system rationale that had a clearer linkage between performance and the value of contribution and pay. I couldn't help but think that while we are very critical of ourselves on this front — I think that's a good thing, that's healthy — we also should reflect periodically that we have an awful lot of good going for us.

The challenges of mentoring a large number of new folks coming into the Labs are going to be big. The difference between today and the last time we did a lot of hiring, especially people right off of campus, is that today a lot of our projects are wound a lot tighter. What I mean by that is that the funding is really sliced in a way that people are always looking for how to stretch and get more for the dollar, and getting that little bit of extra flexibility is harder. A more senior person should spend some time with the new folks coming in and give them advice about their project or some coaching. That's going to be a big challenge. So as I look forward, we need to continue to look at mentoring and the way we support and bring people in so that they can understand what a lab is, build up connections, and be productive. We must help them to feel a part of this institution.

Working for our country

LN: *We are a unique institution, our being a weapons lab. Our new hires are coming from universities. How do you make that connection to new people?*

Joan: I think we are relearning how to do that.

Paul: One of the positive outcomes of Sept. 11 was that kids in the schools all realized they don't want just to go out and earn a paycheck. The bursting of the bubble of the dot.coms has also put a damper on their going out to get rich on stock options from startup companies. Today, more people realize their country needs them and their talents, and they want to find a way to work for the country. Sandia is the prototype of that. I have talked with a number of new folks who've come on board, and it's delightful to hear that that's what is driving them, and they are working hard. It's up to us to make sure that we work on our own processes to reduce the bureaucracy so that when people have new ideas we quickly get them into the marketplace for new ideas, find the best ones, and promptly move to make them happen.

I do have to say that as we look at the set of "total rewards" to employees — which [VP] Don Blanton and his folks have communicated — the one area that was a glaring deficiency for us was the pension benefit. That's why we started to work four years ago, but only got an emergency relief for older retirees. You may recall a greatly skewed matrix showing that those folks who had been retired a long time had seen their pensions hit by heavy inflation that wasn't responded to — only periodically and not fully. Our actions two years ago did give them some significant relief. Yet, I considered that an emergency action only. We still weren't helping the rank-and-file Sandians still working and those recently retired, and that's what our recent efforts have been, to try to bring that up to parity.

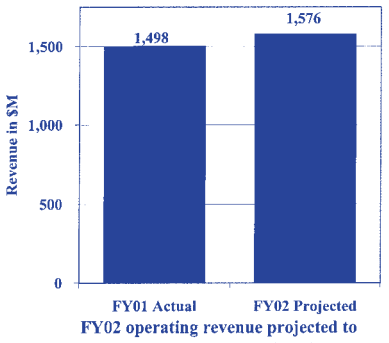
Paul: I would love to be able to mention some of the things that I believe are happening to make Sandia more effective. I would put forward our computer networks, which we started a decade ago to really hit hard. The creation of the CIO [chief information officer organization], the movement toward web-based everything, and the extensive e-mail system — these were significant. This year we saw a very significant step in the creation of classified e-mail and a classified web. Those are big steps for this laboratory. We also, working with our sister labs Los Alamos and Livermore, just opened up a network for design information that enables us to network complex designs between labs. I have to believe this new network is a prototype for where the World Wide Web will be 10 to 15 years from now. We are using it today for our mission work. It's

(Continued on next page)

Spotlight on Sandia

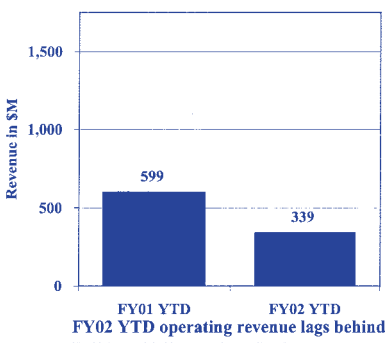
Below is a quarterly report of Sandia's financial health. The charts were developed by Frank Figueroa, VP 10000 & CFO, and people in the Controller's Organization 10500 specifically for publication in the *Lab News* to show Sandia's financial status in various areas. The charts are updated and published quarterly. The subject matter of three of the charts — those dealing with total operating revenue, year-to-date operating revenue, and affordable vs. actual full-time-equivalent employee counts — are the same each quarter. The fourth chart, the one at the lower right, highlights a different aspect of Sandia's financial health each quarter. For this report, the chart shows the change in Sandia's Laboratory Directed Research and Development (LDRD) program from FY01 to FY02. The increase is due to the growth in projected operating cost.

Total Operating Revenue Comparison - FY01 to FY02 1st Quarter



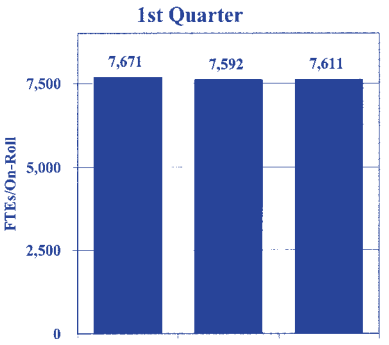
FY02 operating revenue projected to exceed FY01 by $78M, primarily due to growth in NNSA.

YTD Operating Revenue Comparison - FY01 to FY02 1st Quarter



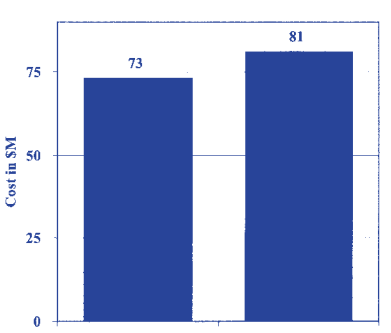
FY02 YTD operating revenue lags behind FY01 by $260M, primarily due to continuing resolutions and late funding.

FY02 Affordable & Actual FTEs and On-Roll Comparison 1st Quarter



FY02 current on-roll indicates actual FTEs will fall short of affordable FTEs.

LDRD Program Comparison FY01 to FY02



FY02 LDRD Program sizing increased due to growth in projected operating cost.

State of the Labs

(Continued from preceding page)

a big step to make everybody's effectiveness go up, and their power as individual workers has increased.

The Wen Ho Lee case, again

LN: *On Jan. 31 your counterpart at Los Alamos National Labs, John Browne, spoke at the National Press Club in Washington. In answer to questions, he said he felt he was right in firing Wen Ho Lee and in fact he said of Lee's actions, "They are the most serious violations of security I've seen in 30 years." Yet the government's case collapsed, Lee has gained a lot of sympathy, and now he's written a book. I think most people in the public don't know what to think about all this. What has been learned from all this, and what's your position today?*

Paul: I was very pleased that John stepped forward. I was drawn into that case on behalf of the Defense Department to assess the damage and the potential damage from the secrets that were downloaded. I did thumb through Lee's book and found some of the material bizarre. It seems clear, and is repeated often in the book that he was aware he was downloading classified information and not caring for it by any of the procedures that are mandated.

In the Lee case the public has never seen the data or had a full hearing of the evidence. The Lee prosecution displayed problems that I don't think our infrastructure was ready to take on. How do you allow debate about matters of such high security importance without revealing them openly to the public? That was perhaps Wen Ho Lee's attorney's greatest weapon. It appeared that there was going to have to be a compromise or a plea bargain. The eventual felony conviction was acceptable to those investigators in the FBI who evidently had no direct evidence of espionage to present in court. But such behavior and lax care of the nation's greatest secrets is not something anyone should say is OK to do. That became the most important lesson and outcome for the future.

In my introduction to this year's Lab News *Labs Accomplishments list, I suggested that everyone should ask themselves, "Is this the best it's ever been?" It certainly seems that way to me. On the other hand, I still feel we are a long way from fulfilling our potential as a premier laboratory, so there are plenty of challenges in this job.*

Joan: I think one thing that came from all this is that management at all levels is much more aware of making sure they have information about what's going on in their organization so they can make decisions. I'll give you an example. If somebody has a problem passing a polygraph or there is some negative information about someone's activities, previously there has been difficulty — due to stovepipes, whether security or counterintelligence personnel inside or outside the labs had such information, it was not shared with that person's manager. Now I think management is stepping back up to the accountability and responsibility. They know where the responsibility lies and are making sure that they get access to that kind of information — not to take actions with regard to guilt, but to make sure that prudent actions are taken to not create any kind of national security risk. That's another key learning from this whole experience.

Paul: I think that if the counterintelligence programs, which all three laboratories have now increased in scope, had been in place earlier, they would have played a major role in triggering investigations earlier rather than so many years after the fact. I think the Lee case made it painfully clear that the downloaded information [at Los Alamos] was outside classified protection for so long. It was heartbreaking. I still remember the day I was first briefed on what had taken place, and it was something almost too shocking to believe.

LN: *We talked to you last year about this and you gave us a sense of the scope of the compromise. It was vast. Are you still confident that your assessment was accurate?*

Paul: I wouldn't change a word of my testimony.

The M&O contract

LN: *The University of Texas has announced it wants to compete for any open bid for management of Sandia, and now the University of New Mexico is at least talking about wanting to do something. Lockheed Martin wants to retain its situation as manager. Is this anything that should concern Sandians and do you have any advice about it one way or another?*

Paul: It's been a concern to us, and I suspect we all have our preferences. Unfortunately, we are not the decision makers on any of these issues. There is a decision that first must be made and that is whether to extend or to compete [the contract]. I try not to pay a whole lot of attention to those who are talking about competition until that first decision is made. Joan and I were both here when AT&T decided to step down, and it was a difficult two years getting used to a new parent organization. It took some incubation time. But the laboratory made the transition, and indeed with that "exceptional service" ethic, everybody continued to do well. We are both very confident that the Labs will succeed with whatever decision is made. We've also heard from lots of other organizations that stood up [during the last bidding]. You may recall the bidders' conference in 1992, there were 70 organizations that attended. I would suspect there are just as many who would step forward today. It's not the time to ask those questions. It's the cart before the horse. We'll let NNSA look at our performance, look at the legislative prescriptions, and make their decision [on renewal or bid] first.

Paul's plans?

LN: *You were chosen as president in August 1995. It's been an eventful six-and-a-half years. Many Sandians hope you will continue to head the organization for some time to come. What are your intentions in that regard?*

Paul: Thank you. I must say the time has flown by a lot faster than I noticed. So I must be having fun. I have the best job in the country. I told that to Tom Ridge — that this really is the best job. There are some things we've been trying to do that we set as long-term goals. We polished our articulation of that with the joint training we did with Jerry Porras, co-author of the book *Built to Last: Successful Habits of Visionary Companies*. How can we build the best science and engineering laboratory that will not only last for 100 years but will make the maximum of employee contributions to the nation? I'm still having fun in watching some things improve, and there's probably no one who is more proud of the outputs people make. In my introduction to this year's *Lab News* Labs Accomplishments list, I suggested that everyone should ask themselves, "Is this the best it's ever been?" It certainly seems that way to me. On the other hand, I still feel we are a long way from fulfilling our potential as a premier laboratory, so there are plenty of challenges in this job.

Rejuvenation of the weapons program

LN: *Is there anything else you want to make sure gets said?*

Paul: We didn't talk much about the rejuvenation of the weapons program. I think we ought to do that. Last year we may have been at the nadir of our worries that the Laboratory had not designed and integrated a complex weapons system — with its 6,000-plus parts — in more than a decade. Did we still have that ability? If you have not exercised it, how can you be sure you still have it? It has not been easy to pull this ephemeral part of the program back into being. But Tom Hunter and all the folks in the Weapons Program are to be congratulated. Sandia's weapons work has really come on, and strong. We redesigned the AF&F [arming, fuzing, and firing system] for the W-76 Trident. We have begun to understand the workload that is yet to come in other systems. We've taken them through their approvals with the Nuclear Weapons Council, the body that enjoins the Department of Defense to NNSA.

We have made significant progress in science-based stockpile stewardship — being able to meet some of the needs for tests and evaluation without having to invoke an underground test. We certified the design for a new neutron generator, and we are now producing those neutron generators with a production performance that rivals and may even surpass, the best that was ever done before. The fears that we were losing essential capabilities in the Weapons Program have been in large measure blunted. We aren't all the way there. We still have a huge workload facing us in the stockpile life extensions of the entire arsenal. But well-started is sometime a good assurance of outcome.

Joan: That rejuvenation has taken place with requirements that are extraordinarily challenging. The W-76 AF&F is a good example. Dr. Barry Hannah of the Navy set the challenge of achieving the design and production with a 75 percent cost reduction. He was here earlier this week with the Strategic Systems Program working group, which involves contractors and folks from throughout the Navy strategic systems. He announced with some genuine praise to Sandia that we had achieved that goal, we have decreased production costs to lower than 25 percent. So we achieved the 75 percent-plus overall reduction in costs, which is just phenomenal. Just imagine trying to do that.

LN: *Do you think that's a new baseline target?*

Joan: I'm sure that John Stichman's folks are hoping so. But as Barry tried to convey, this is the world and the climate where you have to do more with less. We really need to embrace huge challenges. This causes us to think about doing business in a whole different way, which is really a piece of what we are trying to do in the governance pilot.

Integrated Enabling Services Initiative

Joan: The one thing I wanted to add that we hadn't covered was the Integrated Enabling Services initiative and the effort [VP 7000] Lynn Jones is leading. That is a tremendous effort in its own right.

Though it is a part of governance, and we see governance moving forward, IES just by itself is going to do so much in terms of enabling mission work. For example, when we start up something like this new Grand Challenge I talked about earlier, we're going to have an IES individual as part of that team from the very beginning. That way what they need in terms of space or new facilities or modifications or getting matrixed folks and the team together — all that will be worked as an integrated piece of the project to make sure we enable the work in the most rapid timeframe that we possibly can.

Paul: A key to me in that is the classic tension between direct work and indirect or supporting work. Those tensions have always been around. That's part of what we would like to become as a laboratory — so that each side of that view can't wait to be able to call on the help of the other side and to work with them because it's going to be so powerful in doing their own work. Everyone in direct programs will know and look forward to being able to call on any part of support because they know those folks can do it far better and faster than could ever be done by any other means. They will know that as soon as they communicate to our support folks what is needed, it will happen. That's what we're trying to achieve. I think major gains will come from the integration of direct and support parts of the laboratory.

LN: *It's not one at the expense of the other?*

Paul: Never. Because we won't succeed if either is weak.

Mileposts

Photos by Iris Aboytes


Glen Fowler
40 5851


Louis Nogales
40 5851


James Rush
35 10848


Richard Toth
35 15331


Donald Wright
35 12335


Thomas Mayer
30 15252


John Fuller
25 2345


Sam Holmes
25 3112


Thomas Hund
25 6218


Carl Iafonaro
25 14404


Robert Lagasse
25 1811


Cynthia Williams
25 10254


Dennis Carroll
20 3114


Linda Garcia
20 9523


Rusty Gillen
20 5733


Judith Jojola
20 10254


Greg Anderson
15 10842


Glen Ankenman
15 6531


Stephen Attaway
15 9142


Stephen Becker
15 2125


Dale Brandt
15 2331


Douglas Cotter
15 15415


Roy Hogan
15 9116


Peter Karnowski
15 2345


Lilia Martinez
15 9330


Yolanda Moreno
15 12111


James Pacheco
15 5832


Edward Parma
15 6424


Brian Philipbar
15 12345


Randolph Shibata
15 10206


Carol Skinner
15 2955


Biu So
15 2955


Christine Tomlin
15 10206


Michael Thomas
15 1744

Recent Retirees


Howard Seltzer
37 5921


Drayton Boozer
26 15352


Carl Mora
23 9612


Avelino Zuni
19 10263

Sandia Classified Ads Sandia Classified Ads Sandia Classified Ads Sandia Classified Ads

MISCELLANEOUS

ARMCHAIR & OTTOMAN, $300; 60-gal. fish tank, w/accessories, $275; china cabinet, $250; couch & loveseat, $750; dining set, contemporary, w/4 chairs, $300; Kenmore refrigerator, $450. Chen, 299-3031.

RADIAL TIRES, pair, 185-SR14, no patches, approximately 15-20K miles remaining, $15 ea. Brion, 298-1761.

PANASONIC TV, 32-in., 3 yrs. old, $250 OBO; GE dishwasher, refrigerator, electric cooktop, all working. Brewer, 293-7192.

CHEST FREEZER, 35" x 48" x 30", 15.8 cu. ft., excellent condition, $100. Lindsay, 836-4284.

DRINK COUPONS, Southwest Airlines, 1/3 face value, 48 available, buy some or all, expire Dec. 31. Dykhuisen, 281-6892.

SOUTHWEST TICKETS, 4 roundtrip, expire June 2002 & later, $280 ea. OBO. Tapia, 280-8888.

BRAID RUGS, 5 x 8, 7 x 9, $457 in Penney's catalog, asking $165 for both or separately, $85, $95. Allen, 275-7055.

DIGITAL CAMERA, Nikon CoolPix 995 3.34 megapixels, $650; wide-angle lens, $140; extra battery, $40. Widler, 286-3072, ask for Lonnie.

HP 32S II CALCULATOR, brand new, w/manual, $50. Vigil, 271-1328.

AMANA REFRIGERATOR, side-by-side, w/ice water in door, white, 4 yrs. old, 25 cu.-ft. Stephens, 822-8584.

BOSE WAVE RADIO/CD, graphite gray, w/credit-card-size remote, amazing sound, $425 OBO. Miller, 293-2828, ask for Jennifer.

HELIUM BLIMP, 52-in., indoor use, remote control, 225-ft. range, great fun at basketball games, gymnasium, $60. Stamm, 255-2640.

GOLF CLUBS, Ping ISI, red dot, 3 through PW, $450. Jojola, 869-5946, ask for John.

STUDENT DESKS, white or pine, $25 ea.; fluorescent desk lamps, $10 ea.; dinette set, white w/peach accents, w/5 chairs, $200. Ruby, 821-0982.

ANTIQUE SERVICE CART, Ethan Allen, excellent condition, $200 OBO; Hitachi DVD player, $60. Burstein, 899-8971.

LIVING ROOM SET, 7-pc., includes queen sofa sleeper, loveseat, 3 tables, 2 lamps, light w/Southwest colors, good condition, $600. Denton, 363-7135.

AQHA HORSE, beautiful 5-yr.-old buckskin/dun gelding, $2,500. Anderson, 242-0164.

TRANSFERABLE GM REBATE, gas-tank settlement, $500 off purchase of new GM vehicle, asking $200. Cherry, 275-2835.

TORO SNOW THROWER, model 1132, runs great, new $2,200+, asking $1,250 OBO. Forslund, 293-6135.

THREE-PIECE DRUM SET, in good condition, includes cymbals & stool. Kottenstette, 797-7496.

BEARDED DRAGON, healthy, subadult female, enclosure 4' x 2', all supplies except food, great deal, $175 OBO. McCrory, 401-4412.

PRECIOUS MOMENTS porcelain figurine collection, over 100 to select from. Giersch, 899-6005.

FREE WOOD, leftover scrap wood from building home, good for burning, you haul away. Chavez, 281-4789.

CHINA CABINET, light-oak finish, lighting, glass shelves, lined drawers, excellent condition, $850 OBO. Majors, 869-1443.

SOLOFLEX EXERCISE BENCH, w/leg extension, operating manual included, $30. Dropinski, 881-6756.

'00 MUSTANG WHEELS & BF GOODRICH TIRES, 4, P225/55/R16, 5-lug, 4-1/2-in. pattern, 5-spoke, 7.5-in.-wide polished aluminum, w/center caps, $400. Salas, 459-5974.

DINING ROOM TABLE, solid wood, butcher-block style, w/4 chairs, Southwest pattern, $175. Graham, 890-2748.

COUCH, earthtone colors, very good condition, $150; exterior door, standard size, $100. Rutten, 869-6381.

SEWING MACHINE, good condition, no frills, inexpensive. White, 294-5692.

JEKYLL & HYDE TICKETS, 2 for March 24 matinee, 3rd row center at Popejoy, $22 ea. Torres, 292-1663.

ASTRONOMICAL TELESCOPE, 60 X 700mm, refractor, tripod, finder scope, prisms, eyepieces, Sears "Discoverer," $30. Woods, 299-6928.

GOLF CLUBS, women's RH, 1,3,5 woods, 3-P irons, putter, bag; fax machine. Spray, 821-5877.

GE CAMCORDER, VHS, includes battery, $125; KDS Avitron 19-in. flat-screen monitor, $275. Sleeter, 299-3347.

FLOOR MAT SET, 6-pc. for Mercury Villager or Nissan Quest, $30 OBO. Spears, 266-9782.

PLAYER PIANO, needs restoring, $500; Weider exercise machine, $100. Edmund, 881-7974.

SPECIALIZED SPD CLIPLESS PEDALS, used once, $200 new, asking $50. Dwyer, 271-1328.

WEDDING DRESS & VEIL, size 10, simple, elegant, sheer puff sleeves, empire waist, $50. Newcom, 293-5180.

FLORIDA VACATION, 8 day, for 2, includes 2 night Bahamas cruise, $800. Holton, 867-0143.

OAK BABY FURNITURE, crib w/mattress, $100; changing table, $100; 5-drawer dresser, $250, backpack carrier w/raincover, $100. Hassan, 822-9544, ask for Basil.

TASCO TELESCOPE, $100; HealthRider, in good shape, $250. Hurst, 896-4218.

DINING ROOM TABLE, Ethan Allen, w/chairs & 2 leaves, $495 OBO. Stephens, 323-9523.

CEMETERY PLOT in Sandia Memory Gardens, $650 OBO. Cutler, 254-9484.

SALOMAN X-SCREAM SERIES SKIS, 187cm, new condition, 2001-02 year model; Salomon 850 bindings, $275. HORTON, 883-7504.

BRA FOR '95 SATURN SC2, $50. Gutierrez, 922-7390.

COMPUTER HARDWARE/SOFTWARE, UDMA66 card, memory modem, Windows 95, 98/98SE, ME, W2kPro, more; electric baseboard heater, $5. Cocain, 281-2282.

KITCHENAID PROFESSIONAL MIXER, 6 qt. bowl, slicer attachments, excellent condition, nearly new, $350 OBO. Jensen, 281-2127.

CREDIT CARD MACHINE, Nutrit 2085, used once, top of the line, still in box w/instructions, $1,000 OBO. Brown, 872-2103, after 5 p.m., ask for Greg.

COUCH, full-size (8 ft.), tan/gold color, good condition, $50; used TV, needs work, $30. Kearns, 898-4122.

ADJUSTABLE ELECTRIC BED, twin-size, $50. Paulos, 268-2391.

RDRAM MEMORY, 256MB, 2 128MB, 184-pin RIMM PC600 modules from Dell 8100, $80; DSL modem, Intel 3200 Pro/DSL, brand new, in box, $100. Watkins, 294-6808.

NORDICTRACK PRO, exercise machine w/electronic module, like new, $200 OBO. Holloway, 294-5815.

YARD SALE, Saturday, Feb. 23, 7 a.m.-12 p.m., 3409 Inca St. NE, lawn mower, misc. household items, baby stuff. Komen, 275-0279.

NCAA TOURNAMENT TICKET, 1st & 2nd round at the Pit, chairback, March 14 & 16, $105. Smith, 293-3296.

HAMMERED DULCIMER, 12/11, adjustable stand, case, Masterworks, like new, kept tuned, $700 or will trade for loom. Talandis, 877-0626.

FRIGIDAIRE REFRIGERATOR, 20.6 cu.-ft., w/freezer on top, bisque, works perfectly, $95. Dietz, 797-7650.

THULE CARTOP CARRIER, used 3 times, $75 OBO. Jones, 275-5668.

How to submit classified ads

DEADLINE: Friday noon before week of publication unless changed by holiday. Submit by one of these methods:

- **E-MAIL: Michelle Fleming (classads@sandia. gov)**
- **FAX: 844-0645**
- **MAIL: MS 0165 (Dept. 12640)**
- **DELIVER: Bldg. 811 Lobby**
- **INTERNAL WEB: On Internal Web homepage, click on News Center, then on Lab News frame, and then on the very top of Lab News homepage "Submit a Classified Ad." If you have questions, call Michelle at 844-4902. Because of space constraints, ads will be printed on a first-come basis.**

Ad rules

1. Limit 18 words, including last name and home phone (We will edit longer ads).
2. Include organization and full name with the ad submission.
3. Submit the ad in writing. No phone-ins.
4. Type or print ad legibly; use accepted abbreviations.
5. **One ad per issue.**
6. We will not run the same ad more than twice.
7. No "for rent" ads except for employees on temporary assignment.
8. No commercial ads.
9. For active and retired Sandians and DOE employees.
10. Housing listed for sale is available without regard to race, creed, color, or national origin.
11. Work Wanted ads limited to student-aged children of employees.
12. **We reserve the right not to publish an ad.**

BALDWIN ORGAN, Bravura, has Fun Machine, Real Rhythm, special effects, and general functions, $500 OBO. Polito, 298-3859.

TRANSPORTATION

'95 TOYOTA T-100 DX, extended cab, 5-spd., V6, bed cover, white, new shocks & tires, very clean, $8,500. Bronkema, 286-0423.

'87 JEEP CHEROKEE, 4x4, 4-dr., 6-cyl., 4-spd., good condition, $2,500. Cleland, 281-2228.

'78 FORD F150, AT, V8 (351), AM/FM cassette, 95K miles, 1 owner, $2,500 firm. Silva, 345-1779.

'94 FORD CONVERSION VAN, full-size, V8, TV/VCR, convertible bed, trailer hitch, 69K miles, excellent condition, $10,500. Burstein, 821-6688.

'99 SATURN SC1, 5-spd., 3-dr. coupe, gold, cruise, sunroof, AC, PW, PL, 32K miles, $10,500. Jensen, 821-2373.

'94 SATURN SL2, 75K miles, excellent condition, $4,500. Lanoue, 877-7902, after 5 p.m.

'01 FORD TAURUS LX, 4-dr., 6-cyl., AT, AC, PW, PL, 31K miles, $17,000 OBO. Meyer, 296-9066.

'94 MERCURY GRAND MARQUIS LS, excellent condition, original owner, below book, $4,900. Jeske, 899-2216.

'90 FORD F150, XL, V8, AT, AC, long-bed, maintenance records, looks & runs great, $4,800. Davidson, 293-9486.

'00 FORD F150 EXT, 4x4 off-road, extended cab, 4-dr., step-side, nurf bars, toreador red, $19,500. Hassard, 480-7889.

'93 SATURN SC2, 2-dr., gold sports model, loaded, 1 owner, 100K miles, excellent condition, $3,850. Howard, 856-1387.

'82 PONTIAC TRANS AM, AT, PW, PL, CD, new paint, excellent condition w/rebuilt engine & suspension. Lenz, 489-6564.

'34 CHEVROLET MASTER, 2-dr. sedan, project car, body & frame only, rod or restore, $1,500 OBO. Sena, 873-1665.

'94 TOYOTA X-CAB, 4x4, V6, fiberglass shell, new 31-in. Michelin tires, 102K miles, excellent condition, $9,000. Lynch, 994-3234.

'94 GMC Z71 PICKUP, 4x4, extended cab, all power, short bed, bed liner, tow pkg., standard transmission, 60K miles, excellent condition, $13,400. Martinez, 269-9250.

'99 DODGE 3/4-TON, 4WD, V10, quadcap, 18K miles, $25,500; 5th wheel trailer w/slideout, $15,500. Chavez, 797-8772.

'93 DODGE STEALTH ES, red, AC, PS, PW, PDL, AM/FM cassette, flip-up roof, spoiler, alloy wheels, new tires, 62,500 miles, $10,600 firm. Tissot, 345-1501.

'95 CHEVY SUBURBAN, 96,984 miles; '99 Mercury Sable, 4-dr., 35,604 mile; '97 Oldsmobile Achieva, 35,953 miles; bids accepted through Feb. 28, right to refuse bids, sold as is. Sandia Labs FCU, 237-7254, 7384 or 7386.

'99 TOYOTA SIENNA, 5-dr., power everything, dual AC, captains chairs, new tires, 35K miles, $19,500. Cline, 286-1108.

'95 CHEVY SILVERADO/CAMPER, 3/4-ton, 7.4L, ext. cab, Palamino Popup, water heater, furnace, potty/shower, 3-way refrigerator, 24K miles, $21,500. Endsley, 299-9698.

'95 ACURA INTEGRA, special edition, white, 5-spd., AM/FM/CD cassette, leather, 86K miles, excellent condition, $8,000 OBO. McCabe, 298-8746.

'84 VOLVO GLT TURBO WAGON, 4-spd. manual w/OD, straight body, strong engine, complete records, $2,295. Jacobs, 301-6440.

'93 JEEP GRAND CHEROKEE, 4x4, 5.2L engine, CD, AC, PW, cruise, digital headliner, tow package, well maintained, $6,200. Zender, 294-8210.

'91 FORD TAURUS GL, AC, PS, PW, PL, AM/FM cassette, 1 owner, 106K miles, $2,000 OBO. Fugelso, 323-6037.

'93 GMC SUBURBAN, 4x4, CD, front & rear AC, 3rd seat, towing pkg., 137K miles, $9,500. Walker, 294-4087.

'98 JEEP GRAND CHEROKEE LAREDO, 4WD, 6-cyl., new tires, brakes, 57K miles, excellent condition, $11,900. Hatfield, 858-3375.

'91 TOYOTA 4WD, extended cab, tinted windows, alloy rims, alarm, CD, PL, PW, low mileage. Gonzales, 877-2938.

RECREATIONAL

COLEMAN CANOE, 15-ft., like new condition, $200. Hudson, 821-8988.

'00 HONDA XR400R MXTECH, re-valved suspension, SRC fork brace, many extras, low mileage, excellent condition, $3,800. Baca, 299-4090.

'00 HARLEY DAVIDSON, Electra Glide Classic, 6K miles, perfect condition, very nice extras, $21,000 OBO. Tarango, 232-9543, ask for David.

SPECIALIZED MOUNTAIN BIKE, FSR-XC 17.5-in., double-suspended, custom Stratos Helix hydraulic shock, Manitou fork, ShimanoXT components, like new, $750. Brigham, 450-7980.

REAL ESTATE

5-BDR. HOME, modular, 6 x 6 construction, jaccuzi, built-in appliances, Colorado insulation zoned, 2 family rooms, 2 coolers, 2,340 sq. ft., $68,000. Yawakie, 294-6855.

2-BDR. TOWNHOME, 1 bath, washer, dryer, refrigerator, 1-car garage, close to Labs/base, $64,900, all financing. Ferrell, 256-2531.

3-BDR. HOME, 11520 Nassau NE, 1,730 sq. ft., attractive, near schools (Eldorado, Jackson), flyer out front, FSBO, $143,900. O'Hagan, 298-9943.

4-BDR. HOME, 2-story, on 3 Rio Grande riverfront lots, decks, porches, pier in T or C. Carson, 281-5115.

NORTH ALBUQUERQUE ACRES home, mature landscaping, views, NE of Paseo del Norte & Browning. Bentley, 856-7661, www.FSBOabq.com/holly.

4-BDR. HOME, 2-1/2 baths, 3-car garage, 3,400 sq.-ft., east of Lomas/Tramway, 1 block from Open Space, private corner lot. Salerno, 332-9155.

3-BDR. TOWNHOME, 2 baths, cute, located in Towne Parke, $119,000. Lovato, 296-0556.

3-BDR. HOME, 11716 Kings Canyon, NE, 2 baths, 3-car garage, new carpet, huge backyard, outstanding location, 2 minutes from Eubank gate. Skousen, 292-4428.

2-BDR. MOBILE HOME, '84 Shult, 14 x 60, 1-1/2 baths, carport, many amenities, easy access Sandia/Kirtland, quick sale, $13,000 OBO. Bitela, 291-0579.

3-BDR. HOME, study, cook's kitchen, workshop, garden, kid's yard, new carpet, paint, 2,640 sq. ft., near Valley High School. Furnish, 884-6626.

WANTED

HOUSEMATE, 3-bdr., separate bathrooms, walk-in closets, washer, dryer, security alarm, fireplace, $300/mo., 1/2 utilities. Ewen, 836-3563.

KENMORE UPRIGHT VACUUM CLEANER, for parts. Hayes, 299-1200.

TUTOR for TVI Managerial Accounting class. Hill, 299-9416.

GOOD HOME for 2 Doberman males, age 7 & 13, from Doberman Rescue. Helfrich, 255-9580.

ACCIDENT WITNESS, SE corner of Water Tower parking lot, red Grand Prix & blue Subaru on Jan. 17, 2002, 11:40 a.m. McCornack, 296-3936.

HOUSEKEEPER/NANNY, part-time, good benefits. Chang, 821-7089.

PORTABLE GENERATOR, preferably Honda, in new condition. Mignardot, 254-9092.

REFRIGERATOR, side x side, almond, good working condition, need by March 15. Treml, 275-5477, ask for Phyllis,

OLDER LAPTOP, 386 or faster processor w/CD preferred, at reasonable price. McKinney, 281-5685.

TEXAS INSTRUMENTS CALCULATOR, programmable 59, must be in good operating condition. Randall, 299-3935.

4 ROUNDTRIP TICKETS, anywhere Southwest flies or any roundtrip to Miami, need to be valid thru March 18. DeBassige, 332-8218.

DEPENDABLE CAR, cheap, for teen to drive to work and back. Lauben, 275-7466, ask for Ryan.

LOST & FOUND

BROWN LAB LOST, in vicinity of Madison/Menaul, Jan. 2, 2002, purple collar, microchip ID, answers to "Chessy," reward. Wolf, 883-4390 or 730-2303.

NEW PRESCRIPTION GLASSES, thin metal frames, probably in parking lot south of Bldg. 806, about 2 weeks ago. Vigil-Lopez, 284-3141.

SHARE-A-RIDE

EAST MOUNTAIN VANPOOL, $35/mo. max, no need to drive, Frost Rd., N-14, Tijeras. Burns, 281-3922 or Brocato, 286-8031.

Bomber's shoes disabled by Sandia PAN device

By John German

During a visit to Sandia Thursday (Feb. 21), Office of Homeland Security Director Gov. Tom Ridge heard briefings about several Sandia-developed counter-terrorism technologies, including a description of Sandia's role in a recent high-profile terrorist response at Boston's Logan International Airport.

The FBI gave clearance this week for Sandia to publicly discuss the use of an advanced bomb disablement tool originally developed at Sandia to surgically disable the shoe bombs Richard Reid allegedly tried to detonate on board a trans-Atlantic flight from Paris to Miami on Dec. 22.

Following Reid's arrest in Boston, Massachusetts State Police bomb squad members Sgt. Dave Thompson and Sgt. Ed Anderson disabled Reid's shoe bombs with assistance from the FBI using a Percussion-Actuated Nonelectric (PAN) Disrupter.

Using the PAN Disrupter, the bomb's inner workings were revealed without detonating them so the FBI could use the deactivated bombs during its criminal investigation of Reid.

Although details about how the PAN Disrupter works cannot be divulged for security reasons, the device precisely interrupts a bomb's internal gadgetry quickly, before the bomb can detonate, and remotely, with human bomb specialists a safe distance away.

Sandia bomb-disablement expert Chris Cherry (5932) and a team of Sandia researchers developed the PAN Disrupter in the early 1990s as a way to keep bomb technicians safe and disable bombs nonexplosively so valuable evidence can be retained. The PAN is one of several advanced bomb-disablement tools developed at Sandia.

Since 1995, when the PAN was licensed to Ideal Products of Lexington, Ky., the PAN has become the primary tool used by bomb squads nationwide to disable conventional, handmade-type bombs remotely.

Sgt. Thompson also received training on the PAN Disrupter and other advanced disablement tools and techniques during a Sandia-hosted international bomb squad training conference held in Riverside, Calif., in 1999.

Sandia has helped train members of the world's most advanced bomb squads since 1994 as part of a series of training conferences called Operation Albuquerque (1994, 1995, and 1997), Operation Riverside (1999), and Operation America (an ongoing series of regional workshops at various locations within the United States sponsored by the National Institute of Justice).

In April 1996, Cherry and his team were called to Montana by the FBI to disarm a bomb found in a remote cabin following the arrest of Theodore Kazcynski, the Unabomber. The PAN Disrupter was used to disable what is now known as the Unabomber's Device #17.

The PAN also was instrumental in safely disabling numerous suspect bombs in Atlanta during the 1996 Summer Olympic Games.

Labs launch team assists during flight test

Sandia played a key role during the US Missile Defense Agency's Jan. 25 flight test and evaluation of its developmental Sea-based Midcourse Ballistic Missile Defense System (SMD).

Called Flight Mission-2, the test was the third in a series of 18 planned flight tests meant to evaluate and improve the United States' ability to destroy incoming ballistic missiles using ship-launched interceptors.

The SMD program complements other US development efforts toward a missile defense system that seeks a capability to intercept a ballistic missile aimed at the US or its allies during the boost and mid-flight stages of its trajectory.

The Sandians — approximately 20 from Centers 15400, 9100, and 2600, as well as 11 Sandia contractors — operated the Kauai Test Facility (KTF) during launch of the test's target missile. Sandia was responsible for ground operations and safety at the facility and for target vehicle countdown and launch operations.

At approximately 4 p.m. local time on Jan. 25, the Aries target missile was launched successfully from KTF. Eight minutes later a Standard Missile-3 (SM-3) with a kinetic warhead interceptor was launched from the US Navy Aegis-class cruiser USS *Lake Erie* in the Pacific.

With help from radar and computer systems on board the ship, the SM-3 acquired, tracked, and diverted toward the target, accomplishing the test's objectives of demonstrating fourth-stage warhead guidance, navigation, and control.

AN ARIES TARGET MISSILE lifts off from the Kauai Test Facility at approximately 4 p.m. local time on Jan. 25. Eighteen minutes later an interceptor launched from the USS *Lake Erie* in the Pacific destroyed the target missile.

(Photo by Diana Helgesen, 15419)

Although not a primary objective of the test, the warhead intercepted and destroyed the target missile at approximately 4:18 p.m. It was the first attempted intercept in the SMD test program.

The target test vehicle performance was nominal, and all mission objectives were accomplished, says Dick Hay, Manager of Kauai Facility and Range Interface Dept. 15419.

The next SMD flight test is scheduled for this summer. — *John German*

Retiree deaths

Mattie B. Williams (age 81)	Dec. 2
Elton L. Chandler (81)	Dec. 3
Miguel C. Garcia (80)	Dec. 8
John S. Talbutt (68)	Dec. 12
Jon H. Barnette (63)	Dec. 14
Canuta Connie Ortiz (78)	Dec. 15
Gino Carli (77)	Dec. 17
Clyde C. Holland (60)	Dec. 18
Hazel Vance (93)	Dec. 18
Eugene J. Meyer (80)	Dec. 22

Coronado Club

Feb 24 — Champagne Sunday Brunch. Dining, 11 a.m.-1 p.m.; dancing, 1-4 p.m. Music by the Roger Burns Trio. Brunch cost: $10.95

Feb. 25 — Pool passes go on sale. Passes are available at a discount rate Feb. 25-May 18.

Feedback

Q: *As a recently promoted ASA, I was appalled when I received my salary increase. What justification does a manager use for giving a 1.62% increase to an ASA who received FCs for each attribute and all "excellent" customer comments after only 6 months on the job? I've been told that salary increases are based on the number of positions in that category, in other words, more ASAs, less money to split vs. fewer ASAs more in the pot.*

A: The compensation increase received by any particular employee generally reflects the employee's value of contribution and position in the salary range. Therefore, assuming all other factors are equal, an employee paid higher in a salary range will usually receive a smaller percentage base increase than one paid lower in the salary range. It is important, also, to take the non-based award into consideration and to look at an employee's Total Cash Compensation. But since the individual compensation decisions are the result of management review and consideration, the best course of action is to talk with your manager about the raise you received.

The divisions do receive funding based on the salaries of individuals already within the classification in the division (in other words, the more people in a given category, the more money that comes into that organization). Divisions may not "move money" between classifications; they are not allowed to take money from, for instance, the technical staff funding to supplement the ASA funding. Ultimately, within these restrictions, how the compensation funds are spent is a management decision. — *Don Blanton (3000)*

Procurement processes changing, here's how to learn about them

If you purchase important items and services for Sandia projects and programs, you'll need to know of some important changes in the procurement process beginning March 15.

The Procurement Center is deploying a new process to assist you in your purchase of quality-significant items or services whose use may:

- Impact a mission-critical application.
- Significantly impact the safe operation of any Sandia facility or activity.
- Involve the use, handling, or storage of radioactive material or radiation-generating devices, or involve exposure to ionizing radiation.
- Relate to the design, analysis, manufacture, or assembly of hardware, equipment, or software for present or future use with radioactive material.
- Be used in any safety-significant or safety-critical system, component, or application whose failure could adversely affect people, property, the environment, or the mission.

Specific procurement processes are being instituted to ensure Sandia obtains the quality stipulated in the purchase requirement. To learn about these processes and tools that will fulfill your critical procurement needs, register for the two-hour course, "Quality-Significant Requester Training" by calling Lynne Adams at 844-7963. Tuition costs will be waived for the class schedule shown below. Thereafter, this class will be offered about once a month at a cost of about $160.

Course schedule

Site	Place	Date	Time
New Mexico	962 Auditorium	March 5	9-11
California	904 Auditorium	March 6	9-11
California	904 Auditorium	March 6	1-3
California	904 Auditorium	March 7	9-11
New Mexico	962 Auditorium	March 12	9-11
New Mexico	962 Auditorium	March 12	1-3